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April 6, 2023

TO: LOCSD Board of Directors

FROM: Ron Munds, General Manager

SUBJECT: Agenda Item 2A – 04/06/2022 Board Meeting
Station 15 Building Condition Assessment Final Report

Description

In September 2022 the District released a Request for Proposals to secure consultant services to perform a comprehensive building assessment of Station 15. The District selected Omni Design to do the evaluation in November 2022.

The report content is as follows:
Section 1: Executive Summary which provides an overview of the content of the report.
Section 2: Background provides a brief history of the building.
Section 3: Facility Condition provides detailed information and condition assessment on each component of the building.
Section 4: Deficiencies and Recommendations prioritizes the various components and makes recommendations for improvements
Section 5: Cost Breakdown provides a detailed analysis of the costs to improve the stations overall condition.

The following information summarizes the findings and recommendations presented in the condition assessment report.

SUMMARY OF STAFF RECOMMENDATION

Motion: I move that the Board:

1. ***Receive and file the report; and***
2. ***Provide direction to staff***

DISCUSSION

Background

Station 15 was built in phases; the first phase in the 1960's and the second in the 1970's. In 1999 and early 2000's, there was some renovation work performed. Because of the overall age of the building, staff requested funds to perform a building condition assessment in the Fund 301 budget for this fiscal year (2022-23).

The purpose of the project is to obtain a building condition assessment report to determine the physical adequacy of the primary facility in the short-term and long- term future, and recommendations for improvement over a 10-year period of time. The objectives of the assessment are:

- Identify any major defects or deficiencies in the Fire Station.
- Provide options to modify, replace, expand, or relocate the Fire Station to remain operational during natural catastrophes, to operate sustainably and with functional efficiency, and to accommodate potential future uses.

- Provide a basis for forecasting funding requirements for capital improvement planning over the next 10 years.
- Provide a baseline for setting priorities for the maintenance, repair, enhancement or replacement of the Fire Station and its component systems.

The results of the assessment will be incorporated into the development of the District's Emergency Services Strategic Plan.

Factors Considered in the Building Assessment

- Building physical/structural evaluation, compliance with current building code(s), need for repairs, retrofit to maintain building in safe condition for occupancy and meeting current seismic codes.
- Mechanical/HVAC systems evaluation, physical condition, energy efficiency of equipment and building insulation/materials, and need for replacement, update, and repairs.
- Electrical system assessment/evaluation, compliance with current electrical code(s), energy efficiency, need for repairs, backup generation capabilities, retrofit and modernization to maintain the building safe for occupancy.
- Plumbing system assessment/evaluation, compliance with current plumbing code(s).

Findings and Recommendations

The overall finding was that the station is in relatively good condition, with no visible imminent threats. The report does identify the following significant deficiencies:

- Could threaten the Fire Station's ability to remain operational during catastrophes
- Could jeopardize fire personnel safety
- Hinder accessibility
- Disrupt operations
- Are code-related (code-related deficiencies are not required to meet the current building code unless those are a component of a remodeled space)
- Don't reflect good practice for reducing exposure to carcinogens and other harmful agents

As part of the assessment process, Omni Group, District staff and fire personnel categorized the deficiencies with the intent to provide options to modify, replace, expand, or relocate the fire station to remain operational during natural catastrophes, to operate sustainably and with functional efficiency, and from an architecture and engineering standpoint, for Life/Safety improvements. These were considered high priorities that are recommended to be corrected in the short-term to meet the overall objectives of the project. There are secondary deficiencies that are recommended to be corrected and would enhance operations, long- term Life/Safety conditions, accessibility, and sustainability over the life cycle of the facility.

Cost Breakdown

Based on the overall building assessment and input from District and Cal Fire staff, Omni Design provided three options for the District to consider.

Option 1 makes improvements to the existing Fire Station within the existing building footprint to correct high priority deficiencies in the short term as identified in Section 4 (page 16) of the report.

Option 2 would remodel the existing Fire Station to enhance the overall Life/Safety, operations, accessibility, and to bring the Fire Station up to current building codes. Additional square footage would be added to eliminate the C-trains currently used for storage, reconfigure the living space to better protect the area from the apparatus bay contamination and enlarge the north wing of the administrative offices to better separate living quarters from the office functions. This option could be phased over multiple budget cycles.

Option 3 provides an estimation of what it would cost to relocate and build a new facility. Additional cost information can be found in Section 5 of the report.

Option 1. High Priority/Short Term Improvement Recommendations:

Architecture:	
Architectural Improvements Pertaining to Fire Safety:	$ 269,900
Accessible Restroom on Administration Side:	$ 28,000
Architectural Improvements:	$ 297,900
Seismic Retrofit:	$ 193,200
Mechanical System:	$ 125,400
Plumbing:	$ 9,600
Electrical:	$ 185,000
Option 1 Grand Total:	**$ 811,100**

Option 2. Long-Term – Recommendations to Address All Deficiencies Listed in the Report:

Remodel Significant Portion of Living Quarters Side: $1,648,800

Dorms (HVAC and Associated Improvements):	$ 192,450
Apparatus Bay Concrete, Trench Drains, Doors:	$ 366,150
Training Room Expansion:	$ 63,750
Site Improvements:	$ 344,100
New Building for Engines, Shop, Fire Hoses, Reserve Gear	$ 600,000
Option 2 Grand Total:	**$ 3,215,250**

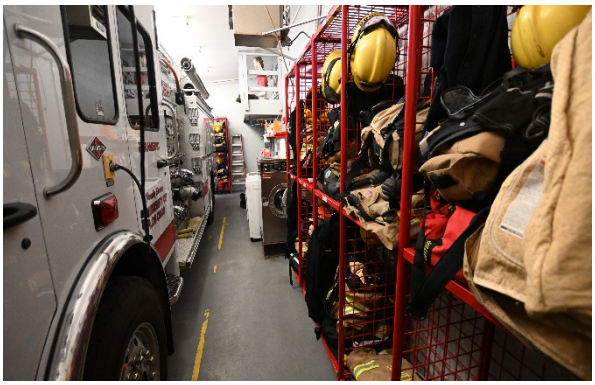
Option 3. New Fire Station:

Building	$13,200,000
Land:	$ 2,000,000
Option 3 Grant Total:	**$15,200,000**

FINANCIAL IMPACT

Since there is a wide range of costs to consider moving forward, staff is looking for general direction from the Board on a preferred approach to renovating the existing station or possibly looking at a new location and facility. Based on the direction provided, staff will research funding alternatives. It is important to note that staff will be bringing forward a request for a Standard of Cover study which will provide additional information on the District's current and future delivery of emergency services. Both the Station 15 building assessment and the results of the study will be part of the envisioned Emergency Services Strategic Plan for the District.

Attachment
Fire Station 15 Condition Assessment Report



LOS OSOS COMMUNITY SERVICES DISTRICT
FIRE STATION 15
CONDITIONS ASSESSMENT

DRAFT

DRAFT ASSESSMENT

April 6, 2023

ODI OMNI DESIGN INCORPORATED
Cal y Mayor Group
Architecture I Engineering I Surveying

LOCSD FIRE STATION 15
DRAFT CONDITIONS ASSESSMENT

CONTENTS

SECTION 1: EXECUTIVE SUMMARY

Project Purpose

The Los Osos Community Services District sought to obtain a building condition assessment report for the District's Fire Station No. 15 to determine the physical adequacy of the primary facility in the short term and long term future, and recommendations for improvement over a 10 year period of time.

This assessment identifies the current state of the building and components, including Life/Safety, energy efficiency, accessibility, and compliance with current building codes. The assessment addresses lifecycle, the useful remaining life of the facility, identifies maintenance deficiencies, and provides cost estimates to repair or replace the station.

The Life/Safety deficiencies are based on two things: 1. "best practices" for fire station design to reduce exposure to diesel engine exhaust, particularly inside the fire station where fire apparatus release diesel exhaust that disperses to areas where fire fighters eat, work and sleep, and 2. Fire code deficiencies that could result in hazardous conditions, although they are not *required* to be corrected.

Objectives

- Identify any major defects or deficiencies in the Fire Station.
- Provide options to modify, replace, expand, or relocate the Fire Station to remain operational during natural catastrophes, to operate sustainably and with functional efficiency, and to accommodate potential future uses.
- Provide a basis for forecasting funding requirements for capital improvement planning over the next 10 years.
- Provide a baseline for setting priorities for the maintenance, repair, enhancement or replacement of the Fire Station and its component systems.

FINDINGS AND RECOMMENDATIONS

The Fire Station 15 Conditions Assessment revealed that Fire Station No. 15 is in good physical condition, with no visible imminent threats, however there are some deficiencies that:

- Could threaten the Fire Station's ability to remain operational during catastrophes
- Could jeopardize fire personnel safety
- Hinder accessibility
- Disrupt operations
- Are code-related (code-related deficiencies are not required to meet the current building code unless those are a component of a remodeled space)
- Don't reflect good practice for reducing exposure to carcinogens and other harmful agents

This assessment report categorizes the deficiencies according to the District's and Fire Department's objective to "provide options to modify, replace, expand, or relocate the Fire Station to remain operational during natural catastrophes, to operate sustainably and with functional efficiency", and from an architecture and engineering standpoint, for Life/Safety improvements. These are categorized as high-priority deficiencies that are recommended to be corrected in the short term to meet these objectives. Secondary deficiencies that are recommended to be corrected would enhance operations, long-term Life/Safety conditions, accessibility, and sustainability over the long term.

There are three design optional plans presented here to meeting the project objectives:

1. Make improvements to the existing Fire Station within the existing building footprint to correct high priority deficiencies in the short term. (Refer to Sheets A2.0 "Existing Floor Plan", S2.0 " Foundation Plan, Minimum Seismic Retrofit" and S2.1 "Roof Framing Plan, Minimum Seismic Retrofit"
2. Remodel the existing Fire Station to enhance the overall Life/Safety, operations, accessibility, and to bring the Fire Station up to current building codes. This can happen over several budget cycles (Refer to Sheets A1.0 "Proposed Site Plan", A2.1 "Proposed Floor Plan, A3.0 "Proposed Floor Plan", A3.1 "Proposed Floor Plan "Auxiliary Apparatus Bay", S3.0 "Foundation Plan, Addition/Remodel Option, S3.1 Roof Framing Plan, Addition/Remodel Option, and S4.0 "New Building Foundation and Roof Framing Plan".

3. Construct an entirely new fire station in accordance with current code requirements including seismic, building, mechanical, plumbing, electrical, accessibility, energy, and fire codes, as well as best practices for fire fighter protection against toxins.

Option 2 includes the construction of an auxiliary detached Apparatus Bay building which would also house reserve fire fighter gear, fire hoses, and a mechanic shop which are currently located in two temporary C-Trains. This could occur as a separate line-item in any option, as this would free up space inside the Fire Station for additional "best practices" provisions for reducing exposure to carcinogens and other toxins in the short term. This would occur by re-purposing the existing small Apparatus Bay into a decontamination space and relocating the Engines to the new building.

COST ESTIMATES

Option 1. High Priority/Short Term Improvement Recommendations:

Architecture:

Architectural Improvements Pertaining to Fire Safety:	$ 269,900
Accessible Restroom on Administration Side:	$ 28,000
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Remodel Significant Portion of Living Quarters Side:	$ 1,648,800
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Please refer to Section 5 for a more detailed cost breakdown.

SECTION 2: BACKGROUND

HISTORY

The original Fire Station was constructed in the early 1960s and included two apparatus bays, offices, a dispatch room, and support space. The Fire Station did not contain firefighter sleeping quarters or living space; it is assumed that it was designed as an all-volunteer Fire Station.

In 1977 the Fire Station was expanded to include sleeping quarters, a living space, a lecture room, a recreation area, and a shop for vehicle and equipment maintenance. The building code in effect was the 1976 Building Code, with added regulations to address noise and energy use. It wasn't until 1986 that seismic criteria were added to the code to designate public safety structures as "essential services buildings" and design them to remain operational in the event of catastrophic events. The new regulations were developed to keep essential services buildings operational to withstand earthquakes, fire, and heavy winds.

Because the facility was built prior to 1986, it was not built to the essential services building standards and codes for public safety facilities.

In 1999 the Fire Station underwent improvements including reconfiguring the kitchen, converting the recreation room into a training room, adding a weather wall to block wind from entering the recreation room, and converting the lecture room into a recreation space. The improvements included new finishes, casework, and appliances. In 2005 the restrooms and showers were remodeled.

Since the original building was constructed, the Fire Station has undergone regular maintenance, and limited seismic retrofits, but no building envelope improvements, or interior configurations, and limited engineered system upgrades.

FACTORS CONSIDERED IN THE BUILDING ASSESSMENT/EVALUATION

- Building physical/structural evaluation, compliance with current building code(s), need for repairs, retrofit to maintain building in safe condition for occupancy and meeting current seismic codes.
- Mechanical/HVAC systems evaluation, physical condition, energy efficiency of equipment and building insulation/materials, and need for replacement, update, and repairs.
- Electrical system assessment/evaluation, compliance with current electrical code(s), energy efficiency, need for repairs, backup generation capabilities, retrofit and modernization to maintain building safe for occupancy.
- Plumbing system assessment/evaluation, compliance with current plumbing code(s).

FIRE STATION STAFFING, EQUIPMENT, AND SPACES

The current Architecture Program for Fire Station No. 15 is based on a staffing model composed of permanent fire personnel including one Battalion Chief, three Fire Captains, and five Engineer/Paramedics. They staff one paramedic fire engine and one paramedic squad. The permanent staff are supported by 22 reserve fire fighters who respond either from the Fire Station or from their homes.

This conditions assessment assumes that the current staffing model will remain, and that the Los Osos Community Services District will continue to contract with CAL FIRE/San Luis Obispo County for emergency services as they have since 2004. According to Fire Department personnel, if there is a change to the staffing model, this could be accommodated within the existing Fire Station footprint.

The Fire Station is designed to accommodate this staffing model in three primary functional areas: 1. Apparatus Bays (two), Support Spaces, and area behind the Fire Station; 2. Administration Space, and 3. Living quarters.

APPARATUS BAYS – FIRE FIGHTING OPERATIONS

The function of the Apparatus Bay is to park engines, trucks, and watercraft; to maintain tools and equipment; to store medical supplies and turn-out gear; to refill and store oxygen cylinders; and to clean/decontaminate personal protective gear.

The Apparatus Bay functions occur in three locations:

1. Main Apparatus Bay

The functions accommodated at the main Apparatus Bay include:

- Vehicle Parking
  - Medic Engine 15 – Spartan Type 1
  - Utility 15 - Ford F250 4 X 4
  - Boat 15 – Yamaha WaveRunner
  - Chief's Ford F250 4 X 4
- Turn-out gear storage for eight permanent fire personnel
- Oxygen tank storage and filling

Additional functions are housed in the existing Administration area:

- Exercise/Physical therapy equipment and exercise space.

2. Small Adjacent Apparatus Bay

The functions accommodated in the secondary Apparatus Bay include:

- Vehicle Parking
  - Engine 215 - Pierce Quantum Type 1
  - Medic Squad 15 - Ford 550
- Turn-out gear storage for 22 reserve fire personnel
- Extractor for cleaning personal protective gear
- Clothes washer and dryer
- Shop sink
- Cleaning supplies
- Medical Supply Storage (separate room adjacent to the Apparatus Bay)

3. Detached C-Trains (Three)

There are three C-Train containers on the site. One is used to store obsolete paperwork. The other two, and the space between are each approximately 9' wide by 20' long (approximately 180 SF each) in the rear of the station. These spaces house the tool and equipment shop, hose storage, and reserve fire fighter gear.

ADMINISTRATION

The Administration functions include the following:

- Reception Desk (currently doubling as an interim medical care space)
- Three offices
- Supply storage
- Exercise room
- Storage Closet
- Radio Room

LIVING QUARTERS

The living quarters are intended to accommodate sleeping, dining, and recreation, separate from public areas. The current living quarters include the following:

- Five dormitories
- Three restroom/shower rooms
- Kitchen/Dining
- Dayroom
- Custodial closet
- Training Room
- Accessible public restroom

SECTION 3: FACILITY CONDITION

EXISTING FIRE STATION DESCRIPTION

The building is approximately 7,900 SF, constructed primarily with concrete block. The framed roof has a 1:12 pitch with a PVC roof which replaced the original roof; there is some evidence of ponding. The ceilings are plaster throughout, with the exception of the Apparatus Bay which is exposed to the roof structure above. The windows were recently replaced with vinyl windows. There are no code-compliant fire exits in the building. Refer to the Appendix III for a scaled drawing.

There are three general functional areas:

1) Apparatus Bays and Support Areas

2) Administration Areas

3) Living/Recreation Areas

EXISTING CONDITIONS

ARCHITECTURE ASSESSMENT

Fire Station No. 15 was evaluated for physical conditions that impact Life/Safety, operations, the building code (as it relates to Life/Safety), accessibility, and "best practices" for minimizing contaminates migrating to the living quarters from the Apparatus Bays.

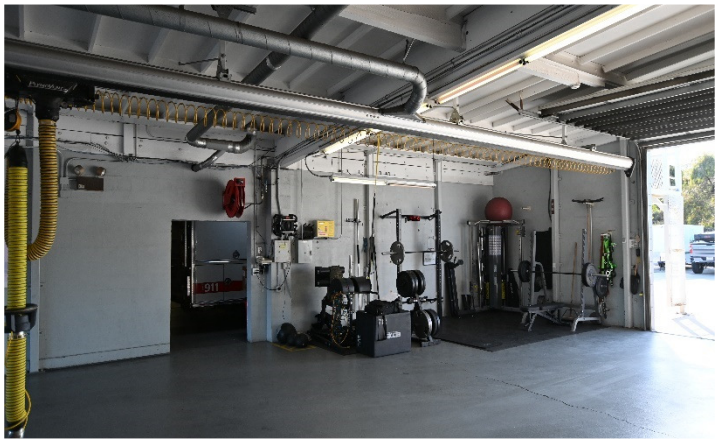
Operational Conditions:

- The Fire Station does not have dedicated space to treat people who walk-in with medical emergencies and need medical treatment while waiting for the arrival of an ambulance.
- Rapid ingress/egress for emergency response vehicles is hindered by a steep transition between the driveway approach and street.
- The Apparatus Bay overhead doors are faulty. They do not always open fully which either damages the doors and exiting trucks, and/or prevents them from exiting quickly.
- Two C-train containers on the site are used for storing hoses and PPE for reserve fire fighters. A make-shift maintenance shop is located between the two C-trains covered by a roof that spans the C-trains. This is a temporary arrangement to accommodate the storage and mechanic shop.
- The main Apparatus Bay floor slab slopes to the walls, not to the outside, and there are no floor drains. This requires manually sweeping the water out of the Apparatus Bay when the Engines come in wet.
- The kitchen and day room are located in two separate areas. The day room is under-utilized.

Two C-Trains with Roof Spanning Space for Workshop

Life-safety and Hazardous Conditions:

- The Fire Station Apparatus Bays have doors directly into the living quarters, contaminating the living quarters with various to cancer causing chemicals and pollutants. Best practice for Fire Station design recommends pressurized zones to minimize the transfer of contaminates to the living quarters.
- Personal protective gear is stored in the apparatus bay and is not properly enclosed and ventilated.
- The existing exercise room cannot fully accommodate PT equipment; overflow exercise space is located in a corner of the apparatus bay, which is contaminated with vehicle exhaust and other toxins.
- The fire alarms are faulty.
- There are no fire sprinklers.
- The existing alert system is faulty.



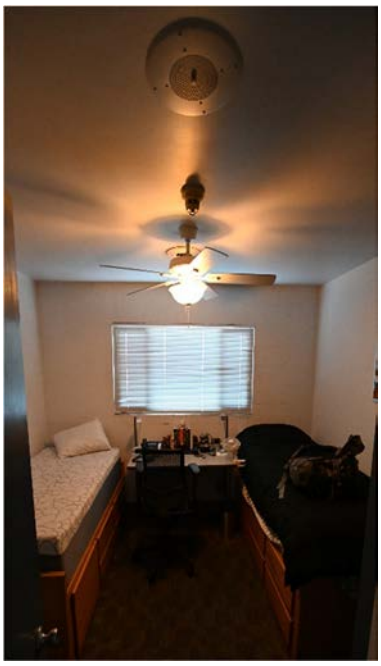
Supplemental Exercise Area in Apparatus Bay

- Washers and dryers used for personnel uniforms and linens are located next to the Apparatus Bay, exposed to vehicle exhaust and other toxins.

Washer and Dryer in Apparatus Bay

Current Building Code:

- The dorm rooms lack emergency egress windows. This is a code deficiency that is not required to be addressed, but can threaten Life/Safety should there be a fire in the Fire Station that prevents the occupants of the dorm rooms to exit.
- There are no person doors from the Apparatus Bay to the outside. The only way to exit is by opening the overhead doors or going through the administration area or living quarters. This is a code deficiency that threatens Life/Safety.



Dorm Room Windows are not Sized for Emergency Exiting

Accessibility: (refer to the Appendices for a graphical depiction of the accessibility issues)

- The Fire Station does not have any accessible parking or accessible path-of-travel to the Fire Station or within the Fire Station.
- The accessible public restroom is located in the fire fighter living quarters, and there is no accessible path-of-travel to the restroom.

The majority of the fire station is not ADA accessible due to its age. This includes showers, corridors, doors, plumbing, electrical systems, etc. Federal accessibility regulations, the "Americans with Disabilities Act – ADA" did not come into effect until 1990, and facilities built before this time are not required to comply unless undergoing major renovations.

Accessibility Rationale for a Fire Station:

Even though the Fire Station is generally operated by "able-bodied" individuals, it is still required to be accessible in accordance with the Americans with Disabilities Act (ADA). The law scopes a series of standards for accessibility for people with disabilities; Public facilities are subject to higher accessibility standards than commercial and residential developments.

With a few exceptions for building support spaces, fire stations are required to be fully accessible for disabled staff and the public. Accessibility requirements extend to the building site, including accessible parking stalls and an accessible pedestrian path from the public right-of-way to the building entrance. ADA standards touch most every aspect of design, from the maximum opening force of the front door to the exact width of a shower stall. Building elements such as hallways and restrooms require additional square feet for maneuvering and fixture clearance requirements.

The DOJ does recognize certain spaces used by first responders are "non-transitory residential." They have published guidance that supports an "adaptable" approach to kitchens and bathrooms in the crew area. This allows for kitchen sinks to be placed at standard height (36 inches) as long as provisions are made for lowering the sink to ADA height (34 inches) should it ever be required. Shower stalls can be installed without seats and grab bars, as long as blocking is provided in the walls should these elements need to be installed. We've found local building officials generally inclined to accept the adaptable approach when provided with the DOJ guidance document.

The application of building codes and accessibility requirements for the addition and/or remodel of a building adds additional complexities. The ADA concept of "disproportionality" provides a 20 percent ceiling for the portion of project construction cost applied to accessibility upgrades. (this summary is excerpted from Firehouse.com, article "Building Codes, the ADA & Your Fire Station", by Brian Harris and Forest Hooker)

HAZARDOUS MATERIALS ASSESSMENT

Asbestos: The asbestos containing materials identified are intact and in good condition. Intact and undisturbed asbestos containing building materials do not pose a health risk to the building occupants. Disturbing the material improperly, however, could expose the building occupants to airborne asbestos fibers.

Lead-Based Paint: No harmful levels of lead-based paint were detected, and the painted surfaces identified in this report are intact and in good condition. Intact and undisturbed lead containing paint does not pose a health risk to the building occupants. Disturbing the material improperly, however, could expose the building occupants to lead dust. West Coast Safety Consultants recommends all the painted surfaces containing lead identified in this report be maintained in their current condition. Although no lead-based paint was detected, CAL-OSHA regulates lead in paint at any detectable level.

STRUCTURAL SYSTEM ASSESSMENT

The following is a description of the primary structural systems of the existing Fire Station 15 in Los Osos, CA and the deficiencies as determined by the Tier 1 Screening Analysis outlined in the ASCE 41 Seismic Evaluation and Retrofit of Existing Buildings. The preliminary evaluation is based on review of as-built drawings and observations from a site visit. Additional Tier 2 Analysis is ongoing to verify the extent of the deficiencies.

Building Structure Description: The existing building is a reinforced masonry shear wall building with a roof consisting of wood framing. The foundation is a shallow continuous footing under the CMU walls and pad footings at columns and concentrated loads. The original 62-feet by 61.33-feet building was built in the 1960s and an addition designed and constructed starting in 1977. The key plan contained in the full Structural Assessment (Appendices) provides a graphic of the original building versus the addition. The roof framing at the original building consists of 2x4 sub-purlins at 24-inches on center supported by 4x purlins and glulam girders. The roof of the 1977 addition is framed with open web wood trusses at 24-inches on center supported by a steel wide flange girder. Girders in both buildings are supported by CMU pilasters.

During the site visit it was noted that a seismic retrofit was completed to the original 1960s building. The retrofit utilized Hollow Structural Sections (HSS) strong backs to strengthen the out-of-plane wall capacity of the CMU walls and to provide anchorage of the walls to the roof diaphragm. Included in the retrofit was the addition of a new ledger inside the building and additional anchors for shear transfer. No documentation of the retrofit is available.

The seismic deficiencies described in the summary below are based on standards contained in the American Society of Civil Engineers (ASCE) 41-31 (Seismic Evaluation and Retrofit of Existing Buildings), which is the main standard used for seismic evaluation and retrofit of existing buildings.

