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BID RESPONSE

Responding To:

Bid/Project Number: RFQ 10906-26

Bid/Project Title: Fire Station 11 Feasibility Study and Existing Site Options Analysis

Closing Date: 5/1/2026, 2pm PST

Submitted By:

Name of Company Submitting Response:
TCA Architecture + Planning

Printed Name of Person Submitting Response:
Brian Harris

Email:
brian@tca-inc.com

Signature of Person Submitting Response: DocuSigned by: Brian Harris 0DAB8580BD9F46B...

Date:
4/30/2026

Attach Your Bid/Proposal:

Remember to sign your bid/proposal

Attach all pages of your response here

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CITY OF REDMOND

FIRE STATION 11 FEASIBILITY STUDY

STATEMENT OF QUALIFICATIONS **04-30-2026**

Presented by
TCA Architecture + Planning, Inc.

BRIAN HARRIS
Principal / RFQ Point of Contact
brian@tca-inc.com
206-683-6283 cell
206-522-3830

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Since 1960, TCA has been dedicated to improving the lives of firefighters.

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00 Section

INTRODUCTION

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ARCHITECTURE + PLANNING + DESIGN

6211 Roosevelt Way NE
Seattle, WA 98115

206-522-3830
tca-inc.com

REQUEST FOR QUALIFICATIONS

Heidi Johnson, Purchasing Supervisor
City of Redmond
15670 NE 85th Street
PO Box 97010
Redmond, WA 98073-9710

April 30, 2025

Dear Purchasing Manager, Heidi Johnson and Members of the Selection Committee,

TCA Architecture + Planning, (TCA) is pleased to present our specialized knowledge and qualifications for architectural planning services to the City of Redmond for the Fire Station 11 Feasibility Study. This feasibility and existing site options analysis represents a generational opportunity to increase community resilience and establish a strong foundation for the development of a future -forward emergency facility to support public safety and staff while ensuring civic connection and the efficient use of public funds over its 50+ year service life.

We feel uniquely qualified to partner with the City based on our successful regional work with neighboring departments, like Eastside Fire & Rescue, Kirkland Fire Department, Bellevue Fire Department, Shoreline Fire Department & Seattle Fire Department. Additionally, we have like experience working with hundreds of Fire Departments and Fire Districts like yours across state and across the country. We partner with fire agencies to design facilities that respond to a wide range of unique geographic circumstances and emergency response needs. As a result, we understand the full spectrum of community-based expectations, policies, politics, and departmental cultures that can impact projects like yours. As a firm, we work closely with our clients to develop defensible, operationally sound, cost-effective facilities that allow for change over their 50-100 year lifetime.

We are passionate about supporting our local communities in planning a strong regional system of community centric facilities that are efficient, durable, easy to maintain and are adaptable to growth and change over their service life. It is our commitment to you to work side by side to best inform your decision-making process. We offer an expert's steady hand to help guide you through the planning process, including site due diligence and test-to-fit efforts, operations-based programming, community outreach, and funding strategies to support the realization of a renovated and expanded or rebuilt facility.

Founded in 1960, TCA is a registered small business (SBE) with the federal government and is transitioning to a combined (women and minority) owned firm (CBE). Our group of twenty-five staff is committed to project planning excellence with fire facility design as our focus. Based on our current workload, projections, and client commitments, we have the capacity and are well positioned to provide excellent, personalized, professional services for your project. Our goal is to deliver the highest quality work within the context of the City's schedule and budget goals.

We thank you for the opportunity to collaborate on this important project and look forward to connecting with you in person.

Respectfully Submitted,

BRIAN HARRIS
Principal / RFQ Point of Contact

brian@tca-inc.com
206-683-6283 cell
206-522-3830

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Public Safety Center- Bozeman, MT in association with ThinkOne

"I highly recommend the TCA team to other fire departments who are looking to design innovative fire stations that keep their employees safe, healthy, happy, and ready to respond.

Fire Chief Josh Waldo
BOZEMAN FIRE DEPARTMENT

TCA Architecture + Planning

FIRE FACILITY DESIGN SPECIALISTS

Since 1960, TCA has been at the forefront of fire service and emergency facility technical design innovation. As a firm, we have dedicated our careers to the evolution of these building types. Based on the experience we have gained through the planning, site selection, and design of hundreds of fire service facilities, we will bring institutional knowledge and decades of experience to your project. There is a civic, community, operational, and programmatic design thread common to facilities of this nature. We instill a "next-generation facility" design mindset in all of our projects. We plan and design community-centric civic facilities to safely support emergency responders, focusing on the importance of turnout efficiency and building resiliency that can seamlessly withstand natural and human-made disasters, and long-term operational change. The design of fire facilities begins with a clear understanding of your community, users, unique operational needs based on departmental culture, and the four phases of emergency management. Being mindful of civic goals, national trends, NFPA standards, security, technology, gender-neutrality, accessibility, high-performance building technologies, and more, our team will provide a planning and delivery process that has a clear progression and touch point cadence to ensure stakeholders are heard and timelines and expectations are met. As subject matter experts, TCA is recognized as a leader in the national and regional fire service community.

TCA
ARCHITECTURE + PLANNING + DESIGN

+ CBE / SBE

HISTORY
Founded in 1960 as
The Cochran Associates (TCA)

Privately Owned S Corporation,
Incorporated in 1995 as
TCA Architecture + Planning, Inc.

In 2024, with a 51 % Woman & Minority ownership, TCA started the process of certification as a Combined (Women & Minority) Business Enterprise with the State.

LICENSES & REGISTRATIONS
Federal Small Business
UBI 601629561
Federal ID 91-1700097
DUNS 184823128

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Fire Station 42- Bothell, WA in association with Miller Hull

"TCA's expert design knowledge was essential in the decision-making process. Their support throughout the design process was key to the success of our projects.

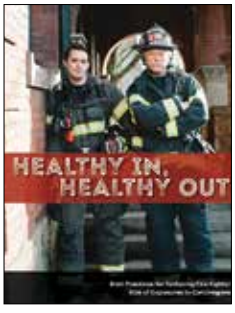
Former Fire Chief Bruce Kroon
BOTHELL FIRE DEPARTMENT

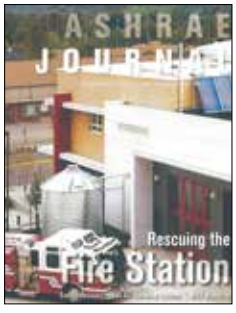
LOCAL EXPERTS + NATIONAL LEADERS

Beyond our extensive portfolio of fire stations in Washington, TCA has also collaborated on the design of dozens of emergency capital facilities plans, site selection and due diligence efforts, and facility design projects across the country including Alaska, Arizona, California, Colorado, Hawaii, Idaho, Kansas, Michigan, Minnesota, Montana, New Mexico, Oregon, South Dakota, Texas, Utah, and Wyoming. TCA is sought out nationwide to provide seminars, lectures, and workshops on a variety of fire station design topics from codes relative to fire station design, cross-contamination mitigation, and Zero Energy design. Since 2010, we have provided pro bono consulting services to hundreds of municipal Fire Departments, federal fire and emergency agencies, and private departments through our 1-on-One Fire Station Design Seminars sponsored by *Firehouse* and *Fire Chief* magazines. As a testament to our expertise, Principal Brian Harris envisioned a regional fire facility task force which evolved into a State Fire Chief's Association Fire Facility Section. He served as an elected Director of the Washington State Fire Chief's Association's Fire Facility Section (2018-2024), and he continues to serve as a specialty Board Advisor today.

CROSS CONTAMINATION MITIGATION

TCA has been engaged in efforts at a national level to bring an understanding and awareness to the inherently complex risks within fire stations for decades. Since Washington is a "presumptive state," understanding and addressing occupational exposure in stations is critical. TCA has championed efforts to reduce cross-contamination, MRSA, slide pole accidents, and cancer-causing chemicals and particulates in stations. TCA's facilities for the Puget Sound Regional Fire Authority were models for the "Healthy In, Healthy Out" study to encourage safe and healthy practices from a firefighter's first day to retirement. Over a dozen TCA stations have been surface tested by a University of Washington Field Research Group as part of a Western Fire Chiefs' partnership. It is critical to address not only NFPA standards relative to infection control, health-related fitness, and maintenance of PPEs but also to look at hot zone design strategies to bring awareness to containing and reducing exposure to contaminates.





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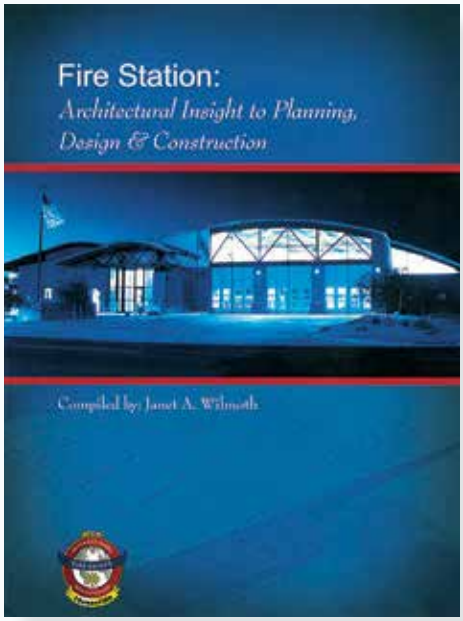
As leading experts in our field, TCA has authored dozens of articles and several publications including this excerpt from International Association of Fire Chief's *Fire Station: Architectural Insight to Planning Design & Construction*

Chapter 5

Site Selection

by Brian Harris & Forest Hooker



Understanding and analysis of facility needs will yield a conceptual site size range for a new or expanded station. Having worked through an operational needs assessment, a square footage of building range should be known. A similar process is used in determining what is operationally required of the site. Together this data will establish criteria for property evaluation.

The idea of necessary square footage that an operational needs assessment suggests can be distilled into test-to-fit building footprint models. Generally several building footprint scenarios can be established based on the priorities and requirements of the department. The footprint expands or contracts based on organizational decisions. Concerns when evaluating arrangement of space include:

- Crew living & sleeping- is a 2nd floor acceptable for crew quarters?
- Is a drive-through apparatus bay a must have?
- Will the facility need to accommodate expansion for future needs?

Requirements of a site in addition to the station structure also need to be determined. Many decisions from the operational space needs assessment will translate into site needs. For example, a large public meeting space will mean an increased requirement for parking and a drive-through apparatus bay will mean a bigger site than what would be needed for a back-in station.

Additional site considerations are:

- Is space needed for training structures and drills?
- Maximum crew parking required –what's required at a shift change?
- Is parking required for visiting apparatus?
- What is the nature of service area: urban, suburban, rural?
- The largest turning radius of apparatus to be used now or in the future will affect paving layout.
- On-site utilities, fueling stations, back-up generators.
- Covered carports
- Storm water retention or detentions requirements (e.g. ponds or vaults)

Test-to-fits of building and site needs determine minimum and maximum square footage needs of a site as well as site access requirements –i.e. can a site be accessed from a single point or will multiple vehicle access points produce a more efficient use of site square footage. When looking at site needs, it is important to prioritize the requirements and to distinguish between must-haves and nice-to-haves. For instance, if a drive-through apparatus bay is a must-have, the minimum site size will be much larger than if need fell into the nice-to-have column. Well defined and prioritized site needs provide a useful foundation for site evaluation.

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Decontamination Building - Belgrade, MT in association with Thinkone

SUSTAINABLE & RESILIENT DESIGN

TCA has been involved in the design of 22 LEED certified facilities, including projects under LEED NC V5. We have also worked directly with the Green Building Certification Institute (GBCI) developing and testing a third party certification process for the Federal Guiding Principle Metric on the 2025 Station Design Award-winning Bureau of Reclamation, Grand Coulee Dam Fire Station project, and have designed several zero energy stations.

TCA is actively researching and publishing articles on fire facility design, firefighter health and wellness, and facility resiliency in an ever-changing environment. It is vital for us to stay at the forefront of new information and technologies, and explore specific benefits of high-performing, sustainable, and resilient facilities. Our work, office culture, active role in fire service organizations, testing of the resilient RELi Action Metric through the 100 Resilient Cities Initiative, and our membership to the US Green Building Council reflects our commitment to designing high performing sustainable buildings. We continuously connect with clients we have worked with to collect feedback on the performance of a building throughout its lifetime. This background outreach gives us a broad context to develop design solutions for future projects.

Beyond metrics and potentially expensive certifications, we believe in the simple premise that an emergency facility needs to be resilient and economical to operate. As we plan each facility, we take an intentional approach to making designs future-ready by considering plausible future scenarios which may influence the facility over its targeted service life:

- Internal/external infrastructure stresses and ramifications of daily use (envelope, finishes, products, etc.)
- Accommodation of programmatic change overtime - staff, equipment, deployment, emerging and future technologies
- Emergency responder health and safety - hot zones, detoxification, product selection
- Performance during a natural or human-made disaster
- The local site and community circumstances - how should the facility reflect its changing community over time?
- Siting, orientation, and programmatic adjacencies to maximize natural resources
- Protecting the environment for the next generation - Environmental stewardship
- Building lifecycle costs – materials, systems, that are good quality and reduce maintenance costs throughout the life of the building

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01 Section

PROJECT UNDERSTANDING

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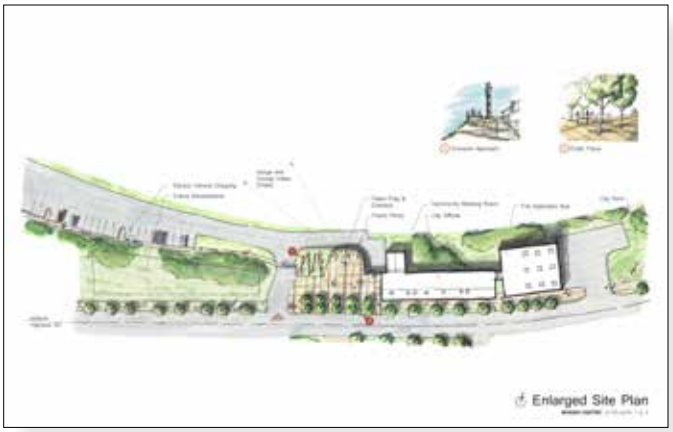
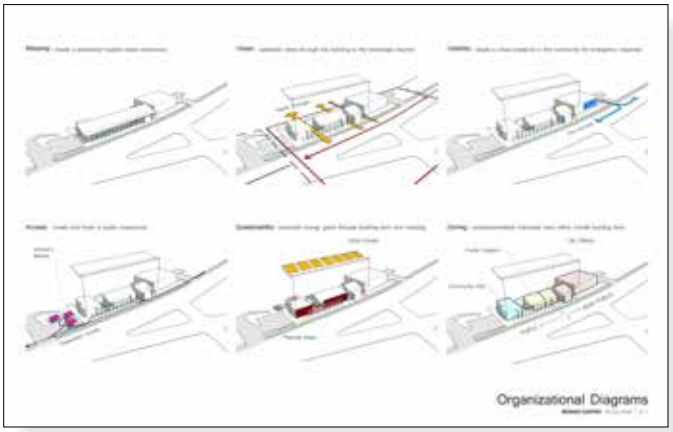
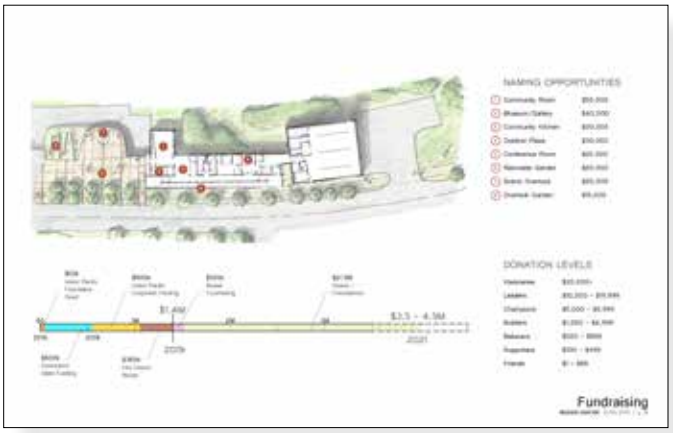
Understanding Your Needs

TCA will support the City of Redmond through the development of a feasibility study and existing site options analysis for the downtown administrative Headquarters Fire Station 11.
Our final work product will provide the City with decision-making support and a clear pathway forward regarding the feasibility ofrenovating or rebuilding on its current site. We will identify key risks and constraints associated with each option, develop planning-level cost estimates, and provide recommendations to support future capital planning and project development.

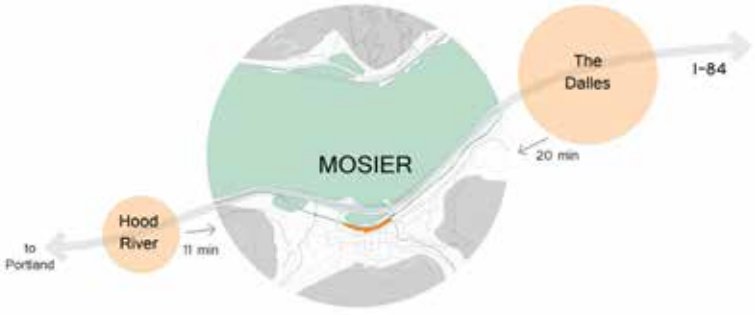
TCA will evaluate the existing site and facility at a planning level, assessing whether the existing facility can be feasibly renovated and to support current and future operational needs. We will assess whether the facility can be feasibly replaced or rebuilt on the existing site and identify key site, facility, access, code, permitting, continuity-of-operations, and constructability constraints associated with each option. Working with our Cost Estimator, Matt Wiggins, we will develop planning-level cost estimates for renovation and rebuild-on-site options. We will identify major assumptions, potential bias, risks, and unknowns that may affect project feasibility, timing, or cost. We will provide analysis based on our extensive portfolio of planning projects in order to make final recommendation regarding whether the existing site appears suitable for long-term use as a downtown fire station and headquarters facility.