Summary:

Original Building

- Reinforcing in the wall consists of #3 at 32-inches on center vertical and 2 - #4 bars horizontal in the bond beam mid-height and at the top of the wall. Reinforcing ratio does not meet the minimum required steel area. Some wall piers exceed the maximum shear stress of 70 lb/in2 as described in the ASCE 41 Tier 1 checklist.
- Diaphragm nailing does not meet the required shear capacity. The diaphragm consists of 3/8-inch plywood with unknown nailing. Nailing is assumed to be 8d nails 6-inches on center at plywood edges and 12-inches on center at the field. This assumption is based on observation of similar construction. Diaphragm is blocked by nature of the panelized system used for construction.
- Sub-diaphragm and continuity ties are not provided or are insufficient.

1977 Addition

- Diaphragm nailing does not meet the required shear capacity. The diaphragm consists of 1/2-inch plywood with 8d nails 6-inches on center at plywood edges and 12-inches on center at the field. Diaphragm is blocked with flat 2x4s at the panel edges.
- Out-of-plane wall ties are not provided or are insufficient to anchor the CMU walls from wall loading perpendicular to the wall span.
- Sub-diaphragm and continuity ties are not provided or are insufficient.

Both Buildings

- Diaphragm tie between original building and 1977 addition not provided.

Site Elements

- The propane tank has anchors for seismic tie-down installed in the concrete pad, but does not have nuts installed.

MECHANICAL SYSTEM ASSESSMENT

General HVAC Systems Description:

- The building is serviced from (2) 80% gas-fired furnaces with attic air-distribution – there is a unit provided in the attic space in both the North, and South sides of the building on either side of the Apparatus Bay.
  - The unit provided for the South side of the building is provided with ducted ventilation/outdoor air.
  - The unit provided for the North side of the building is NOT provided with ducted ventilation/outdoor air.
- The main Apparatus Bay is provided with an ~78-80% efficient unit heater.
- There is no unit heater in the small Apparatus Bay. The Fire Department noted that heating is not necessary.

HVAC System Condition & Observations:

- The air distribution for the main HVAC systems is mainly flex duct to ceiling or wall registers. The systems do not exhibit good design practices and are likely difficult to balance for even temperature distribution.
- The return-air system includes a central return grille for each unit – return from enclosed spaces is via transfer air
- Review of filter condition suggests that units are at least receiving filter changes – no date on filter observed
- HVAC systems are currently programmed to run only on demand.
- The Forced Air Unit (FAU) at the North side of the building does NOT have ducted ventilation/outdoor air.
- The unit heater in the main Apparatus Bay is beyond end of life.

Control Systems Description:

- No controls – systems are controlled via 7-day programmable thermostats.

Exhaust Systems Description:

- Main Apparatus Bay – the main Apparatus Bay is provided with a dedicated Plymovent system comprised of a dedicated fan, (3) rails and hoses.
- Small Apparatus Bay – the small Apparatus Bay is provided with a dedicated Plymovent system that service a single rail/drop in the small Apparatus Bay, and also branches to an unused inlet at the location where the jet-ski trailer is currently parked during normal operation. The duct branch is unused; however, it is currently NOT capped and is compromising the effective operation of the system.
- General building exhaust is via roof exhaust fans – systems appear to be functional and in satisfactory condition

Exhaust Systems Condition & Observations:

- Plymovent Systems – systems are in poor condition; user pointed out that hoses have been repeatedly broken and repaired, the tail-pipe boots don't release consistently, and the compressed air-systems are leaky. We did not observe the system in operation; however, visual inspection of the fans suggests they are near end of useful life.
- General Building Exhaust – fans are in satisfactory condition.

Kitchen Systems Description:

- The kitchen is provided with a heavy duty residential range and hood – the hood is provided with exhaust fans within the hood which are ducted to roof discharge(s) above.

Kitchen Systems Condition & Observations:

- Hood/fans appear to be in satisfactory condition. Some grease accumulation was noted on the hood fans.
- User stated that the HVAC systems are pretty ineffective and not well balanced.

Engineer Comments:

- The roof/attic assembly is poorly insulated and does appear to comply with code requirements for attic venting. Recommend reinsulating/rehabilitating the building envelope to allow for a more efficient building overall.
- HVAC systems are basic, and do not provide for good management of indoor-air quality in the occupied spaces.
- HVAC air-distribution is poorly applied – ceiling diffusers are old and in various states of repair. Many diffusers that have the ability to moderate airflow (manual) no longer appear operable.
- Return-air system is comprised of a single central return for each unit and then relies on transfer from enclosed spaces as the primary return air pathway.
- Firefighter sleeping/bunk rooms currently rely on operable windows for ventilation.
- The unit heater in the main Apparatus Bay is beyond end of life and should be replaced.
- The existing windows are single pane with poor insulation capabilities.

PLUMBING SYSTEM ASSESSMENT

Water Service:

- Source: Utility Connection from street facing side of building
- Service SOV at Building: Yes
- DW Backflow Preventer: No
- IRIG Backflow Preventer: No – no onsite irrigation systems noted

Gas Systems:

- Source: Natural Gas
- Seismic Gas Valve: Yes
- Manual Shut-Off Valve (SOV): None identified. Should be provided in addition to the seismic SOV
- Safety Shut-off Wrench: No

Sanitary Sewer, Waste & Vent:

- Sewer Discharge: To community sewer utility
- Site Sewer Material: Appears to be SDR35 as observed through cleanouts
- Building Waste Material: Not readily observable, appears to be cast iron
- Vent Material: Cast iron - visual observation in attic

Comments:

- User commented that the SS used to back up from time to time when the building was on septic. No issues noted after connection to community sewer
- Recommend having SS lines below the building camera'd for condition, location/routing documentation, and invert determination – recommend including SS as-built information on digital plan files for future use

Water Heating:

- Type: Natural Gas, Instant
- Water Heater Condition: Good
- Combustion Air: Yes, high/low ducts from roof to room
- T&P Properly Terminated: Yes, terminates at floor sink in room
- Circulation System: No
- Expansion Tank: No

Comments:

- System is provided with inline filter, and single-bottle softener on cold water supply to water heater

Fixtures and Flush Valves:

- Lavatories / Sinks: Counter/rim mount (RR's), integral counter (Kitchen)
- Lavatory /Sinks Condition: Counter/rim – old but satisfactory, Kitchen – poor, cracking/staining at drain

- Water Closet Type: Tank type, Floor mount
- Water Closet Condition: Old but satisfactory
- Urinal Condition: Satisfactory
- Flush Valves: Manual at urinals only
- Flush Valve Condition: Satisfactory

Kitchen Systems:

- Kitchen Type: Residential w/heavy duty range/oven
- Kitchen is provided with small undercounter RO system – age unknown

Specialized Plumbing Systems:

- Compressed Air Systems: Building is provided with a service compressor, primary use: Plymovent system
- Softener/DI: Various softener tanks are provided onsite
- Apron Drain Diverter: Manual SS/storm-water diverter at back of apron

Comments:

- User commented that the compressed air distribution is leaky, and this causes the compressor to cycle on/off overnight
- Various Softener/DI systems are provided onsite – consider consolidating to one system on the main building supply. Recommend a functional analysis be provided to determine optimal approach and benefits to softening at point of use vs. whole building
- There is a drain diverter valve under steel grate at the back of the apron. The intent of this device is for the user to switch the drain position during vehicle washing to ensure that wash-down water is sent to the community sewer system. All other times, the drain should be set to allow for storm water runoff. The existing system is manual, and the user indicated that they do not actively switch the valve when washing vehicles

Mechanic/User Comments – Plumbing Systems:

- User commented that the Apparatus Bay is prone to flooding during heavy rain
- There are turn-out washer/extractors in the Apparatus Bay – user commented that the drain for these units backs up from time to time

ELECTRICAL SYSTEM ASSESSMENT

General Observation.

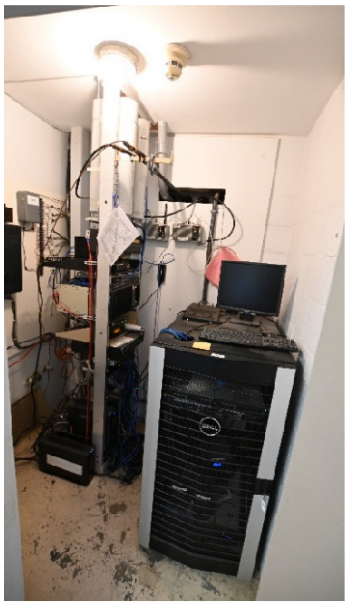
Power

- The building is fed underground from a pole mounted transformer. Existing service is 200A, 120/240V single phase. The meter and distribution panel (DP) is located at north side at the exterior of the building. The PG&E meter is #1009660488. The exterior 200amp distribution panel feeds the existing roof-top solar system, building signage, and two panelboards.
- The building is fed by a 35kW outdoor generator and fueled by existing propane tank. The existing generator is adequately sized to meet current Fire Station power needs.
- There are two sub-panels both are feed by 100A feeder from pane l “DP”. One is in the Apparatus Bay. This panel is flush mounted, and feeds load at the main Apparatus Bay, including 50amp load center panel and loads at business side of the building. The second existing subpanel is located in the small Apparatus Bay. This panel is surface mounted and feeds the living space side of the building and the small Apparatus Bay.
- Power Lines in Front of Apparatus Bay: The overhead lines that run across the front of the fire station are concerning. If the power poles or overhead power lines fall down, this will hinder the fire trucks’ ability to exit the station.

Power Lines Span two Power Poles in Front of the Apparatus Bay

Communication System

- The existing community antenna television (CATV) service is fed overhead with two points of connection located high at the south side of the Apparatus Bay. One connection is for the living space and one connection is for the administration side.
- The existing fiber is terminated in the corner of the old dispatch room behind the reception area. It is unclear if the fiber is underground and how it enters the building.
- The existing Radio Room consists of data cabinet and two post racks. It appears that all the data/phone lines are terminated here. It is too small to accommodate both the equipment and clear space around the equipment.
- The existing fire alarm panel is located in the small Apparatus Bay.



Existing Radio Room

Lighting System

The existing lighting throughout contain primarily fluorescent bulbs which waste considerable amounts of energy compared to Light Emitting Diode (LED) bulbs which are highly energy-efficient and last over 10 years longer that fluorescent bulbs and they do not flicker when the reach their reach their useful life.

Ceiling fans with lights are installed in the bedrooms. Various lights are not working throughout the Fire Station, especially at the Kitchen.

SECTION 4. DEFICIENCIES AND RECOMMENDATIONS

The following recommendations include "High Priority" options to modify the existing Fire Station in order to remain operational during natural catastrophes; for immediate Life/Safety considerations; for minimum accessibility improvements; and to replace equipment that is at its end-of-useful-life. "Secondary" recommendations pertain to functional efficiency, sustainability, accessibility, operational improvements, and enhanced Life/Safety improvements beyond the provisions included in the high-priority recommendations.

Additional future uses are not anticipated at this Fire Station within the next 10 years, according to the Fire Department, so provisions for more staffing is not included.

These recommendations will be used to form a baseline for setting priorities for the maintenance, repair, enhancement or replacement of the Fire Station and its component systems, and for forecasting funding requirements for capital improvement planning over the next 10 years.

HIGH PRIORITY

The high priority deficiencies could be accommodated with mostly minor modifications to the existing Fire Station configuration and engineered systems without expanding the building footprint. The existing roof, however, will need to be replaced if the structural system is to be upgraded. The High Priority recommendations address deficiencies that can be remedied in the short term. They do not address all of the deficiencies found during the assessment. These priority deficiencies are listed below.

Architecture:

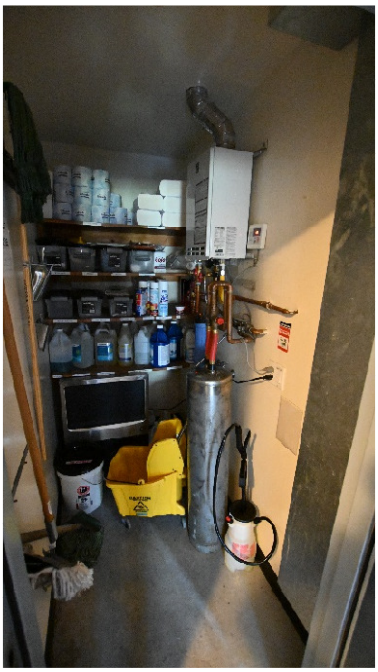
- Fire Separation. The walls separating the apparatus bays from the living quarters and administrative spaces are not fire-rated. Fire rated walls restrict the spread of fire from one space to the next. (Life/Safety). Recommendation: Provide additional layer of drywall on identified walls and replace doors with fire rated doors where needed.
- Person Door at Apparatus Bay. There are no doors directly out of the apparatus bay except for the overhead doors, making it difficult to exit quickly. (Life Safety). Recommendation: Provide a person door at back of the main Apparatus Bay.
- Overhead Apparatus Bay Doors. These frequently malfunction (do not open all the way) causing the tops of fire trucks and engines to exit and partially collide with the overhead doors. (Operational and Maintenance). Recommendation: Replace existing overhead doors with folding doors.
- Accessible Restroom. The existing accessible restroom is in the fire fighters' living quarters, and not on an accessible route. Recommendation: Convert existing under-utilized room behind the reception area to an accessible restroom.
- Decontamination. The existing living quarters are exposed to contamination from vehicle exhaust and other toxins from fire ground combustion or personal protective gear (PPP) off-gassing (Life/Safety). Recommendation: Create pressurized vestibules between the living quarters and apparatus bays.
- Laundry Room. The existing laundry room for fire fighter personal clothing is located in the Apparatus Bay, cross contaminating the laundered clothes with the apparatus bay contaminants. Recommendation: Convert the existing accessible restroom in the living quarters to a laundry room (construct new accessible restroom at the administrative side of the Fire Station).
- Egress Windows. The fire fighter dorm rooms lack properly sized and configured windows for emergency escape in the event of a fire in the living quarters. Recommendation: Replace windows with properly sized and configured windows, minimum 5 square feet and net clear openings of 24" high by 20 wide".
- Exercise Room: The existing exercise room is too small to accommodate all of the physical therapy equipment. Recommendation: Expand the size of the space by removing unnecessary storage closets unless the exercise room is relocated.

Structural System:

- The existing building is not designed to withstand extreme seismic forces, and could prevent the station to remain operational during natural catastrophes. Recommendation: Provide nailing, wall ties, wall reinforcing, and anchorage per Structural Engineer's recommendations: These improvements will require replacing the roof.

Mechanical System:

- Existing Furnaces: The existing furnaces (two) are past their efficient useful life and operating at 80% efficiency. Recommendation: Replace existing furnaces with new furnaces.
- Medication Room: The existing medication room contains medical supplies with temperature related requirements, and the room does not have means of dedicated temperature control. Recommendation: Provide a dedicated mechanical system to the medication room to maintain the temperature range needed for the medical supplies.
- South Side of Building – Living Quarters: The corridors that connect the apparatus bays are not sealed from the living quarters which results in contamination from vehicle exhaust. Recommendation: Provide a positive pressure environment (vestibule) from the living quarters to the Apparatus Bay to prevent contamination from vehicle exhaust and other toxins from migrating into the living quarters.
- North Side of Building - Administration: The corridors that connect the apparatus bays are not sealed from the administrative areas which results in contamination from vehicle exhaust. Also, the system does not have ducted ventilation – all ventilation on this side of the building is provided by operable windows Recommendation: Provide a positive pressure environment (vestibule) from the living quarters to the Apparatus Bay to prevent contamination from vehicle exhaust, compounds produced by burning material, VOCs, particulate matter, and other products of incomplete combustion. Provide ducted ventilation – all ventilation on this side of the building is provided by operable windows.
- Apparatus Bay Exhaust System. The electrical code has provisions for a general ventilation system be provided for the Apparatus bay in order to eliminate the need for the space to be categorized as a *Class-1, Div-2* space (spaces in which volatile flammable liquids or gases are handled, process, or used. In accordance with this, we are recommending that a general exhaust fan be installed on the roof to provide the necessary air-change rate for the apparatus bay. Recommendation: Replace with compliant exhaust system.
- Drain Diverter. The vehicle washdown/stormwater diverter is in poor condition which means that washdown water can be diverted onto the street rather than the leach field at the back of the property. Recommendation: Replace the diverter valve.



Under-sized Instant Wall-Mounted Water Heater

Plumbing System:

- Water Heater: The existing water heater does not have the capacity to supply hot water to more than one shower at a time. Recommendation: Replace the existing instant water heater with a tank-type, high-efficiency water heater with the capacity to provide sufficient hot water at all times.
- Natural Gas Shutoff. There is currently no emergency shut-down ability for the natural gas systems at the facility. This can be hazardous when the fire fighters are alerted for emergency response and forget to shut off the appliances. Recommendation: Provide emergency solenoid shutoff valves to stop the flow of natural gas to the range, apparatus bay heaters, and BBQ.

Electrical System:

- Fire Alarms: The existing fire alarm system malfunctions. Recommendation: Replace the Fire alarm system to a new full coverage system.
- Alerting System: the existing alerting system does not work properly. Recommendation: replace existing speakers and wires and head-in equipment.
- Radio/Server Room. The radio room space is very congested which hinders maintenance and proper ventilation. Recommendation: Remove wall between the Radio Room and adjacent storage room for adequate space around the equipment.
- Kitchen Power. When several kitchen appliances are used simultaneously, they frequently trip the breaker switches. Recommendation: Provide additional dedicated circuits to accommodate the kitchen appliances.

SECONDARY PRIORITIES (LONG TERM)

Implementing the secondary priorities as shown in the "Proposed Site Plan and Proposed Floor Plan" will provide enhanced accessibility, improve energy efficiency, meet current codes, and improve comfort and operations. The secondary priorities also incorporate "best practices" in current fire station design to reduce exposure to toxins. Existing stations should be retrofitted to best accomplish this where possible. It is recommended to divide the fire station in to three hazard zones to reduce exposure to cancer-causing chemicals at the fire station as follows:

1. Hot Zone (Red): Designated area for everything contaminated that needs to be decontaminated. • When decontaminating, wear proper PPE to minimize exposure. • Contaminated PPE and equipment include, but are not limited to boots, gloves, helmets, turnout gear, SCBA, EMS equipment from medical calls, fire hoses, etc.

2. Warm Zone (Yellow): This is commonly the apparatus bay. • Cleaned equipment can be stored in this zone (cleaned PPE should be stored in a separate area with its own ventilation system). • Handwashing occurs here prior to entering the living areas of the fire station. • Washer/extractors should be in the warm zone.

3. Cold Zone (Green): These are the living quarters of the fire station (e.g., kitchen, bathrooms, sleeping quarters, offices). • Ventilation systems should not allow fireground contaminants or diesel exhaust to enter this area from the air, personnel, or equipment. • Contaminated PPE and equipment should never enter the cold zone. • Do not prop open doors between living areas and the apparatus bay.

Saunas are included here as another secondary option to address deficiencies which relate to exposure to toxins. Although saunas have not definitively been proven to effectively decontaminate, there is evidence that they may. Nonetheless they are a current trend in fire station design, because at minimum they provide physical therapy.

See next page for "Zoned" Floor Plan configuration, and Appendix III, "Proposed Site Plan, and "Proposed Floor Plans" address these secondary priorities.

Architecture:

- Provide a dedicated room away from the living quarters for the PPE extractor and drying tables or racks.
- Convert existing small Apparatus Bay for decontamination prior to entering the living quarters, including extractor, dryer, showers, sauna(s), and turn-out gear.
- Provide a sauna(s) for post contamination detox.
- Construct a dedicated space off the reception area for interim medical treatment.
- Provide second opening and folding door at the rear apparatus bay for a two-bay, drive-through approach.
- Relocate existing exercise room from the administrative side of the facility to the existing day room, and relocate existing training room function from the living quarters to the existing exercise room in the administrative side of the facility.
- Construct a new detached building to house one engine and one squad, fire hose storage, reserve fire fighter gear, and mechanic shop.
- Expand the existing kitchen into the existing training room location (remove wall in between and relocate the training room to the administrative side of the Fire Station) to include an integrated day room, rather than a completely separate day room. Reconfigure and upgrade under-performing appliances, and dated casework and finishes.

Existing Hose Drying Tower at the back of the Apparatus Bay

General Mechanical System Recommendations for Building Envelope/Energy Efficiency

- Insulate roof assembly throughout with R-30 insulation for higher energy efficiency – spray in foam recommended. This could occur within the existing roof structure, or as part of a new roof assembly.

- Remove and replace all windows with dual glazed, insulated, thermally broken units for higher efficiency.
- Dorm Room Controls: The five existing dorm rooms do not have individual temperature controls, and ventilation is controlled using the operable windows only. Recommendation: provide individual mini splits to provide dedicated air control for each dorm room.

Plumbing:

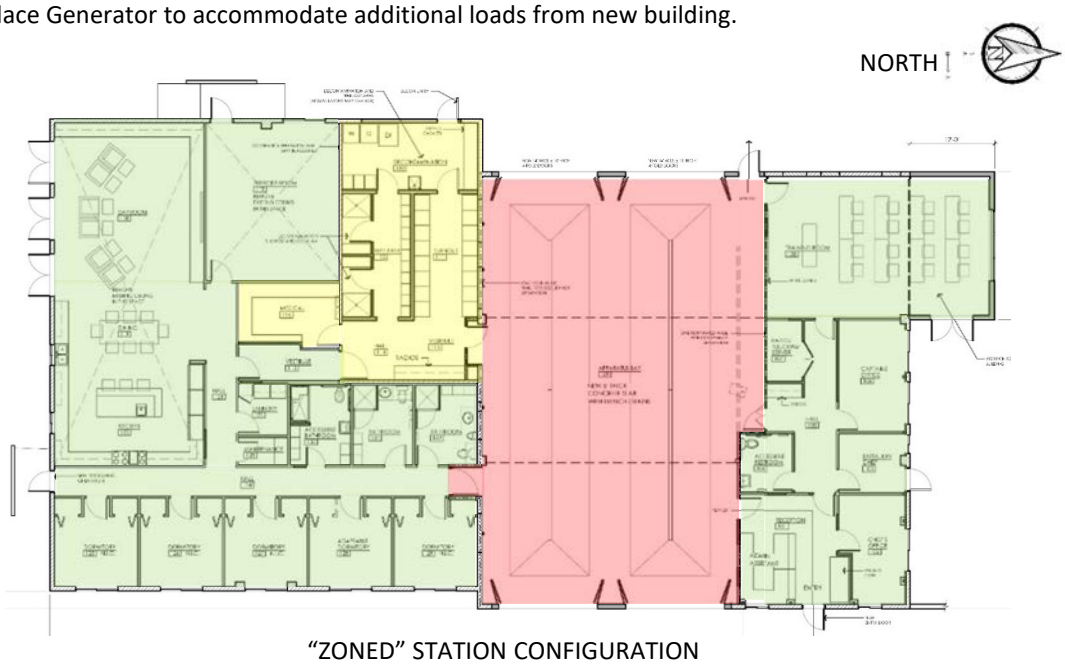
- Apparatus Bay Compressed Air System: The existing distribution for the compressor should be removed in its entirety. Provide new compressed air distribution to wall/overhead mounted hose-reels.
- Apparatus Washing Di/Softener System: The existing DI (exchange bottle) system is heavily used for Apparatus, Engine, and Vehicle washing. It is recommended to increase the number of bottles in the system for increased lifespan and reduced service replacement.
- Apparatus Bay Drains: Install trench drains into the slab to prevent water from accumulating on the slab. Include sand oil separator.

Electrical System

- Interior Lighting: Replace all existing lights with new high efficacy LED fixtures. Existing bedrooms, kitchen and apparatus bay are under lit. Provide emergency lighting. LED lighting is more efficient than the existing fluorescent fixtures.
- Rear Exterior Lighting: Propose additional exterior lighting for proper lighting at the rear when needed.
- Communication System: Replace communication cables with new CAT6 cables or better.
- Power Lines in Front of Apparatus Bay: The overhead lines that run across the front of the fire station are concerning. If the power poles or overhead power lines fall down, the fire truck apparatus can't leave. Place underground in front of the apparatus bay.

Site:

- Reconstruct transition at driveway approach and roadway intersection to reduce dip.
- Remove or relocate the existing hose tower for better vehicle maneuverability and to create access for a second folding door at the rear of the Apparatus Bay. Also, the hose drying tower is awkward to use. Replace the hose-drying tower with horizontal hose drying racks at a different location.
- Replace Generator to accommodate additional loads from new building.