City Hall & Fire Station Programming & Site Planning
Mosier, OR



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02 Section

PROJECT APPROACH

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Project Approach

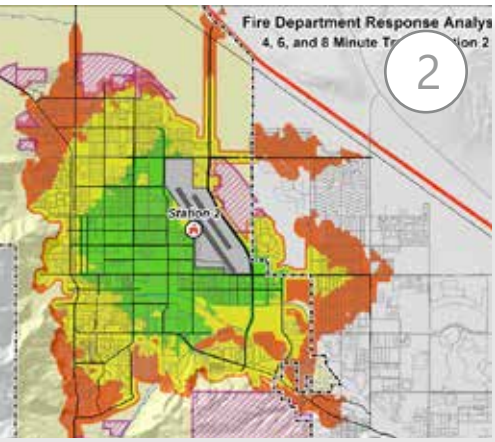
DELIVERABLES
- *Kickoff meeting agenda and summary*
- *Project schedule*
- *Meeting summaries and action item lists*
- *Monthly progress updates with invoices*

TASK 1 KICKOFF/VISIONING

PROJECT MANAGEMENT & COORDINATION

For your project we will begin with a Kickoff Meeting with the appropriate representatives of the City to review the objectives and requirements of your project. Refining our implementation plan will allow us to develop a more concise schedule as we begin assessment of your site This meeting will include:

- Review planning methodology
- Inclusion planning
- Communications Plan to track issues, assumptions, information needs, and action items throughout the project
- Project Schedule showing tasks, milestones, review periods, deliverables & progress meetings with City.
- Coordinate the work of all subconsultants
- Discussion of expectations, outcomes, & planning document use
- Future financing considerations
- Identify additional factors to consider
- Identification of additional resources if required
- Establish Risk Register

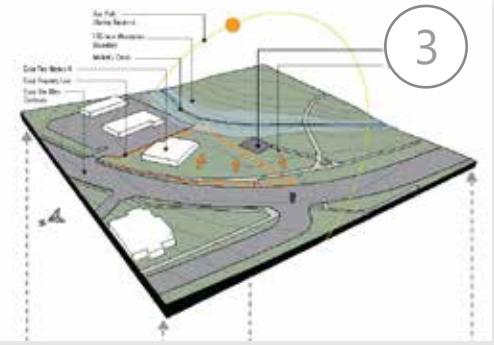


DELIVERABLES
- *Existing information and baseline conditions summary memorandum*
- *Site and facility opportunities/constraints summary*

TASK 2 DATA COLLECTION

EXISTING INFO REVIEW & BASELINE ASSESSMENT

As we gain a clearer insight of the project, we will begin the data collection process. TCA will review available background information and establish a baseline understanding of the existing Station 11 facility and site. TCA will review available background documents provided by the City, including existing plans, studies, reports, facility information, capital planning information, and related materials Parcel maps. Other information will include call loads and run data, current and future staffing levels, previous community and facility studies (master planning, standard of cover, comprehensive plan, etc.), and maintenance and operations records. We will participate in site visits and field observations sufficient to understand the current facility and site at a planning level to understand the general physical configuration and apparent condition of the existing building. We will review the site layout, access conditions, circulation patterns, apparatus movement considerations, and general operational relationships on the site, while also identifying major apparent site, utilities, zoning, and facility constraints and opportunities. We will identify known or likely areas requiring further technical investigation in future phases. We will then prepare a baseline summary of the existing site and facility conditions relevant to renovation or replacement feasibility.



DELIVERABLES
- *Operational and functional needs assessment summary*

TASK 3 GENERAL SITE ANALYSIS & OPERATIONAL NEEDS

OPERATIONAL AND FUNCTIONAL NEEDS ASSESSMENT

After the careful review and analysis of base data, we will begin a general site analysis. This analysis will include code and zoning issues, property size evaluation, topography review, utility availability, soil characteristics, environmental impacts, street layouts and traffic information, turning radius review, review of cost differences between proposed options, During this task we will assess the ability of the existing site and facility to support the operational and functional needs of Fire Station 11 as an active downtown fire station and headquarters facility. We will meet with City Facilities and Fire Department representatives to understand current operations, functional needs, deficiencies, and priorities. We will evaluate how the current facility supports station operations, apparatus response, headquarters/administrative functions, staff support areas, storage, circulation, and related operational requirements. We will identify major functional deficiencies, conflicts, inefficiencies, or limitations of the existing building and site. We will consider current and anticipated future service, staffing, and operational needs identified by the City. We will identify operational considerations associated with maintaining service continuity during renovation or rebuild scenarios. We will summarize the degree to which the current site and facility do or do not support long-term functional needs. The end result of this effort will include a clear site understanding and comprehensive facility program that will allow us to identify a gap analysis between what exists and what is needed for the long-term future to support administration and operations.

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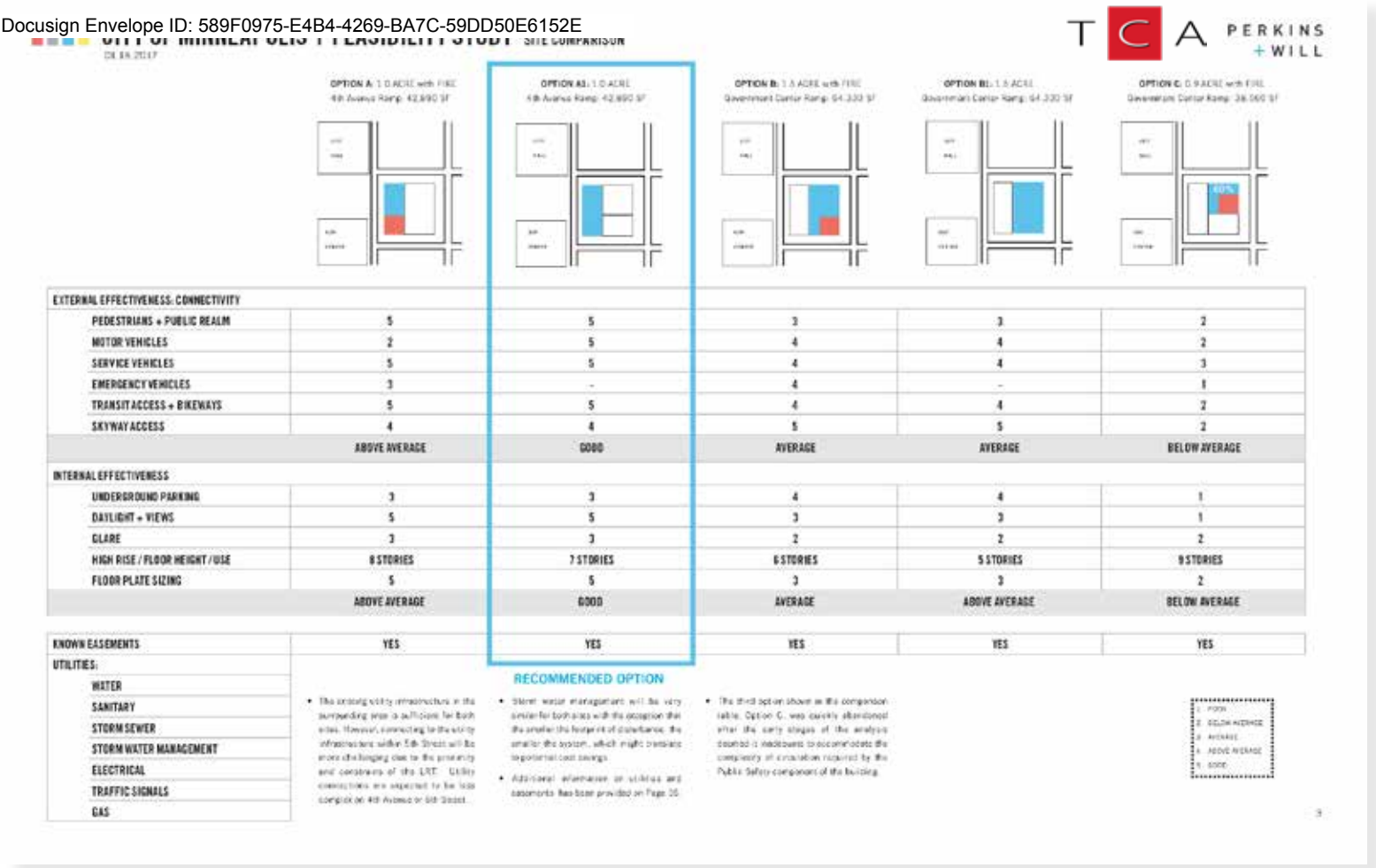

CITY OF MINERAL WELLS | FEASIBILITY STUDY | SITE COMPARISON

	OPTION A: 1.0 ACRE with FIRE 4th Avenue Ramp: 42,690 SF	OPTION A1: 1.0 ACRE 4th Avenue Ramp: 42,690 SF	OPTION B: 1.3 ACRE with FIRE Government Center Ramp: 64,330 SF	OPTION B1: 1.5 ACRE Government Center Ramp: 64,330 SF	OPTION C: 0.9 ACRE with FIRE Government Center Ramp: 38,060 SF
EXTERNAL EFFECTIVENESS: CONNECTIVITY					
PEDESTRIANS + PUBLIC REALM	5	5	3	3	2
MOTOR VEHICLES	2	5	4	4	2
SERVICE VEHICLES	5	5	4	4	3
EMERGENCY VEHICLES	3	-	4	-	1
TRANSIT ACCESS + BIKEWAYS	5	5	4	4	2
SKYWAY ACCESS	4	4	5	5	2
	ABOVE AVERAGE	GOOD	AVERAGE	AVERAGE	BELOW AVERAGE
INTERNAL EFFECTIVENESS					
UNDERGROUND PARKING	3	3	4	4	1
DAYLIGHT + VIEWS	5	5	3	3	1
GLARE	3	3	2	2	2
HIGH RISE / FLOOR HEIGHT / USE	8 STORIES	7 STORIES	6 STORIES	5 STORIES	9 STORIES
FLOOR PLATE SIZING	5	5	3	3	2
	ABOVE AVERAGE	GOOD	AVERAGE	ABOVE AVERAGE	BELOW AVERAGE
KNOWN EASEMENTS	YES	YES	YES	YES	YES
UTILITIES:					
WATER					
SANITARY					
STORM SEWER					
STORM WATER MANAGEMENT					
ELECTRICAL					
TRAFFIC SIGNALS					
GAS					

RECOMMENDED OPTION

DELIVERABLES
- *Renovation feasibility analysis summary*
- *Key risks, assumptions, and constraints for renovation option*

4

TASK 4

RENOVATION FEASIBILITY ANALYSIS

Once we synthesize all the data collected, we will evaluate the feasibility of renovating and expanding the existing Fire Station 11 facility on the current site. We will assess whether the existing facility appears capable of being renovated to support the City's intended future use as a downtown fire station and headquarters. We will identify major building, site, access, code, phasing, continuity-of-operations, and constructability issues associated with renovation. We will identify likely constraints related to renovation of an occupied or mission-critical public safety facility and evaluate the practical limitations of renovating the facility while maintaining essential fire service operations, to the extent reasonably feasible at this stage. We will identify major risks, assumptions, and unknowns affecting renovation feasibility. We will summarize the relative strengths, weaknesses, and planning implications of the renovation option.

DELIVERABLES
- *Rebuild-on-site feasibility analysis summary*
- *Key risks, assumptions, and constraints for rebuild option*

5

TASK 5

REBUILD ON SITE FEASIBILITY ANALYSIS

Next we will evaluate the feasibility of replacing Fire Station 11 on the existing site. We will assess whether the current site is capable of accommodating a replacement fire station and headquarters facility and identify major site, access, staging, phasing, continuity-of-operations, code, permitting, and constructability issues associated with a rebuild-on-site approach. We will evaluate operational considerations associated with maintaining fire service operations during demolition and reconstruction. We will identify major assumptions, bias, constraints, and risks associated with rebuilding on the existing site and summarize the relative strengths, weaknesses, and planning implications of the rebuild-on-site option. If we determine that the current site presents substantial limitations for a rebuild strategy, we will clearly identify those limitations and explain their significance.

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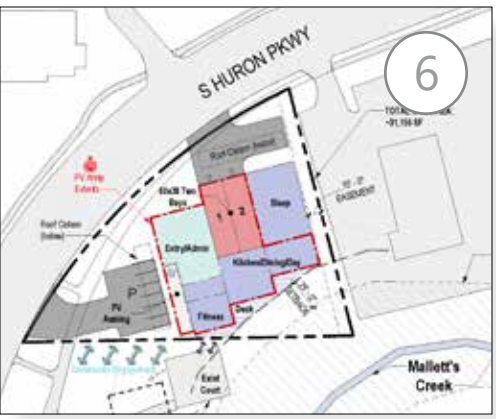

DELIVERABLES

- *Site suitability summary and alternative strategy consideration*

TASK 6

SITE SUITABILITY & ALTERNATIVE STRATEGY CONSIDERATIONS

After high-level renovation or rebuild options have been identified, we will do a deeper dive into each approach. The objective of this initial step is to identify a whole range of site options. Based on the findings, we will provide a professional opinion regarding the overall suitability of the current site for long-term use as Fire Station 11 and department headquarters. We will evaluate whether the current site appears generally suitable or unsuitable for long-term retention of this use and identify the principal reasons supporting that conclusion. If the site is determined unsuitable or materially constrained, we will identify the nature of those constraints and the implications for future project planning. We will provide high-level considerations or recommendations regarding alternative site strategy planning, without requiring a full separate site selection study unless otherwise authorized by the City. During this task, we will help the City understand whether the existing site remains a viable long-term capital investment location.

DELIVERABLES

- *Planning-level cost estimates for renovation and rebuild on site*
- *Cost estimating assumptions and methodology summary*

TASK 7

PLANNING LEVEL COST ESTIMATING

We will prepare cost estimates to support City early decision-making. We will prepare conceptual planning-level cost estimates for the renovation option and for the rebuild-on-site option. We will identify major cost drivers, assumptions, bias, exclusions, contingencies, and escalation considerations. Major factors that could significantly affect future project costs will be described. We will distinguish between probable project costs, soft costs, contingencies, escalation, temporary operational measures, or other major budget categories. If applicable, we will identify any notable cost implications associated with site unsuitability or the need for alternative strategies

DELIVERABLES

- *Administrative draft feasibility study report*
- *Revised draft feasibility study report, if requested by City*
- *Final feasibility study report*
- *Presentation of findings and recommendations*

TASK 8

COMPARATIVE ANALYSIS, RECOMMENDATIONS & FINAL REPORT

We will synthesize all findings into a final feasibility study report and recommendation package. The report will compare the major options evaluated under this study, summarize the principal opportunities, constraints, risks, assumptions, and cost implications associated with each option, identify major decision points and critical unknowns that may require future technical investigation, and provide a professional recommendation regarding the viability of renovation, rebuild on-site, or the need to consider alternative site strategies. We will recommended next steps for the City, including any future studies, investigations, or pre-design efforts that should occur before project advancement. The report will include all the required information outlined in the scope of work. The team will submit and present a draft report to the stakeholders for review and comment prior to the Council presentation. After receiving comments, a final report will be prepared incorporating and addressing all issues, including next steps, and recommended actions to City staff and leadership.

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03 Section

RELEVANT PROJECT EXPERIENCE

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SITE CONSIDERATIONS

RESPONSE
- Delivery of Service
- Traffic & Street Configuration
- Risk Vulnerability

CONSTRUCTION COST
- Site Environmental Remediation
- Soils/Groundwater

FINANCIAL
- Site Acquisition Cost
- Development Cost
- Land Swap Opportunities

COMMUNITY
- Civic Opportunities
- Operational Impact
- Safety
- Noise

SITE
- Size and Configuration
- Topography
- Utility Infrastructure
- Geologic Make-up

LAND USE & CODE
- Allowable Use/Conditional Use Issues
- Allowable Area/Impervious Area/Height, etc.

Planning Experience +

PUGET SOUND REGIONAL FIRE AUTHORITY, WA
Fire Station Evaluations, Planning & Design

EASTSIDE FIRE & RESCUE, WA
Fire Station Evaluations, Planning & Design

RENTON REGIONAL FIRE AUTHORITY, WA
Fire Station Evaluations, Planning & Design

CITY OF MARYSVILLE, WA
Headquarters Evaluation

CENTRAL PIERCE FIRE & RESCUE, WA
11 Fire Stations-Needs Assessments, Evaluations, Planning & Design

VASHON ISLAND FIRE & RESCUE, WA
5 Fire Stations-Needs Assessments, Evaluations & Planning

CITY OF SEATTLE, WA
34 Fire Stations-Needs Assessments, Evaluations & Planning, Department-wide Ventilation Study & Design

SHORELINE FIRE DEPARTMENT, WA
5 Fire Stations-Needs Assessments, Evaluations, Planning & Design

SOUTH COUNTY FIRE, WA
7 Fire Stations-Needs Assessments, Evaluations, Planning & Design, & Value Village property Site Study

SNOHOMISH CO. FIRE DISTRICT 4, WA
Fire Facilities Master Plan

CITY OF MOUNT VERNON, WA
Fire Facilities Master Plan

WHATCOM COUNTY FIRE DISTRICTS 2, 4, & 6 / CITY OF BELLINGHAM, WA
16 Fire Stations-Response Planning, Needs Assessments, Evaluations & Planning

CITY OF BELLEVUE, WA
Fire Stations 5 & 10 Site Study

CITY OF OTHELLO, WA
Fire Department Service Study

CITY OF LYNNWOOD, WA
Civic Campus Master Plan

CITIES OF KENNEWICK & RICHLAND, WA
City-wide Facilities Needs Assessment, Evaluations, Reports & Planning

NORTH COUNTY FIRE, WA
8 Fire Facilities Capital Facilities Plan & Impact Fees Study

CITY OF CAMAS, WA
Headquarters Pre-Bond Site Selection Study

CITY OF VALDEZ, AK
HQ Fire Station Programming & Site Evaluation

CITY OF DILLINGHAM, AK
2 Fire Stations-Needs Assessments, Evaluations, & Planning

MUNICIPALITY OF SKAGWAY, AK
Public Safety Facility & 1 Fire Station Needs Assessment, Evaluation & Design

CITY OF GRAND JUNCTION, CO
4 Fire Stations-Response Planning, Needs Assessments, Evaluations & Design

CITY OF LEWISTON, ID
Fire Station Analysis

CITY OF BOISE, ID
4 Fire Stations-Needs Assessments, Evaluations & Design

SALT LAKE CITY, UT
Public Safety Building Assessments, Master Plan & Design of 3 Fire Stations

CITY OF AURORA, CO
33 Public Safety & Fire Facilities Master Plan

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CAMAS-WASHOUGAL FIRE DEPARTMENT

HQ Fire Station 41 Replacement

- Improved Turnout & Response Times
- Durable and Low Maintenance Materials and Finishes
- Energy Efficient Design for Long-term Cost Savings
- Design Focused on Firefighter Health & Safety
- Design targeting LEED Silver

The new Headquarters station is located in downtown Camas, in the core of the department's response area. Currently, the downtown emergency response personnel, the Fire Marshal's Office (FMO) and the administrative staff are decentralized; operating out of separate buildings and remote to each other. As the headquarters facility, the downtown station will co-locate response personnel, apparatus, administrative staff and the FMO. The project included site selection and due diligence analysis of 5 potential sites. After considering the multiple site options the Department identified the Camas City Hall Annex building located at 528 NE Fourth Avenue as the location for the new station. The station features five apparatus bays with decontamination and support spaces, eleven sleeping rooms, crew kitchen, dining, patio, and dayroom, exercise room, training room, offices, and firefighter workroom.

TCA is the Design Architect for the project.

LOCATION	Camas, WA
SIZE	23,280 SF / 5-Bay
CONTRACT TYPE	GC/CM
FINAL COMPLETION	02/2027 est

PARTICIPATING TEAM MEMBERS

Fire Facility Design Architect	TCA
- Principal-in-Charge	Brian Harris
- Project Support	Sarah Elley Rebecca Chau

LEVEL OF INVOLVEMENT

Planning, Needs Assessment, Operational Programming, Design, Construction Document, & Construction Administration Support

REFERENCE

Division Chief Shaun Ford
Camas-Washougal Fire Department
360-817-7042
sford@cityofcamas.us

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SOUTH COUNTY FIRE

Facilities Evaluation + Master Plan + Capital Facilities Plan

In 2015, TCA provided a needs assessment, facility evaluations, and Master Plan for Snohomish County Fire District 1, one of the largest District's in the state. The Master Plan Study provided an operational and fiscal analysis of the District based on current and projected growth, planned mergers, annexations, staffing levels and call distribution. Following the outcome of the plan, facilities were programmed, potential sites were identified and evaluated to determine capital needs. TCA continued our relationship with the District (now South County Fire), City of Edmonds, City of Mountlake Terrace, City of Lynnwood, and City of Brier and worked on the development of capital facilities analysis of current conditions including site analysis and test-to-fits for all 19 facilities which was approved by the South County RFA governance in 2022. In preparation for a 2026 bond, the consolidated report was updated by TCA and issued in March 2026 which the RFA will use for a funding ask of $420 M.

LOCATION	Snohomish County
SIZE	15 Facilities
DATES OF SERVICE	2015, and 2022 & 2026 Updates

PARTICIPATING TEAM MEMBERS

Architect of Record	TCA
- Principal-in-Charge	Brian Harris

LEVEL OF INVOLVEMENT

Needs Assessment, Facilities Evaluations, Cost Estimates, 2000 Master Plan, 2015 Updated Study Report, 2022 Capital Facilities Plan, and 2026 Capital Facilities Plan Update

REFERENCE

Deputy Chief James Curtis, Operations
South County Fire
425-551-8448
jcurtis@southsnofire.org

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ISSAQUAH
Eastside Fire & Rescue Headquarters
Station 71 - Sunset Way
Station 72 - Maple Street
Station 73 - Issaquah Highlands

MAY VALLEY
Station 78 - May Valley

SAMMAMISH
Station 81 - Pine Lake
Station 82 - Sahalee
Station 83 - Klahanie

CARNATION
Station 85 - Carnation*

DUVALL
Station 66 Downtown
Station 67 Cherry Valley

NORTH BEND
Station 87 - North Bend

MERCER ISLAND
Station 91 - North
Station 92 - South

WOODINVILLE
Station 31 - Downtown
Station 33 - Bear Creek
Station 35 - Cottage Lake

EASTSIDE FIRE & RESCUE

Fire Facilities & Planning

For more than thirty years, TCA has supported Eastside Fire & Rescue with their fire facility planning and design needs which has included facility evaluations for renovations and additions, site selection analysis, capital facility planning support, project phasing, and associated temporary facilities for new and renovated facilities.

LOCATION	Various Locations
SIZE	17 Facilities
DATES OF SERVICE	2007-Present

PARTICIPATING TEAM MEMBERS

Architect of Record	TCA
- Principal-in-Charge	Brian Harris
- Project Architect	Sarah Elley

LEVEL OF INVOLVEMENT

Planning, Needs Assessment, Stakeholder Outreach, Operational Programming, Sustainability, Design, & Site Plans

REFERENCE

Deputy Chief Brian Gilomen, Support Services
Eastside Fire & Rescue
(O) 425-864-4781
bgilomen@esf-r.org

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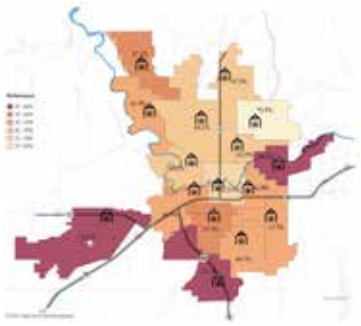
FACILITY	TIER	PROTOTYPE	ARCHITECTURAL			STRUCTURAL							MECHANICAL			ELECTRICAL			SITE		
			Code	Interiors	Exteriors	Foundation	Walls	Columns	Beams	Roof	Floors	Slabs	Fire Sprinkler	Plumbing	HVAC	Power	Lighting	Low Voltage	Parking Lot & Drives	Drainage	ADA Access
Station 01	2	No		+1	+1	0	0	+3	+3	+3	+3	0	-1	-2	-2	-3	-2	-1	-1	+3	-2
Station 02	2	Yes	+1	-3	+1	+2	0	+3	+3	+3	+3	0	0	+1	+1	-1	-2	-1	+1	+1	+1
Station 03	1	Yes	+1	-2	+1																
Station 04	1	No	+1	+1	+2																
Station 05	2	No		+1	+2	+3	+3	+3	+3	+3	+3	+3	+2	+1	+2	+1	+1	-1	-1	+3	-3
Station 06	2	No		0	+1	+2	+2	+3	+3	+3	+3	-2	0	+1	+1	+1	+1	-1	+1	+3	+3
Station 07	2	No		-1	+1	0	+2	+3	+3	+3	+3	+1	+2	0	+1	-1	-2	-1	-1	+1	-1
Station 08	1	Yes	+1	+1	-2																
Station 09	1	Yes		-1	+2																
Station 11	1	Yes		-1	+2																
Station 13	1	Yes		-2	+2																
Station 14	1	Yes		-2	+2																
Station 15	2	No		-2	+1	0	+2	+3	+3	+3	+3	+1	0	-2	0	-2	-2	-1	-2	+1	-1
Station 16	1	Yes		-2	+2																
Station 17	1	Yes		-3	+2																
Station 18	1	No		-1	+1																
Field House	2	No				+3	-3	+3	+3	+3	+3	0	0	+2	-1	+1	+1	+1	+2	+1	
Training Center	1	No		+2	+2																
Dispatch	2	No		+2.5	+2	0	-2	+3	+3	+3	+3	+3	+2	0	-2	+1	-2	+1	+1	+2	
Shop	1	No			+1	+2	+1														



CITY OF SPOKANE

Capital Fire Facilities Plan

The Capital Fire Facilities Plan provides a roadmap for the future development of SFD facilities strategically located to serve the needs of the City. The project included an in-depth, examination of immediate, short-term, and long-term (twenty-year) capital facility needs. 20 facilities comprised of, (16) fire stations, (1) Maintenance Shop, (1) Training & Admin Facility, (1) Field House and (1) Dispatch Facility belonging to SFD were identified and assessed. The study included evaluation of existing stations, assessing which stations should be renovated and which should be replaced and/or relocated, and assessed the need for additional facilities in under-served areas. Facilities belonging to adjoining fire districts/cities were also considered and whether their location impacts service delivery due to two-way, automatic mutual aid agreements. The study also analyzed development and growth patterns, traffic patterns, socioeconomic data, building inventory, and other factors that impact service demand, call volume, and turnout time challenges. This plan is intended as a living document; during it's twenty-year implementation, developments diverging from the CFP's projections should be considered and may inform adjustments to priorities, schedule, and project scoping. TCA teamed with Darkhorse Emergency to provide an analytical tool which is central to this adaptable approach and allows the SFD to model and test deployment concepts as data and information change and are updated during the life of the plan.

LOCATION	Spokane, WA
SIZE	20 Facilities
DATES OF SERVICE	2023

PARTICIPATING TEAM MEMBERS

Fire Facility Design Expert	TCA
- Principal-in-Charge	Brian Harris
- Project Architect	Forest Hooker

LEVEL OF INVOLVEMENT

Planning, Needs Assessment, Operational Programming, Concept Design, Scheduling and Budget Development, & Final Report

REFERENCE

Assistant Chief Tom Williams
Spokane Fire Department
509-625-7002
TMWilliams@spokanecity.org

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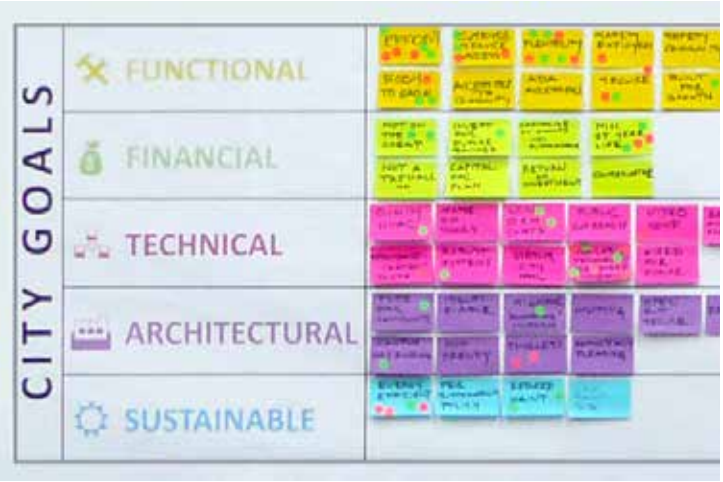

CITY OF KENNEWICK & RICHLAND

Capital Facilities Plan, Evaluation + Needs Assessment

This project included the in-depth analysis of all 17 municipal buildings (over 280,000 SF of space) including fire stations, public safety building, public works facilities, parks maintenance facility, recreational facilities, city hall, and ancillary city owned structures. As part of this effort, TCA worked with 14 client sectors/stakeholder groups within the City of Kennewick and the City of Richland leading and participating in iterative workshops, GIS reviews, annual operations and maintenance budget reviews, building systems and conditions analysis, IT analysis, interviews and small group meetings to identify existing and future facility needs for the next 30 years. The process resulted in $152M of identified capital needs within a planning horizon of 20 years scheduled over 5-year increments with discussions of funding mechanisms as the plan moves forward. Since the 2013 Study completion, the City has undergone extensive leadership and staffing changes, and has seen explosive population growth. The Covid outbreak also dramatically changed how the City was able to continue to do business. TCA updated the Capital Facilities study in 2022.

LOCATION	Kennewick & Richland, WA
SIZE	17 Facilities / 280,000 SF
DATES OF SERVICE	2013, update 2022

PARTICIPATING TEAM MEMBERS

Architect of Record	TCA
- Principal-in-Charge	Brian Harris
- Project Support	Sarah Elley

LEVEL OF INVOLVEMENT

Needs Assessment, Facilities Evaluations, Capital Facilities Plan & Update, Prototype Fire Station Design Manual, Operational Programming, Scheduling and Budget Development, Design Development, Construction Drawings, & Construction Administration

REFERENCE

Acting Fire Chief Michael Heffner
Kennewick Fire Department
509-585-4559
Michael.Heffner@ci.kennewick.wa.us

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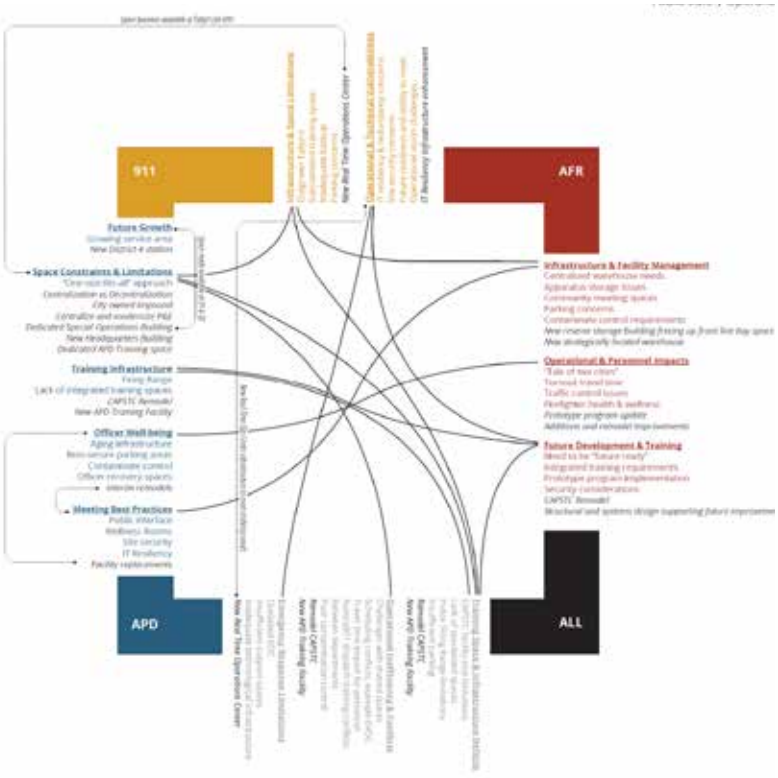
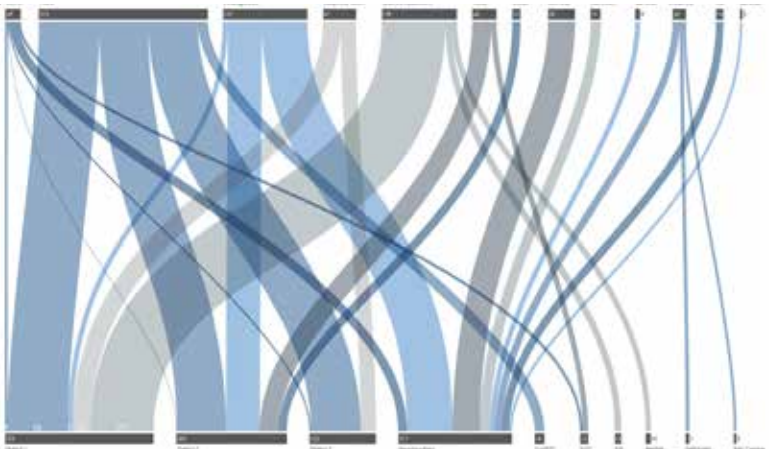
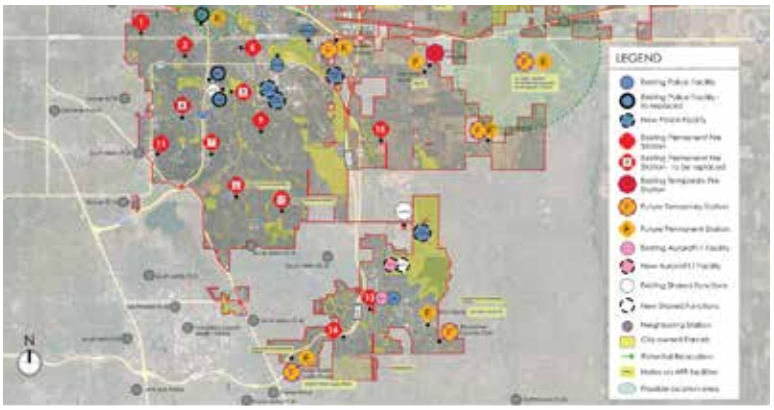
Public Safety Web:
IMPACTS FROM OPERATIONS TO INFRASTRUCTURE



STAFF DISTRIBUTION ACROSS FACILITIES



CURRENT, TEMPORARY, & FUTURE FACILITIES



CITY OF AURORA

Public Safety Capital Facilities Plan

In February 2024, the City of Aurora engaged TCA and Roth Sheppard Architects to develop a comprehensive Public Safety Facilities Master Plan. This strategic initiative aims to guide facility and capital planning for the next 25 years, encompassing the Aurora Police Department Aurora Fire Rescue and Aurora911. Meetings with stakeholder groups and information gathering through interviews, workshops, and surveys served as the foundation for the findings and recommendations. The master planning process included a thorough analysis of current operations and facility conditions, coupled with a detailed space needs assessment. The study projected staffing, spatial requirements, and facility needs across multiple time horizons: immediate, 5-year, 15-year, and 25-year intervals. This forward looking approach ensures the plan will serve as an essential roadmap for infrastructure planning and programming efforts across all three public safety departments.

LOCATION	Aurora, CO
SIZE	500,000 SF / 27 Facilities
DELIVERY	Fixed Fee Study
FINAL COMPLETION	2025

PARTICIPATING TEAM MEMBERS

Municipal Facility Design Specialist	TCA
- Principal-in-Charge	Brian Harris
- Project Architect	Forest Hooker

LEVEL OF INVOLVEMENT

Needs Assessment, Facilities & Site Evaluations, Cost Estimates, Operational Programming

REFERENCE

Elly Watson, PMP, A-DBIA
City of Aurora, Public Works
303-739-7109
elwatson@auroragov.org

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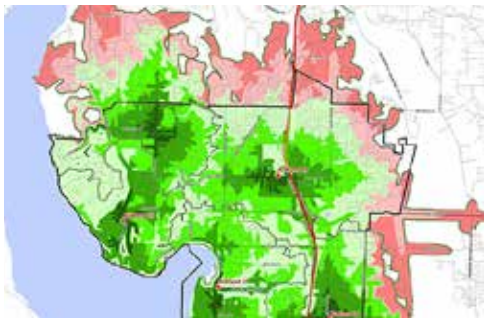

CITY OF KIRKLAND

Consolidated Fire Facilities Plan

Working with City Management, Fire Department, Public Safety Committee, and the City Council, TCA developed a Long-Range Facilities Plan and Facilities Consolidation Study which proposed the addition of two new fire stations, the closure of two stations and upgrades and/or expansion to all remaining stations. The study included operations based programmatic analysis, GIS-based analysis of current and future service demands, review of neighboring mutual response, current and future demographics and economics, performance based assessment reports, analysis of over 25 sites, and the selection and acquisition of new targeted sites. As part of the study, all facilities were analyzed based on existing and proposed deployment and staffing relative to operational needs, associated space needs, codes and standards and long term development impacts. From this effort, conceptual phased site and floor plans were developed. Station analysis included spatial upgrades, seismic and systems upgrades, environmental, traffic, and geologic studies for new and expanded sites. Long term funding, including hard and soft costs, escalated based on delivery schedules, have been identified as approximately $43M+. Anticipated long term funding will come from multiple identified sources over the next 5-8 years. The project was eventually funded and TCA provided design services for the renovation and rebuild of all facilities.