"ZONED" STATION CONFIGURATION

Hot Zone Warm Zone Cool Zone

SECTION 5. COST BREAKDOWN

Option 1 - High Prioirty		
Archtectural		
Fire Seperation	$	41,000
Person Door	$	4,200
Apparatus Door	$	187,000
Accessible Restroom	$	28,000
Decontamination	$	11,200
Laundry Room	$	21,000
Egress Windows	$	5,500
Subtotal	**$**	**297,900**
Structural System		
FRP Walls	$	32,000
Footing & CMU Wall	$	12,400
Demo Roof	$	24,600
Structural Mods Roof	$	42,300
Roof Replacement	$	81,900
Subtotal	**$**	**193,200**
Mechanical Systems		
Replace Furnaces	$	18,000
Medication Room	$	9,200
South Side of Building	$	6,500
Appartus Bay Exhaust System	$	86,000
Drain Diverter	$	5,700
Subtotal	**$**	**125,400**
Plumbing System		
Water Heater	$	7,300
Natural Gas Shutoff	$	2,300
Subtotal	**$**	**9,600**
Electrical System		
Fire Alarms	$	118,000
New Alerting System	$	51,500
Radio Server Room	$	5,800
Kitchen Power	$	9,700
Subtotal	**$**	**185,000**
Total Construction Cost	**$**	**811,100**

Option 2 - Long Term		
Building		
Extensive Remodel		
4122 SF @ $400/SF		
Exercise Space		
Small Bay Decon Room		
Turnout		
Showers		
Detox - Sauna		
Interim Medical Treatment		
New Training Room		
Decon Room		
New Day Room		
Kitchen Expansion		
Admin Spaces		
Subtotal		**$1,648,800**
Dorms Finshes and HVAC		
1283 SF @ $150/SF		
Subtotal	**$**	**192,450**
Apparatus Bay		
2441 SF @ $150/SF		
Subtotal	**$**	**366,150**
Training Room Addition		
255 SF @ $250/SF		
Subtotal	**$**	**63,750**
Storage Building		
3000 SF @ $200/SF		
Subtotal	**$**	**600,000**
Site		
Remove House Tower	$	21,000
Rear Exterior Lighting	$	15,400
Underground Power Lines	$	88,900
Backup Generator	$	118,000
Driveway Approach	$	17,000
Additional Site Concrete	$	32,800
HMA Driveway, Base & Pave	$	51,000
Subtotal	**$**	**344,100**
Total Construction Cost		**$3,215,250**

Option 3 - New Fire Station		
Building & Site Improvement		
11,000 SF @ $1200/SF	$	13,200,000
Land / Temp Location		
	$	2,000,000
Total Cost	**$**	**15,200,000**

APPENDICES

APPENDIX I – CONDITIONS ASSESSMENT REPORTS

ASBESTOS ASSESSMENT REPORT

LEAD BASED PAINT ASSESSMENT REPORT

STRUCTURAL SYSTEM ASSESSMENT REPORT

MECHANICAL AND PLUMBING SYSTEMS REPORT

ELECTRICAL SYSTEM REPORT

MECHANICAL AND PLUMBING RECOMMENDATIONS REPORT

APPENDIX II – MEETING NOTES

DECEMBER 7, 2022

JANUARY 5, 2023

FEBRUARY 8, 2023

March 28, 2023

APPENDIX III – PLAN EXHIBITS

A2.0 EXISTING FLOOR PLAN – WITH HIGH PRIORITY RECOMMENDATIONS

S2.0 FOUNDATION PLAN – MINIMUM RETROFIT (HIGH PRIORITY)

S2.1 ROOF FRAMING PLAN – MINIMUM RETROFIT (HIGH PRIORITY)

A1.0 PROPOSED SITE PLAN – LONG TERM

A2.1 PROPOSED FLOOR PLAN (FIRE STATION – LONG TERM)

A3.0 PROPOSED FLOOR PLAN (NEW AUXILIARY APPARATUS BAY – LONG TERM)

S3.0 FOUNDATION PLAN – ADDITION/REMODEL – LONG TERM

S3.1 ROOF FRAMING PLAN – ADDITION/REMODEL – LONG TERM

APPENDIX I – CONDITIONS ASSESSMENT REPORTS

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MECHANICAL AND PLUMBING RECOMMENDATIONS REPORT

WEST COAST SAFETY CONSULTANTS

December 27, 2022

Suzanne Winslow
Omni Design, Inc.
1326 Chorro Street
San Luis Obispo, CA 93401

RE: Asbestos Building Inspection – 2315 Bayview Heights Drive, Los Osos, California

INTRODUCTION

This report presents the findings of West Coast Safety Consultants inspection for asbestos containing building materials at the Fire Station located at 2315 Bayview Heights Drive, Los Osos, California on December 20, 2022. The 8,000 square foot building is constructed of concrete block, metal beams and rests on a concrete slab foundation. All accessible areas were visibly inspected and samples of suspect material were obtained and analyzed.

Our survey involved sampling and analyzing suspect materials to test for the presence of asbestos. A detailed description of the work is outlined below.

1. Inspected all accessible areas of the building for Category I Non-friable, Category II Non-friable, and other Regulated Asbestos Containing Materials. Samples were collected recording:

    a. Sample location
    b. Sample description
    c. Friability
    d. Condition of the material
    e. Potential for disturbance

2. Submitted samples to an EPA accredited laboratory which will provide a report containing the following:

    a. West Coast Safety Consultants sample identification number
    b. Laboratory sample identification number
    c. Analytical technique
    d. Quality control procedures
    e. Type and percentage of asbestos in each material

3. Analyzed the sample results and generated this report which includes:

   a. Definitions
   b. Executive Summary
   c. Findings
   d. Conclusions and Recommendations
   e. Sample Result Summary (Appendix A)
   f. Sample Location Diagram (Appendix B)
   g. Laboratory Report (Appendix C)
   h. Inspectors Credentials (Appendix D)

DEFINITIONS

Asbestos
Types of asbestos include chrysotile, amosite, crocidolite, tremolite, anthophyllite, actinolite and any of these minerals that have been chemically treated and/or altered.

Asbestos Containing Material (ACM)
Means any material containing more than one percent asbestos.

Category I Non-friable ACM
Asbestos containing packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM).

Category II Non-friable ACM
Any non-friable material, excluding Category I Non-friable ACM, containing more than 1% asbestos as determined using PLM.

Friable ACM
Any material containing more than 1% asbestos as determined using PLM that when dry can be crumbled, pulverized, or reduced to powder by hand pressure.

NESHAPS
The National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61).

Regulated Asbestos Containing Material (RACM)
Any material containing more than 1% asbestos which is:

   a. Friable or;

   b. Category I Non-friable ACM that has become friable or;

   c. Category I Non-friable ACM that will be or has been subjected to sanding, grinding, cutting, abrading or;

   d. Category II ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to a powder by the forces expected to act on the material in the course of demolition.

EXECUTIVE SUMMARY

MATERIALS WHICH CONTAIN ASBESTOS:

Black Mastic located on the floors throughout the office area (under carpet) contains 5% chrysotile asbestos.

Drywall/Joint Compound located on the interior walls throughout the office area contains 2% chrysotile asbestos.

Tar located around the roof penetrations and patches contains 5% chrysotile asbestos.

SUSPECT MATERIALS WHICH NO ASBESTOS WAS DETECTED:

Drywall/Joint Compound located on the dorm utility closet interior walls was sampled and no asbestos was detected.

Plaster located on the interior walls throughout the building was sampled and no asbestos was detected in any of the samples.

Ceiling Tile and Mastic located on the ceilings in the training room, living room and office was sampled and no asbestos was detected in any of the samples.

Grey Coating located on truck bay floor was sampled and no asbestos was detected.

Spray-on Acoustic Plaster located on the ceilings in the office area was sampled and no asbestos was detected in any of the samples.

Loose Insulation located in the office attic was sampled and no asbestos was detected.

Rolled Shingle/Tar/Felt located on the dorm roof were sampled and no asbestos was detected in any of the samples.

Gravel/Tar/Felt located on the office roof was sampled and no asbestos was detected.

FINDINGS

West Coast Safety Consultants collected samples of each suspect asbestos containing building material (ACBM) encountered at the specific site location. The Environmental Protection Agency (EPA) sampling protocol was utilized which requires multiple samples of suspect asbestos containing materials which are applied by spraying or troweling. A total of 25 samples were submitted to SGS Forensic Laboratories, an EPA accredited laboratory for analytical testing. Laboratory results are found in appendix C of this report. The asbestos samples were analyzed for the presence of asbestos by Polarized Light Microscopy (PLM) with dispersion staining in accordance with the EPA Method 600/R-93-116, Visual Area Estimation.

Of the 25 samples that were analyzed for asbestos, four (4) were found to contain asbestos. The location of these samples, their description, and our recommended solution to mitigate any potential hazards emanating from contact with these materials is as follows:

Sample Number:	FD-08, FD-09
Sample Description:	Black Mastic
Location of Material:	Office Area Floors (under carpet)
Quantity of Material:	Approximately 700 Square Feet
Type and % Asbestos:	5% Chrysotile
NESHAP Classification:	Category I Non-Friable Asbestos Containing Material
Overall Condition:	The material is intact and in good condition.
Disturbance Potential:	Slight, because the material is very resilient.
Recommended Response:	This material should be maintained in good condition and removed prior to demolition, renovation, or any activity which would disturb the material by an asbestos abatement contractor that is licensed by the State of California. Do not sand, cut, saw or abrade the material.
Sample Number:	FD-12
Sample Description:	Drywall/Joint Compound
Location of Material:	Office Area Interior Walls
Quantity of Material:	Approximately 600 Square Feet
Type and % Asbestos:	2% Chrysotile
NESHAP Classification:	Category II Non-friable Asbestos Containing Material
Overall Condition:	The material was intact and in good condition.
Disturbance Potential:	Slight, because the asbestos containing material is located in the joint compound which is covered by layers of paint.
Recommended Response:	This material should be maintained in good condition and removed prior to demolition, renovation, or any other activity which would disturb the material by an asbestos abatement contractor that is licensed by the State of California. Do not sand, saw, or abrade the material.
Inspectors Note:	In several office areas the drywall/joint compound tested negative for asbestos, however the one positive sample result requires all the drywall/joint compound in the office area to be treated as asbestos containing material until additional sampling proves otherwise.
Inspectors Note:	The EPA allows composite sample analysis of the drywall and joint compound which could reduce the amount of asbestos in the sample from 2% to less than 1% changing the NESHAP classification and reducing some of the regulatory requirements. The EPA does not regulate materials which contain less than 1% asbestos, however it still would be regulated by CAL-OSHA. Additional lab analysis could be performed by the Point Count Method to determine if the drywall/joint compound composite sample is less than 1% asbestos.

Sample Number:	FD-25
Sample Description:	Tar
Location of Material:	Roof Penetrations and Patches
Quantity of Material:	Approximately 40 Square Feet
Type and % Asbestos:	5% Chrysotile
NESHAP Classification:	Category I Non-Friable Asbestos Containing Material
Overall Condition:	The material was intact and in good condition.
Disturbance Potential:	Slight, because the material itself is very resilient.
Recommended Response:	The material should be maintained in good condition and removed prior to demolition, renovation, or any other activity which would disturb the material by an asbestos abatement contractor that is licensed by the State of California. Do not sand, saw, or abrade the material.
Inspectors Note:	In another area the tar tested negative for asbestos, however the one positive sample result requires all the tar located on the roof to be treated as asbestos containing material until additional sampling proves otherwise.

CONCLUSIONS AND RECOMMENDATIONS

The asbestos containing materials identified in this report are intact and in good condition. Intact and undisturbed asbestos containing building materials do not pose a health risk to the building occupants. Disturbing the material improperly however, could expose the building occupants to airborne asbestos fibers. West Coast Safety Consultants recommends all the asbestos containing materials identified in this report be maintained in their current condition and removed prior to demolition, renovation or any activity which could disturb those materials by an asbestos abatement contractor licensed by the State of California. If additional suspect materials are discovered during demolition or renovation activities, the material should be assumed to contain asbestos until sampling proves otherwise.

Estimated quantities of asbestos containing material identified in this report are intended as estimates only. Prior to removal of asbestos containing materials, West Coast Safety Consultants recommends the contractor make a thorough site investigation to independently ascertain the actual quantities prior to submitting a price quote.

The San Luis Obispo County Air Pollution Control District is delegated authority to implement the asbestos NESHAP regulation in San Luis Obispo County. This regulation requires specific actions by the Owner or Operator of applicable projects. Before you begin your project and for further information, please visit their web site at: https://www.slocleanair.org/rules-regulations/asbestos.php or call the Engineering and Compliance Division at (805) 781-5912.

These conclusions and recommendations are based on the requirements set forth in 40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAP), and Title 8, Chapter 4, Paragraph 1529, the Asbestos Standard of the California Occupational Safety and Health Administration.

CLOSURE

The findings and conclusions rendered in this report are opinions based on the scope of work authorized by the client and laboratory analysis of building material samples collected during this inspection. This report does not reflect variations which may exist between sampling points. These variations cannot be anticipated, nor could they be entirely accounted for, in spite of exhaustive additional testing. Our work has been performed in accordance with generally accepted practices in the field of asbestos consultation. No other warranty, either expressed or implied is made.

Although every effort is made to identify all the asbestos containing materials in a building, it is possible for asbestos containing materials which are located under sub-floors, behind walls or otherwise hidden from view to go undetected until demolition or renovation activities uncover the material. If additional suspect materials are discovered, West Coast Safety Consultants will collect samples and provide a report for no additional cost other than the laboratory fee for sample analysis.

The EPA allows composite sample analysis of the drywall and joint compound which could reduce the amount of asbestos in the sample from 2% to less than 1% changing the NESHAP classification and reducing some of the regulatory requirements. If additional analysis is not conducted, the material should be assumed to contain greater than 1% asbestos. Please notify West Coast Safety Consultants with-in three weeks of receiving this report if you require additional sample analysis. An additional laboratory fee of $80 will be charged for each sample analyzed by the Point Count Method.

Enclosed with this report is a sample result summary, sample location diagram, laboratory report from SGS Forensic Laboratories and a copy of my asbestos certification. I appreciate this opportunity to be of service. Should you have any questions or comments regarding this report, please contact this office at your convenience.

West Coast Safety Consultants,

Michael Mc Guire
Certified Asbestos Consultant (#92-0534)

WEST COAST
SAFETY
CONSULTANTS

AMENDED REPORT

January 5, 2023

Suzanne Winslow
Omni Design, Inc.
1326 Chorro Street
San Luis Obispo, CA 93401

RE: Lead Paint Inspection – 2315 Bayview Heights Drive, Los Osos, California

INTRODUCTION

This report presents the findings of West Coast Safety Consultants inspection for lead containing paint at the Fire Station located at 2315 Bayview Heights Drive, Los Osos, California on December 20, 2022. The inspection was conducted for CAL-OSHA and EPA compliance in conjunction with the renovation/demolition of the building. All accessible areas were visibly inspected and representative samples of suspect materials were obtained and analyzed. Samples were not collected from every painted surface, however samples were obtained which represent the majority of the painted surfaces at the specific site location.

LEAD SAMPLE ANALYSIS

The survey involved a visual inspection of the building and sample collection from painted surfaces. The samples were analyzed by SGS Forensic Laboratories using Flame Atomic Absorption in accordance with the Environmental Protection Agency (EPA) Method (3050B/7420) to identify lead content. SGS Forensic Laboratories is a laboratory which is certified to analyze for lead. They are accredited by the American Industrial Hygiene Association, the National Institute of Standards and Technology, and the California Department of Public Health (CDPH). Please note the attached laboratory report.

LEAD FINDINGS

West Coast Safety Consultants visual inspection identified that the painted surfaces were intact and in good condition. A total of 26 samples were collected and analyzed for lead content. The results in parts per million (ppm) are as follows:

Sample#	Location	Description	Lead Content
FD-101	Bedroom Door	Blue Paint	600 ppm
FD-102	Bedroom Door Frame	Blue Paint	None Detected
FD-103	Dorm Hall Wall	Beige Paint	430 ppm
FD-104	Living Room Wall	Beige Paint	100 ppm
FD-105	Training Room Wall	Grey Paint	None Detected
FD-106	Living Room Door	Blue Paint	None Detected
FD-107	Living Room Door Frame	Beige Paint	100 ppm
FD-108	Electrical Room Door Frame	Blue Paint	80 ppm
FD-109	Truck Bay Floor	Grey Paint	None Detected
FD-110	Truck Bay Wall	Grey Paint	None Detected
FD-111	Truck Bay Floor	Grey Paint	None Detected
FD-112	Truck Bay Metal Beam	White Paint	None Detected
FD-113	Weight Room Wall	White Paint	110 ppm
FD-114	Weight Room Metal Beam	White Paint	None Detected
FD-115	Weight Room Door Frame	White Paint	1,100 ppm
FD-116	Weight Room Door	Brown Paint	150 ppm
FD-117	Office Door Frame	White Paint	None Detected

Sample#	Location	Description	Lead Content
FD-118	Office Wall	Beige Paint	750 ppm
FD-119	Office Wall	White Paint	1,900 ppm
FD-120	Office Wall	Grey Paint	None Detected
FD-121	Office Door	Brown Paint	430 ppm
FD-122	Office Baseboard	White Paint	None Detected
FD-123	Exterior Wall	Blue Paint	None Detected
FD-124	Exterior Wall	Blue Paint	None Detected
FD-125	Exterior Fascia	Blue Paint	None Detected
FD-126	Exterior Fascia	Blue Paint	None Detected

As a comparison, the EPA and CDPH consider a material to be lead-based paint when it exceeds .5% or 5,000 ppm. In addition, the Consumer Product Safety Commission (CPSC) set a limit of .009% or 90 ppm of lead in paint for children's toys and CAL-OSHA regulates workers who disturb lead coated surfaces at any detectable lead level.

SUMMARY

No lead was detected in the samples collected from the following painted building components:

1. Truck Bay Floor
2. Structural Metal Beams
3. Baseboards
4. Exterior Walls
5. Exterior Fascia

Low levels of lead (less than 1,100 ppm) were detected in the samples collected from the following painted building components:

1. Doors
2. Door Frames

Moderate levels of lead (less than 2,000 ppm) were detected in the samples collected from the following painted building components:

1. Interior Walls

No lead-based paint was detected on the inspection. West Coast Safety Consultants recommends any contractor conducting work which will disturb painted surfaces receive notification of the lead content and the condition of the lead containing surfaces prior to demolition, renovation, or any activity which would disturb the material. All work should be conducted in compliance with the CAL-OSHA and EPA regulations.

CLOSURE

In conclusion, no lead-based paint was detected and the lead containing painted surfaces identified in this report are intact and in good condition. Intact and undisturbed lead containing paint does not pose a health risk to the building occupants. Disturbing the material improperly however, could expose the building occupants to lead dust. West Coast Safety Consultants recommends all the painted surfaces containing lead identified in this report be maintained in their current condition. Although no lead-based paint was detected, CAL-OSHA regulates lead in paint at any detectable level.

West Coast Safety Consultants recommends any contractor conducting work which will disturb painted surfaces receive notification of the lead content and the condition of the lead containing surfaces prior to demolition, renovation, or any activity which would disturb the material. All work should be conducted in compliance with the CAL-OSHA and EPA regulations.

The findings and conclusions rendered in this report are based on the scope of work authorized by the client and laboratory analysis of building material samples collected during this inspection. This report does not reflect variations which may exist between sampling points. These variations cannot be anticipated, nor could they be entirely accounted for even with exhaustive testing. All work has been performed in accordance with generally accepted practices in the field of lead consultation.

The conclusions and recommendations listed in this report are based on the Department of Housing and Urban Development *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, 40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants (NESHAP), and Section 1532.1 the Lead Standard of the California Occupational Safety and Health Administration.

I have enclosed the required CDPH Notification of a Lead Inspection, a laboratory report from SGS Forensic Laboratories, a sample location diagram and a copy of my lead credentials. If you have any questions, please contact me at 805-748-8832. Thank you for choosing West Coast Safety Consultants.

Sincerely,

Michael Mc Guire
CDPH Lead Certification LRC-00002166

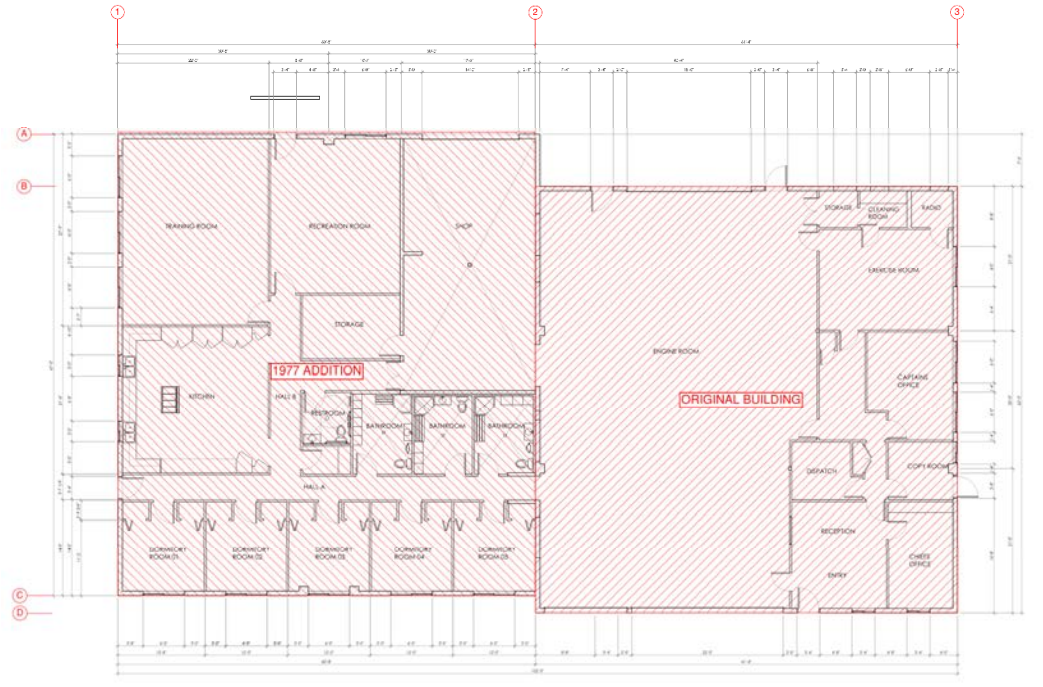
Job No.: S22362 January 19, 2023

Preliminary Structural Assessment
Los Osos CSD, Fire Station 15

Scope: The following is a description of the primary structural systems of the existing Fire Station 15 in Los Osos, CA and the deficiencies as determined by the Tier 1 Screening Analysis outlined in the ASCE 41 Seismic Evaluation and Retrofit of Existing Buildings. The preliminary evaluation is based on review of as-built drawings and observations from a site visit. Additional Tier 2 Analysis is ongoing to verify the extent of the deficiencies.

Building Description: The existing building is a reinforced masonry shear wall building with a roof consisting of wood framing. The foundation is a shallow continuous footing under the CMU walls and pad footings at columns and concentrated loads. The original 62-feet by 61.33-feet building was built in the 1950s and an addition designed and constructed starting in 1977. The key plan below provides a graphic of the original building versus the addition. The roof framing at the original building consists of 2x4 sub-purlins at 24-inches on center supported by 4x purlins and glulam girders. The roof of the 1977 addition is framed with open web wood trusses at 24-inches on center supported by a steel wide flange girder. Girders in both buildings are supported by CMU pilasters.

During the site visit it was noted that a seismic retrofit was completed to the original 1950s building. The retrofit utilized HSS strong backs to strengthen the out-of-plane wall capacity of the CMU walls and to provide anchorage of the walls to the roof diaphragm. Included in the retrofit was the addition of a new ledger inside the building and additional anchors for shear transfer. No documentation of the retrofit is available.



Key Plan

SSG Structural Engineers, LLP
805.439.2110 | info@ssgse.com | ssgse.com
811 El Capitan Way, Suite 240, San Luis Obispo, CA 93401
8405 North Fresno Street, Suite 120, Fresno, CA 93720

Summary of Deficiencies:

Original Building

Deficiency	Reinforcing in the wall consists of #3 at 32-inches on center vertical and 2 - #4 bars horizontal in the bond beam mid-height and at the top of the wall. Reinforcing ratio does not meet the minimum required steel area. Some wall piers exceed the maximum shear stress of 70 lb/in2 as described in the ASCE 41 Tier 1 checklist.
Proposed Retrofit	Add Fiber Reinforced Polymer (FRP) to the face of the CMU walls to add additional capacity. Alternately, add shotcrete shear walls to add additional capacity.

Deficiency	Diaphragm nailing does not meet the required shear capacity. The diaphragm consists of 3/8-inch plywood with unknown nailing. Nailing is assumed to be 8d nails 6-inches on center at plywood edges and 12-inches on center at the field. This assumption is based on observation of similar construction. Diaphragm is blocked by nature of the panelized system used for construction.
Proposed Retrofit	Add nailing to strengthen diaphragm. Modify spacing to 2-inches on center at CMU walls, 3-inches on center at plywood edges.

Deficiency	Sub-diaphragm and continuity ties are not provided or are insufficient.
Proposed Retrofit	Add continuity ties and create sub-diaphragm.

1977 Addition

Deficiency	Diaphragm nailing does not meet the required shear capacity. The diaphragm consists of 1/2-inch plywood with 8d nails 6-inches on center at plywood edges and 12-inches on center at the field. Diaphragm is blocked with flat 2x4s at the panel edges.
Proposed Retrofit	Add nailing to strengthen diaphragm. Modify spacing to 2-inches on center at CMU walls, 3-inches on center at plywood edges.

Deficiency	Out-of-plane wall ties are not provided or are insufficient to anchor the CMU walls from wall loading perpendicular to the wall span.
Proposed Retrofit	Add anchors into the CMU wall and develop forces in the diaphragm.

Deficiency	Sub-diaphragm and continuity ties are not provided or are insufficient.
Proposed Retrofit	Add continuity ties and create sub-diaphragm.

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Both Buildings

Deficiency	Diaphragm tie between original building and 1977 addition not provided.
Proposed Retrofit	Add strap tie at re-entrant corners of the two diaphragms.

Site Elements

Deficiency	The propane tank has anchors installed in the concrete pad but does not have nuts installed.
Proposed Retrofit	Install nuts at existing propane tank anchor bolts.