LOCATION	Kirkland, WA
SIZE	28,081 SF
DATES OF SERVICE	2009-2012

PARTICIPATING TEAM MEMBERS

Architect of Record	TCA
- Principal-in-Charge	Brian Harris
- Project Manager	Sarah Elley

LEVEL OF INVOLVEMENT

Planning, Needs Assessment, Stakeholder Outreach, Operational Programming, Sustainability, Design, & Site Plans

REFERENCE

Anneke Davis, Project Manager
City of Kirkland
425-587-3828
adavis@kirklandwa.gov

Fire Chief Joe Sanford
Kirkland Fire Department
425-587-3650
jsanford@kirklandwa.gov

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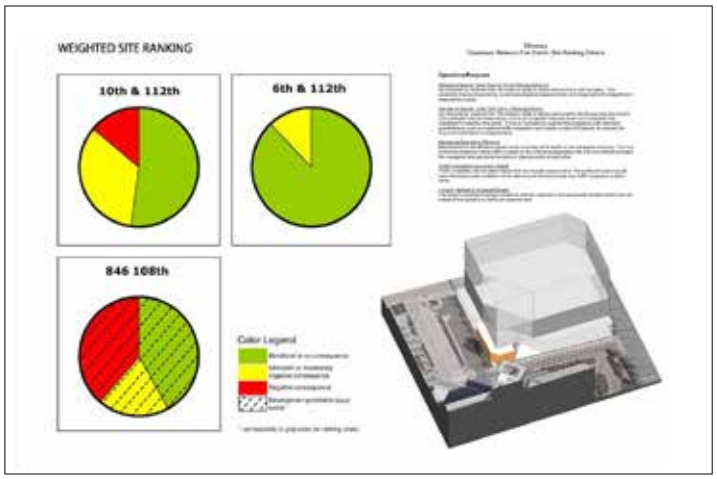

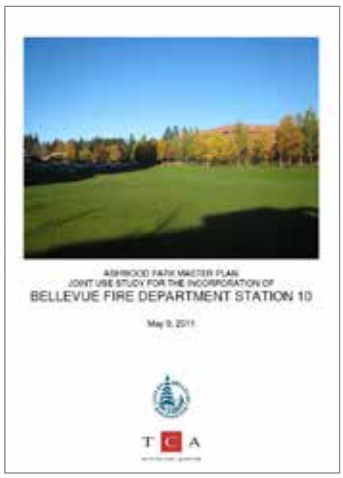

CITY OF BELLEVUE

Fire Station 5 + 10 Site Feasibility Planning

FIRE STATION 10

TCA was extensively involved in the early development of a preliminary Fire Station 10 program. This program was considered while evaluating multiple sites in the downtown core for the placement of a new facility. Through this process, a site evaluation system was developed to weigh the pros and cons of each identified site. Stand-alone building sites as well as joint use sites were analyzed.

ASHWOOD PARK MASTER PLAN -JOINT USE STUDY

This study was prepared to evaluate the conceptual viability of incorporating Fire Station 10 into Ashwood Park. It identified site constraints and expanding adjacent uses in addition to a potential multi-story community center and goal of city park preservation. Multiple schemes were develop based on fire response, site ingress and egress, and future flexibility.

FIRE STATION 5

TCA evaluated the existing condition of Station 5 relative to the needs of a modern-day fire station. Working with the City of Bellevue, the City of Clyde Hill, and the Bellevue Fire Department, the existing facility was redesigned to best accommodate the desired functionality for a projected life of approximately 10 years. Through this effort it became apparent that it is an expensive facility to remodel and that the short-term benefit did not outweigh the cost and the broader goal of a facility replacement. Through this effort, TCA also gained an understanding of the implications of rebuilding a new facility on the adjacent parcel through a test-to-fit process.

LOCATION	Various Locations, Bellevue, WA
DATES OF SERVICE	2007-Present
LEVEL OF INVOLVEMENT	Needs Assessment, Facilities Evaluations, Site Assessments, Site Test-To-Fit, Planning, Cost Estimates

PARTICIPATING TEAM MEMBERS

Architecture, Planning & Design	TCA
- Principal in Charge	Brian Harris
- Project Architect	Forest Hooker

REFERENCE

Janeen Loughin, City Project Manager
City of Bellevue
425-452-6981
JLoughin@bellevuewa.gov

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CENTRAL PIERCE FIRE & RESCUE

Capital Improvement Facilities Plan

Central Pierce Fire & Rescue covers over 84 square miles and provides service to over 198,000 citizens including the communities of Puyallup, Parkland, Spanaway, Midland, Summit, and Fredrickson. Following the pre-bond work, TCA was selected to provide the programming, site selection, cost management, design and construction administration services for five fire stations, a training tower and various miscellaneous projects fund by the bond. Taking a tiered project approach, TCA developed an overall "kit of parts" program/design manual to ensure operational consistency, streamlined long-term maintenance and design and construction efficiencies. After developing a land acquisition strategy and master schedule, a tiered facility evaluation and site test-to-fit study was performed for three facilities with multiple site options. An options analysis matrix with pros and cons was developed to understand prioritized needs the final site acquisitions. Following this effort, design and construction began which allowed for the design of site specific individual station needs as paired sequential designs and construction schedules commenced. Five facilities and miscellaneous projects have been completed. The more significant projects include: Station 60 a 21,500 SF HQ & training tower with multiple fire props, Station 63, a 8,400 SF neighborhood station located on a cleaned up mill site in Midland, Station 72, a 17,674 SF battalion station in Puyallup which is designed as part of an emerging urban center, Station 71 a renovated neighborhood station owned by the City of Puyallup, and Station 61 a 21,500 SF battalion station which includes a new IT department for the Department.

LOCATION	Pierce County, WA
SIZE	~45,550 SF
DATES OF SERVICE	2014-2018

PARTICIPATING TEAM MEMBERS

Architect of Record	TCA
- Principal-in-Charge	Brian Harris
- Project Architect	Forest Hooker

LEVEL OF INVOLVEMENT

Planning, Needs Assessment, Stakeholder Outreach, Operational Programming, Scheduling and Budget Development, Sustainability, Design, & Site Plans

REFERENCE

Dave Petersen, Owner's Representative
formerly with OAC Services
dave.petersen@hughesmarino.com
844-662-6635

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PUGET SOUND REGIONAL FIRE AUTHORITY

Prototype Fire Stations 51 & 52 (+ *Fire Stations 67 & 70*)

- Multiple Concurrent Stations Designed to Inform New Operational Policies
- Prototype Stations Promotes Responder Familiarity
- Station Consistency Optimizes O&M Savings
- A Family of Identifiable Community Landmarks
- Trusted and Immersive Client Relationship
- Efficient Layout with Long-term Flexibility
- Energy Efficient Design for Long-term Cost Savings
- Conceptual Programming & Site Test-to-Fits
- Design Focused on Firefighter Health & Safety
- Improved Turnout & Response Times

In 2013, TCA worked with the City of Tukwila to develop a conceptual Station 51 program to allow for the evaluation and test-to-fit of 5 potential station replacement sites slated for acquisition in early preparation of a 2016 bond measure. A maximized program was developed to ensure any future planned station could be accommodated on the selected site. After the development of weighted site ranking matrix and extensive analysis, a top site was selected. TCA and the City met with the preferred property owner, a major landholder and developer in the city, and negotiated a pad ready development site which included extensive hillside slope mitigation, a parkway realignment to maximize future development within the city, and a regional water retention facility. Following the passage of a 2016 bond measure, TCA was selected by the City to work as the Fire Station Specialist with Weinstein A+U to program and design multiple new fire stations for the city. The team was tasked with creating a "family" of stations located in disparate neighborhoods to improve their public safety infrastructure. The team developed a detailed program document which considered key operational requirements such as turnout efficiency, firefighter health and wellness, ease of maintenance, and facility expansion over time (due to funding limitations). Station 51 features two bays and six sleeping rooms. Located in the middle of a sea of big box retail and restaurants, Station 51 stands out as an "island of civic architecture". A courtyard design strategy was developed to allow for staff refuge from the surrounding chaos as well as ensuring the sleeping rooms would had minimal travel distance to the bays. The living area is buffered by a bar of decontamination and cleaning functions to ensure source contaminates can be appropriately addressed to maintain a healthy living environment. Station 52 features three bays, eight sleeping rooms, and fire administration. Located adjacent to the City Hall Campus, Station 52 is comprised of like programmatic features to that of Station 51. Due to limited site availability, the administrative component was added to the second floor to ensure rapid turnout time and safety for operations on the ground level. Using the same aesthetics, materiality, and systems as Station 51, the two-story steel and masonry facility is designed with a strong civic presence which reflects departmental transparency, strength, and security within the community.

LOCATION	Tukwila, WA
SIZE	12,540 SF (FS 51) 6,850 SF (FS 52)
CONTRACT TYPE	GCCM
FINAL COMPLETION	06/2020 (FS 51) 06/2021 (FS 52)
FINAL COST	$9.3 M (FS 51) $14 M (FS 52)

PARTICIPATING TEAM MEMBERS & ROLE

Fire Station Design Specialist	TCA
- Principal	Brian Harris

LEVEL OF INVOLVEMENT & RESPONSIBILITY

Fire Facility Design Expert: Programming, Pre-Design, Plan Reviews and Project Guidance from Design through Construction Administration

REFERENCE

Division Chief Pat Pawlak
Puget Sound Regional Fire Authority
20811 84th Avenue S, Kent, WA 98032
253-856-4405
PPawlak@pugetsoundfire.org

Subsequent to the construction of these two older stations, fire service for the City of Tukwila was taken over by Puget Sound Regional Fire Authority. TCA, independent of Weinstein A|U, is currently designing three updated prototype stations 67 & 70 for the department which are being designed and constructed in an overlapped succession.

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NORTH COUNTY FIRE & EMS

Capital Fire Facilities Plan + Impact Fee Planning

North County Regional Fire Authority provides fire and emergency medical services to 46,000 people. The coverage area is over 120 square miles and includes areas within the northern region of Snohomish County, including the cities of Stanwood and Arlington. The primary objective of the facility assessments was to determine the existing conditions and operation efficiencies of each facility. The team accomplished this by evaluating against a set of criterion which included both standard and best practices for a modern fire station. The team also compared each facility to a baseline fire station prototype. This comparison allowed for the development of gap analysis to forecast how future projected staffing and equipment needs will be accommodated over a 50-year planning horizon within the existing facilities, and determine which facilities require renovation or replacement. Future improvement costs will be calculated based on a gap analysis, project schedule and estimated escalation.
North County has eight facilities, which include six operational fire stations, one station used for storage, and a training center. Certain fire stations are at or beyond their 50-year lifespan, but most have decades left of future use. All fire stations could use upgrades, from simple interior finish replacements to complex system and operation upgrades, particularly around safety and controlling contaminants for firefighter health and wellness. Currently, administration is spread across multiple facilities. The region would benefit from a new headquarters facility to effectively consolidate administrative functions and open up space in existing facilities.

LOCATION	Stanwood & Arlington, WA
SIZE	8 Facilities (6 Fire Stations)
DATES OF SERVICE	2024-2025

PARTICIPATING TEAM MEMBERS & ROLE

Architect of Record	TCA
- Principal-in-Charge	Brian Harris
- Project Support	Caroline Do

LEVEL OF INVOLVEMENT & RESPONSIBILITY

Master Planning, Facility Condition Assessments, Needs Assessment, Operational Programming & Site Analysis, Impact Fee Study

REFERENCE

Assistant Chief Doug Ten Hoopen,
Support Services and Emergency Management
North County Fire & EMS
360-629-2184 ext. 116
dtenhoopen@northcountyfireems.com

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> TCA's expert design knowledge was essential in the decision-making process. Their support throughout the design process was key to the success of our projects.
>
> **Former Fire Chief Bruce Kroon**
> **BOTHELL FIRE DEPARTMENT**

CITY OF BOTHELL

Public Safety Bond Planning / Fire Stations 42 + 45

TCA worked with the City of Bothell to assess fire service needs in preparation for a 2018 Levy. Subsequent to a successful bond process, TCA provided fire facility design consulting services as a third party reviewer for two new fire stations with a progressive design build delivery. TCA's role included overall design and cost reviews by phase to better inform and validate project team decisions for two new fire stations and administration facilities. The new 14,000 SF Station 45, located in Snohomish County, features four apparatus bays and will be constructed first to accommodate additional fire staff added through levy funds. The new 20,000 SF Station 42, located in King County, features five drive-through apparatus bays, three of which are 60' deep, living quarters for crew, and public spaces. Fire Department administrative offices were moved at City Hall. The project was phased and utilized temporary facilities to ensure the Fire Department remained operational during construction. Key issues that TCA helped the City explore include: "Healthy in/Healthy Out" implementation and change management education, "hot zone" design and strategies for eliminating cross-contamination, and maximizing manipulative training opportunities.

Renderings courtesy of Miller Hull, Architect of Record. TCA is a subconsultant to OAC Services the City Construction Manager.

LOCATION	Bothell, WA
SIZE	Station 42 20,000 SF/ 5-Bay Station 45 14,000 SF/ 4-Bay
DELIVERY	Progressive Design Build
DATES OF SERVICE	2018-2022

PARTICIPATING TEAM MEMBERS & ROLE

Fire Facility Design Specialist	TCA
- Principal-in-Charge	Brian Harris

LEVEL OF INVOLVEMENT & RESPONSIBILITY

Planning, Needs Assessment, Operational Programming, Code & Design Review, Site Analysis, & On-going Department Support Relative to Facility Design Considerations

REFERENCE

Bruce Koorn (former Bothell Deputy Fire Chief)
Director of Emergency Services
206-485-6656
bruce.kroon@1-800boardup.com

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SHORELINE FIRE DEPARTMENT

Long Range Facilities Plan + Capital Facilities

The Shoreline Fire Department service area has experienced rapid growth over the past 50 years. In 1997, TCA provided an operations-based needs assessment, facilities assessments, and response-planning study. TCA then provided bond election support to the Department for $13.8 million. Facilities and properties were systematically analyzed and then sites were acquired by New Ventures, a site acquisition firm brought in by the TCA team. New Facilities were designed and existing facilities remodeled as a result of the team's response modeling efforts. Fast-forward 20 years, TCA has been involved in the evaluation of multiple properties for Stations 62, 63, and the potential expansion of 61, in addition to being involved with the design and construction services for several renovations and upgrade to their network of facilities.

LOCATION	Shoreline & Kenmore, WA
DATES OF SERVICE	1997-Present

PARTICIPATING TEAM MEMBERS

Architect of Record	TCA
- Principal-in-Charge	Brian Harris
- Project Architect	Forest Hooker

LEVEL OF INVOLVEMENT

Needs Assessment, Facilities Evaluations, Long Range Facilities Plan & Update, Prototype Fire Station Design Manual, Operational Programming, Scheduling and Budget Development, Design Development, Construction Drawings, & Construction Administration

REFERENCE

Fire Chief Matt Cowan
Shoreline Fire Department
206-533-6510
mcowan@shorelinefire.com

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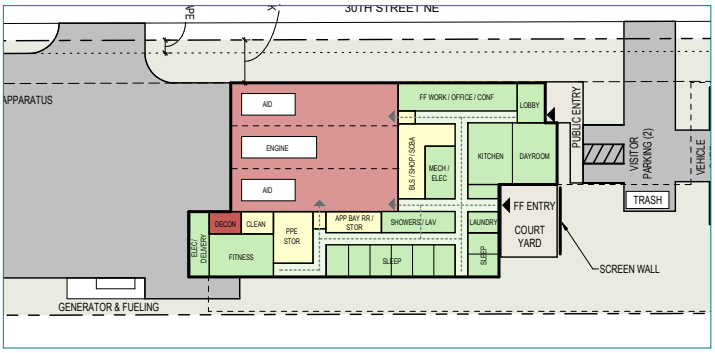

VALLEY REGIONAL FIRE AUTHORITY

Capital Facilities Improvements Plan

TCA developed the VFRA Capital Facilities Improvements Plan following VRFA's Strategic and Capital Facilities Framework. This plan established the foundation for a pre-funding effort with the objective of detailing current facility conditions, improvement needs, estimating order of magnitude costs, and providing a priority-based total budget in support of the Capital Facilities Plan's financial options and recommendations. For the facilities recommended and prioritized by the CFIP, the Plan captures detailed programmatic needs, design narratives, and facility concepts. It also includes general concepts for improvements to better support VRFA's training needs. The CFIP concludes with a recommended total project budget. The budget assumes a design, bid, build project delivery method (i.e., publicly bid work) and considers construction costs, escalation of the cost to targeted construction timelines, and project soft costs (items outside of the construction contract, e.g., sales taxes and fees). Both the construction cost estimates and the soft costs rely on contingencies to budget for unknowns and mitigate overall project risk. Budget sizing considers the prioritization of and schedule for the improvements within the context of VRFA's opinion of appropriate costs to be supported by the financial recommendations of the Plan.

LOCATION	Auburn, WA
SIZE	5 Fire Facilities
DATES OF SERVICE	2023-Present

PARTICIPATING TEAM MEMBERS

Architect of Record	TCA
- Principal-in-Charge	Brian Harris
- Project Architect	Forest Hooker
Structural Engineer	CPL
Mechanical Engineer	Sider + Byers
Electrical Engineer	Case

LEVEL OF INVOLVEMENT

Needs Assessment, Facilities & Site Evaluations, Cost Estimates, Operational Programming

REFERENCE

Deputy Fire Chief Tim Day
Valley Regional Fire Authority
253-288-5800
tim.day@vfra.org

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CITY OF SEATTLE

Long-Range Fire Facilities Plan

TCA worked with multiple departments within the City of Seattle for over four years to develop a $167 million Fire Facilities and Emergency Response levy supported by our Long-Range Facilities Plan and Operational Program Manual. The levy funded the renovation and replacement of 34 neighborhood fire stations, new fire boats, a new fire training facility, and a new command facility which included a new Fire Station 10 Headquarters, Emergency Operations Center, and a Fire Alarm Center. The team visited each of the stations to review and evaluate current conditions, and the City's compliance with current standards and regulations. The team assessed how the City would respond to population growth and increases in fire and aid calls for the next 20 years. Station location and response information was gathered with help from the Seattle Fire Department and the City of Seattle Strategic Planning Office. This information was used to evaluate the individual stations' ability to adequately respond to fire and emergency medical service (EMS) calls during the life of the study. The data was also used to estimate future call load and thereby estimate Department workload to ensure that facilities are designed to accommodate potential growth in Seattle Fire Department workload for the next 20 years.