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BMA Mechanical +

FACILITY CONDITION ASSESSMENT
MECHANICAL & PLUMBING SYSTEMS

PROJECT LOCATION

Building Name: Los Osos CSD, Fire Station No. 15
Scope: Mechanical and Plumbing systems review
BMA Job No: 22222.00
BMA Contact: Brandon Rodgers

GENERAL PLUMBING SYSTEMS ASSESSMENT INFORMATION:

Water Service:

-*Source*: Utility Connection from street facing side of building

-*Service SOV at Building*: Yes

-*DW Backflow Preventer*: No

-*IRIG Backflow Preventer*: No – no onsite irrigation systems noted

Comments:

1. No additional comments

Gas Systems:

-*Source:* Natural Gas

-*Seismic Gas Valve*: Yes

-*Manual SOV*: None identified

-*Safety Shut-off Wrench*: No

Comments:

1. It is recommended to provide a manual SOV in addition to the seismic SOV

Sanitary Sewer, Waste & Vent:

-*Sewer Discharge*: To community sewer utility

-*Site Sewer Material*: Appears to be SDR35 as observed through cleanouts

-*Building Waste Material*: Not readily observable, appears to be cast iron

-*Vent Material*: Cast iron - visual observation in attic

Comments:

1. User commented that the SS used to back up from time to time when the building was on septic. No issues noted after connection to community sewer
2. Recommend to have SS lines below the building camera'd for condition, location/routing documentation, and invert determination – recommend to include SS as-built information on digital plan files for future use

Water Heating:

-*Type:* Natural Gas, Instant

-*Water Heater Condition*: Good

-*Combustion Air*: Yes, high/low ducts from roof too room

-*Seismic Straps*: N/A

-*T&P Properly Terminated*: Yes, terminates at floor sink in room

-*Circulation System*: No

-*Expansion Tank*: No

Comments:

1. System is provided with inline filter, and single-bottle softener on cold water supply to water heater

Fixtures and Flush Valves:

-*Lavatories / Sinks*: Counter/rim mount (RR's), integral counter (Kitchen)

-*Lavatory /Sinks Condition*: Counter/rim – old but satisfactory, Kitchen – poor, cracking/staining at drain

-*Water Closet Type*: Tank type, Floor mount

-*Water Closet Condition*: Old but satisfactory

-*Urinal Condition*: Satisfactory

-*Flush Valves*: Manual at urinals only

-*Flush Valve Condition:* Satisfactory

Comments:

1. No additional comments/observations

Kitchen Systems:

-*Kitchen Type:* Residential w/heavy duty range/oven

Comments:

1. Kitchen is provided with small undercounter RO system – age unknown

Specialized Plumbing Systems:

-*Compressed Air Systems:* Building is provided with a service compressor, primary use: Plymovent system

-*Softener/DI:* Various softener tanks are provided onsite

-*Apron Drain Diverter:* Manual SS/storm-water diverter at back of apron

Comments:

1. User commented that the compressed air distribution is leaky, and this causes the compressor to cycle on/off overnight
2. Various Softener/DI systems are provided onsite – consider consolidating to one system on the main building supply. Recommend a functional analysis be provided to determine optimal approach and benefits to softening at point of use vs. whole building
3. There is a drain diverter valve under steel grate at the back of the apron. The intent of this device is for the user to switch the drain position during vehicle washing to ensure that wash-down water is sent to the community sewer system. All other times, the drain should be set to allow for storm water runoff. The existing system is manual, and the user indicated that they do not actively switch the valve when washing vehicles

Mechanic/User Comments – Plumbing Systems:

1. User commented that the App Bay is prone to flooding during heavy rain
2. There are turn-out washer/extractors in the App Bay – user commented that the drain for these units

backs up from time to time

Engineer Comments – Plumbing Systems:

1. Recommend to assess water heater sizing according to flow limitations and facility requirements

Engineer Recommendations – Plumbing Systems:

Service Recommendations:

1. Investigate and remediate extractor drains to prevent backup and flooding to App Bay

General Systems Recommendations:

1. Review water heater sizing and system design. Based on the system provided, and the connected equipment, it is suspected that combined demand results in reduced hot water flow due to the limited flow capacity of gas instant water heaters. BMA will make recommendations for reconfiguring the DHW systems based on assigned priority and station layout options
2. Re-pipe compressed air-distribution to eliminate leaks and provide a higher quality installation
3. Provide automatic SS/Storm drain switching valve at Apron drain to ensure the appropriate discharge of water to SS or site/storm drain
4. User has requested drain systems be added to App bay to deal with water dripping from engines/trucks after calls or washing – trench drains may be provided, system(s) will require a clarifier/sand-oil separator before discharge to sewer

GENERAL MECHANICAL SYSTEMS ASSESSMENT INFORMATION:

General HVAC Systems Description:

1. The building is serviced from (2) 80% gas-fired furnaces with attic air-distribution – there is a unit provided in the attic space in both the North, and South sides of the building on either side of the App bay.
    a. The unit provided for the South side of the building is provided with ducted ventilation/outdoor-air.
    b. The unit provided for the North side of the building is NOT provided with ducted ventilation/outdoor-air
2. The main App bay is provided with an ~78-80% efficient unit heater.
3. There is no unit heater in the small App bay

HVAC System Condition & Observations:

1. The air distribution for the main HVAC systems is mainly flex duct to ceiling or wall registers. The systems do not exhibit good design practices and are likely difficult to balance for even temperature distribution.
2. The return-air system is comprised of a central return grille for each unit – return from enclosed spaces is via transfer air
3. Review of filter condition suggests that units are at least receiving filter changes – no date on filter observed
4. HVAC systems are currently programmed to run only on demand

5. The FAU at the North side of the building does NOT have ducted ventilation/outdoor air
6. The unit heater in the Main App bay is beyond end of life and should be replaced

Control Systems Description:

1. No controls – systems are controlled via 7-day programmable thermostats

Controls Systems Condition & Observations:

1. N/A

Exhaust Systems Description:

1. Main App Bay – the main App bay is provided with a dedicated Plymovent system comprised of a dedicated fan, (3) rails and hoses
2. Small App Bay – the small App bay is provided with a dedicated Plymovent system that service a single rail/drop in the small App bay, and also branches to an unused inlet at the location where the jet-ski trailer is currently parked during normal operation. The duct branch is unused; however, it is currently NOT capped and is compromising the effective operation of the system – suggest to have the branch duct capped ASAP.
3. General building exhaust is via roof exhaust fans – systems appear to be functional and in satisfactory condition

Exhaust Systems Condition & Observations:

1. Plymovent Systems – systems are in poor condition; user pointed out that hoses have been repeatedly broken and repaired, the tail-pipe boots don't release consistently, and the compressed air-systems are leaky. We did not observe the system in operation; however, visual inspection of the fans suggests that they are near end of useful life and replacement/reconfiguration should be considered
2. General building exhaust – fans are in satisfactory condition. Recommend to consider replacing fan(s) at toilet/shower rooms with ceiling exhaust fans provided with manual-on, vacancy-off sensor switches, and humidistats to automatically energize fan on humidity rise above 70%

Kitchen Systems Description:

1. The kitchen is provided with a heavy duty residential range and hood – the hood is provided with exhaust fans within the hood which are ducted to roof discharge(s) above

Kitchen Systems Condition & Observations:

1. Hood/fans appear to be in satisfactory condition. Some grease accumulation was noted on the hood fans – recommend user to clean thoroughly

Mechanic/User Comments:

1. User stated that the HVAC systems are pretty ineffective and not well balanced

Engineer Comments:

1. The roof/attic assembly is poorly insulated and does appear to comply with code requirements for

attic venting. Recommend reinsulating/rehabilitating the building envelope to allow for a more efficient building overall
2. HVAC systems are basic in nature and do not provide for good management of indoor-air quality in the occupied spaces
3. HVAC air-distribution is poorly applied – ceiling diffusers are old and in various states of repair. Many diffusers that have the ability to moderate airflow (manual) no longer appear operable
4. Return-air system is comprised of a single central return for each unit and then relies on transfer from enclosed spaces as the primary return air pathway
5. Firefighter sleeping/bunk rooms currently rely on operable windows for ventilation.
6. The unit heater in the Main App bay is beyond end of life and should be replaced

Engineer Recommendations:

Service Recommendations:

1. No comments

General Systems Recommendations:

1. Remove and replace existing comfort HVAC systems entirely – recommend to provide new all-electric heatpump systems configured for sea-coast applications. New systems to be configured to allow pressurization of living/occupied areas relative to the App bay for indoor air quality management. Zoning layout and component description to be provided in response to updated plan layout(s) provided by Arch.
2. Provide dedicated heat/cool/ventilation systems for each bunk room to allow for individual temperature control of each room. New systems should be provided with mechanical ventilation in order to allow for ventilation of the bunk rooms when occupied without having to open windows
3. Provide new ceiling exhaust fans at toilet/shower rooms – fans should be configured for manual-on, vacancy-off operation and be provided with a humidistat for automatic operation during showering
4. Provide a new high-efficiency, sealed combustion unit heater for the Main App bay
5. Provide all new Plymovent systems for the Main App bay
6. Consider only providing general “garage” exhaust at the small app bay – alternate – extend new Plymovent system to service small app bay

January 25, 2023

Omni Design Group, Inc
1326 Chorro St
San Luis Obispo, CA 93401

Attn: Suzanne Winslow

Re: Los Osos CSD Fire Department Fire Station 15
Electrical Facility Assessment
Thoma Project No. 22-8133

General Observation.

The following assessment was performed on 12/23/2022.
The structures were original built in the 1975, updated in the 1977 and restroom's re-modeled in 2005".

Power

The building is fed underground from a pole mounted transformer located at the edge of the property. The existing service is 200A, 120/240V single phase with the Meter and Distribution Panel (DP) are located on the exterior North side of the building. The PG&E meter number is #1009660488. ~~Exterior 200amp distribution panel~~ Panel "DP" feeds the building sign, two interior panelboard's and has an input from an existing solar system.
The building has a back-up power system which consists of a 35kW, propane generator. The generator is sized to provide power to the entire building.
There are two sub-panels located inside the building. Each sub-panel is feed from a 100A circuit breaker in Panel "DP" One subpanel is located in the Apparatus Bay, is flush mounted, and feeds local Apparatus

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loads, including a 50amp load center panel and loads on the business side of the building. The second subpanel is located in the Shop Storage area. This panel is surface mounted and feeds the living space side of the building including the Shop.

Power Recommendations

All Electrical equipment such as the distribution panel, subpanels, generator, etc. are design with a service life of 25 years. Therefore, it would be recommended that all of these pieces of equipment be replace with seismically certified equipment. This would also provide the opportunity to increase the service size to 400amps to accommodate the new Mechanical and Plumbing loads and any future loads. This will require a new 4" secondary underground service (400A) per PG&E requirements to replace the existing 2" conduit (200amp service). We assume that PG&E will allow the project to be powered from a new pole mounted transformer. The Generator and Propane Tank will also need to be upgraded, to an estimated at 75KW with a new 400amp Automatic Transfer Switch and a larger propane tank.

The overhead lines that run across the front of the fire station are concerning. If the overhead power lines do fall, the fire truck apparatus can't leave or entire the site. It is recommended that the overhead lines be placed underground in front of the apparatus bay.

Communication System

The existing CATV has two points of connections located up high on the South side of the Apparatus Bay. One connection is for the living space and one connection is for the business side of the facility.
An existing Fiber Optic Cable is terminated in the corner of the Dispatch room. It is unclear how the fiber optic cable enters the building.
The existing Radio Room consist of data cabinet and a two post rack. It appears that all the data/phone's are terminated here.
The Fire Alarm panel is located is the Shop Storage area.

Communication System Recommendations

The radio room space is very congested. We recommend a bigger room for all the communication equipment to provide adequate working space around the equipment. New Telecommunications Systems are to be installed per Information Technology Standards.
We would recommend replacing all existing speakers with new and proposed a new Fire Station alerting system. This will include new cables and devices. We will need more information and requirements from the Fire Department for the new equipment.

The building does not have a fire sprinkler system and a new Fire Alarm System will need to be installed that meets the current code. This will consist of new notification devices and pull stations adjacent to exterior doors.

Lighting System

Existing lighting throughout are mainly fluorescent lamping. A Ceiling Fan with light are installed in the Bedrooms. Refer to as-builts drawings for location of existing lights. Various lights are not working especially at Kitchen.

Lighting Recommendations

All existing lights will need to be replace with new LED. Existing bedrooms, kitchen and apparatus bay are underlit and will need to be re-design to provide sufficient lighting. Lighting design must meet new Energy Code and will require new dimming switches, occupancy sensor, and lighting control panel to control exterior lighting. Exterior Wall Lights will need to be dark sky compliant and be very sensitive to neighbors.

Executive Proposed Summary

Recommend replacing all electrical equipment with seismically certified equipment, upgrade the electrical service to a 400A service.
Recommend replacement of communication cables with new CAT6 cables or better.
Recommend interior, and exterior lighting, and lighting control system be replace with new high efficacy LED fixtures.

Please feel free to call if you have any questions.

Sincerely,

Christopher M. Jose
Thoma Electric, Inc.
K:\ENG\2022\22-8133\RECORDS\2023-01-25 assessment official letter\2023-01-25_ Los Osos CSD FS 15 Condition Assessment Report_THOMA 22-8133.doc

LOCSD – Fire Station No. 15
Mechanical and Plumbing Options Narrative

Date:	March 8, 2023
To:	Suzanne Winslow, ODG
	Tom Reay, ODG
From:	Brandon Rodgers, BMA Mechanical, Inc.
Re:	Mechanical, Plumbing Options Narrative

The LOCSD Fire Station No. 15 is the focus of an Feasibility Assessment that includes the development of multiple options regarding plan layout, systems replacement/rehab options, building addition, new accessory building, or new station altogether.

Recommendations are presented according with an corresponding opinion on level of importance. It should be noted that limitations exist with respect to the mechanical systems options available due to the fact that the project site does not have a 3-phase electrical service.

Recommendations for Building Rehab & Systems Replacement:

The following narratives reflect the options identified to rehabilitate the existing building with minimal overall changes the plan layout.

A. *General Conditions:*
   1. Insulate roof assembly throughout with R-30 insulation – spray in foam recommended
   2. Remove and replace all windows with dual glazed, insulated, thermally broken units

B. *Mechanical:*
   1. **Apparatus Bay Exhaust Systems** – *HIGH PRIORITY* – The vehicle exhaust systems are in disrepair and in need of replacement. Remove and replace the existing apparatus bay, and shop bay/ exhaust systems. Remove all existing ductwork, hoses, compressed air piping, vehicle exhaust collars, fans, and controls. All new systems shall be provided per the following:
      a. Plymovent VSRX, (2) rail tailpipe capture system with (2) 50’ rails and (4) hose drops w/magnetic grabber
      b. Plymovent SBT, (1) rail sliding balancer track with hose drop and magnetic grabber
      c. Magnetic vehicle exhaust collars for up to (5) rigs
      d. 7-1/2hp, 208/230-1-60 blower w/silencer – provide with high-performance coating for application in marine environments
      e. Line voltage fan control panel/starter

   2. **Medical Room HVAC System –** *HIGH PRIORITY* – The medical room contains medical supplies with temperature related BUD requirements and the room does not have means of dedicated temperature control. A dedicated mechanical system is needed for the medical room to maintain the room within the temperature range needed for the medical supplies. Provide a new mechanical system per the following:
      a. Provide (1) LG LS090HSV5 single-zone heatpump system with indoor ductless fancoil. Provide with sea-coast coatings
      b. Locate condensing unit on roof of building on framed equipment pad

BMA Mechanical **+**
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820 E. Mason Rd., Suite B, Santa Barbara, CA 93103
ph: 805.544.4269 **|** www.bmaslo.com

3. **South Living/Dorm, Rec/Training HVAC System**—*HIGH PRIORITY* – The existing heating and ventilating system serving the south side of the building is comprised of a single, 80% efficient natural gas fired furnace with ducted supply and return. The system is provided with ducted ventilation; however, the outdoor air-balance fraction is unknown. In all cases, the solutions presented for new systems are intended to provide a positive pressure environment from the occupied area to the Apparatus Bay.

   This area of the building can be addressed in multiple ways – Options 1 and 2 present the engineer's concepts for aligning the mechanical system options with both the user's, and the project's needs.

   a. **<u>South Option 1</u>** – Remove the existing furnace, along with all related ducts, supports, dampers, accessories, and ceiling grilles. Provide new mechanical systems to align with zoning indicated in the following figure:

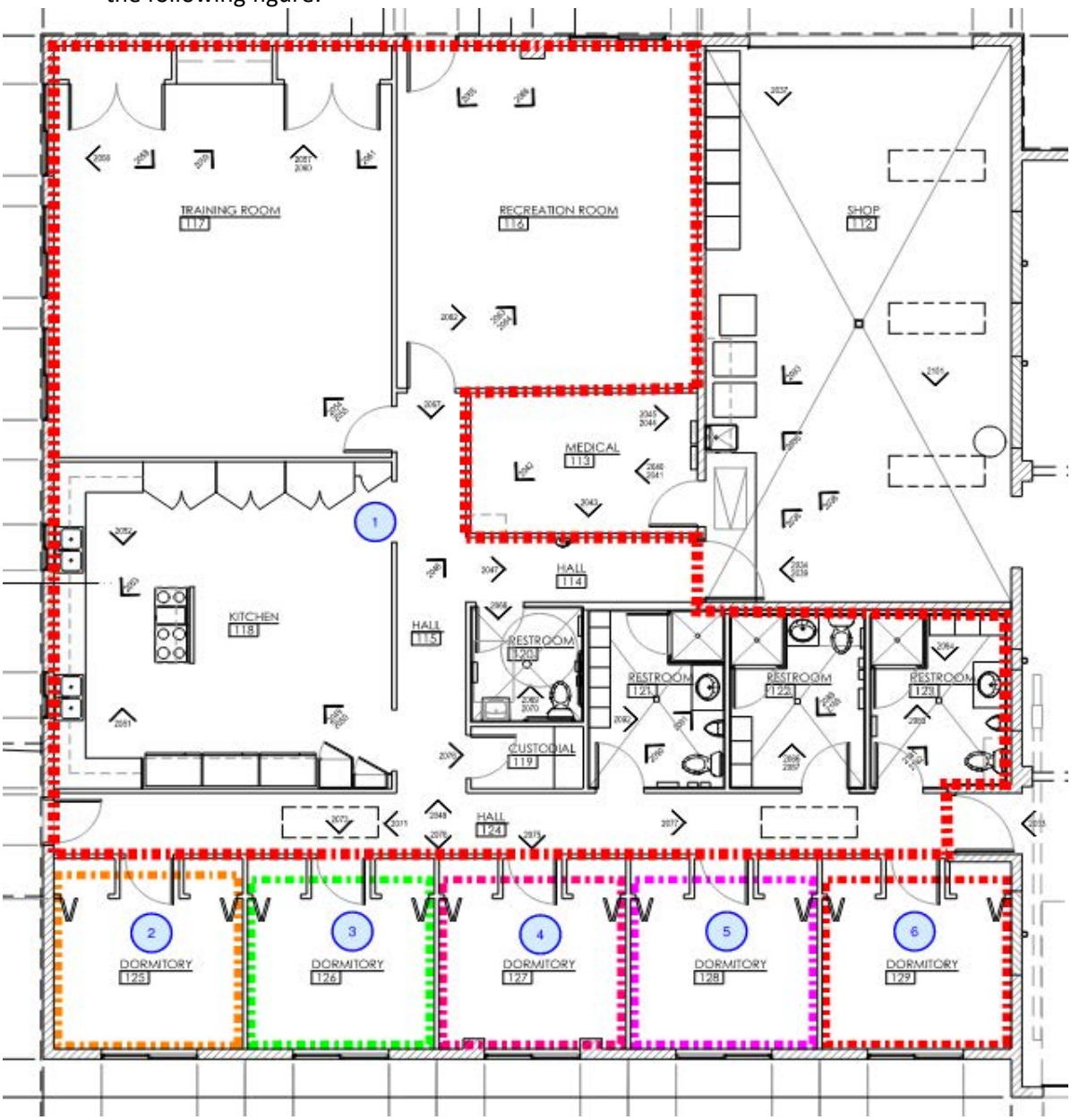

Figure 1: South Side, Option 1 Zone Plan

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Option 1 consists of a heating-only replacement system for the overall living, recreation, and training rooms that will closely mimic functionality of the existing systems that are serving the station now. The major enhancement occurs at the Dorm Rooms where new mini-split fancoils are proposed in a 1:1 configuration – ie; one minisplit system per dorm. Future remodels of the living area should consider increased zoning, adding air-conditioning, and increasing the zoning for enhanced controllability. The mechanical systems will be provided in a manner that ensures positive space pressure is maintained relative to the Apparatus Bay(s) for enhanced indoor-air quality. Each numbered space above will be provided with individual/dedicated temperature control and mechanical forced (*filtered) ventilation.

South Option 1 Summary – Provide new mechanical systems as follows:

- Zone 1 – Heating only with ventilation. Trane TUC1B080 high-efficiency condensing furnace. Unit to be horizontally mounted in the attic in similar manner to existing. Provide clear access and working platform in front of unit.
  - Provide clear access and working platform in front of units.
  - Provide with new supply and return ducting to all spaces. System shall include riser to roof intake hood for ventilation air.
  - New ceiling grilles/diffusers are to be provided throughout.
  - System shall be balanced by TAB contractor to ensure design space pressures are established
- Zones 2-6 – Heating/Cooling/Ventilation. Provide (1) LG LS090HSV5 single-zone heatpump system with indoor ductless fancoil per room – (5) total. Heatpump to be mounted on rooftop equipment pad. Ventilation system to consist of (1) attic mounted ERV with duct supply and exhaust to each dorm room – unit to be Panasonic FV-20VEC1 (200cfm) Intelli-Balance energy recovery ventilator.
- Provide new 150cfm ceiling exhaust fans at all restrooms

b. **South Option 2** – Remove the existing furnace, along with all related ducts, supports, dampers, accessories, and ceiling grilles. Provide new mechanical systems to align with the zoning indicated in the following Figure 2. Option 2 provides for a major enhancement in the station HVAC systems in terms of modernization, comfort, and controllability. Option 2 proposes to provide a new 5-ton, single-phase VRV (variable refrigerant volume) heat recovery condensing unit with (3) indoor zone. The new systems will accommodate reconfiguration over time as the floorplan is updated to meet the changing needs of the users. The dorm rooms are recommended to follow the same recommendations as presented in Option 1.

The mechanical systems will be provided in a manner that ensures positive space pressure is maintained relative to the Apparatus Bay(s) for enhanced indoor-air quality. Each numbered space will be provided with individual/dedicated temperature control and mechanical forced (*filtered) ventilation.

South Option 2 Summary – Provide new mechanical systems as follows:

- Zone 1, 2, 8 – Provide (1) new 5-ton, Heat-recovery VRV heat pump – unit to be located on-grade adjacent to the building
  - Concept unit – *LG ARUB060G,*
- Provide (2) new 3-port *Branch Selector Boxes*
- Provide fancoils on a zone-by-zone basis per the following:

- Zone 1 – 2.0 ton ducted fancoil w/SA/RA/OSA
- Zone 2 – 3-ton ducted fancoil w/SA/RA/OSA
- Zone 8 – 1 ½ ton ducted fancoil w/SA/RA/OSA

- Zones 3-7 – Provide (1) LG LS090HSV5 single-zone heatpump system with indoor ductless fancoil per room – (5) total. Heatpump to be mounted on rooftop equipment pad. Ventilation system to consist of (1) attic mounted ERV with duct supply and exhaust to each dorm room – unit to be Panasonic FV-20VEC1 (200cfm) Intelli-Balance energy recovery ventilator
- Provide new 150cfm ceiling exhaust fans at all restrooms

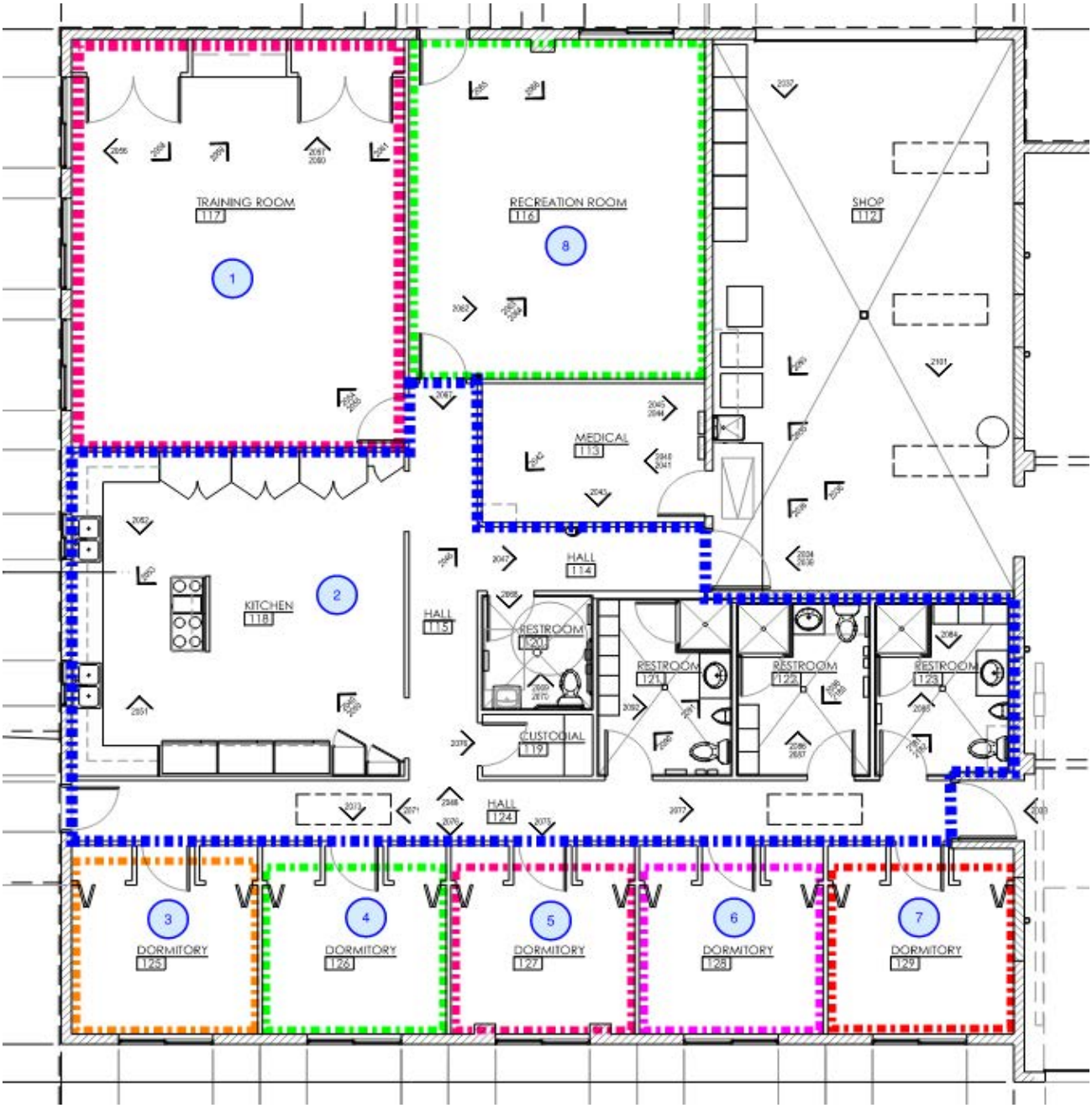

Figure 2: South Side, Option 2 Zone Plan

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4. **North Side Administration HVAC System**—*HIGH PRIORITY* – The existing heating and ventilating system serving the North side of the building is comprised of a single, 80% efficient natural gas fired furnace with ducted supply and return. The system does not have ducted ventilation – all ventilation on this side of the building is provided by operable windows.

   As with the south side of the facility, the north side can also be addressed in multiple ways. Options 1 and 2 present the engineer's concepts for aligning the mechanical system options with the users and the project's needs.

   a. **North Option 1 –** Option 1 consists of a heating only system replacement for the north side of the building. The new system will be provided with ducted ventilation air for space pressurization and code compliance. No major enhancements occur beyond an increase in airflow, and air-quality – controllability remains roughly the same with perhaps some increase in comfort due to a new, reengineered system. This option presents the lowest cost option and is not conducive to reuse/reconfiguration should the building expand or more stringent user needs be added to this half of the building.

      The mechanical systems will be provided in a manner that ensures positive space pressure is maintained relative to the Apparatus Bay(s) for enhanced indoor-air quality.

      No zone plan provided – only one overall zone is planned for the north side of the building in this option.

      North Option 1 Summary – Provide new mechanical systems as follows:

      - North Zone – Heating only with ventilation. Trane TUC1B080 high-efficiency condensing furnace. Unit to be horizontally mounted in the attic in similar manner to existing.
        - Provide clear access and working platform in front of units.
        - Provide with new supply and return ducting to all spaces. System shall include riser to roof intake hood for ventilation air.
        - New ceiling grilles/diffusers are to be provided throughout.
        - System shall be balanced by TAB contractor to ensure design space pressures are established
      - Provide new 200cfm exhaust fan with line-voltage thermostat at IT/Switch closet(s)

   b. **North Option 2 –** Remove the existing furnace, along with all related ducts, supports, dampers, accessories, and ceiling grilles. Provide new mechanical systems to align with the zoning indicated in the following Figure 2. Option 2 provides for a major enhancement in the station HVAC systems in terms of modernization, comfort, and controllability. Option 2 proposes to provide a new 5-ton, single-phase VRV (variable refrigerant volume) heat recovery condensing unit with (3) indoor zone. The new systems will accommodate reconfiguration over time as the floorplan is updated to meet the changing needs of the users.

      The mechanical systems will be provided in a manner that ensures positive space pressure is maintained relative to the Apparatus Bay(s) for enhanced indoor-air quality. Each numbered

space will be provided with individual/dedicated temperature control and mechanical forced (*filtered) ventilation.

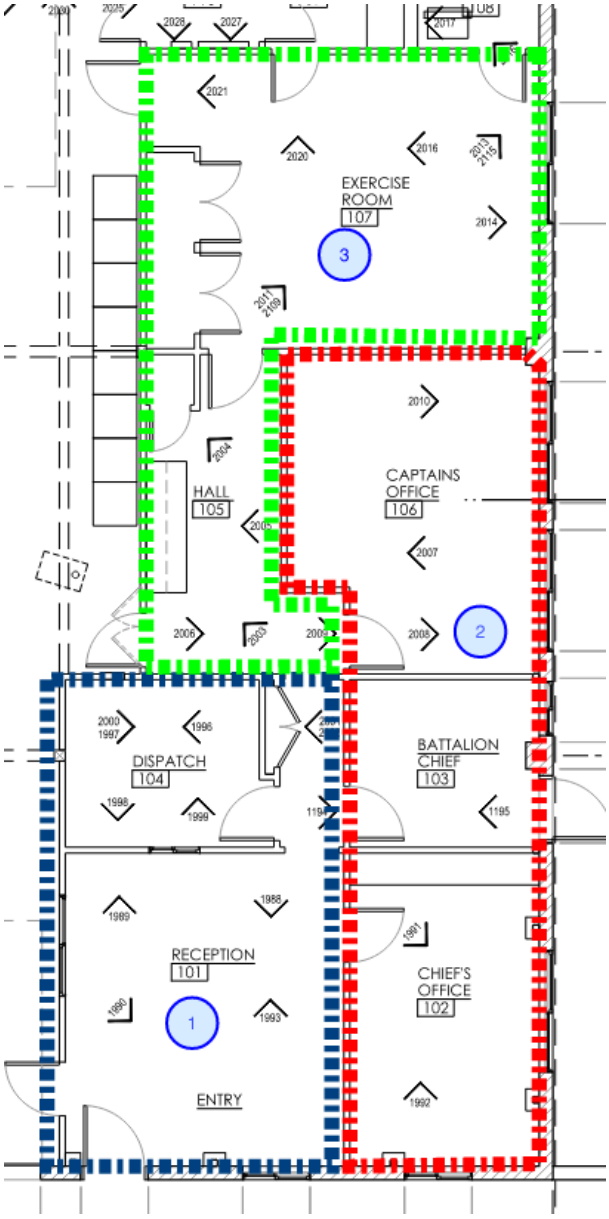

Figure 3: North Side, Option 2 Zone Plan

North Option 2 Summary – Provide new mechanical systems as follows:

- North Side – Provide (1) new 3-ton, Heat-recovery VRV heat pump – unit to be located on-grade adjacent to the building
  - Concept unit – *LG ARUB036G,*
- Provide (1) new 3-port *Branch Selector Boxes*
- Provide fancoils on a zone-by-zone basis per the following:
  - Zone 1 – 1.0 ton ducted fancoil w/SA/RA/OSA

- Zone 2 – 1 ½ ton ducted fancoil w/SA/RA/OSA
- Zone 3 – 1 ½ ton ducted fancoil w/SA/RA/OSA
- Provide clear access and working platform in front of units.
- Provide with new supply and return ducting to all spaces. System shall include riser to roof intake hood for ventilation air.
- New ceiling grilles/diffusers are to be provided throughout.
- System shall be balanced by TAB contractor to ensure design space pressures are established

- Provide new 200cfm exhaust fan with line-voltage thermostat at IT/Switch closet(s)

5. **Apparatus Bay Heating System –** *HIGH PRIORITY* – The existing unit in the main apparatus bay is non-function and beyond repair. Remove the unit heater along all the flue vent, thermostat, gas pipe, supports and related accessories. The recommended heating solution for the apparatus bay is to provide (2) 50' long, high-efficiency, low-intensity radiant tube heaters along the north and south sides of the apparatus bay. Radiant heaters have the benefit of directing heat energy by *photons* instead of the forced movement of heated air (convection as with a unit heater). This means that very little of the heat energy is lost from inside when the apparatus bay doors are open. In addition, the radiant heaters will act to increase the temperature of the slab which will lead to faster drying times when equipment is wet and pulled into the bay.

   Apparatus Bay Heating System Summary – Provide new heating systems as follows:
   - Provide (1) ea. at the North and South sides of the Apparatus bay – (2) total
   - Schwank STW2-155-50, DuraSchwank series 2-stage Corrosion Resistant Gas-fired Low-intensity Tube-type radiant heaters – 50ft length
     - Provide with manufacturer's moisture proof 2-stage thermostat
     - Provide all stainless venting
   - Support to structure – direct at floor, ensuring no line of sight between emitter and fire-hoses

6. **Apparatus Bay General Exhaust System –** *HIGH PRIORITY* – The electrical code has provisions for a general ventilation system be provided for the Apparatus bay in order to eliminate the need for the space to be categorized as a *Class-1, Div-2* space. In accordance with this, we are recommending that a general exhaust fan be installed on the roof to provide the necessary air-change rate for the apparatus bay. The fan will have a labeled wall switch for manual control in the event of a fuel leak or spill.

   Apparatus Bay General Exhaust System Summary – Provide new exhaust systems as follows:
   - Provide (1) 2,000cfm, spun aluminum roof exhauster in downflow configuration
   - Greenheck G-140, 3/4hp VariGreen motor with motor mounted potentiometer
     - Provide with manufacturer's hi-pro polyester coating
   - Support to structure with fabricated roof curb
   - Provide labeled wall switch, label – "APP BAY EXHAUST – OPEN EXTERIOR DOOR, ENERGIZE FAN"

- Makeup-air path is via App-bay doors unless directed otherwise by users

C. *Plumbing:*

1. **Apparatus Bay Compressed Air System –** *MEDIUM PRIORITY – VERIFY WITH USERS* - The existing compressed air system in the apparatus bay is in disrepair. The compressor is in good condition and should be retained. The existing distribution should be removed in its entirety. Provide new compressed air distribution to wall/overhead mounted hose-reels. Coordinate reel location with users – for the purposes of this project it is recommended to assume (2) hose reels in the main apparatus bay, and (1) in the small bay that are serviced from the existing compressor.

   Apparatus Bay Compressed Air System Summary – provide new compressed air system as follows:
   - Provide (3) new compressed air hose reels
   - Provide new hard piped compressed air distribution – piping to be stainless steel with press fittings

2. **Apparatus Washing DI/Softener System –** *LOW PRIORITY* - The existing DI (exchange bottle) system at the back apron is heavily used for Apparatus, Engine, and Vehicle washing. It is recommended to retain the system as is. Alternately, on user request it may be desirable to increase the number of bottles in the system for increased lifespan and reduced service replacement.

3. **Apparatus Bay Drains** – *HIGH PRIORITY* - The existing apparatus bay does have any drainage in the floor and this results in considerable operating difficulties for the user. It is recommended that trench drains be refit into the slab to allow for a more safe and efficient operating environment. It is recommended to slope the slab within 18-24" of the drains – coordinate installation with structural for key-in detailing. Provide new high-load bearing, composite trench drain systems – 50' in length, centered below each bay.

   Apparatus Bay Drains – provide new apparatus bay drains as follows:
   - Provide (2) 50' long, ACO S100K Composite Trench Drain Systems with integral cast iron rails, and ductile iron grating
     - Systems shall be inset into existing slab with sloped floor all around to 24" out from drain edge
     - Drains shall be piped to sand-oil separator at rear of property – sand-oil separator specification/detailing is by Civil

4. **Apron Washdown Drain Diverter –** *HIGH PRIORITY* – The apron washdown/stormwater diverter valve is in poor condition and requires replacement. Further, the owner does not know where it discharges to and believes that it might go to a leach field at the back of the property. The storm water outflow appears to run below grade to a concrete vault at the street side of the property, where it then discharges via multiple 3-4" pipes under the sidewalk to the face of the curb.

The users state that they do not use the system. Regardless, the existing systems will need to removed and replaced with reconfigured piping that discharges to the sand-oil separator (see Apparatus Bay Drains above), and reconnected to the storm drain discharge. The new system will be provided with a pressure piloted change-over valve to allow automatic changeover of valve function without user input.

It is recommended that the storm drain curb face discharge be replaced with a fabricated rectangular steel gutter/pipe and the side-walk replaced/patched accordingly. This is beyond the scope of mechanical; however, it is recommended based on site observations.

Apron Washdown Drain Diverter Summary – provide the following:

- Fox Environmental Systems, DD600/BRT demand driven washdown diversion system – coordinate with Civil for location onsite
- Reconfigure sanitary sewer discharge piping onsite to route to sand oil separator
- Reconfigure storm water discharge to connect to existing storm water discharge onsite
- Replace existing apron where needed to facilitate washdown water drainage to collection grate on DD600/BRT
- Provide Fox Demand valve in water supply – valve to be piped below grade to DD600/BRT

5. **Domestic Hot Water Heating System –** *MEDIUM PRIORITY* – The existing natural gas instant water heater is in satisfactory condition; however, it is likely that there are periods of use where it is unable to satisfy demand due to low-flow capabilities. Most standard instant water heaters are limited to 6-8gpm of flow. It is recommended that the existing water heater be removed and relocated to allow for the installation of a 100 gallon, tank-type high-efficiency water heater in order to ensure that hot water is available at all times. This solution will also provide for significant future flexibility and additional fixtures to be added (ie; decontamination showers, laundry, turnout washers, etc…).

   The existing domestic hot water heating system does not have a recirculation loop – it is recommended that one be added to reduce water waste.

   Domestic Water Heating System – provide the following:

   - Provide AO-SMITH BTH-199, 100 gallon gas fired water heater
   - Provide with circulating pump
   - Re-pipe facility to include a recirculation loop as close as possible to all fixture drops

6. **Natural Gas Emergency Solenoid Shutoff –** *HIGH PRIORITY* – There is currently no emergency shut-down ability for the natural gas systems at the facility. It is recommended that emergency solenoid shutoff valves be installed to stop the flow of natural gas to the range, apparatus bay heaters, and bbq (as applicable).

Natural Gas Emergency Solenoid Shutoff Valve – provide the following:

- Provide ISIMET, LLC FLA Series Fire Station Controller with normally closed solenoid valves at each pipe branch, or sub-main to equipment requiring shutdown – (2) estimated to be required

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Recommendations for Building Remodel + Addition, and new Apparatus Bay:

The following narratives reflect the options identified to remodel the existing building and construct a new apparatus bay at the rear of the property as identified in the figures below.

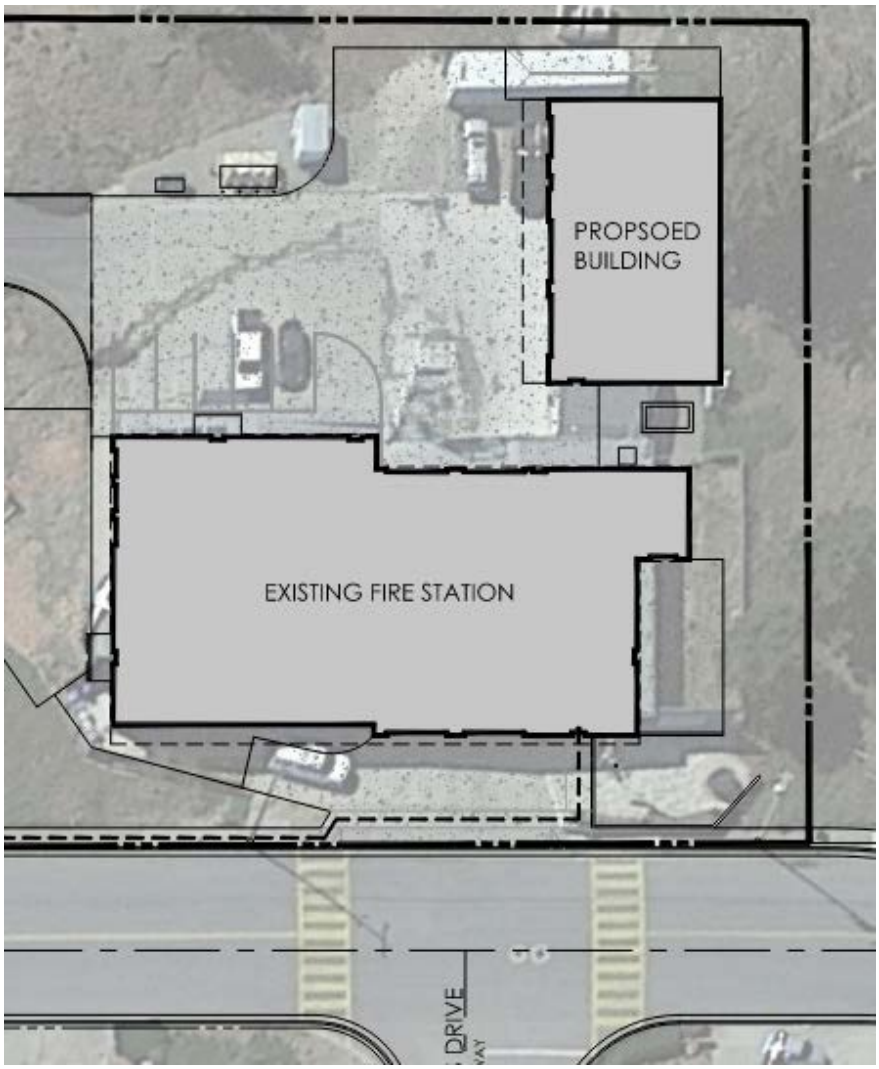

Figure 4: Proposed Site Plan w/new Apparatus Building

A. *General Conditions:*

1. Insulate roof assembly throughout with R-30 insulation – spray in foam recommended

2. Remove and replace all windows with dual glazed, insulated, thermally broken units

B. *Mechanical:*

1. **Apparatus Bay Exhaust Systems** – All new systems shall be provided per the following:
    a. Plymovent VSRX, (2) rail tailpipe capture system with (2) 50' rails and (4) hose drops w/magnetic grabber
    b. Plymovent SBT, (1) rail sliding balancer track with hose drop and magnetic grabber
    c. Magnetic vehicle exhaust collars for up to (5) rigs
    d. 7-1/2hp, 208/230-1-60 blower w/silencer – provide with high-performance coating for application in marine environments
    e. Line voltage fan control panel/starter

2. **South Living/Dorm, Rec/Training HVAC System**— Provide new mechanical systems to align with the zoning indicated in the following Figure 5. Provide a new 5-ton, single-phase VRV (variable refrigerant volume) heat recovery condensing unit with (3) indoor zone. The new systems will accommodate reconfiguration over time as the floorplan is updated to meet the changing needs of the users.

    The mechanical systems will be provided in a manner that ensures positive space pressure is maintained relative to the Apparatus Bay(s) for enhanced indoor-air quality. Each numbered space will be provided with individual/dedicated temperature control and mechanical forced (*filtered) ventilation.

    South HVAC Summary – Provide new mechanical systems as follows:

    - Zone 1, 2, 4 – Provide (1) new 5-ton, Heat-recovery VRV heat pump – unit to be located on-grade adjacent to the building
        - Concept unit – *LG ARUB060G,*
    - Provide (2) new 3-port *Branch Selector Boxes*
    - Provide fancoils on a zone-by-zone basis per the following:
        - Zone 1 – 3.0 ton ducted fancoil w/SA/RA/OSA
        - Zone 2 - 1 ½ ton ducted fancoil w/SA/RA/OSA
        - Zone 4 – 1 ½ ton ducted fancoil w/SA/RA/OSA
    - Zones 6-10 – Provide (1) LG LS090HSV5 single-zone heatpump system with indoor ductless fancoil per room – (5) total. Heatpump to be mounted on rooftop equipment pad. Ventilation system to consist of (1) attic mounted ERV with duct supply and exhaust to each dorm room – unit to be Panasonic FV-20VEC1 (200cfm) Intelli-Balance energy recovery ventilator
    - Zone 5 – Provide (1) LG LS090HSV5 single-zone heatpump system with indoor ductless fancoil. Heatpump to be mounted on rooftop equipment pad.
    - Provide new 150cfm ceiling exhaust fans at all restrooms

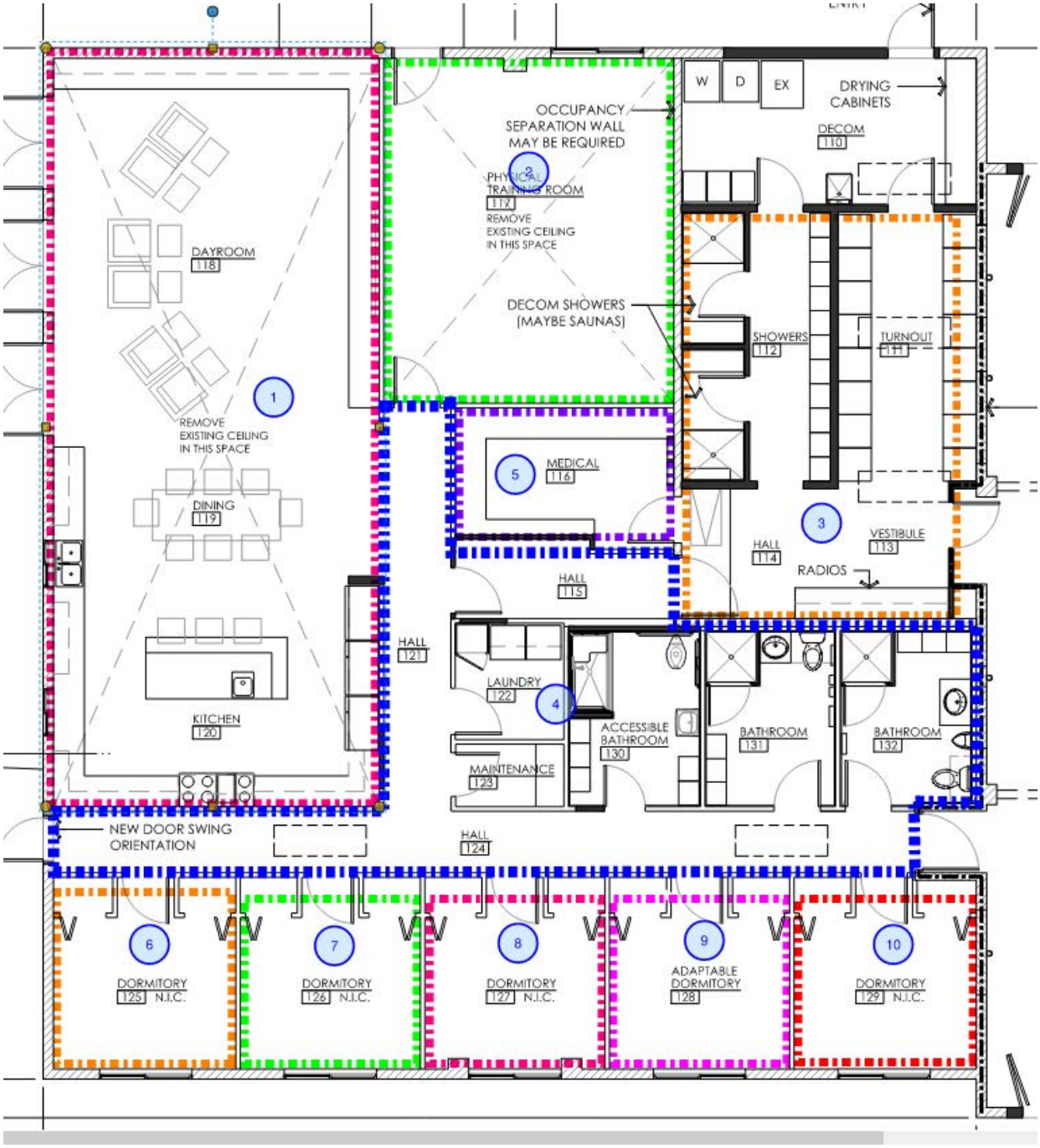

Figure 5: Station Remodel South Side Concept Zone Plan

7. **North Admin/Training HVAC System –**Provide new mechanical systems to align with the zoning indicated in the following Figure 2. Provide a new 5-ton, single-phase VRV (variable refrigerant volume) heat recovery condensing unit with (3) indoor zone.

   The mechanical systems will be provided in a manner that ensures positive space pressure is maintained relative to the Apparatus Bay(s) for enhanced indoor-air quality. Each numbered space will be provided with individual/dedicated temperature control and mechanical forced (*filtered) ventilation.