LOCATION	Seattle, WA
SIZE	37 Facilities
DATES OF SERVICE	2000 (study), 20+ years of subsequent facility planning & design

PARTICIPATING TEAM MEMBERS & ROLE

Architect of Record	TCA
- Principal-in-Charge	Brian Harris
- Project Architect	Forest Hooker

LEVEL OF INVOLVEMENT & RESPONSIBILITY

Master Planning, Facility Condition Assessments, Needs Assessment, Operational Programming & Site Analysis

REFERENCE

Fire Chief Jay Hagen
City of Kalispell (formerly City of Seattle Fire)
406-758-7760
jhagen@kalispell.com

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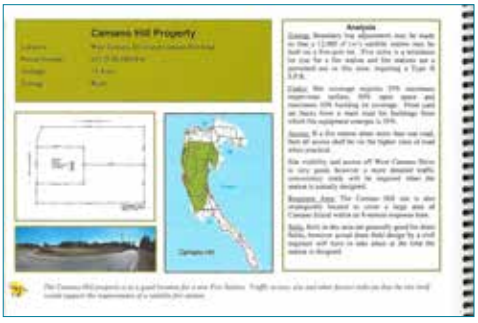

CAMANO ISLAND FIRE & RESCUE

Long-Range Fire Facilities Plan

This Fire Facilities Study assessed the long-term viability of existing facilities to meet the community needs based on established deployment goals, facility standards, changing demographics, and a transition from a partially paid staff to a fully paid staff. During this planning process, GIS maps were developed, identifying preferred facility locations based on time-distance criteria and staffing goals. A GIS database was developed to include base data needed for the response analysis including updates, roads, historic call locations (Geocoded out of Firehouse), future zoning, census 2000, and others. Future station configuration scenarios were developed based on a time/distance model according to level of service goals defined by the District. These scenarios were analyzed for effectiveness in covering the Fire Service Area based on historic densities, demographics, and predicted growth of Camano Island projected through the year 2020 with associated revenue and expenditure forecasts to determine the sustainability of the District's goals. TCA developed a revenue and expenditure analysis for this Capital Improvement Project.

LOCATION	Stanwood, WA
SIZE	5 Facilities / 28,081 SF
DATES OF SERVICE	2009-2012

PARTICIPATING TEAM MEMBERS

Architect of Record	TCA
- Principal-in-Charge	Brian Harris

LEVEL OF INVOLVEMENT

Planning, Needs Assessment, Stakeholder Outreach, Operational Programming, Sustainability, Design, & Site Plans

REFERENCE

Fire Chief Mike Ganz (Retired)
Camano Island Fire & Rescue
360-631-6429
MGanz@camano.net

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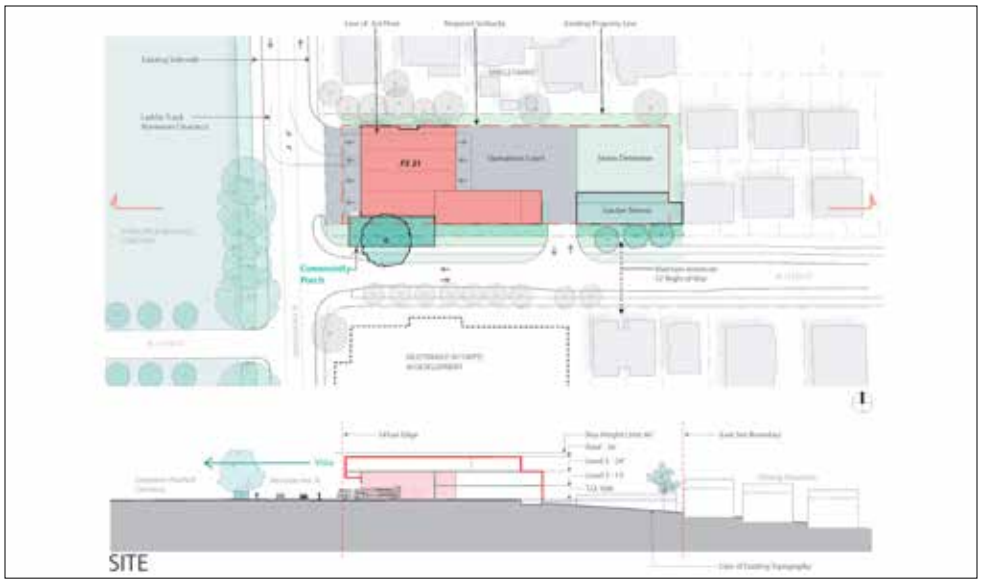

CITY OF SEATTLE

Fire Station 31

- Site Analysis and Selection Support Emergency Action
- All-Electric, Temporary Fire Station
- Test-site for Resiliency & Sustainability Strategies
- Complex Project Phasing

Just prior to the pandemic, TCA began a site selection and test-to-fit process as a result of a desire to remove firefighters from what was dubbed "The Cancer House." Using an acceleration approach, firefighters were removed from Station 31 and redistributed to several stations, the existing station 31 was shutdown, a site was selected with the assistance of TCA and a temporary Sation 31 was designed by TCA. This interim all-electric fire station supported twelve active-duty firefighters and facilities to house four apparatus. The 19,074 SF site, which is a parking lot for a church, was developed to accommodate two pre-manufactured portable buildings for living quarters, offices, and storage, and two tent structures for the apparatuses. This temporary station supported firefighters and operations for 3 years while the permanent station was being built a couple of miles away. Sustainability strategies were tested at the temporary station to inform decisions at the permanent station.

LOCATION	Seattle, WA
SIZE	19,074 SF
CONTRACT TYPE	Design Bid Build
FINAL COMPLETION	11/2021

PARTICIPATING TEAM MEMBERS

Architect of Record	TCA
- Principal-in-Charge	Brian Harris

LEVEL OF INVOLVEMENT

Site Analysis & Test-to-Fit, Needs assessment, stakeholder outreach, conceptual design, schematic design, design development, construction documents, construction bidding, and construction administration services.

REFERENCES

Kate Spitzer, Senior Project Manager
City of Seattle
206-733-9065
Kate.Spitzer@seattle.gov

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04 Section

TEAM DESCRIPTION

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TEAM ORGANIZATIONAL CHART

DESIGN TEAM

TCA

Brian Harris
Principal-in-Charge

Rebecca Chau
Project Support

Caroline Do
Project Support

Sarah Elley
Project Manager

MAIN POINT OF CONTACT

KEY SUB-CONSULTANTS

COUGHLIN PORTER LUNDEEN

AHBL

CASE ENGINEERING

SIDER-BYERS

WIGGINS

Redmond WASHINGTON

FIRE STATION 11

Mike Armstrong

Structural Engineer

Mike will provide structural planning, assessment, & design services. Mike will evaluate structural alternatives so that the most cost effective, durable solution may be found.

Keith Kruger

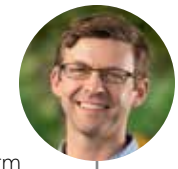
Civil Engineer

Keith will provide civil planning, assessment, & alternatives analysis services which may include site surveys, grading, paving, storm drainage, soil mitigation, and utility alternative analysis.

Craig Skipton

Landscape Architect

Craig will provide landscape architecture planning & estimating services for developed alternatives to best inform green stormwater infrastructure, and maintainable civic landscape and hardscape for alternative solutions.



Sam Delaughter

Electrical Engineering

Sam will serve as the Electrical Engineer. He will work with the team to help determine cost-effective planning solutions for developed planning alternatives that enhance operations and support sustainability goals as well as the health and wellness of the firefighters.

James Whigham

Mechanical Engineer

James will serve as the Mechanical Engineer. He will work with the team to assess alternative mechanical, plumbing, and fire protection solutions for developed planning alternatives to enhance operations and support sustainability goals as well as the health and wellness of the firefighters.

Matt Wiggins

Cost Estimator

Matt will provide cost estimating services to establish cost alternatives for alternative planning scenarios.

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05 Section

PROJECT TEAM

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Brian Harris AIA, LEED AP, DBIA

PRINCIPAL

Brian has dedicated his entire career to fire facility planning and design. He brings a holistic perspective and unique insight on national fire service issues, and lessons learned based on the more than 325+ facilities he has programmed and designed. Brian frequently advises and supports cities, fire departments, fire industry journals, manufacturers, and generalist architects on all aspects of station design. Recently, Brian authored articles on cross-contamination, high-performance facility design, and resiliency for *Firehouse* magazine. In addition, he has lectured on dozens of topics including: Capital Facilities Planning, Multi-Use Facility Design, Emerging Trends in Fire Facility Design, and Security for Public Safety Facilities. Brian has received more than 70 Design Awards over his career. Working as the Principal-in-Charge, Brian will provide analysis, and planning leadership to ensure the team meets the project goals from the initial facilities assessment, needs analysis, and programming effort through the capital facilities plan completion. Brian will be responsible for overseeing project direction, site analysis, project staffing, schedule, and budget, in addition to ensuring client expectations are met. He will be involved during all work efforts.

SPECIALIZATIONS

+ Fire Station Planning & Design
+ Public Safety Facility Planning & Design
+ Future Proofing
+ Firefighter Health & Wellness
+ Change Management

YEARS EXPERIENCE

TOTAL 38 TCA 34

EDUCATION

Bachelor of Architecture, University of Oregon (1986)

Architectural Studies, University of Idaho Rome Academy (1985)

LICENSES & CERTIFICATIONS

Professional Licensed Architect

WA 6235
AZ 70890
CA C22619
KS A7174
MI 1301071619
MT 21706
SD 15296
UT 9736804
WY 9736804

AIA - Post Disaster Safety Assessment Certification

DBIA, Member 1136513

AFFILIATIONS

WA State Fire Chief's Association

WA State Fire Commissioners Associations

King County Fire Chiefs Association

National Fire Protection Agency

US Green Building Council

American Institute of Architects

AIA Capital Projects Policy Committee

AIA/WA Sustainable Design Policy Committee

PROJECT EXPERIENCE

TEMPORARY ALL-ELECTRIC FIRE STATION 31

Seattle, WA | $1.7 M | 19,074 SF | Brian served as Principal in Charge for the temporary all-electric fire station to support twelve active-duty firefighters and facilities to house four apparatus. The site, which is a parking lot for a church, was developed to accommodate two pre-manufactured portable buildings for living quarters, offices, and storage, and two tent structures for the apparatus. This station supported firefighters and operations for 2-3 years while the permanent station was being built a couple of miles away. Sustainability strategies were tested at the temporary station to inform decisions at the permanent station.

CONSOLIDATED FACILITY STUDY AND FIRE STATIONS 21, 22, 24, 26, & 27

Kirkland, WA | ~$43 M | ~70,000 SF | Brian served as Principal-in-Charge for new and remodeled fire station projects as a result of a Consolidated Fire Station Study, which led to upgrades and additions to existing stations, and the addition of new fire stations in target response areas.

SITE SELECTION & FIRE STATIONS 1, 3, & 5

Kennewick, WA | ~$28 M | ~40,000 SF | Brian served as Principal-in-Charge for the master plan, site selection, and conceptual design of three prototype fire stations to be constructed over the next 5 year based on a previously design station by TCA. Each station is designed for the expansion and contraction of key operational functions based site specific locations. Prototyping provides consistency amongst stations and reduces long-term operations and maintenance costs while having the ability to adjust sizing per deployment demands.

WEST PIERCE FIRE & RESCUE, WA
Capital Fire Facilities Plan

CITY OF VANCOUVER, WA
Fire Station 8 Feasibility Study

CITY OF RENTON, WA
Kennydale Site Test-to-fit Analysis

2017 Capital Facilities

CITY OF BELLEVUE, WA
Fire Station 5 & Fire Station 10 Feasibility Site Studies

SOUTH BEACH REGIONAL, WA
Fire Station Feasibility Study

SOUTH WHATCOM FIRE & RESCUE, WA
Fire Facilities Feasibility Study

CITY OF PASCO, WA
Site Selection & Fire Stations 81, 82, 83, 84, & 85

CITY OF CUSTER, SD
Fire Department Feasibility Study

CITY OF CHEYENNE, WY
Fire Station Feasibility Study & Bond Planning

COLUMBUS FIRE & RESCUE, MT
Fire Station Feasibility Study

CITY OF LEWISTON, ID
Fire Station Feasibility Study

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Sarah Elley AIA, LEED AP BD+C, NCARB, DBIA

PRINCIPAL/ PROJECT MANAGER

MAIN POINT OF CONTACT FOR PROJECT

Principal Sarah brings a fresh approach to her work on fire & emergency service facility projects with a focus on new innovations in resilient design. Her wide range of experience spans many cultural and community-focused municipal projects. Since joining TCA, she has taken lead roles in fire station programming, conceptual design and design development, cost-management, and construction project management. Sarah recently lectured as at the *Firehouse* Station Design Conference on Capital Facilities Planning for the Fire Service and cross-contamination mitigation.

SPECIALIZATIONS

+ Hot Zone Design & Cross-contamination Mitigation
+ Fire Station Codes & Standards
+ Sustainable Design Solutions

EXPERIENCE

TOTAL 14 TCA 9

EDUCATION

Master of Architecture, Carleton University, Canada (2015)

Bachelors of Environmental Design, University of Manitoba, Canada (2010)

LICENSES+CERTIFICATIONS

Professional Licensed Architect

WA 12009 MT 22030
CO ARC.00407651 OR ARI-14097
ID AR-987507

LEED Accredited Professional BD+C

NCARB 101956

AFFILIATIONS

WA State Fire Chief's Association

WA State Fire Commissioners Associations

King County Fire Chiefs Association

National Fire Protection Agency

US Green Building Council

American Institute of Architects

PRESENTATIONS

Speaker, *Firehouse* Station Design Conference: "Kitchens- a Microcosms of your Fire Facility" & "Capital Facilities Planning"

Speaker, *Firehouse* Station Design Conference, One-on-1 Seminar

PROJECT EXPERIENCE

CONSOLIDATED FACILITY STUDY AND FIRE STATIONS 21, 22, 24, 26, & 27

Kirkland, WA | ~$43 M | ~70,000 SF | Sarah served as Project Architect for new and remodeled fire station projects as a result of a Consolidated Fire Station Study, which led to upgrades and additions to existing stations, and the addition of new fire stations in target response areas.

SITE ANALYSIS AND SELECTION AND FIRE STATIONS 81, 82, 83, 84, & 85

Pasco, WA | ~$43.1 M | ~61,700 SF | Sarah served as Project Architect for four replacement prototype stations. All stations feature 4-bays with support decon spaces, crew living and 6 sleeping rooms, work room, meeting room, offices, and exercise room. Site analysis was provided on multiple city sites to find ideal response locations. TCA assisted the City in multiple site studies until suitable locations were found. At Station 83, the station footprint is compressed to fit on a site the City already owned. For Station 84, the building was placed as close to the property line as possible to reduce its impact on a nearby greenfield site and allow the City to re-sell over half of the land.

MUNICIPAL FACILITIES ASSESSMENTS & SITE ANALYSIS

Clyde Hill, WA | ~$10 M | ~50,000 SF | Sarah served as Project Architect for City of Clyde Hill capital improvements planning for all city facilities including the City Hall, Police Station, Public Works Facility and associated Yard Area. Site analysis at an adjacent City of Bellevue Fire Station property was also performed as a possible partnership in resource sharing.

TOWN OF FRIDAY HARBOR, WA

Facility Assessment & Concept Design for Permit Office and Fire Station

ROCKY MOUNTAIN RESCUE GROUP, CO

Volunteer Search & Rescue Headquarters Facility Planning, Programming, & Design

CITY OF KENNEWICK, WA

City-wide Municipal Facilities Assessment Master Plan (17 Facilities)

Fire Facility Design Manual

Administrative HQ Fire Station 1 & EMS

Fire Station 3 & EMS

Fire Station 5, EMS, & Police Offices

SPOKANE VALLEY FIRE DEPARTMENT, WA

Master Plan & Fire Training Facility

CRESTED BUTTE FIRE DISTRICT, CO

EMS, Fire, & Search & Rescue Facility

US BUREAU OF RECLAMATION, WA

Grand Coulee Dam Fire Station

CITY OF OLATHE, KS

Olathe (KS) Fire Stations 1, 4, & 9

CITY OF LENEXA, KS

Lenexa (KS) Fire Station 6 & Medical Clinic

EASTSIDE FIRE & RESCUE, WA

Fire Station 71 Concept Design

CENTRAL PIERCE FIRE & RESCUE, TACOMA, WA

Fire Station 72 Construction Drawings and Construction Administration

CITY OF CLYDE HILL, WA

Town Hall, Police, Fire, & Public Works Building Needs Analysis & Site Feasibility

CITY OF KALISPELL, MT

Administrative HQ Fire Station

CITY OF COVINGTON, WA

On-Call Architectural Services & Design Review

Climate Grant Support

CITY OF TACOMA, WA

On-Call Architectural Services & Design Review

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Rebecca Chau RA

PROJECT SUPPORT

Rebecca's experience includes a wide range of notable projects in the public safety, municipal, and commercial, sectors. Since joining TCA, Rebecca has spent the last two years supporting several fire station projects schematic design through construction documents. Her technical skills include Revit, Adobe Creative Suite, Rhinoceros 3D, AutoCAD, Sketchup, Grasshopper, Enscape, Lumion, and Maxwell rendering software Her technical expertise makes Rebecca a valuable member of the support team.

Rebecca will be responsible for supporting day-to-day project development, management, and internal coordination. She will support the Principal and Project Architect in the day-to-day administrative development and implementation of the project.

SPECIALIZATIONS

+ Municipal Design
+ Historic Preservation
+ Sustainability
+ Project Management

YEARS EXPERIENCE

TOTAL 9 **TCA** 2

EDUCATION

Bachelor of Architecture, Sustainable Environments, California Polytechnic State University (2016)

LICENSES & CERTIFICATIONS

Licensed Architect WA 12989

AFFILIATIONS

WA State Fire Chief's Association

WA State Fire Commissioners Association

King County Fire Chiefs Association

NFPA

American Institute of Architects

US Green Building Council

PROJECT EXPERIENCE

EASTSIDE FIRE & RESCUE, FIRE STATION 83

Sammamish, WA | 7,433 SF | Rebecca has been providing project support for this 3 station facility assessment that included extensive reviews of existing codes and conditions and interviews with key stakeholders working and living in the facilities. The study documented existing interior and exterior conditions of the stations, including electrical, mechanical, and plumbing systems, and analyzed remodeling costs compared to building new. Special attention is being given to accessibility and emergency personal response paths.

HEADQUARTERS FIRE STATION

Camas, WA | $17.4 M | 23,280 SF | Rebecca is providing project support for a new headquarters station which will feature five apparatus bays with decontamination and support spaces, seven sleeping rooms, crew kitchen, dining, patio, and dayroom, exercise room, training room, offices, and firefighter workroom. TCA is providing fire facility specialty planning & design services to Architect of Record Aetta.

FIRE STATION 37 STUDY

Seattle, WA | Rebecca is Project Manager for this feasibility study which is analyzing the addition of 2-3 bunkrooms to an existing fire station in West Seattle.