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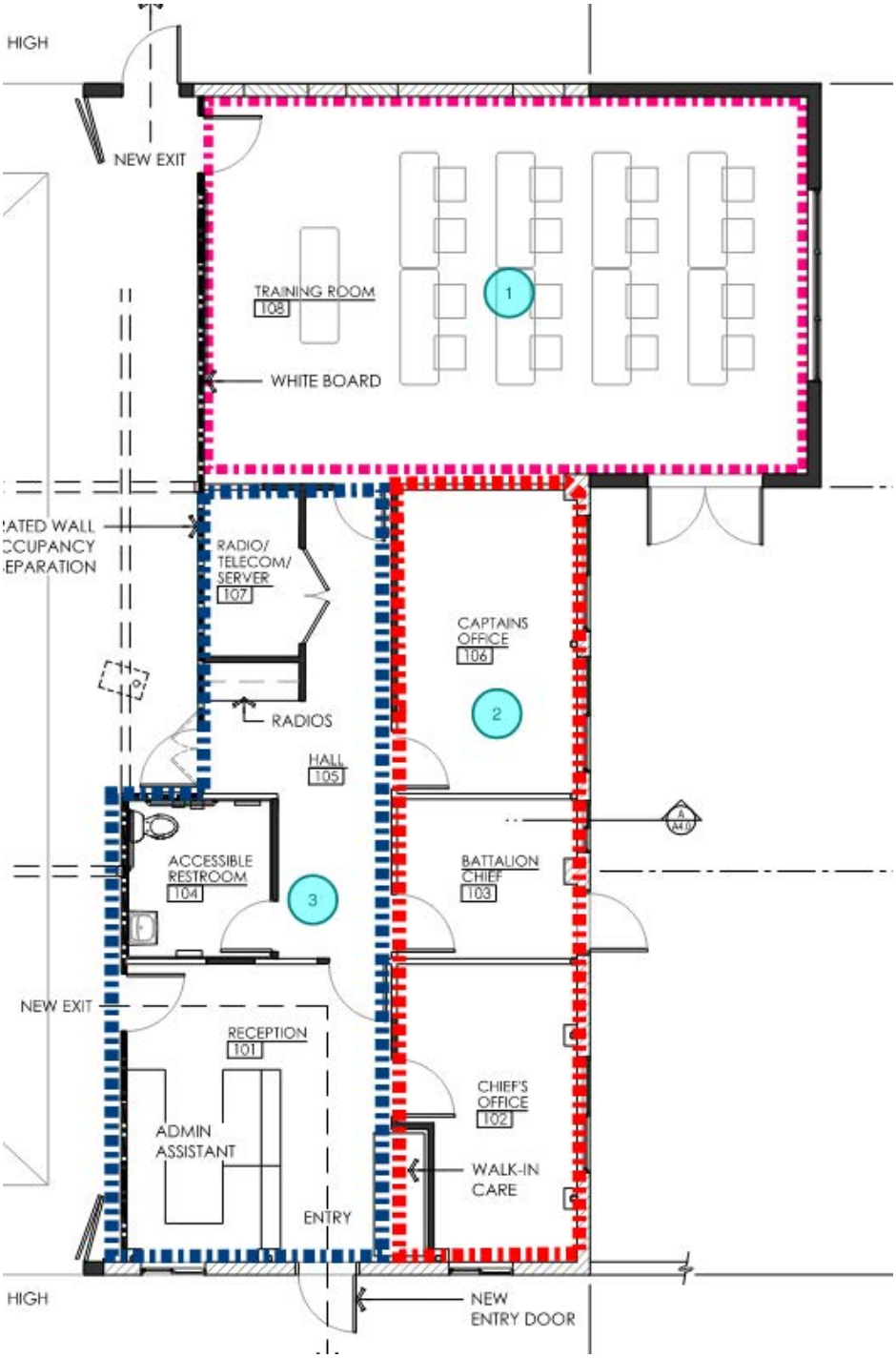

Figure 6: North Side, Concept Zone Plan

North HVAC Summary – Provide new mechanical systems as follows:

- North Side – Provide (1) new 4-ton, Heat-recovery VRV heat pump – unit to be located on-grade adjacent to the building
  - Concept unit – *LG ARUB048G,*

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- Provide (1) new 3-port *Branch Selector Boxes*
- Provide fancoils on a zone-by-zone basis per the following:
  - Zone 1 – 2 ½ ton ducted fancoil w/SA/RA/OSA
  - Zone 2 – 2 ton ducted fancoil w/SA/RA/OSA
  - Zone 3 – 1 ½ ton ducted fancoil w/SA/RA/OSA
  - Provide clear access and working platform in front of units.
  - Provide with new supply and return ducting to all spaces. System shall include riser to roof intake hood for ventilation air.
  - New ceiling grilles/diffusers are to be provided throughout.
  - System shall be balanced by TAB contractor to ensure design space pressures are established
- Provide new 200cfm exhaust fan with line-voltage thermostat at IT/Switch closet(s)
- Provide new 125cfm exhaust fan in restroom

C. *Plumbing:*

1. **Apparatus Bay Compressed Air System –**The compressor is in good condition and should be retained. new compressed air distribution to wall/overhead mounted hose-reels. Coordinate reel location with users – for the purposes of this project it is recommended to assume (2) hose reels in the main apparatus bay, and (1) in the small bay that are serviced from the existing compressor.

   Apparatus Bay Compressed Air System Summary – provide new compressed air system as follows:
   - Provide (3) new compressed air hose reels
   - Provide new hard piped compressed air distribution – piping to be stainless steel with press fittings

2. **Apparatus Washing DI/Softener System –**The existing DI (exchange bottle) system at the back apron is heavily used for Apparatus, Engine, and Vehicle washing. It is recommended to retain the system as is. Alternately, on user request it may be desirable to increase the number of bottles in the system for increased lifespan and reduced service replacement.

3. **Apparatus Bay Drains** – Refit trench drains into the slab to allow for a more safe and efficient operating environment. It is recommended to slope the slab within 18-24" of the drains – coordinate installation with structural for key-in detailing. Provide new high-load bearing, composite trench drain systems – 50' in length, centered below each bay.

   Apparatus Bay Drains – provide new apparatus bay drains as follows:
   - Provide (2) 50' long, ACO S100K Composite Trench Drain Systems with integral cast iron rails, and ductile iron grating
     - Systems shall be inset into existing slab with sloped floor all around to 24" out from drain edge

- Drains shall be piped to sand-oil separator at rear of property – sand-oil separator specification/detailing is by Civil

4. **Apron Washdown Drain Diverter –** Provide new diverter system and reconfigured piping that discharges to the sand-oil separator (see Apparatus Bay Drains above), and reconnected to the storm drain discharge. The new system will be provided with a pressure piloted change-over valve to allow automatic changeover of valve function without user input.

   It is recommended that the storm drain curb face discharge be replaced with a fabricated rectangular steel gutter/pipe and the side-walk replaced/patched accordingly. This is beyond the scope of mechanical; however, it is recommended based on site observations.

   Apron Washdown Drain Diverter Summary – provide the following:
   - Fox Environmental Systems, DD600/BRT demand driven washdown diversion system – coordinate with Civil for location onsite
   - Reconfigure sanitary sewer discharge piping onsite to route to sand oil separator
   - Reconfigure storm water discharge to connect to existing storm water discharge onsite
   - Replace existing apron where needed to facilitate washdown water drainage to collection grate on DD600/BRT
   - Provide Fox Demand valve in water supply – valve to be piped below grade to DD600/BRT

5. **Domestic Hot Water Heating System –** Relocate water heater to allow for the installation of a 100 gallon, tank-type high-efficiency water heater in order to ensure that hot water is available at all times.

   Provide with recirculation loop.

   Domestic Water Heating System – provide the following:
   - Provide AO-SMITH BTH-199, 100 gallon gas fired water heater
   - Provide with circulating pump
   - Re-pipe facility to include a recirculation loop as close as possible to all fixture drops

6. **Natural Gas Emergency Solenoid Shutoff –** Provide emergency solenoid shutoff valves be installed to stop the flow of natural gas to the range, apparatus bay heaters, and bbq (as applicable).

   Natural Gas Emergency Solenoid Shutoff Valve – provide the following:
   - Provide ISIMET, LLC FLA Series Fire Station Controller with normally closed solenoid valves at each pipe branch, or sub-main to equipment requiring shutdown – (2) estimated to be required

[end]

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APPENDIX II – MEETING NOTES

DECEMBER 7, 2022

JANUARY 5, 2023

FEBRUARY 8, 2023

ODI OMNI DESIGN INCORPORATED
Cal y Mayor Group
Architecture | Engineering | Surveying

LOS OSOS COMMUNITY SERVICES DISTRICT FIRE STATION NO. 15

CONDITIONS ASSESSMENT – **MEETING NOTES**

KICK-OFF MEETING LOCATION: 2315 BAYVIEW HEIGHTS DRIVE

DATE: DECEMBER 7, 2022 TIME: 3:00 PM

AGENDA

	Topics
	1. Introductions **2. Project Background/Objectives** **3. Discussion** Structural Evaluation: • The structure will be evaluated using a three tier checklist • Consider Essential Services Building requirements **General Issues/Comments:** • Driveway. The driveway is steep, and terminates at a steep gutter which causes the apparatus to hit the pavement • Drainage. The site behind the station has inadequate drainage. • Site Concrete. The concrete pad at rear is damaged. • SCBA. There is no SCBA compressor at Fire Station 15; SCBA need to be filled in San Luis Obispo. • EOC. A new EOC is being considered for the Los Osos area to maintain Station 15's role in carless collections, evacuations, and public notification, when needed. Space within the existing Station may be inadequate for an EOC. • Hose racks. Currently hoses are washed on the ground, turned over (contaminating them on the just washed side) and hoisted onto a hose drying tower. • Fuel Tanks. Fire Station 15 vehicles use diesel. The existing above-ground 5,000 gallon diesel tank needs curbs around it to control spill over; if curbs are added they will impact apparatus bay access and egress so this needs to be considered. • PPE storage. Currently PPE stored in apparatus bay; needs dedicated storage room to prevent contamination. • Hot Water. The existing system is "on-demand"; cannot accommodate more than one shower at a time. Needs to be replaced. • HVAC System. Antiquated; not efficient. Consider split system and all-electric. Ducting will be used for ventilation. • Walk-in Visitors. At the front office there is no space between the entrance and the reception desk, and there is no area for walk-ins needing medical aid while waiting for ambulance arrival. • Existing Roof. The roof leaks and ponds. • Decontamination. Currently there are no dedicated decontamination rooms. • Existing internet access issues. • Bunks. The existing five bunk rooms are most likely adequate for future operations.

Apparatus Bay:

- Trench drains needed with floor slopes to drains. No existing drains. The concrete is always wet – needs to be squeegeed. The engines leak water after rain events - need drains underneath apparatus out to sand-oil separator.
- Issue with ceiling height and width. Future apparatus will most likely not fit.
- Roll-up and coil doors are antiquated and routinely malfunction – sometimes they don't open completely resulting in near-misses between the engines and doors when pulling out of the Station. They need to be replaced (high priority).
- Exercise equipment is in the apparatus bay. Should have a separate room.
- Alert System. Antiquated; speakers throughout the Station routinely malfunction. No automatic turn-off (e.g. stoves), no visual alerts. No automatic warning lights to alert traffic as the fire engines leave the station.
- Future apparatus will most likely be electric.
- Existing Plymovent system compressor cycles due to leakage in the distribution.

Other Considerations:

- Only single-phase power available on site
- Future all-electric vehicles.
- Consider all-electric, mini-split HVAC system with ducting for ventilation.
- Existing staffing model (4) FTE on site. An independent 2-person Ambulance Company may be locating to the Fire Station 15 service area – consider potential (2) additional FTEs on site.
- For the purpose of calculating Fire Station service capacity, build-out population for Los Osos is anticipated to be capped at 19,000 (this assessment is a ten-year look-ahead so the future service area population most likely will be closer to the current population of 15,000).
- Consider utility locations/service when looking at Station improvements.
- Maintenance by local service providers.
- C-train at back of property used as a shop. Is provided with power, and compressed air from the station.
- Phasing if the existing Station remains but must undergo improvements.

Action Items:

- OMNI: Distribute as-built CAD drawings.
- OMNI and Subconsultants: Finish on-site facility data collection by the end of the year. Notify one of the following for site visits:

  neal.moriarty@fire.ca.gov
  rob.jenkins@fire.ca.gov
  john.pearl@fire.ca.gov
  paul.provence@fire.ca.gov

LOCSD/CAL FIRE to Provide Information:

- Staffing list (current and future FTEs – including dispatch, administration, any staff from other agencies that may be considered for relocation to the Station)
- Solar power as-builts, and power use data (for electrical evaluation)

For Future Discussion:

- Programming: Adequacy or needs for the following:
  - Apparatus bay
  - Kitchen
  - Bunk Rooms
  - Day room
  - Offices
  - Dispatch
  - Laundry
  - Storage
  - Turn-out gear
  - Protective clothing locker room
  - Medical supplies
  - Training facilities
  - Maintenance/repair room
  - Separation of Public and Fire Station spaces
  - Which if any, additional spaces are needed
  - Are there anticipated changes to the future Fire Station operations that might impact the total building and site area needed in the next 10-years
  - How are the existing sea train containers being used – should they remain as-is or replaced with permanent structures
  - Other equipment or supply storage issues
- Hose drying process – hose rack vs. existing hose drying tower?
- Install trench drain in apparatus bay
- Dedicated decontamination area

- Verify Station 15 Vehicles and Parking
  - Medic Engine 15 – Spartan Type 1
  - Engine 215 - Pierce Quantum Type 1
  - Medic Squad 15 - Ford 550
  - Utility 15 - Ford 250 4 X 4
  - Boat 15 – Yamaha WaveRunner
  - Chief's Ford 250 4 X 4

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LOS OSOS COMMUNITY SERVICES DISTRICT FIRE STATION NO. 15
CONDITIONS ASSESSMENT – **MEETING NOTES**

PLAN REVIEW / PROGRAMMING MEETING	LOCATION: 2315 BAYVIEW HEIGHTS DRIVE
DATE: JANUARY 5, 2023	TIME: 3:00 PM

AGENDA

Attendees:

- Paul Provence, Battalion Chief
- Steve Tanaka, Wallace Group
- Ron Munds, LOCSD
- Suzanne Winslow, Omni Design
- Tom Reay, Omni Design

Discussion: Review Existing Plans and Related Program / Operational Requirements. Discuss Importance.

Preliminary Priority Basis: (for Fire Department to Decide/Verify)

- Low = wish list; would improve functionality or comfort, but not critical.
- Medium = would improve functionality, efficiency, and equipment performance
- High = life safety compromised

Room 101 - Reception:

- Decent size for intended purpose. Not enough space to accommodate walk-ins seeking medical help.

  Considerations Discussed: Could expand into adjacent under-utilized space (Room 104) (previously used as dispatch room) to accommodate walk-in medical treatment space.
  Priority: Low, Medium, High

Room 102 – Battalion Chief Office

- Larger space than needed.

  Considerations Discussed: Could be reduced to expand Room 103 – EMS Chief Office.
  Priority: Low, Medium, High

Room 103 – EMS Chief Office

- Relatively small, but functional.

  Considerations Discussed: Consider expanding into Room 102 – BC Office.
  Priority: Low, Medium, High

Room 104 – Dispatch

- Currently under-utilized. Dispatch function no longer occurs at this location.

  Considerations Discussed: Consider re-purposing for walk-in medical treatment space.
  Priority: Low, Medium, High

Room 105 – Hall

- Under-utilized. Has bookshelves and countertop; used for radio battery charging.

Considerations Discussed: Remove closet and expand casework and countertop the full length of the hallway for more workspace and to accommodate supplies from Room 107 – Exercise Room.
Priority: Low, Medium, High

Room 106 – Captain's Office

- Used by four on-duty personnel. Existing file cabinets are not needed and they take up space. Could by larger.

Considerations Discussed: Remove file cabinets.
Priority: Low, Medium, High

Room 107 – Exercise Room

- Too small to accommodate all PT equipment and 4 – 5 personnel at one time. Congested and some equipment is in the path-of-travel. As a result some exercise occurs in the Apparatus Bay.

Considerations Discussed: Remove existing cabinets for more space; this will still not be big enough to relocate PT equipment currently residing in the Apparatus Bay. Could relocate some foldable squat racks from Apparatus Bay if cabinets removed. Consider increasing the space dedicated to PT.
Priority: Low, Medium, High

Room 108 – Radio Room

- Contains the LOCSD server. Fiber runs to the CSD office. The space is too small to accommodate proper clearances and is not ventilated. Abandoned cables are strewn around.

Considerations Discussed: Consider expanding Radio room functions into adjacent Room 109 – Storage, or relocating altogether for more space. Many of the old existing wires may not be live, and should be removed and organized.
Priority: Low, Medium, High

Room 109 – Storage.

- Contains cleaning supplies which can be dispersed or relocated rather than having a dedicated space.

Considerations Discussed: Consolidate or distribute supplies and vacate for other uses.
Priority: Low, Medium, High

Room 110 – Oxygen

- Contains medical gas and refilling station. High potential for hazards. Consider relocating; refilling function or out-sourcing filling and removing the function all together from the Station. Requirements need to be researched.

Considerations Discussed: Consider relocating; refilling function or out-sourcing filling and removing the function all together from the Station.
Priority: Low, Medium, High

General Comments about Admin. Side of Fire Station 15

- There are no restrooms on this side of the house to serve administration staff, and public.

  Considerations Discussed: Consider adding a restroom.
  Priority: Low, Medium, High

- Exit doors are inadequate; most doors exit into the Apparatus Bay where there are only overhead doors, no person doors.

  Considerations Discussed: Consider adding one person door at each end of the Apparatus Bay.
  Priority: Low, Medium, High

- HVAC system is out of balance; heats one end and correspondingly freezes the opposite end.

  Considerations Discussed: Upgrade mechanical system (mechanical consultant to make recommendation).
  Priority: Low, Medium, High

Room 111 – Apparatus Bay

- The configuration of the overhead doors limits drive-through capabilities - some vehicles need to back in, but a column separating the double wide and single overhead doors in the front apron is difficult for the vehicles to maneuver around. The overhead doors do not always function; don't always open up enough for the engines to drive out.

  Considerations Discussed: Consider options to the door opening to minimize obstacles. Replace the overhead doors with folding doors.
  Priority: Low, Medium, High

- The roof height coupled with exhaust equipment is too low to accommodate newer taller engines that require more clearance below. Engines need to drive in precisely to avoid hitting exhaust equipment. If the Station acquires a new Fire Engine it will not fit in the existing Apparatus Bay.

  Considerations Discussed: Consider raising the height of the roof to increase the clear space above the engines.
  Priority: Low, Medium, High

- Hose Tower/Training Tower/wall location outside the back of the Apparatus Bay hinders drive through maneuverability. The tower is used for cleaning and hanging fire hoses, but is inadequately designed for proper removal of pollutants.

  Considerations Discussed: Consider relocating the tower or removing.
  Priority: Low, Medium, High

- Concrete slab is cracked, and water ponds when wet trucks come in. The concrete slopes to the corners rather than to the outside. There are no drains.

  Considerations Discussed: Consider replacing the slab and add trench drains.
  Priority: Low, Medium, High

- Some PT occurs in one corner of the Apparatus Bay due to the inadequacy of the Exercise Room to accommodate 4 – 5 personnel exercising at the same time. This exposes personnel to carcinogenic hazards and other contaminates.

  Considerations Discussed: Consider expanding to the exterior, or relocating all PT functions out of the Apparatus Bay. Possibly to the existing training room.
  Priority: Low, Medium, High

- Door systems from the Apparatus Bays lack smoke-seals which allow contaminants into living quarters.

  Considerations Discussed: Consider providing door seals on doors between living quarters and administration wing, and Apparatus Bay.
  Priority: Low, Medium, High

Room 112 – Shop

- Used for reserve engine, turnout gear, clothes washer/dryer, extractor, mop sink. There is an extractor for cleaning turnout gear to remove contaminants; there is no turnout dryer. It is not used as a mechanic shop. Could be used in the future to store one ambulance and/or one squad.

  Considerations Discussed: Move extractor to new separate location, preferably outside of Station (small expansion).
  Priority: Low, Medium, High

Room 113 – Medical

- Used for storing medical supplies. Adequately sized. Finishes are not considered cleanable.

  Considerations Discussed: Consider replacing casework and work surfaces.
  Priority: Low, Medium, High

Room 114 – Hall

- This is the hallway between the Shop and living quarters. There is no pressurized space to prevent airborne contaminants from entering the living quarters from the Shop. Consider enclosing the Hall to form a positive pressurized airlock vestibule between the Shop and living quarters.

  Considerations Discussed: Enclose and pressurize hallway.
  Priority: Low, Medium, High

Room 115 – Hall

- No issues

  Considerations Discussed: None
  Priority: Low, Medium, High

Room 116 – Recreation Room

- Under-utilized. Fire personnel spend more time in personal dorms.

Considerations Discussed: Consider options to use some of the space for other functions.
Priority: Low, Medium, High

Room 117 – Training Room

- Adequately sized for current use. Currently used for training reserve fire fighters, and is a designated EOC for Diablo Canyon. Could be outfitted to be a fully operational EOC with proper workstations, access to power, and Internet.

Considerations Discussed: Provide new wall and floor outlets, Internet access, and 4-6 dedicated workstations positioned against the wall.
Priority: Low, Medium, High

Room 118 – Kitchen

- Adequately sized. Finishes starting to degrade. Breakers are frequently blown due to amperage of appliances vs the capacity of the circuits.

Considerations Discussed: Upgrade finishes, casework, appliances, and electrical service.
Priority: Low, Medium, High

Room 119 – Custodial

- Storage for supplies, water heater, and abandoned appliances. Water heater can only distribute hot water to one shower at a time.

Considerations Discussed: Assess water heating sizing to accommodate simultaneous anticipated hot water demand.
Priority: Low, Medium, High

Room 120 – Accessible Restroom

- No physical issues with the condition of the restroom. It is located in fire fighter living quarters; incorrectly placed for public access. There is no clear accessible path of travel for the public, but adding an accessible restroom to the administration size would provide this.

Considerations Discussed: Provide a restroom in the administration area.
Priority: Low, Medium, High

Rooms 121, 122, 123 – Restrooms with Showers

- No Issues.

Considerations Discussed: None
Priority: Low, Medium, High

Room 124 – Hall

- Door lacks proper sealing to prevent airborne contaminants moving between the Apparatus Bay and the living quarters.

Considerations Discussed: Provide seals.
Priority: Low, Medium, High

Rooms 125 – 129 – Dorms

- None of the dorm rooms have properly sized egress windows which are needed in case the personnel are trapped in their dorms. This is required by code.

  Considerations: Enlarge windows per code for emergency egress.
  Priority: Low, Medium, High

Site Discussion

- Area outside of Kitchen could use covered patio for barbeque and exterior recreation.

  Considerations Discussed: Provide patio cover.
  Priority: Low, Medium, High

- There are two existing C-Trains at the north side of the rear apron. One contains reserve PPE storage, and the other is used for hose storage. The space between the C-Trains is used as a shop. The C-Trains and shop are covered by one roof spanning all of them. The location of these hinders vehicle maneuverability and activities on the rear apron. A third C-train contains dated material that can be discarded.

  Considerations Discussed: Consider re-locating to provide more functionality, and consider this space for a new horizontal hose rack. Consider a new permanent structure. The shop function could be expanded.
  Priority: Low, Medium, High

- Hose Tower. This is inadequate for proper hose drying, but useful for training. Its location on the rear apron hinders vehicle access into the Apparatus Bay.

  Considerations Discussed: Remove or relocate.
  Priority: Low, Medium, High

- Third C-Train located at the east side of the rear apron contains antiquated certification supplies. It can be removed along with its contents.

  Considerations Discussed: Empty and remove, or re-purpose.
- Priority: Low, Medium, High

OTHER DISCUSSION

- Future "Standards of Cover Strategic Plan" expected to be prepared in the Spring. The outcome of this plan will determine the future service model, and potential for adding a 6th dorm room (for the Battalion Chief).
- Adding ambulance services to the Station being considered – will not impact the number of dorm rooms required.

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LOS OSOS COMMUNITY SERVICES DISTRICT FIRE STATION NO. 15
CONDITIONS ASSESSMENT – **MEETING NOTES**

PLAN REVIEW / PROGRAMMING MEETING | LOCATION: 2315 BAYVIEW HEIGHTS DRIVE

DATE: FEBRUARY 8, 2023 | TIME: 3:30 PM

AGENDA

Attendees:

- Paul Provence, Battalion Chief
- Steve Tanaka, Wallace Group
- Ron Munds, LOCSD
- Joe Klimczyk, SSGSE
- Brandon Rogers, BMA
- Juan Pablo Cal y Mayor, Omni Design
- Suzanne Winslow, Omni Design
- Tom Reay, Omni Design

HIGH PRIORITY RECOMENDATIONS

- **Architectural Life-Safety and Code Deficiencies That Need to be Corrected (Tom Reay, Omni Design): Need to clarify code deficiencies items from life/safety deficiencies, and items that MUST be corrected vs SHOULD be corrected.**
  - Install egress windows in the dorm rooms
  - Install man door in the app bay
  - Install fire sprinklers.
  - Make provisions to move all exercise equipment and PT activities out of the apparatus bay and into the living size of the station.
  - Make provisions for separating living quarters and administrative spaces from Apparatus bays and other sources of contamination.
  - Provide accessible restroom at administrative side of the Station.
  - Provide door seals on doors between living quarters and administration wing, and the apparatus bays.
  - Hose tower is ineffective and an obstacle to the rear apparatus bay doors. Should be removed. The tower is used for training purposes, and therefore other opportunities should be explored to provide alternative training props. A horizontal hose rack should be installed for hose drying in another location on the site.
  - Provide dedicated room for decontaminating turn-out gear, and showering before entering the living quarters.
  - Provide accessible parking space.
- **Fire Department High Priority Items (Paul Provence, Battalion Chief):**
  - Upgrade the existing Plymovent exhaust removal system. It has reached its service life and not effective in removing vehicle exhaust. Consider magnetic connection.
  - Overhead doors should be replaced with folding doors. (height is ok)
  - Provide sauna for fire fighter detox.