SOUTH COUNTY FIRE STATION 22

Bothell, WA | 12,800 SF | Rebecca is Project Manager for this new neighborhood fire station serving the North Road area of south Snohomish County. This is the first prototype station in a series of new stations for South County.

POLICE DEPARTMENT ELECTRIC VEHICLE PROJECT

Seattle, WA | 6,000 SF | Rebecca is Project Manager for this EV charger retrofit that will add EV chargers to the City of Seattle AWC Building C's parking lot and interior garage.

SPOKANE VALLEY FIRE DEPARTMENT TRAINING FACILITY MASTER PLAN

Spokane Valley, WA | $9.4 M | 20,300 SF | Matt provided Cost Estimating services for the master plan and construction of a new training facilities which consists of a training station with two drive through apparatus bays for indoor training in winter weather, classrooms, (one small, one medium, and two large). In addition, there are five offices and five cubicles, gender-specific locker rooms, PPE storage area, a decontamination and cleaning area, an air room, and a separate training tower.

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Caroline Do RA

PROJECT SUPPORT

Caroline is an established professional who prioritizes strong civic design, collaboration, and sustainability in the built environment. She brings technical expertise with deep knowledge of Revit, Rhino, Bluebeam, SketchUp, Enscape, Smartsheet, Photoshop, InDesign, Illustrator, Microsoft Office Suite, Tally, and EC3. She will support the project throughout the design process, contributing to drafting, detailing, product selection, and conducting zoning and code research.

Caroline will support the Project Architect and Principal with technical coordination tasks and assisting with reporting and documentation.

SPECIALIZATIONS

+ Municipal Design
+ Sustainability
+ Project Management

YEARS EXPERIENCE

TOTAL 9 TCA 2

EDUCATION

Bachelor of Architecture, Magna Cum Laude, California Polytechnic State University, San Luis Obispo (2017)

ACSA/AISC Steel Competition, 1st Place, 2015

Study Abroad in Florence, Italy, 2015-2016

LICENSES & CERTIFICATIONS

Licensed Architect WA 21023191

AFFILIATIONS

WA State Fire Chief's Association

WA State Fire Commissioners Association

King County Fire Chiefs Association

International Living Future Institute

NFPA

American Institute of Architects

US Green Building Council

PROJECT EXPERIENCE

EASTSIDE FIRE & RESCUE, FIRE STATION 83

Sammamish, WA | 7,433 SF | Caroline has been providing project support for this 3 station facility assessment that included extensive reviews of existing codes and conditions and interviews with key stakeholders working and living in the facilities. The study documented existing interior and exterior conditions of the stations, including electrical, mechanical, and plumbing systems, and analyzed remodeling costs compared to building new. Special attention is being given to accessibility and emergency personal response paths.

NORTH COUNTY CAPITAL FACILITIES PLAN

Stanwood & Arlington, WA | 8 Factilities | Caroline is provided project support for fire facility assessments, and gap analysis for future projected staffing and equipment needs will be accommodated over a 50-year planning horizon within the existing facilities, and determine which facilities require renovation or replacement. Improvement costs were calculated based on a gap analysis, project schedule and estimated escalation. North County has eight facilities, which include six operational fire stations, one station used for storage, and a training center. Certain fire stations are at or beyond their 50-year lifespan, but most have decades left of future use. All fire stations could use upgrades, from simple interior finish replacements to complex system and operation upgrades, particularly around safety and controlling contaminants for firefighter health and wellness. Currently, administration is spread across multiple facilities. The region would benefit from a new headquarters facility to effectively consolidate administrative functions and open up space in existing facilities.

SPOKANE COUNTY FIRE DISTRICT 9 CAPITAL FACILITIES PLAN

Spokane, WA | 11 Fire Facilities | Caroline provided project support for this fprovide capital improvements plan. The process included facility assessment, evaluation and analysis of the fire district's, nine fire stations, administrative building, and maintenance shop. As part of the analysis, stakeholders were engaged to discuss and review departmental standards, culture, and unique operation and deployment standards specific to Spokane County Fire District 9. The plan provides improvement concepts and costs for renovating and relocating existing facilities based on the assessments, projected future growth and district needs.

RENTON REGIONAL FIRE AUTHORITY
Fire Station 16

TUALATIN VALLEY FIRE & RESCUE
Fire Station 67

WEST PIERCE FIRE & RESCUE
Fire Station 24

CITY OF COVINGTON, WA
On-Call Architectural Services & Design Review

Climate Grant Support

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Mike Armstrong

PE, SE, LEED AP

STRUCTURAL ENGINEER

Coughlin Porter Lundeen

Coughlin Porter Lundeen began with the vision to exceed the level of service being provided by other firms in the State of Washington. They have provided structural design services on more than 265 public/municipal projects, representing more than 5 million square feet and $816 million in construction. More than half of their public experience consists of fire stations and training facilities. They have provided services for more than 140 stations for 52 fire departments throughout Washington.

Since 2008, Mike has supported fire districts across the Pacific Northwest with structural engineering services, including facility assessments and planning, seismic renovations and upgrades, new designs, and construction administration services. He is a creative designer who understands the need for timely, thorough, and easy-to-understand documents. He enjoys exploring the best design solutions that not only address structural issues, but satisfy architectural and mechanical requirements as well. His proficiency with BIM and Revit assists the team in identifying conflicts early in design, eliminating costly and time-consuming changes during construction. His City of Redmond experience is represented by over 5.3 million square feet.

SPECIALIZATIONS

+ Fire Station Structural Design
+ Seismic Analysis
+ Upgrades to Existing Structures

EDUCATION

Bachelor of Science, Civil Engineering, Seattle University

PROFESSIONAL REGISTRATIONS & CERTIFICATIONS

Licensed Professional Structural Engineer WA (37839)

EXPERIENCE WITH TCA

SHORELINE FIRE DEPARTMENT
Fire Station 63
Fire Station 54 Study
Fire Station 57 Remodel

CITY OF PASCO
Fire Stations 83, 84, & 85

SOUTH COUNTY FIRE
Capital Facilities Plan
Fire Station 22

SNOHOMISH FIRE DISTRICT 17
Granite Falls HQ Training Tower & Storage

RENTON REGIONAL FIRE AUTHORITY
Fire Station 16

WEST PIERCE FIRE & RESCUE
Gender Neutral ADA Restroom Remodel

CITY OF ANACORTES
Fire Station 3 & Training Tower Needs Assessment

FIRE STATION EXPERIENCE WITH TCA

FIRE STATION 5
Kennewick, WA | $3.3 M | 12,556 SF | Mike provided Structural Engineering for the new single story fire station with four drive-through vehicle bays and crew living and sleeping and office areas. Developed city-wide Capital Facilities Plan and Proto-type Fire Station Manual for the Cities of Richland and Kennewick.

PROTOTYPE FIRE STATIONS 83, 84, & 85
Pasco, WA | ~$43.1 M | ~61,700 SF | Mike provided Structural Engineering services or for four replacement prototype stations. All stations feature 4-bays with support decon spaces, crew living and 6 sleeping rooms, work room, meeting room, offices, & exercise room. Headquarters Station 84 also adds an administrative wing, apparatus storage facility, and added training features.

FIRE STATION 22 REMODEL
Kirkland, WA | $5.5 M | 11,148 SF | Mike provided Structural Engineering for the selective demolition, internal remodel, and a 2,377 SF addition, of the 8,771 SF, single-story fire station originally built in 1980. The completed station will total 11,148 SF and consist of three apparatus bays, support spaces, crew working spaces, crew living spaces, and eight sleeping rooms.

FIRE STATION 26 REMODEL
Kirkland, WA | $8.4 M | 8,541 SF | Mike is providing Structural Engineering for the overall remodel of existing building with 200 SF of heavy interior space remodel and a small apparatus bay support addition (245 SF). Site improvements, mechanical and electrical systems upgrades and seismic structural upgrades will be implemented.

FIRE STATION 27
Kirkland, WA | $15.5 M | 16,787 SF | Mike provided Structural Engineering for the new, LEED Silver, two-story, 16,787 SF station with three full and one half apparatus bays and support spaces, crew work and living spaces, and eight sleeping rooms. Services provided include needs assessment, community outreach, conceptual design, schematic design, construction documents,bidding and construction administration.

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Keith Kruger PE, LEED AP, ASSOC. DBIA

CIVIL ENGINEER

Coughlin Porter Lundeen

COUGHLIN PORTER LUNDEEN

Coughlin Porter Lundeen's civil department has provided public/municipal design services for more than 90 projects throughout Washington State. As Associate Principal, Keith specializes in the development and implementation of holistic solutions for site development. He is a leader in stormwater management, finding creative and green solutions including biofiltration, open channels, and sustainable bioretention systems. He's provided feasibility and planning for municipal and institutional clients on sites ranging from less than 1 acre to almost 300 acres. Keith has worked in King County for 25 years and his City of Redmond experience can be represented by over $210 million in construction. Keith partners with the design team to deliver civil engineering expertise, ensuring site optimization, and effective utility coordination.

SPECIALIZATIONS

+ Fire Station Civil Design
+ Site Analysis & Utility Coordination
+ Needs Assessments & Existing Conditions Analysis

EDUCATION

Bachelor of Science, Civil Engineering, Seattle University

PROFESSIONAL REGISTRATIONS & CERTIFICATIONS

Licensed Professional Civil Engineer: WA (39871), OR (96582PE)

EXPERIENCE WITH TCA

CITY OF BELLEVUE
On-Call Fire Station 7 Apparatus Bay Expansion

KITTITAS FIRE & RESCUE
Fire Station 2-9

SOUTH PIERCE FIRE & RESCUE
Headquarters & Fire Station Remodels

EASTSIDE FIRE & RESCUE
Tiger Mountain Fire Station 76
May Valley Fire Station 78

WOODINVILLE FIRE & LIFE SAFETY
Fire Station 33 Remodel

CITY OF REDMOND
Fire Station 17

CITY OF SEATTLE
Wedgewood Fire Station 40 Remodel

CITY OF RENTON
Fire Station 17 Renovation

FIRE STATION EXPERIENCE WITH TCA

BELLEVUE FIRE STATION 10

Bellevue, WA | $34 M | 26,000 SF | Keith provided Civil Engineering services for a new state of the art LEED Platinum Battalion facility which includes a city-wide fire command center, training tower and integrated training features, training classrooms, a new regional tunnel rescue response program with equipment rooms, offices, and sleeping rooms for 13. This complex urban site included the acquisition and demolition of multiple structures, wetland mitigation, a park interface, and city gateway.

FIRE STATION 22 REMODEL

Kirkland, WA | $5.5 M | 11,148 SF | Keith provided Civil Engineering for the selective demolition, internal remodel, and a 2,377 SF addition, of the 8,771 SF, single-story fire station originally built in 1980. The completed station will total 11,148 SF and consist of three apparatus bays, support spaces, crew work and living spaces, and eight sleeping rooms.

FIRE STATION 26 REMODEL

Kirkland, WA | $8.4 M | 8,541 SF | Keith is providing civil engineering for the overall remodel of existing building with 200 SF of heavy interior space remodel and a small apparatus bay support addition (245 SF). Site improvements, mechanical and electrical systems upgrades and seismic structural upgrades will be implemented.

FIRE STATION 27

Kirkland, WA | $15.5 M | 16,787 SF | Keith provided Civil Engineering for the new, LEED Silver, two-story, 16,787 SF station with three full and one half apparatus bays and support spaces, crew work and living spaces, and eight sleeping rooms. Services provided include needs assessment, community outreach, conceptual design, schematic design, construction documents,bidding and construction administration.

EASTSIDE FIRE & RESCUE FIRE STATION 87

North Bend, WA | $4 M | 13,166 SF | Keith provided Civil Engineering for the new, fire station with three full and one half apparatus bays and support spaces, crew work and living spaces, and eight sleeping rooms. Services provided include needs assessment, community outreach, conceptual design, schematic design, construction documents,bidding and construction administration.

RENTON FIRE STATION 17 REMODEL

Renton, WA | $1.3 M | 6,800 SF | Keith provided utility and site constraint analysis to determine the feasibility of expanding the existing 6,800 SF station on its current site. General Facility conditions were reviewed in addition to the observation of adjacent designated wetlands. Interior facility conditions were also assessed including all mechanical and electrical systems. After concluding a facility analysis, the station was completely renovated on the interior to provide additional functionality, improve response time, and address current code and NFPA standards.

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James Whigham PE, LEED AP

MECHANICAL ENGINEER

Sider + Byers Associates (SBA)

Sider + Byers Associates' mission is to provide mechanical engineering services that are responsive to clients' needs, analytically sound, and attentive to budgets in both design and construction. SBA's experience includes a blend of essential service facilities and sustainable design. Their projects include over forty fire stations since 1990. They were instrumental in developing the mechanical guidelines for sustainable mechanical systems within the City of Seattle Fire Station Programming Manual.

James Whigham is a Senior Project Manager with 25 years of experience (23 with Sider + Byers Associates). He oversees design, specifications and coordination for his projects. Other responsibilities include their in-house IT and master specifications. James has superior analytical skills and is given Sider + Byers most technically challenging projects. He is tireless in his efforts to design and understand complex mechanical systems. Fire station design has been his specialty with over 50 fire service projects completed in his tenure. He was primarily responsible for writing the City of Seattle's mechanical criteria for all of its new fire stations. His background as a volunteer firefighter has given him special insight to fire service operations. His experience also includes whole building energy modeling. These have included in-depth modeling required for LEED to simple shoe-box style modeling.

SPECIALIZATIONS

+ Fire Station Mechanical Systems Design
+ LEED & Sustainable Design
+ Former Volunteer Firefighter

EDUCATION

Bachelor of Science, Mechanical Engineer, Gonzaga University, 1996

PROFESSIONAL REGISTRATION

Professional Mechanical Engineer 38478

CERTIFICATIONS

ASHRAE

LEED Accredited Professional

EXPERIENCE WITH TCA

SOUTH WHATCOM FIRE AUTHORITY
2009 Master Plan & Temporary Fire Station 28

EASTSIDE FIRE & RESCUE, WA
Carnation Fire Station 85 Study

North Bend Fire Station 87

Sammamish Fire Station Facilities Condition Assessments & Needs Analysis

Sammamish Fire Station 83

May Valley Fire Station 78

Tiger Mountain Fire Station 76 Schematic Design Renovations

CITY OF PASCO, WA
Fire Stations 83, 84, & 85

CITY OF MERCER ISLAND, WA
Fire Station 92 Study

CITY OF BELLEVUE, WA
Fire Station 5 Feasibility Study

FIRE STATION EXPERIENCE WITH TCA

SOUTH PARK FIRE STATION 26 REMODEL & SEISMIC UPGRADE
Seattle, WA | $1.29 M | 14,404 SF | James served as the Mechanical Engineer for the remodel and seismic upgrade project included structural upgrades, interior remodeling and exterior work. The station staff were moved to temporary trailers located on the station property for uninterrupted operations.

WEDGEWOOD FIRE STATION 40 REMODEL & SEISMIC UPGRADE
Seattle, WA | $948 K | 6,100 SF | James served as Mechanical Engineer for the remodel and seismic upgrade project included structural upgrades, interior remodeling and exterior work. The station staff were moved to temporary trailers located on the station property for uninterrupted operations.

CENTRAL PIERCE FIRE & RESCUE, FIRE STATION 60 REMODEL
Tacoma, WA | $8.8 M | 19,500 SF | James served as Mechanical Engineer for the Headquarters Fire Station & Training Tower remodel which features four apparatus bays and support spaces, crew living and sleeping quarters, exercise room, aid room, multi-purpose room, and meeting room. Station 60 won the 2018 Firehouse Station Design GOLD Award (Remodel).

CENTRAL PIERCE FIRE & RESCUE, FIRE STATION 63
Tacoma, WA | $3.5 M | 8,378 SF | James served as Mechanical Engineer for the new single story, 3 drive through bay fire station, crew living and sleeping areas, support areas and public areas. This project represents one of several on-going phased facility projects for the District's Capital Facilities Plan.

SHORELINE NORTHSHORE HQ FIRE STATION 51
Kenmore, WA | $8.4 M | 32,000 SF | James served as Mechanical Engineer for the new two story Headquarters Fire Station with 4 drive through bays and one back-in bay, 9,000 SF Training Tower, Emergency Operations Center, and Administrative Offices. Design meets LEED Silver, certification not sought by Owner.

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Sam DeLaughter

ELECTRICAL, PROJECT MANAGER

CASE ENGINEERING

CASE ENGINEERING

Case Engineering provides a wide range of electrical engineering services for projects including fire service & municipal facilities, emergency operations centers, commercial, and industrial work. By working with all types of clients (owners, architects, and contractors) on these projects, Case Engineering understands what is required for a successful design. These issues include electrical infrastructure, constructability and sustainability for the end-user. For all projects, their engineers and designers understand the importance of developing relationships with electrical plans examiners, inspectors and owners. These relationships allow Case Engineering to assure that the design is cost-effective and on time while complying with the applicable codes.

Sam has seven years of experience in electrical design at Case Engineering, working on fire stations, educational, municipal, commercial, and healthcare projects. Sam's expertise includes coordination of switchgear and overcurrent devices, lighting and lighting control design, arc flash analysis, and short circuit studies. He also develops efficient and precise drawings in AutoCAD and Revit. Sam is a skilled designer and communicator, interfacing with owners, architects, and contractors to develop effective solutions that best fit project requirements.

SPECIALIZATIONS

+ Fire Station Electrical Engineering Design
+ Systems, Signal, and Lighting Design

EDUCATION

Bachelor of Science, Electrical Engineering, University of Washington, 2014

EXPERIENCE WITH TCA

SOUTH WHATCOM FIRE AUTHORITY
2009 Master Plan & Temporary Fire Station 28

EASTSIDE FIRE & RESCUE, WA
Tiger Mountain Fire Station 76
North Bend Fire Station 87

CITY OF KIRKLAND, WA
Fire Stations 21, 24, & 26

CITY OF SHORELINE, WA
Northshore Administrative HQ Fire Station 51 & Training Tower

CITY OF SEATAC, WA
Fire Station 45

VASHON ISLAND FIRE & RESCUE
Needs Assessment & Facility Evaluations

KITTITAS FIRE & RESCUE, WA
HQ Fire Station 2-9

SPOKANE COUNTY FD 13, WA
Newman Lake Fire Station

SNOHOMISH COUNTY FD 7, WA
Fales Road Fire Station 31

FIRE STATION EXPERIENCE WITH TCA

FIRE STATION 21 REMODEL

Kirkland, WA | $6 M | 8,541 SF | Sam provided electric systems and lighting design services for the heavy interior remodel of 928 SF of the 1997 station, which will include mechanical, electrical, and seismic upgrades, and efficient reconfiguration of spaces to accommodate current code requirements. Includes miscellaneous site improvements and corrections of deferred maintenance.