- **Structural Corrections Needed to Improve the Building's Resilience to Seismic Activities and for Code Compliance (Joe Klimzcyk, SSGE):**
  - Original Building:
    - Apply FRP reinforcement to face of CMU walls to improve shear strength.
    - Provide nailing to strengthen diaphragm.
    - Add continuity ties and create sub-diaphragm.
  - Addition:
    - Add nailing to strengthen diaphragm
    - Add anchors to the CMU walls and develop forces in diaphragm.
    - Add continuity ties and create sub-diaphragm
  - Both Buildings:
    - Add strap tie at re-entrant corners of two diaphragms.
  - Site:
    - Provide nuts at existing propane tank anchor bolts.
- **HVAC and plumbing high priority items (Brandon Rodgers, BMA):**
  - Unused duct branch at secondary apparatus bay should be capped.
  - Replace unsafe Plymovent system.
  - The roof/attic assembly not per code for attic venting. Reinsulate and correct attic venting.
  - HVAC systems do not provide good indoor air quality in the occupied spaces. Should be replaced.
  - Air distribution system is does not function adequately. Many diffusers inoperable. Should be replaced.
  - Medical supply room should be supplied with mini-split system to minimize the exchange of contaminated air.
  - AnteRooms should be constructed to control contamination entering the living and administrative spaces from the fire fighting equipment and gear.
- **Electrical system improvements (from engineer's report – Chris Jose (Thoma) not in attendance)**
  - The electrical equipment including the distribution panel, subpanels, and generator are designed with a service life of 25 years. These should be replaced with seismically certified equipment.
  - Increase service size to 400 amps to accommodate new electrical loads if all or parts of the HVAC system are replaced (all-electric).
  - Evaluate utility poles and overhead lines at street entrance to apparatus bays for stability. Either undergound lines or consider alternatives to ensure that the lines do not fall down and block the engines and trucks from exiting to the street.
  - Increase the size of the radio room to provide space for maintenance and air circulation, and remove abandoned wires.
  - Replace emergency alert speakers, cables, and devices.
  - Install fire alarms.
  - Provide more circuit breakers to kitchen to minimize tripping.

- Upgrade generator and propane tank.
- Replace existing lighting fixtures with LED lights to improve lighting, efficiency, and faulty lights.
- Replace communication cables with CAT 6 cables.

SECONDARY RECOMMENDATIONS AND CONSIDERATIONS

- There are no floor drains in the apparatus bay, and the slab is sloped to the walls. Floor drains should be installed. Provide clarifier/sand-oil separator before discharge to sewer.
- Provide dedicated room for treating walk-ins needing medical attention.
- Some showers drain slowly – should be investigated.
- Water heater capacity too small for multiple simultaneous uses. Should be replaced.
- Separate min-split HVAC systems should be provided in each of the dorm rooms.
- Replace entire HVAC system with all electric heat pump systems, configured for pressurization.
- Provide new exhaust fans at toilet/shower rooms.
- Replace roof top PV panels.
- Replace existing kitchen finishes and fixtures.
- Remedy existing dip at driveway and street intersect.

OTHER DISCUSSION ITEMS

- Heaters in the apparatus bays are not necessary.
- It is possible that outside moisture is wicking into the exterior walls.

DESIGN CONSIDERATIONS

- Relocate training room function to administrative side of the facility in the location of the existing exercise room. Expand if needed to accommodate training classes and EOC workstations.
- Eliminate C-trains and construct new building to permanently house hose storage, shop, reserve fire fighter gear. Rescue boat could be relocated here.
- Incorporate roof training props onto the new building for ladder training.
- Utilize existing secondary apparatus bay for consolidated turnout gear lockers, dedicated decontamination areas, other(?)
- Five dorms are adequate for current staffing model.
- The medic squad and medic engine need to reside in the main apparatus bay.
- AnteRooms separating living and administrative quarters from apparatus bays.

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LOS OSOS COMMUNITY SERVICES DISTRICT FIRE STATION NO. 15
CONDITIONS ASSESSMENT RECOMMENDATIONS AND BUDGET PLAN – **MEETING NOTES**

PLAN REVIEW / PROGRAMMING MEETING	LOCATION: 2315 BAYVIEW HEIGHTS DRIVE
DATE: MARCH 29, 2023	TIME: 2:00 PM

AGENDA

Attendees:

- Paul Provence, Battalion Chief
- Neal Moriarty, Fire Captain, Fire Station No. 15
- Ron Munds, LOCSD
- Steven Tanaka, Wallace Group
- Michael Brennan, Cost Estimator, Brennan Construction
- Suzanne Winslow, Omni Design Inc.
- Thomas Reay, Omni Design Inc.

Summary:

- Fire Station No. 15 was assessed for structural, architectural, mechanical, plumbing, and electrical condition, and was determined to be in reasonably good condition, however, some deficiencies that were identified relate to hazards, life/safety, and operations.
- The building should be seismically retrofitted at minimum, in order to improve its ability to protect the fire station personnel safe, and to continue operations during natural catastrophes. Also, some provisions should be made for limiting contamination from the firefighting operations into the living areas of the Station. These are considered high priority improvements. (Option 1)
- Option 2 includes the addition of an auxiliary detached Apparatus Bay which would provide enclosed space for trucks, maintenance, and storage. Additionally, an auxiliary Apparatus Bay would provide operational flexibility during construction of any of the recommended improvements. (This option also includes an interior renovation to clearly separate the living quarters from fire station operations, which is needed for long term health of the fire personnel.)
- Option 2 could result in a 30-year facility, without the need for an entire re-build.
- Option 2 is preferred because it provides the Station with enhanced life/safety, operational improvements, and a structurally sound building.
- Grant funding sources have not been identified, but there may be some that could be identified by people who specialize in this.
- Permitting would involve the Coastal Commission, and also would likely require an archaeology study of the site. The improvements would not increase water consumption nor a change in use, so this should not be an issue in obtaining a building permit.
- Some opportunities may be available for the LOCSD with the County for Job Order Contracting, or other procurement methods to minimize the Contractor bidding effort.
- The Capital Improvement Program could be budgeted with distinct stopping points over a given number of years, so that the improvements could be postponed at certain points to account for projected revenue shortfalls in any given year.

APPENDIX III – PLAN EXHIBITS

A2.0 EXISTING FLOOR PLAN – WITH HIGH PRIORITY RECOMMENDATIONS

S2.0 FOUNDATION PLAN – MINIMUM RETROFIT (HIGH PRIORITY)

S2.1 ROOF FRAMING PLAN – MINIMUM RETROFIT (HIGH PRIORITY)

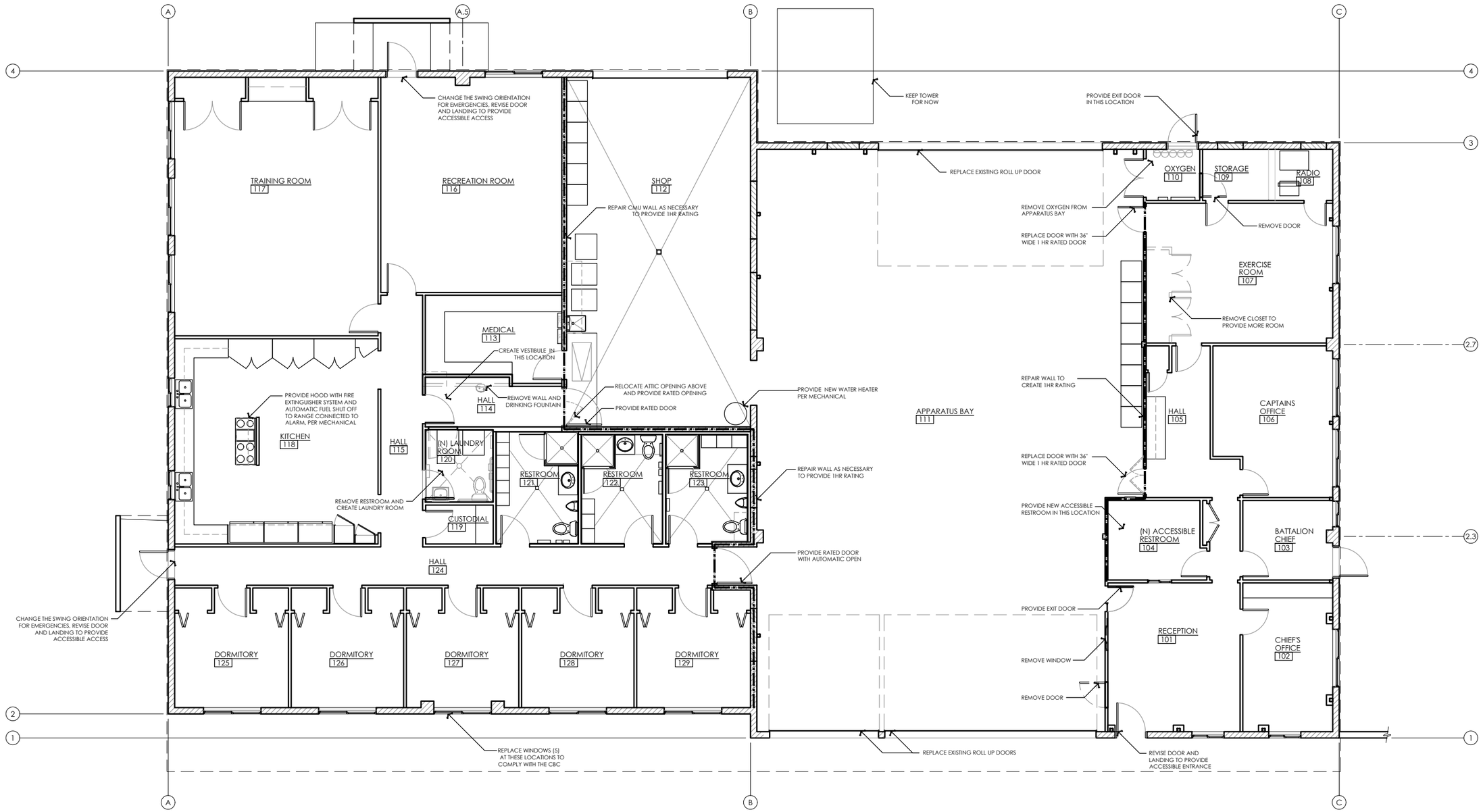
A1.0 PROPOSED SITE PLAN – LONG TERM

A2.1 PROPOSED FLOOR PLAN (FIRE STATION – LONG TERM)

A3.0 PROPOSED FLOOR PLAN (NEW AUXILIARY APPARATUS BAY – LONG TERM)

S3.0 FOUNDATION PLAN – ADDITION/REMODEL – LONG TERM

S3.1 ROOF FRAMING PLAN – ADDITION/REMODEL – LONG TERM



EXISTING FLOOR PLAN WITH HIGH PRIORITY IMPROVEMENTS

SCALE: 3/16" = 1'-0" (22"x34" sheet)
SCALE: 3/32" = 1'-0" (11"x17" sheet)

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1326 CHORRO STREET
SAN LUIS OBISPO
CALIFORNIA 93401

Project:

LOS OSOS CSD
FIRE STATION 15
CONDITION ASSESSMENT

2315 BAYVIEW HEIGHTS
LOS OSOS | CALIFORNIA | 93402

Client:

LOS OSOS COMMUNITY
SERVICES DISTRICT

2122 9TH STREET | SUITE 102
LOS OSOS | CALIFORNIA | 93402

PROJECT NUMBER: 1317-01

DATE: 2023.03.09

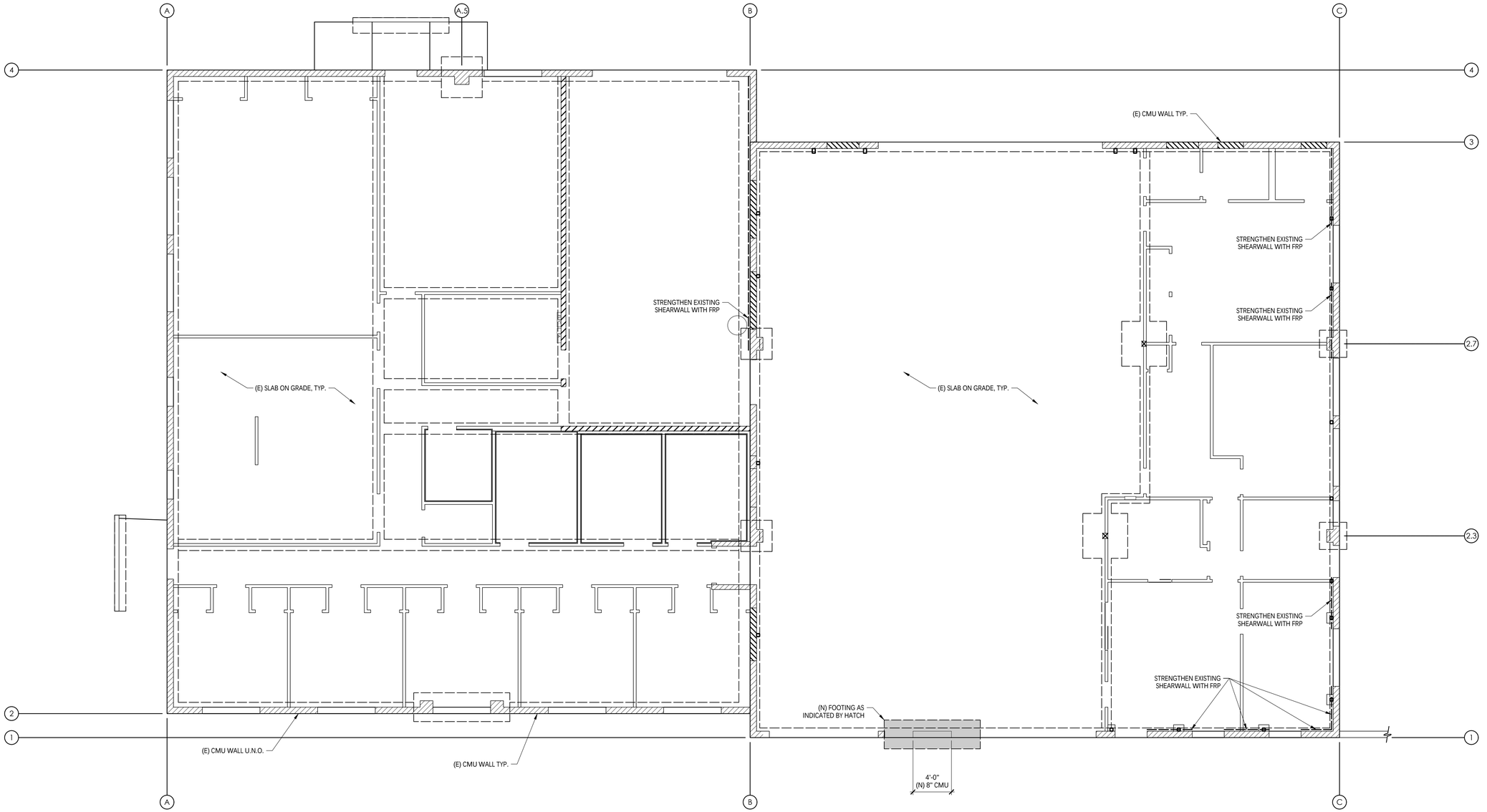
EXHIBITS

EXISTING
FLOOR PLAN

SHEET NUMBER:

PROJECT NORTH

A2.0



FOUNDATION PLAN - MINIMUM SEISMIC RETROFIT

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

(VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS AND EXISTING CONDITIONS)

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SSG
SSG Structural Engineers, LLP
805.439.2110 ssgse.com
811 El Capitan Way, Suite 240 San Luis Obispo, CA 93401
8405 N. Fresno Street, Suite 120 Fresno, CA 93720

Project:

LOS OSOSCSD
FIRE STATION 15
CONDITION ASSESSMENT

2315 BAYVIEW HEIGHTS
LOS OSOS | CALIFORNIA | 93402

Client:

LOS OSOS COMMUNITY
SERVICES DISTRICT

2122 9TH STREET | SUITE 102
LOS OSOS | CALIFORNIA | 93402

PROJECT NUMBER: 22362

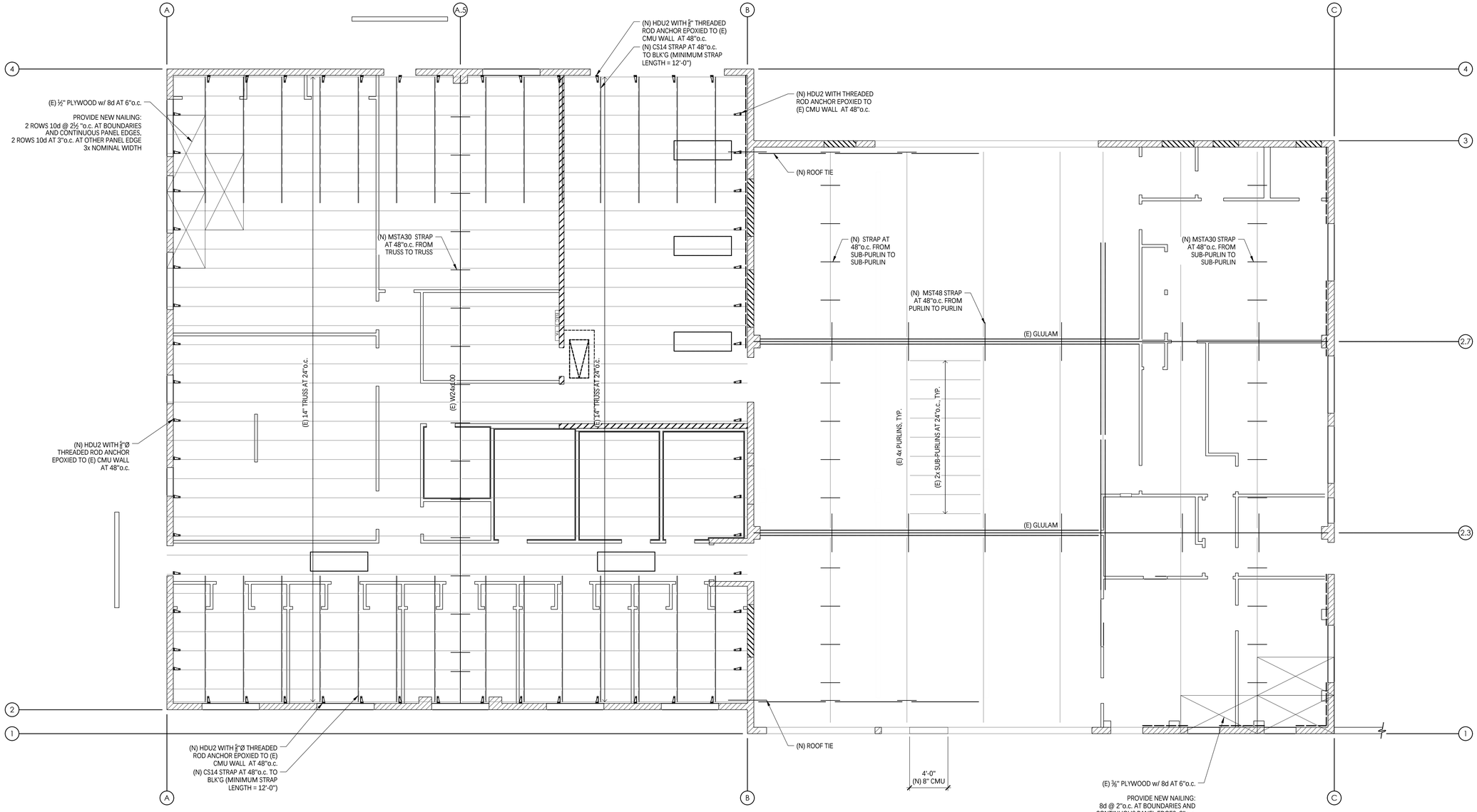
DATE: MARCH 10, 2023

SHEET TITLE:

FOUNDATION
PLAN - MINIMUM
SEISMIC RETROFIT

SHEET NUMBER:

S2.0



ROOF FRAMING PLAN - MINIMUM SEISMIC RETROFIT

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

(VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS AND EXISTING CONDITIONS)

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8405 N. Fresno Street, Suite 120, Fresno, CA 93720

Project:

LOS OSOSCSD
FIRE STATION 15
CONDITION ASSESSMENT

2315 BAYVIEW HEIGHTS
LOS OSOS | CALIFORNIA | 93402

Client:

LOS OSOS COMMUNITY
SERVICES DISTRICT

2122 9TH STREET | SUITE 102
LOS OSOS | CALIFORNIA | 93402

PROJECT NUMBER: 22362

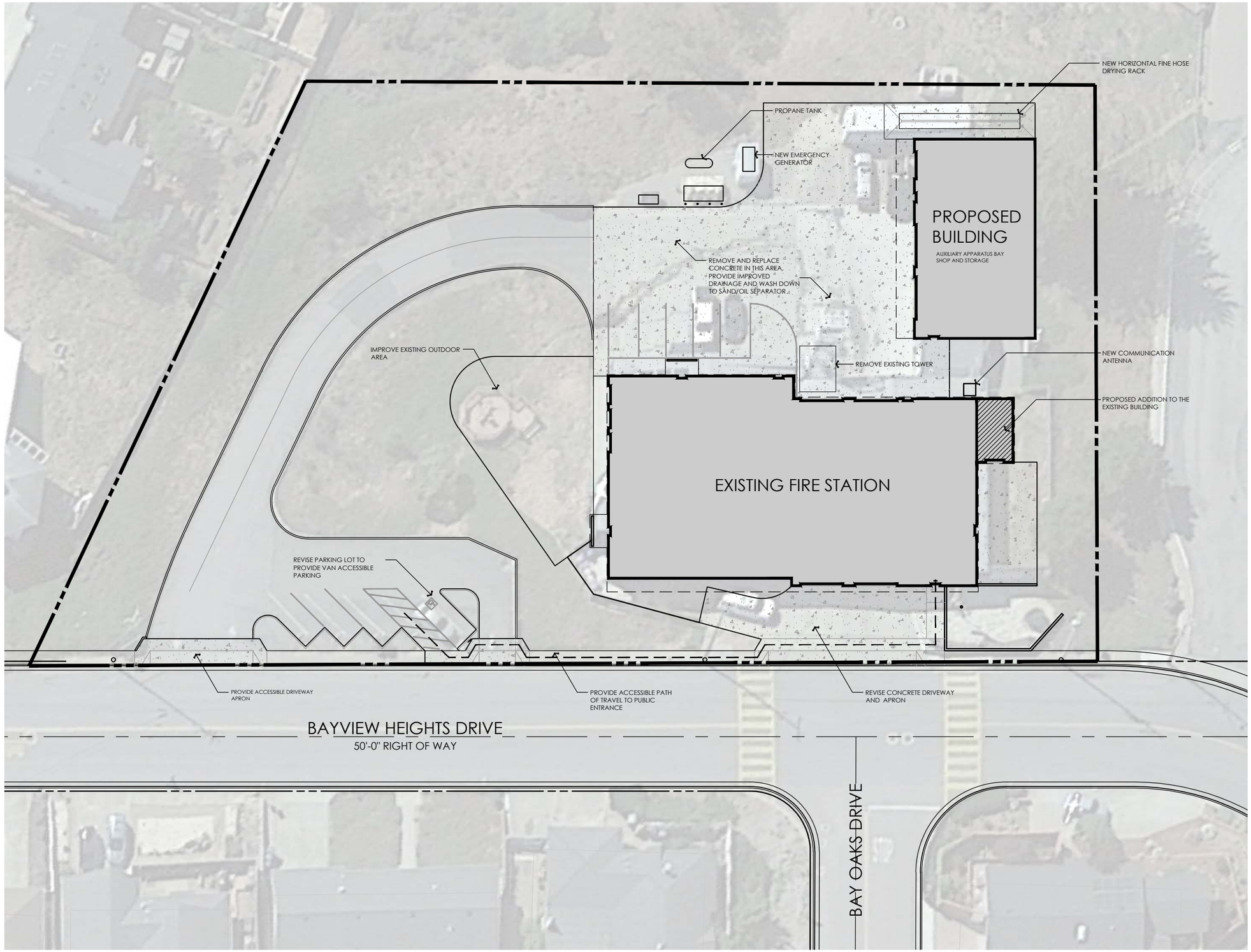
DATE: MARCH 10, 2023

SHEET TITLE:

ROOF FRAMING PLAN - MINIMUM SEISMIC RETROFIT

SHEET NUMBER:

S2.1



PROPOSED SITE PLAN

SCALE: 1/16" = 1'-0" (22"X34" sheet)
SCALE: 1/32" = 1'-0" (11"x17" sheet)

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CALIFORNIA 93401

Project:

LOS OSOS CSD
FIRE STATION 15
CONDITION ASSESSMENT

2315 BAYVIEW HEIGHTS
LOS OSOS | CALIFORNIA | 93402

Client:

LOS OSOS COMMUNITY
SERVICES DISTRICT

2122 9TH STREET | SUITE 102
LOS OSOS | CALIFORNIA | 93402

PROJECT NUMBER: 1317-01

DATE: 2023.03.09

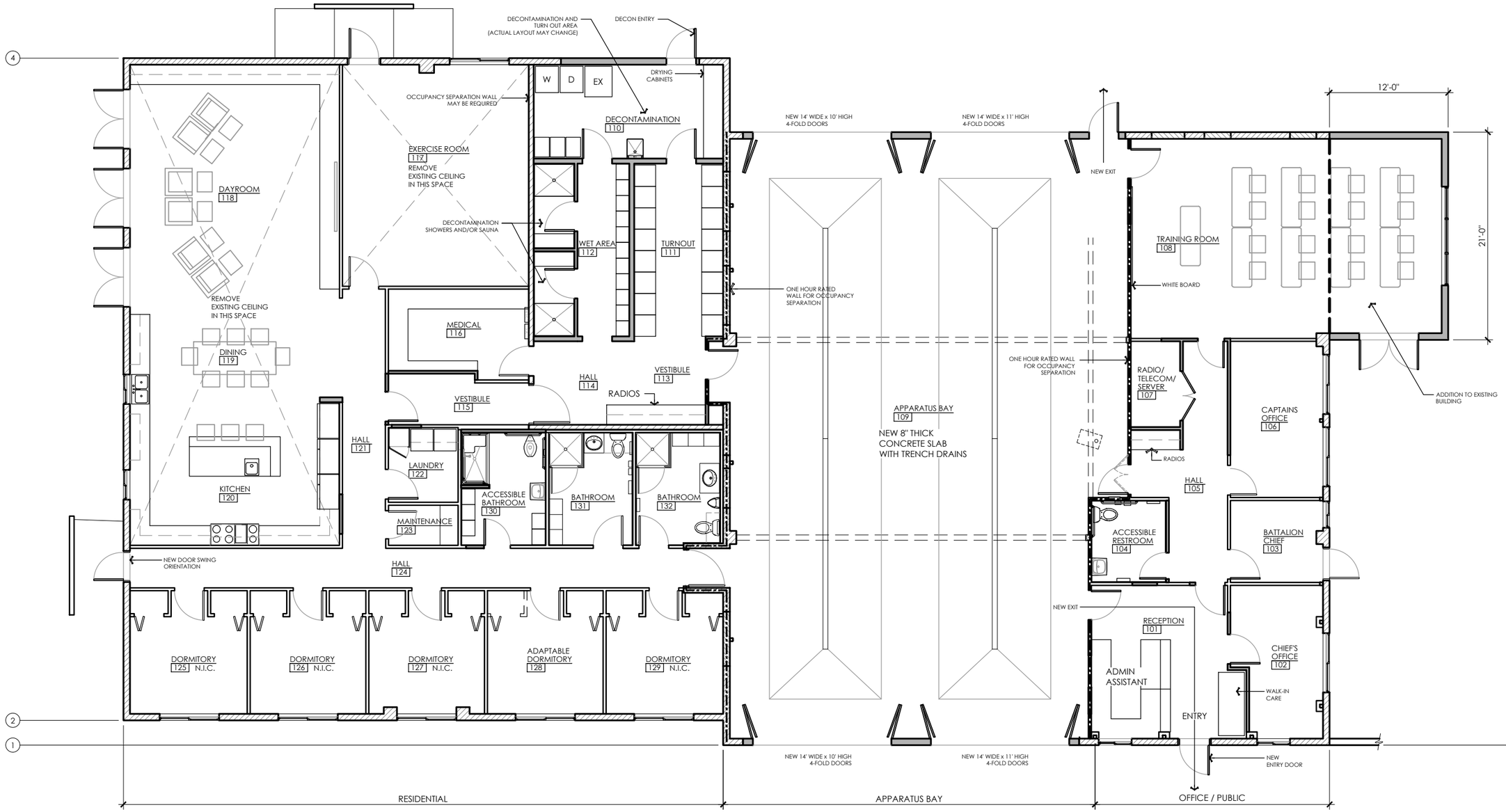
EXHIBITS

PROPOSED
SITE PLAN

SHEET NUMBER:

PROJECT NORTH

A1.0



PROPOSED FLOOR PLAN

SCALE: 3/16" = 1'-0" (22"x34" sheet)
SCALE: 3/32" = 1'-0" (11"x17" sheet)

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SAN LUIS OBISPO
CALIFORNIA 93401

Project:
LOS OSOS CSD
FIRE STATION 15
CONDITION ASSESSMENT
2315 BAYVIEW HEIGHTS
LOS OSOS | CALIFORNIA | 93402

Client:
LOS OSOS COMMUNITY SERVICES DISTRICT
2122 9TH STREET | SUITE 102
LOS OSOS | CALIFORNIA | 93402

PROJECT NUMBER: 1317-01

DATE: 2023.03.09

EXHIBITS
PROPOSED
FLOOR PLAN

SHEET NUMBER:
A2.1

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ENGINEERING
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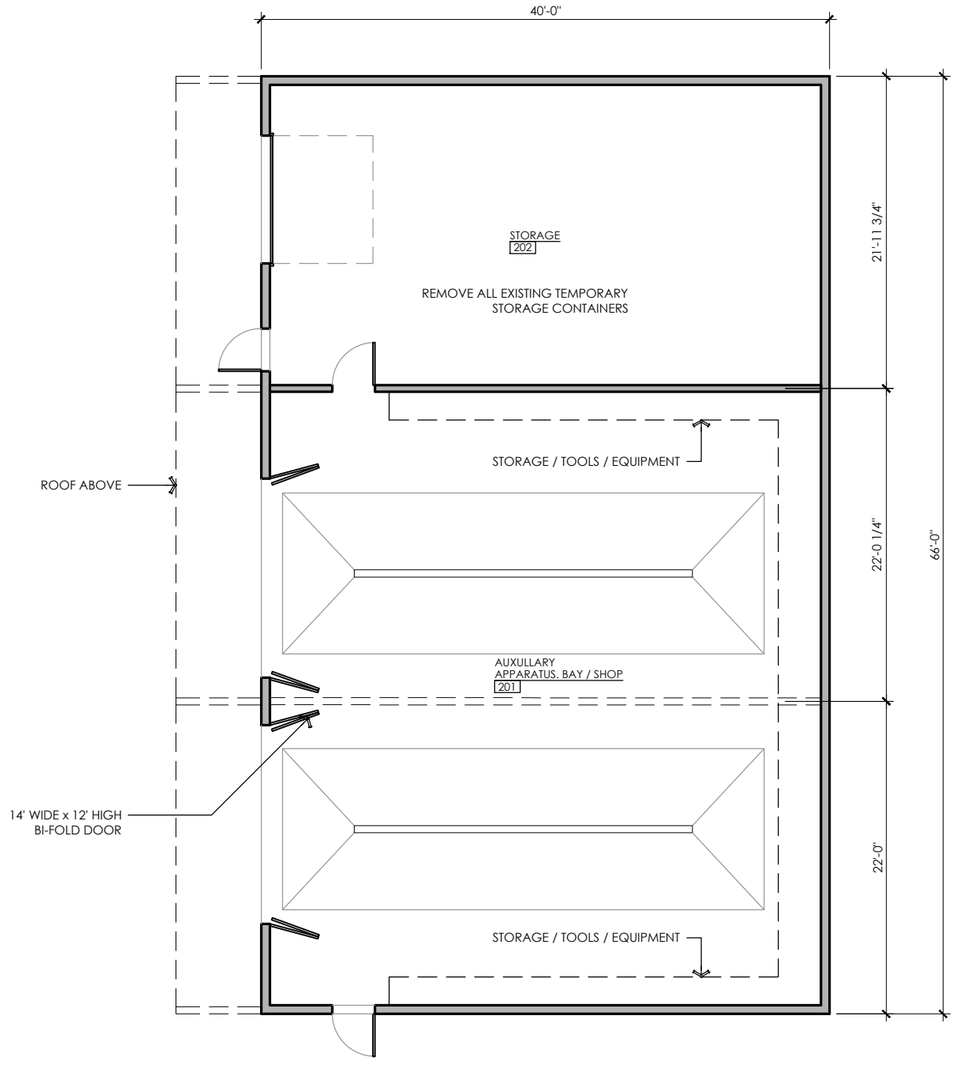
1326 CHORRO STREET
SAN LUIS OBISPO
CALIFORNIA 93401



Project:

LOS OSOS CSD
FIRE STATION 15
CONDITION ASSESSMENT

2315 BAYVIEW HEIGHTS
LOS OSOS | CALIFORNIA | 93402

Client:

LOS OSOS COMMUNITY
SERVICES DISTRICT

2122 9TH STREET | SUITE 102
LOS OSOS | CALIFORNIA | 93402

PROJECT NUMBER: 1317-01

DATE: 2023.03.09

EXHIBITS

PROPOSED
FLOOR PLAN

AUXILIARY APPARATUS BAY

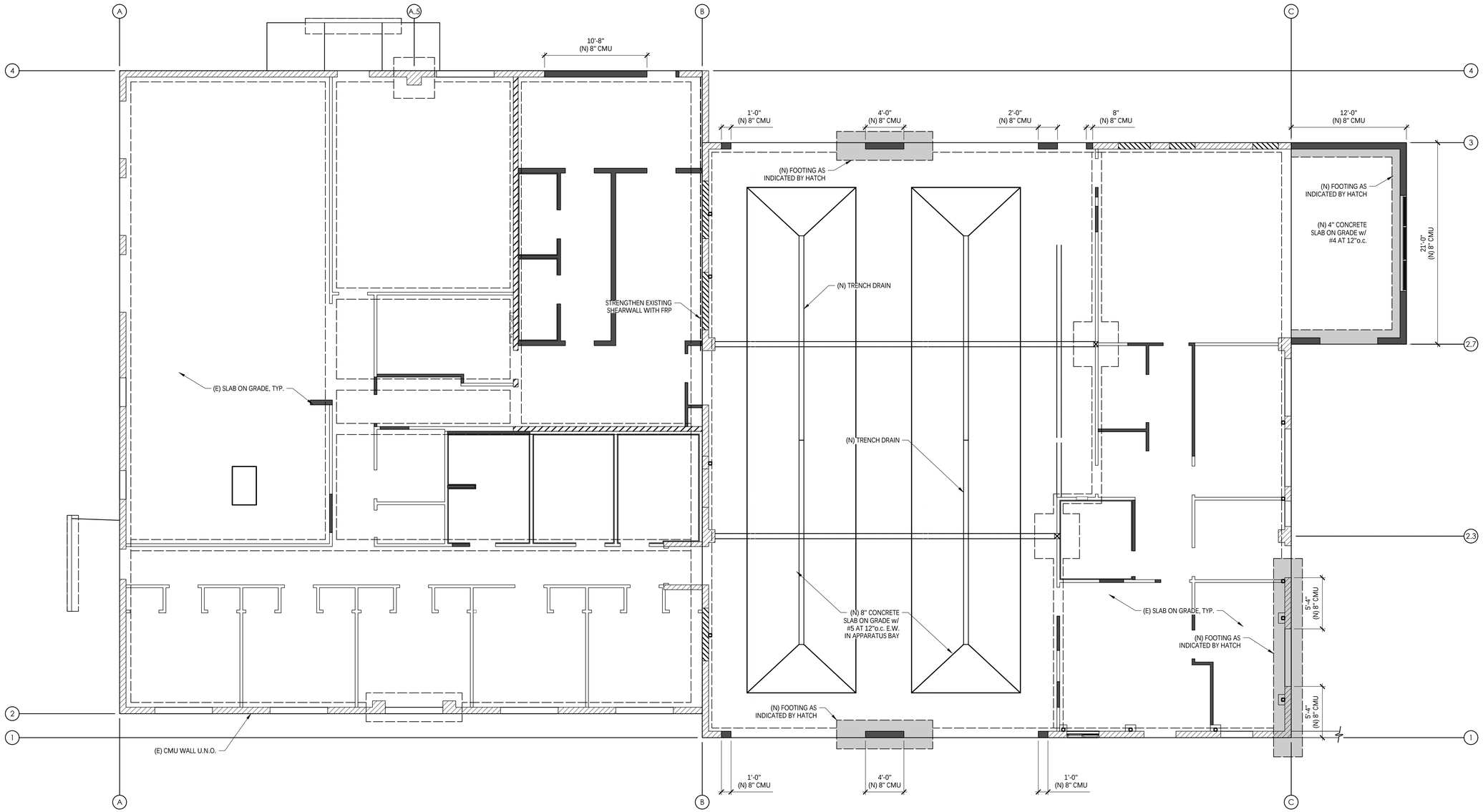
SCALE: 3/16" = 1'-0" (22"x34" sheet)

SCALE: 3/32" = 1'-0" (11"x17" sheet)

PROJECT NORTH

SHEET NUMBER:

A3.0



FOUNDATION PLAN - ADDITION/REMODEL OPTION

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

(VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS AND EXISTING CONDITIONS)

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711 TANK FARM ROAD, SUITE 100
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SSG Structural Engineers, LLP
805.439.2110 ssgse.com
811 El Capitan Way, Suite 240 San Luis Obispo, CA 93401
8405 N. Fresno Street, Suite 120 Fresno, CA 93720

Project:

LOS OSOSCSD
FIRE STATION 15
CONDITION ASSESSMENT

2315 BAYVIEW HEIGHTS
LOS OSOS | CALIFORNIA | 93402

Client:

LOS OSOS COMMUNITY
SERVICES DISTRICT

2122 9TH STREET | SUITE 102
LOS OSOS | CALIFORNIA | 93402

PROJECT NUMBER: 22362

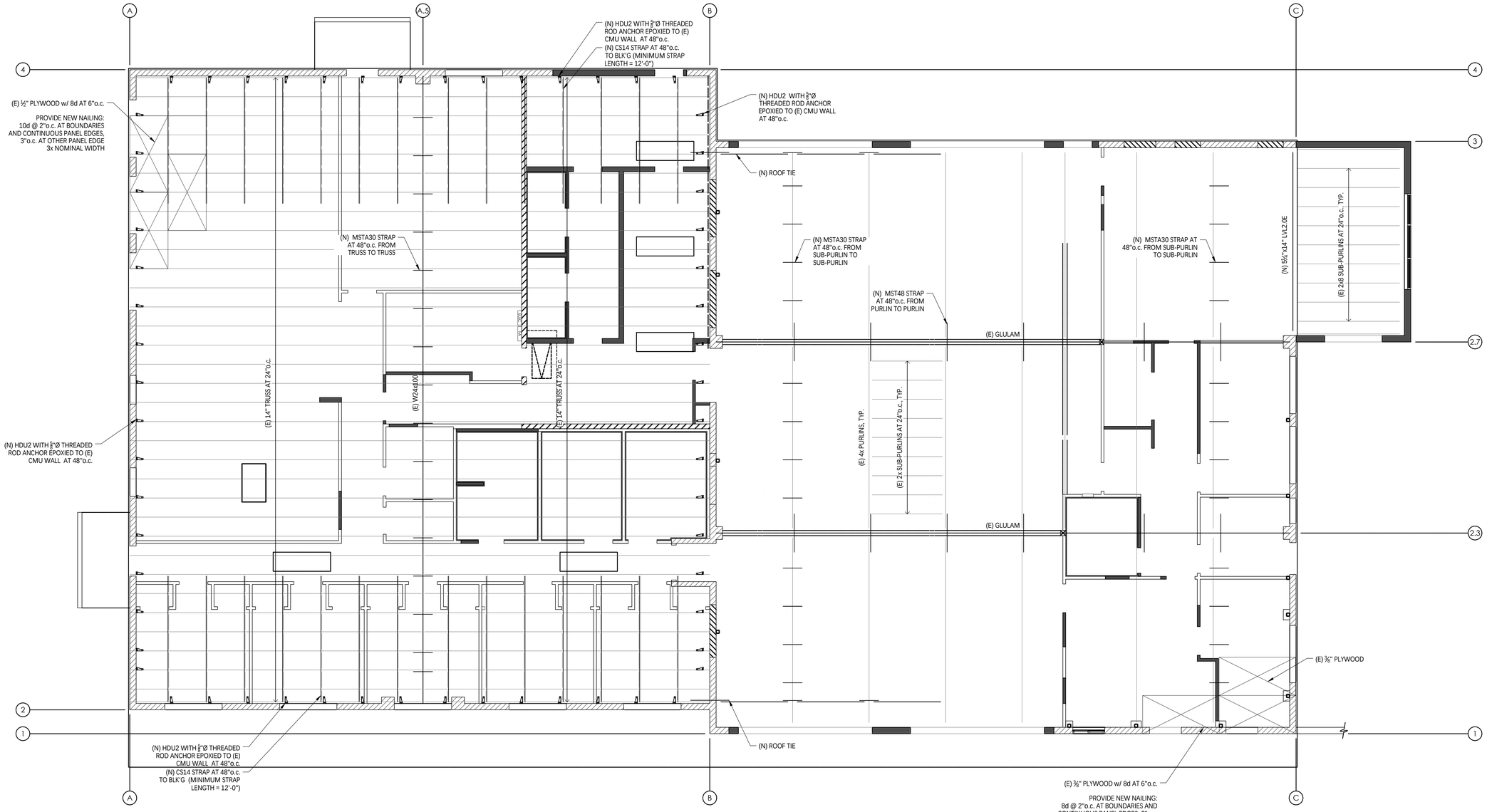
DATE: MARCH 10, 2023

SHEET TITLE:

FOUNDATION PLAN -
ADDITION/REMODEL
OPTION

SHEET NUMBER:

S3.0



ROOF FRAMING PLAN - ADDITION/REMODEL OPTION

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

(VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS AND EXISTING CONDITIONS)

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Project:

LOS OSOSCSD
FIRE STATION 15
CONDITION ASSESSMENT

2315 BAYVIEW HEIGHTS
LOS OSOS | CALIFORNIA | 93402

Client:

LOS OSOS COMMUNITY
SERVICES DISTRICT

2122 9TH STREET | SUITE 102
LOS OSOS | CALIFORNIA | 93402

PROJECT NUMBER: 22362

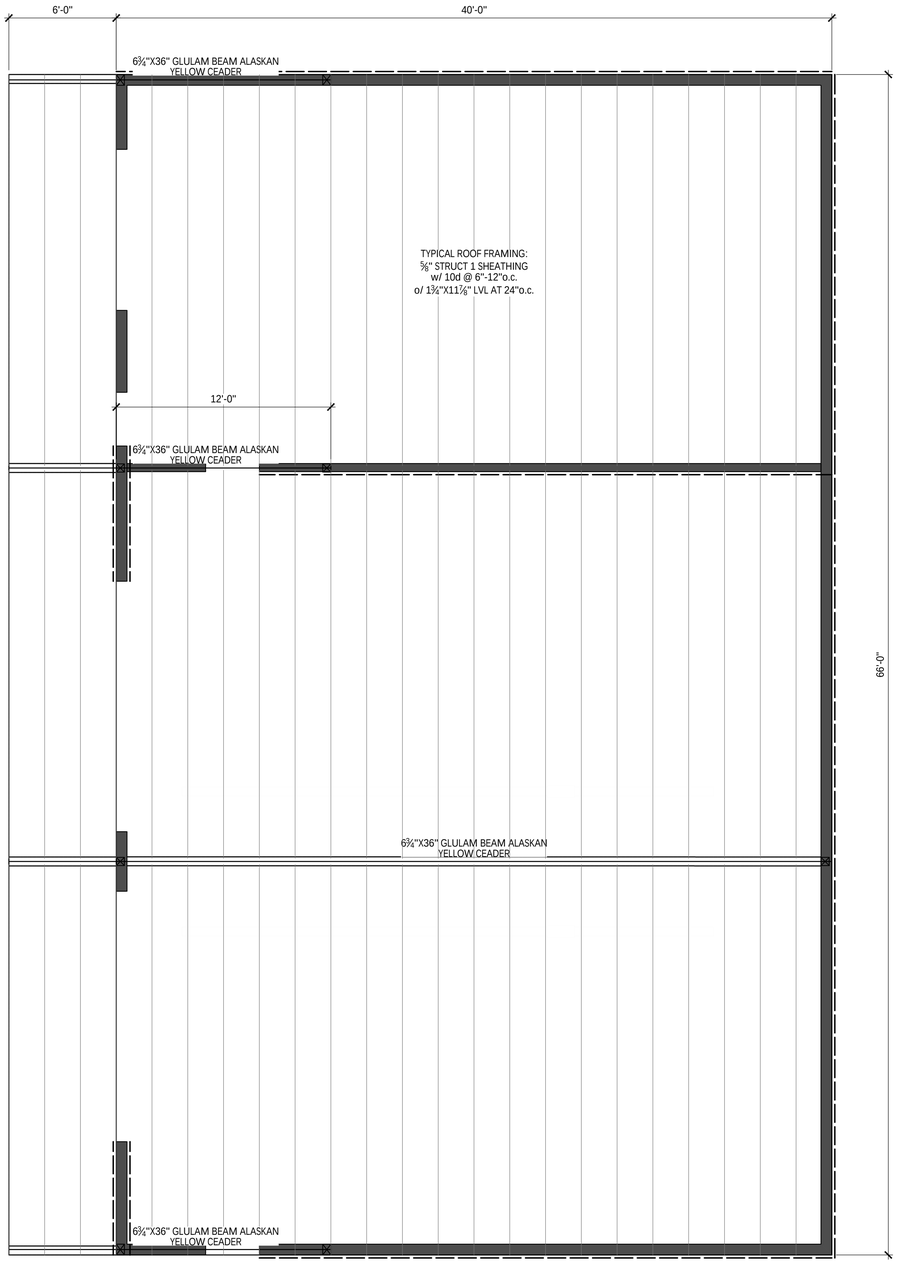
DATE: MARCH 10, 2023

SHEET TITLE:

ROOF FRAMING PLAN - ADDITION/REMODEL OPTION

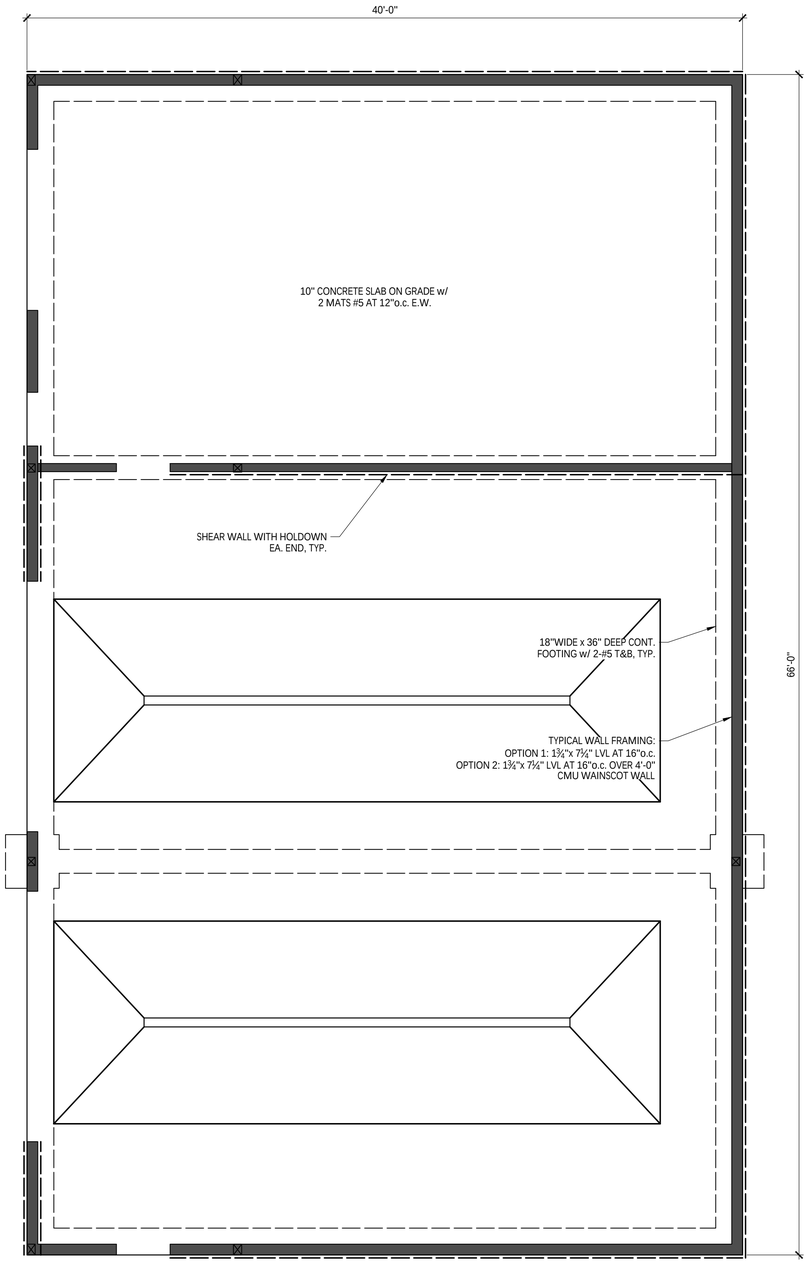
SHEET NUMBER:

S3.1



ROOF FRAMING PLAN

SCALE: 1/4" = 1'-0" (VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS)



FOUNDATION PLAN

SCALE: 1/4" = 1'-0" (VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS)

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Project:

LOS OSOSCSD
FIRE STATION 15
CONDITION ASSESSMENT

2315 BAYVIEW HEIGHTS
LOS OSOS | CALIFORNIA | 93402

Client:

LOS OSOS COMMUNITY
SERVICES DISTRICT

2122 9TH STREET | SUITE 102
LOS OSOS | CALIFORNIA | 93402

PROJECT NUMBER: 22362

DATE: MARCH 10, 2023

SHEET TITLE:

NEW BUILDING
FOUNDATION AND
ROOF FRAMING PLAN

SHEET NUMBER:

S4.0