FIRE STATION 22 REMODEL

Kirkland, WA | $5.5 M | 11,148 SF | Sam provided electric systems and lighting design services for the selective demolition, internal remodel, and a 2,377 SF addition, of the 8,771 SF, single-story fire station originally built in 1980. The completed station will total 11,148 SF and consist of three apparatus bays, support spaces, crew working spaces, crew living spaces, and eight sleeping rooms.

FIRE STATION 26 REMODEL

Kirkland, WA | $8.4 M | 8,541 SF | Sam provided electric systems and lighting design services for the overall remodel of existing building with 200 SF of heavy interior space remodel and a small apparatus bay support addition (245 SF). Site improvements, mechanical and electrical systems upgrades and seismic structural upgrades will be implemented.

HANFORD 400 AREA SITE EASTERN PLATEAU FIRE STATION

Richland, WA | $16.4 M | 22,130 SF | Sam is providing electric systems, signal, and lighting design services for the new single-story fire station with four drive-through vehicle bays and crew living and sleeping and office areas.

SHORELINE FIRE STATION 63

Shoreline, WA | $10.5 M | 19,051 SF | Sam provided electric systems, signal, and lighting design services for a new Station that features four bays with decontamination and support areas, and a cross-over response stair in-lieu of fire poles to maximize response times, kitchen, dining, dayroom, sleeping rooms for nine crew, and a departmental training room with integrated training features. Site also includes an apparatus storage facility.

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Matt Wiggins

COST ESTIMATOR

WIGGINS PRECONSTRUCTION

Wiggins Preconstruction Services provides cost estimating services to clients throughout Washington state. For your project, they will inform needs assessment and facility and site conditions assessments to realize a high-performance outcome through Conceptual Estimating, Definitive Estimating, Value Engineering, and Constructability Review. At every stage of your project, they will deliver cost certainty. Wiggins Precon have a proven track record working with TCA and providing accurate cost planning and cost control services during the design and constructions stages of construction projects. Typically, their construction document cost estimates fall within 10% of the low bid amounts on projects and often within 5% of the bid. Matt's experience in the Washington construction market allows him to approach your project with confidence. He will work to offer our team early cost advice for informed decision-making and continue through design development to provide an accurate, holistic perspective on cost. Matt has experience estimating 50+ Fire, Law Enforcement, Justice, and Military projects over the last 10 years.

SPECIALIZATIONS

+ Fire Station, Public Safety & Essential Facility Design Estimating
+ Cost Modelling & Cost Estimating
+ Bid Negotiations
+ Feasibility/Reuse Studies
+ Pre-design Risk Assessments
+ Sustainable Design Cost Analysis

EDUCATION

Master of Science, Construction Management University of Washington

Bachelor of Science, Construction Management, Washington State University

FIRE STATION EXPERIENCE WITH TCA

VALLEY REGIONAL FIRE AUTHORITY, CAPITAL FACILITIES

Auburn, WA | $3.3 M | 12,556 SF | Matt is providing Cost Estimating services for architectural design and planning services for the Valley Regional Fire Authority Capital Facilities Plan Projects. Projects will be completed over the next 3-6 years. Priorities identified in the Plan include building an additional North End Station, relocating Fire Station 38, remodel or replace Fire Station 31, and build a new permanent support service location.

FIRE STATION 5

Kennewick, WA | $3.3 M | 12,556 SF | Matt provided Cost Estimating services for the new single story fire station with four drive-through vehicle bays and crew living and sleeping and office areas. Developed city-wide Capital Facilities Plan and Proto-type Fire Station Manual for the Cities of Richland and Kennewick.

SPOKANE VALLEY FIRE DEPARTMENT TRAINING FACILITY MASTER PLAN

Spokane Valley, WA | $9.4 M | 20,300 SF | Matt provided Cost Estimating services for the master plan and construction of a new training facilities which consists of a training station with two drive through apparatus bays for indoor training in winter weather, classrooms, (one small, one medium, and two large). In addition, there are five offices and five cubicles, gender-specific locker rooms, PPE storage area, a decontamination and cleaning area, an air room, and a separate training tower.

PROTOTYPE FIRE STATION 83

Pasco, WA | $4.4 M | 10,600 SF | Matt provided Cost Estimating services for the prototype satellite station which features four-bay and crew spaces to support a six person on-duty staff. The layout will be similar between the all new City stations to provide operational consistency throughout the Department.

HEADQUARTERS FIRE STATION 84

Pasco, WA | $7 M | 26,000 SF | Matt provided Cost Estimating services for the new headquarters which is a modified prototype of Fire Station 83. The station houses fire administration, operations, and training facilities. Operationally, the station is designed to accommodate ten on-duty staff with four apparatus bays and associated support functions. Additionally, the site includes a 5,750 SF four-bay apparatus reserve building, large training room, and on-site training features. The layout is similar between the all new City stations to provide operational consistency throughout the Department.

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06 Section

PROPOSED SCHEDULE + SCOPE OF WORK

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Schedule & Work Scope +

FIRE STATION 11

We understand your main priority to be the evaluation and analysis of Station 11 located at 8450 161st Avenue Northeast to assess feasibility and costs of renovation or rebuilding. We will analyze the facility and site and identify minimum property attributes needed to accommodate the current and future operational program for the City. We know a high-functioning headquarters will be very important for the fire department and the communities protected by Redmond Fire to improve service delivery and community investment.

KEY CHALLENGES OUR TEAM WILL ADDRESS:

- \+ Identification of unknown site conditions
- \+ Balancing wants vs. needs so the project is fiscally appropriate, defensible, and not over designed.
- \+ Project phasing
- \+ Temporary facilities
- \+ Alignment with City Planning Standards
- \+ Ensuring the facility is resilient and future ready for the next 50 years

TENTATIVE SCHEDULE

● MEETINGS

Site Analysis + Feasibility Study

ACTIVITIES/TASKS	AUG	SEPT	OCT	ESTIMATED HOURS
1 **PROJECT MANAGEMENT & COORDINATION KICK-OFF / VISIONING** Schedule, Budget, Work Plan, Communication Plan, Risk Matrix, Stakeholder List, Project Goals,	●			40
2 **EXISTING INFO REVIEW, BASELINE ASSESSMENT, DATA COLLECTION** Parcel Maps, Call Loads and Run Data, Current and Future Staffing Levels, Previous Community and Facility Studies, O&M Records, Existing Facility Document Review, and Background Development	●			60
3 **GENERAL SITE ANALYSIS & OPERATIONAL NEEDS** High-level Alternatives, High-Performance Orientation Analysis, Land Use Code Analysis, Interviews, Questionnaires, Detailed Space Needs, Facility Reviews, Equipment Validation, Program Spaces & Sizes, Code Analysis, Special Requirements, Operational Adjacencies, Identification of Future Needs, Preliminary Budget	●	●		80
4 **RENOVATION FEASIBILITY ANALYSIS** 5 **REBUILD ONSITE FEASIBILITY ANALYSIS** Alternatives Analysis, Operational Adjacencies, Identification of Future Needs, Preliminary Budget		●		120
6 **SITE SUITABILITY + ALTERNATIVE STRATEGY CONSIDERATIONS** Traffic Analysis, Circulation, Turning-Radius Response and Return Scenarios Analysis, Site Layout with Pros/Cons, Alternative Renovation and New Concept Options, 3D Massing Diagrams		●	●	120
7 **PLANNING LEVEL COST ESTIMATING** Draft Report with Recommendations and Presentation to Stakeholders			●	60
8 **COMPARATIVE ANALYSIS, RECOMMENDATIONS, & FINAL REPORT** Final Report and Presentation to the Council			●	24

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07 Section

PROJECT MANAGEMENT APPROACH

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Project Management Approach +

MANAGING PROJECTS

TCA takes a hard look at RFQs when considering whether to pursue a project. We evaluate our backlog, current service commitments, ability to effectively provide high value to the client, and projected workloads as part of our go/no-go decision-making process. In the small, specialized world of our core design expertise, we cannot afford to under-deliver and disappoint a client or fire department. As part of our team selection process, we ask our consultants to ensure their availability and commit key talent to the select projects we pursue.

Time allocations are set by what we see as necessary to exceed the Department's expectations and within the context of anticipated fees (set by the State fee schedule). TCA will dedicate project managers to each project while the project architect and principal-in-charge will facilitate interaction with the Department team and manage schedules, budget considerations and design development directions. This allows our project managers to focus on issues singular to the individual projects (e.g., permit set production) and for our team to engage the Department with an understanding of the goals and issues shared between the projects, so we can deliver distinct yet coherent design solutions for all your projects. Using our approach, our team is confident we can deliver exceptional professional services and meet the City's schedule and budget goals.

ANTICIPATED WORKLOAD

Your projects could not come at a more perfect time for TCA and our team. While we always have a steady flow of projects in all phases of design to maintain our specialized fire facility design business, the exact timing of your stations syncs up extremely well with our current and projected workload. We have several project designs winding down, freeing up our key personnel, and we are ready to get to work on this exciting project as soon as possible.

We believe it is imperative to have staffing continuity on all the projects we work on, with full principal involvement from start to finish. Our team will be dedicated to your projects and have the available time and support staff to seamlessly address all your concurrent project needs.

Our consultants have also reviewed their workload and are committed to meeting the schedule for your fire station project.

ROLE	TCA PROJECTS 2026-2029	CURRENT PHASE	ESTIMATED COMPLETION	Sarah Project Architect	Brian Principal	Rebecca Support	Caroline Support
PRIME ARCHITECT OF RECORD	+ Valley Regional Fire Station 36	CA	Q2 2026				15
	+ Hanford Eastern Plateau Fire Station	CA	Q2 2026		3%		
	+ Puget Sound RFA Fire Station 87	DD	Q3 2028		5%		
	+ Renton Fire Station 16	CA	Q3 2026		5%		
	+ South County Fire Station 22	CA	Q4 2026		5%	50%	
	+ Lenexa (KS) Fire Station 8	CA	Q1 2026		2%		
	+ Olathe (KS) Fire Station 4	CD	Q1 2026		3		
SUBCONSULTANT FIRE FACILITY DESIGN SPECIALIST	+ Vancouver Fire Station 8 Remodel	DD	Q1 2027	5	2%		25
	+ Camas Fire Station 41	CA	Q4 2027		2%	10%	
	+ City of Ontario (CA) Corporate Yard	CD	Q1 2026		5%		
	+ Tualatin Fire Station 67	SD		5			
	+ Kalispell HQ Fire Station	Program		10	15		

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Project Management

ENGAGEMENT PROCESS

At the heart of our process is inclusion. Each project we work on requires strong communication between all the stakeholders and the design team. Solutions and opportunities are then developed with input and the collaboration of ideas. It is important for participants to be heard, understood and validated in the knowledge base they bring. In all cases, divergent ideas must be synthesized during the design process as we best address the diverse needs of our client groups and bring clarity, inclusion and understanding to the decision making process.

TCA has cultivated a process to engage as many stakeholders as possible. This approach enriches the project from a broader operations perspective and brings to life the small details in a project that elevate the facility design to its fullest potential. It is imperative that the various departments' staff are included in the planning process and have the opportunity to discuss the daily challenges they face. A series of workshops at the beginning of the design process allows project stakeholders to interact with design team members. In these sessions, we discuss ideas, address comments, and answer staff questions. These sessions are documented and referred to throughout the process to ensure we are continuing to meet the initial project goals. These interactive sessions allow participants to contribute ideas to the idea board and review images of other projects so we may better understand their likes and dislikes.

CONSULTANT + STAKEHOLDERS

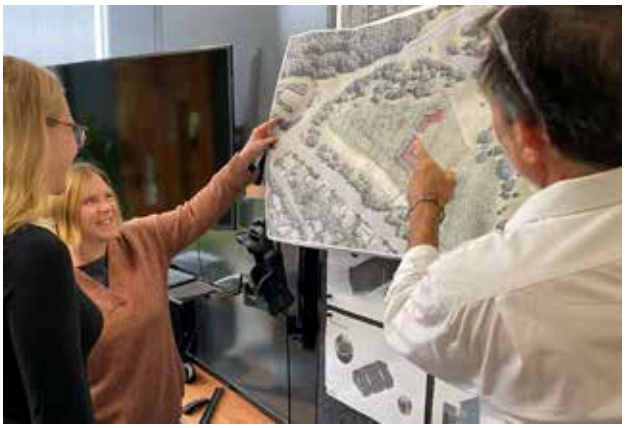
TCA begins the design process with a team kick-off meeting for the consultants and stakeholders. The conference introduces individuals that have not worked together before, forms stronger partnerships between the team members, organizes lines of communication, and creates a culture of trust for the team. During the meeting, we discuss expectations, our collective mission for the project, decision-making matrixes, and milestone objectives.

WEEKLY MEETINGS

The project team will have regularly scheduled meetings with the team, which would be "date and time certain." The meeting agenda will include reviewing the progress of the project, discussing upcoming information requirements, answering questions, and discuss any potential problems encountered. The meetings are essential in keeping open communication between the City, fire department stakeholders, and the design team. During the process, TCA will respond to requests for information, review documents, maintain meeting notes, process supplemental instructions, and review analysis. As the study nears completion, TCA will work with you to ensure the project goals are met.

LESSONS GAINED

Each project has broadened our knowledge, abilities, and strengths, from which all of our future projects benefit. Our past projects serve as a platform and guide for each new project we take on and allows us to address the immediate needs and long term goals of the City and stakeholders.



A good idea can come from *anyone*.

The best idea **wins**.

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08 Section

QC/QA MEASURES

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TCA'S QUALITY CONTROL + QUALITY ASSURANCE

Our team's Quality Assurance Program guides our delivery process, providing reliable, expert planning and design services to our clients. We are 100% committed within our practice to the operation and upkeep of our management systems, which are regularly reviewed and updated against our own methods, innovations in the industry, and external influences, be they new technologies, quality standards, or legislation.

BEST PRACTICES

The QA reviewer is a Senior Level TCA Architect or Principal (20+ years fire station design experience) who is not directly involved in the project's daily management, development, and production. The QA reviewer provides independent and experienced fresh eyes at key project development milestones:

- Meet with the Project Lead and PM at the start of the project to develop QA review milestones and timelines.
- Perform QA reviews at each phase of the project.
- Monitor the schedule for QA reviews.
- Provide comments to the PM for each review.
- Confirm responses to QA review comments.
- Ensure all Client review comments are addressed.

GENERAL PROCEDURE

Before the conclusion of each deliverable, the QA Reviewer will:

- Review schedule for the QA review with the PM.
- Review internal tracking logs.
- Review the PM's Quality Control records and comment on any additional action required.
- Review the QA review set of documents for completeness.
- Review the planning documents for coordination.
- Review the sub-consultant documents for cross-disciplinary coordination.
- Provide comments on the QA review set using Bluebeam.
- Return review set with comments to the Project Manager.
- Review the PM's and all sub-consultants' responses to QA review comments. Flag missing or deficient responses for the PM to resolve.
- Notify the PM/Project Lead when the QA review is complete.

QUALITY CONTROL TOOLS

450+ FIRE STATION PROJECT DATABASE

Internal database developed to track experiences from each project to deepen our firm's collective knowledge base.

CHECKLISTS-PHASE

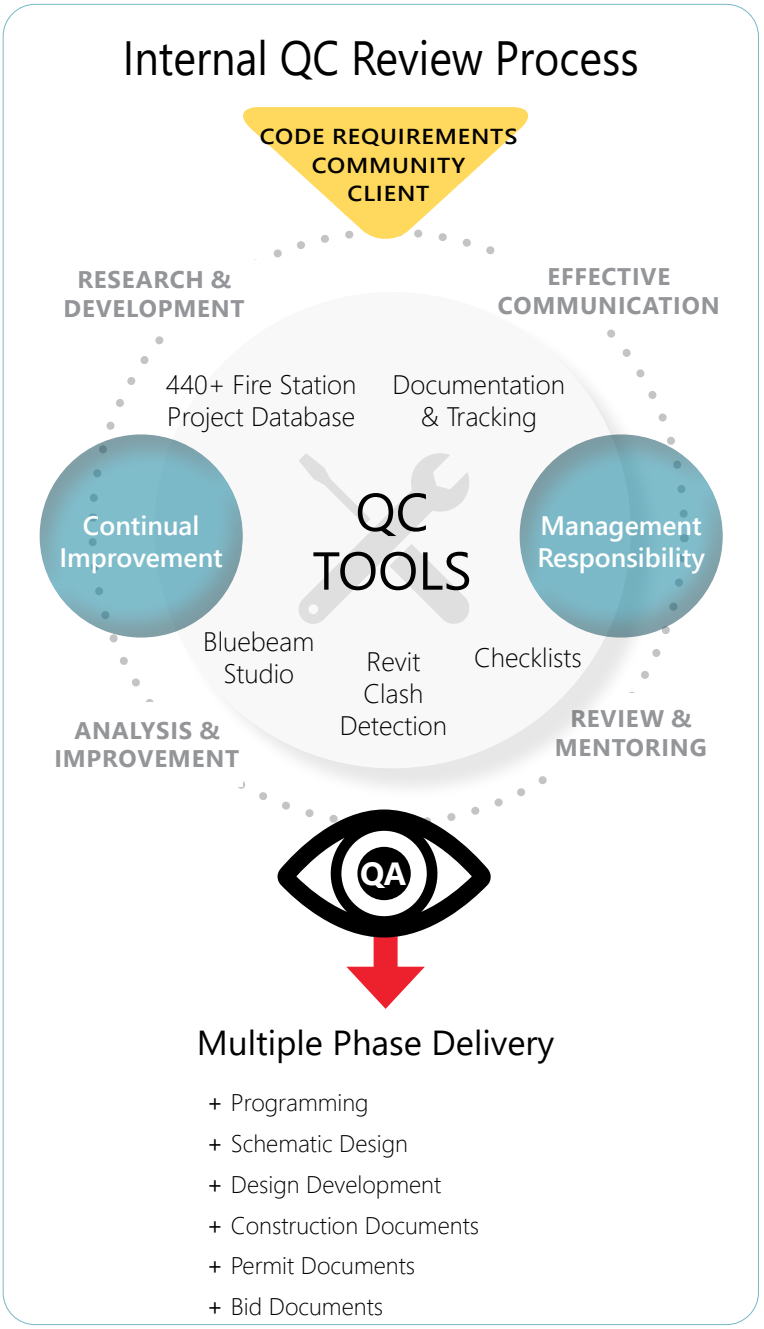
Specific requirements to guide the Quality Control review and create consistency between projects.

BLUEBEAM STUDIO

Real-time review comments on documents with all team members for coordination.

REVIT CLASH DETECTION

BIM modeling to detect conflicts at a programmatic planning process



DELIVERY

Clear communication, documentation of activity, including all team members in the review process and completing an extensive review at each deliverable phase, has proven to be an effective and consistent delivery strategy for our projects. The formalized internal QA/QC process, quality control tools, and our firm's collective experience has enabled us to produce clear deliverables.

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09 Section

REPORTING APPROACH

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Reporting Approach

FIRE STATION PLANNING IS OUR SPECIALTY

We excel at helping municipalities strategize for changing needs by establishing common sense alternatives and solutions to support for smart, sustainable investments. Having worked with dozens of departments on developming past studies that align with your scope, we understand that inclusive collaboration between City, Fire Department, key stakeholders, and design team is essential to ensure operational relationship alternatives are well-informed, and long-term growth and departmental planning resilience is considered. Our expertise will provide the City of Redmond with a streamlined process and alternative approaches that will guide the City in its decision-making.

COORDINATING WITH CITYWIDE PLANS

Our team will establish clear touch-points with City leadership and other impacted departments to reflect on and steer the plan's progression based on the overall project cadence relative to the optimized use of Fire Station 11 within the City's desired timeline and budget strategy.

ENGAGEMENT STRATEGY

Our approach emphasizes collaboration with the core City project team and working with staff to review needs and routine work practices, identify opportunities to maximize limited staff resources, and target the most essential updates. Our workshops and milestone briefings are designed to efficiently collaborate with staff, then update leadership to build consensus and ensure recommendations are aligned with City goals and strategies.

ADDRESSING DIVERSE NEEDS

Establishing strong communication process between all the stakeholders and the design team is paramount. Solutions and opportunities can then developed with input and the collaboration of ideas. It is important for participants to be heard, understood, and validated in the knowledge base they bring. In all cases, divergent ideas must be synthesized during the planning and design process as we best address the diverse needs of our client groups and bring clarity, inclusion, and understanding to the decision-making process.

Fire Expert Facility Assessment - Aurora, CO

STRATEGIC FOCUS AND DEFENSIBLE OUTCOMES

It can be tempting to disappear down data-gathering rabbit holes. The most effective facility planning efforts remain focused on high-level information and strategies to inform decision-making and budgeting. As fire station planners, we know how to stay focused on the critical information needed to vet options, make timely decisions, and defensible conclusions that advance the City's goals and position future investments for success.

ENSURING FEASIBILITY AND FLEXIBILITY

It is essential to align financial and political realities with project findings and recommendations at the project outset and during every phase of work. Even well-crafted studies risk sitting on a shelf if they don't consider the potential for unanticipated needs, fluid funding circumstances, implementation challenges, or new opportunities. Plans cannot be limited to the circumstances anticipated at the time of their publication, but must also include flexibility to ensure alternative paths are additionally available to account for potential changing conditions.

LISTEN	RESEARCH	DISTILL	PRODUCE	EXECUTE
Introduction	Kick-off	Collaborate	Documentation	Quality Assurance
Learn About You	Interviews	Goals	Coordination	Quality Control
Learn About Us	Site Tour	Vision	On Budget	Accountability
	Precedence	Ideate	On Schedule	
	History	Concept		
	Identity	Meaningful Analysis		
	Define the Problem			

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10 Section

PROJECT COORDINATION

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Integrated Communications

We prioritize straightforward and transparent communications through the development of a communication plan at the onset of the project. This is done to ensure efficiencies and communication clarity so the City stakeholder and TCA project team is clear on their role, enabling swift decision-making and prompt issue resolution.

SIMPLE FOCUSED MEETINGS WITH CLEAR OUTCOMES
Our meetings are concise and goal-oriented, each with a clear agenda, resolutions, and task assignments. This structured approach ensures everyone knows their responsibilities and deadlines

DEDICATED POINT OF CONTACT
Sarah Elley will serve as the main point of contact for the City of Redmond and the Owner's representatives. She will facilitate communications among all parties, ensuring smooth coordination and efficient resolution of questions or issues.

STANDING MEETINGS WITH OWNER'S REPRESENTATIVES
Regularly scheduled meetings with the City representatives will keep everyone informed about project process.

Consultants are invited to attend as necessary, and meeting notes are promptly distributed to all relevant parties to maintain a history of the process and ensure transparency and accountability.

STANDING CONSULTANT MEETINGS
We hold separate,standing meetings with consultants to coordinate project details and ensure alignment across disciplines. Meeting noes are shared with the entire design team to maintain consistency and keep everyone updated on progress and decisions.

CONSULTANTS INTEGRATED INTO PROJECT MANAGEMENT
The project schedule will be further developed in collaboration with input from all stakeholders. This schedule will be informed and tailored by specific milestones and deliverables requirements deriven by City needs. Additionally, the City of Redmond review and decision-making time lines will be incorporated in to the schedule to help the City anticipate necessary decisions at key milestones. Our inclusive process fosters buy-in and commitment from all participants to ensure a final project delivery date that aligns with your objectives.

Fire Department Stakeholder & Consultant Team Fire Station 4 Meeting - Olathe, KS

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11 Section

EXAMPLE OF WORK

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Examples of Work

We have included several documents to show how we will address different parts of your project's scope and the breadth of our experience working with Fire Departments across the state and the country.

Each project effort is tailored specifically to our clients needs based ontheir unique circumstances and targeted outcomes. Please see attachments.

Valley Regional Fire Station 36 - Auburn, WA

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12 Section

BUSINESS NAME

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Business Name

Upon award of the project, TCA and our subconsultant firms will obtain City of Redmond Business Licenses to do business for the City of Redmond prior to performing any work for the City and to maintain the license throughout the project's life.

Please see Section 13 for a copy of TCA's business information and license.

Brian Harris, AIA, LEED AP
Principal
TCA Architecture Planning Inc.
6211 Roosevelt Way NE
Seattle, WA 98115

Fire Station 17 - Redmond, WA

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13 Section

BUSINESS LICENSE

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Business information

TCA Architecture + Planning, a provider of licensed, professional architectural consulting, planning, and design services, has not been adjudged insolvent or bankrupt in a State or Federal Court; and a court proceeding to make a judgement of bankruptcy or insolvency is not pending.

BUSINESS INFORMATION

ADDRESS	6211 Roosevelt Way NE Seattle, WA 98115
PHONE	206-522-3830
EMAIL	brian@tca-inc.com
WEB	tca-inc.com

HISTORY & FUTURE

FOUNDED	1960, The Cochran Associates (TCA) Mercer Island, WA
INCORPORATED	1996, TCA Architecture + Planning, Inc. Seattle, WA
BUSINESS TYPE	Privately Owned S Corporation
CERTIFICATIONS	TCA is registered, self-certified Federal Small Business Enterprise (SBE) and self-identified Combined Women & Minority Business Enterprise (CBE) In 2024, TCA began transitioning to a state and federal certified CBE and SBE. Application is under review.

LICENSES

FEDERAL TAX ID	91-1700097
UBI	601 629 561
DUNS	184823128
UNIQUE ENTITY ID	ZCFWNRWK2CR2

INSURANCE COVERAGE

COMPANY	Marsh & McLennan Agency LLC
AGENT	Taylor Hanson
ADDRESS	545 SW Second St, Suite 101, Corvallis, OR 97333
PHONE	541-497-4313
WEB	MMANorthwest.com
EMAIL	Taylor.Hanson@MarshMMA.com

TCA maintains insurance in the amounts specified below.:

+ Commercial General Bodily Injury and Property Damage Insurance, $2,000,000 per occurrence and $4,000,000 aggregate.
+ Automobile liability: combined single limit $1,000,000.
+ Professional Liability Insurance, Errors & Omissions, $2,000,000 claims made.
+ Ability to name the Agency as Additional Insured without limitation on the general liability policy.

Central Pierce Fire Station 63 - Tacoma, WA | Gold (Career 1) Firehouse Station Design Award

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STATE OF WASHINGTON

BUSINESS LICENSE

Issue Date: May 30, 2025

Profit Corporation

Unified Business ID #: 601629561
Business ID #: 001
Location: 0001
Expires: May 31, 2026

TCA ARCHITECTURE PLANNING INC.
6211 ROOSEVELT WAY NE
SEATTLE WA 98115-6614

UNEMPLOYMENT INSURANCE - ACTIVE

INDUSTRIAL INSURANCE - ACTIVE

TAX REGISTRATION - ACTIVE

CITY/COUNTY ENDORSEMENTS:

PASCO GENERAL BUSINESS - NON-RESIDENT #28717 - ACTIVE
KIRKLAND GENERAL BUSINESS - NON-RESIDENT #OBL-0004586 - ACTIVE
CLYDE HILL GENERAL BUSINESS - NON-RESIDENT - ACTIVE
COVINGTON GENERAL BUSINESS - NON-RESIDENT - ACTIVE
ISSAQUAH GENERAL BUSINESS - NON-RESIDENT - ACTIVE
SAMMAMISH GENERAL BUSINESS - NON-RESIDENT - ACTIVE
SNOHOMISH GENERAL BUSINESS #000000002331 - ACTIVE
MERCER ISLAND GENERAL BUSINESS - NON-RESIDENT #960316 - ACTIVE
ABERDEEN GENERAL BUSINESS - NON-RESIDENT #215578 (EXPIRES 03/31/2026) - ACTIVE

LICENSING RESTRICTIONS:

Not licensed to hire minors without a Minor Work Permit.

REGISTERED TRADE NAMES:

This document lists the registrations, endorsements, and licenses authorized for the business named above. By accepting this document, the licensee certifies the information on the application was complete, true, and accurate to the best of his or her knowledge, and that business will be conducted in compliance with all applicable Washington state, county, and city regulations.

Director, Department of Revenue

STATE OF WASHINGTON

UBI: 601629561 001 0001

Expires: May 31, 2026

TCA ARCHITECTURE PLANNING INC.
6211 ROOSEVELT WAY NE
SEATTLE WA 98115-6614

UNEMPLOYMENT INSURANCE - ACTIVE
INDUSTRIAL INSURANCE - ACTIVE
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CLYDE HILL GENERAL BUSINESS - NON-RESIDENT - ACTIVE
COVINGTON GENERAL BUSINESS - NON-RESIDENT - ACTIVE
ISSAQUAH GENERAL BUSINESS - NON-RESIDENT - ACTIVE

Director, Department of Revenue

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14 Section

VALID TIME PERIOD

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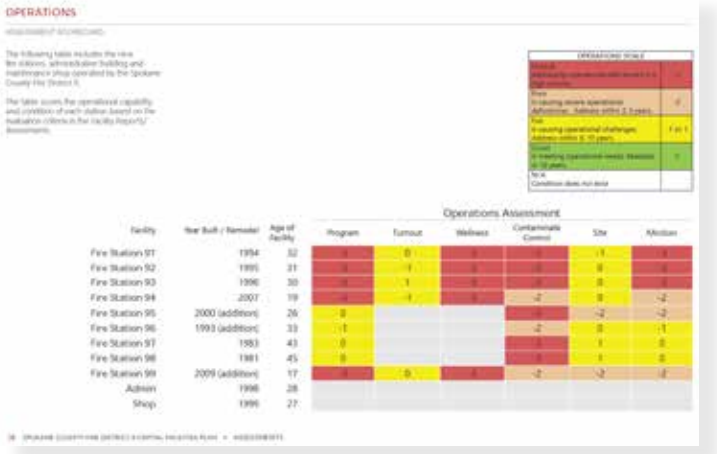
Valid Time Period

STATEMENT OF QUALIFICATIONS

TCA Architecture + Planning's statement of qualifications submittal will remain valid for 5 years (1,825 days).



Spokane County Fire District Capital Facilities Plan

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CAMAS-WASHOUGAL FIRE DEPT HEADQUARTERS STATION 41 PREDESIGN FINAL PACKAGE MAY 2024

City of Camas WASHINGTON

WASHOUGAL CAMAS

TCA ARCHITECTURE + PLANNING + DESIGN

MacKay Sposito

jla Public Involvement

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PROJECT
ACKNOWLEDGEMENTS

Cliff Free
Shaun Ford

Karl Johansson
Jennifer Lee

Brian Harris
Rebecca Chau

Marty Snell

Adrienne DeDona
Camille Pierce

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EXECUTIVE
SUMMARY

This project is the initial efforts to find a suitable site for a new Camas-Washougal Fire Department Station 41 in the City of Camas to ensure adequate fire and emergency medical services for the community. The project includes Community Outreach, Preliminary Station Programming, Concept Site Plan and Station Design, and Bond Support.

The team, comprised of members of the Camas-Washougal Fire Department, TCA, Aetta Architects, MacKay Sposito, and JLA, looked at 8 potential sites and completed initial studies for each site to determine feasibility. These feasibility studies were comprised of initial sketches as well as utility, traffic impact, topography, and cost investigations. After research and analysis, one site (Site E) was determined to be viable. This site was further developed with a conceptual site plan, preliminary station design, preliminary systems narrative, and a corresponding cost estimate.

The site design takes advantage of the location right next to city hall to vacate part of Everett Street, to both accommodate the new station, as well as to create a small plaza or pocket park for the public. The station design accommodates the station's current needs and allows for growth. Firefighters are provided with all necessary health and safety features, protecting them from carcinogens and other hazards, and ensuring their timely performance on the job.

Throughout the process, JLA conducted community outreach programs in concert with CWFD, creating a website on Engage Camas in conjunction with the city, as well as co-hosting in-person and online engagement activities.

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CAPITAL IMPROVEMENT
PROGRAM ANALYSIS

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Camas/Washougal Fire Station 41 2022
Capital Improvement Program

Date: August 22, 2023

Public	# of People	Qty	Width	Length	Area (ea)	Net Area	Remarks
Vestibule		1	7 ft	7 ft	49	49	Tables for 30; seating for 50
Lobby		1	10 ft	15 ft	150	150	
Community/Training Room		1	30 ft	40 ft	1200	1200	Tables for 30; seating for 50
Training Storage		1	10 ft	20 ft	200	200	
Public Restroom		2	8 ft	8 ft	64	128	
Antique Rig Showcase		1	15 ft	30 ft	450	450	Optional-segregated from lobby
First Aid Room		1	10 ft	10 ft	100	100	
					240	240	
SUBTOTAL						**2468**	

Admin	# of People	Qty	Width	Length	Area (ea)	Net Area	Remarks
Fire Chief's Office	1	1	12 ft	20 ft	240	240	
Division Chief Ops Office	1	1	10 ft	18 ft	180	180	
Division Chief EMS Office	1	1	10 ft	18 ft	180	180	
Fire Marshal Suite	3	3	10 ft	18 ft	180	540	Standalone Division
Shared Workspace FM Suite		1	10 ft	18 ft	180	180	Direct access to exterior/lobby
Admin Assistant	2	2	10 ft	12 ft	120	240	1 admin assistant for FM office
Small Conference		2	10 ft	20 ft	200	400	1 small conference for FM office
Records Storage		1	10 ft	12 ft	120	120	
Copy/Work Room		1	8 ft	10 ft	80	80	
SUBTOTAL	8					**2160**	

Crew Area	# of People	Qty	Width	Length	Area (ea)	Net Area	Remarks
Battalion Chief Office	1	1	12 ft	14 ft	168	168	
Battalion Chief Sleeping Room	1	1	10 ft	12 ft	120	120	
Captain's Office	1	1	10 ft	14 ft	140	140	
Captain's Sleeping Room	1	1	10 ft	10 ft	100	100	
Sleeping Room	7	7	10 ft	10 ft	100	700	Eng (3), Med (2), Truck (3)
Toilet/Shower Room		4	10 ft	12 ft	120	480	
External Locker Alcove		9	5 ft	10 ft	50	450	36 lockers - 4 shifts in future
Kitchen/Dining		1	16 ft	40 ft	640	640	
Dayroom		1	28 ft	24 ft	672	672	
Physical Training		1	20 ft	35 ft	700	700	SF to be validated
Laundry		1	8 ft	10 ft	80	80	
Radio Charging Station		1	4 ft	8 ft	32	32	In Report Writing Area
Report Writing		5	10 ft	6 ft	60	300	
SUBTOTAL	11					4582	

Apparatus Support	# of People	Qty	Width	Length	Area (ea)	Net Area	Remarks
Apparatus Bay		5	15 ft	70 ft	1050	5250	Eng (1), Med (1), Truck (1), Command (1), Brush Rig (1)
Turnout		1	28 ft	19 ft	532	532	
Decon/ Cleaning		1	10 ft	25 ft	250	250	Segregated area
Decon Toilet/Shower		1	9 ft	10 ft	90	90	
EMS Storage		1	27 ft	15 ft	405	405	
Mezzanine		1	10 ft	40 ft	400	400	Optional; might use for training
Work Room/Shop		1	10 ft	12 ft	120	120	
SCBA Compressor & Maint.		1	10 ft	20 ft	200	200	Isolated SCBA and House Air Compressor
Hose Storage		1	8 ft	16 ft	128	128	
Supply Storage		1	12 ft	20 ft	240	240	
Decon Vestibules/Airlock		2	8 ft	10 ft	80	160	
Delivery Area		1	12 ft	20 ft	240	240	
Apparatus Wash Alcove		1	3 ft	10 ft	30	30	
SUBTOTAL						**8045**	

Building Support	# of People	Qty	Width	Length	Area (ea)	Net Area	Remarks
Stairs per Floor		4	8 ft	10 ft	80	320	
Data		1	12 ft	10 ft	120	120	
Elevator per Floor		2	8 ft	10 ft	80	160	
Electrical		1	20 ft	10 ft	200	200	
Janitor Closet per Floor		2	6 ft	8 ft	48	96	
Mechanical		0	10 ft	20 ft	200	0	
Sprinkler Riser Room		1	8 ft	10 ft	80	80	
Elevator Machine Room		1	10 ft	10 ft	100	100	
SUBTOTAL						**1076**	
TOTAL EMPLOYEES	19						
SUBTOTAL							
Net SF						**18331**	
(Net: Gross Factor)	27%					4949	
Gross SF						**23280**	
Total						**23280**	

Site	# of People	Qty	Width	Length	Area (ea)	Net Area	Remarks
Public Parking		10	9 ft	18 ft	162	1620	Street?
Staff Parking		30	9 ft	18 ft	162	4860	
Generator		1	10 ft	15 ft	150	150	May vary by site w/ external plug for mobile unit
Trash/Recycling Enclosure		1	10 ft	20 ft	200	200	
Patio		1	20 ft	20 ft	400	400	

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FIRE STATION 41
STATION SITE STUDY

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CWFD STATION 41

10/04/2023

FIRE STATION SITE OPTIONS

SITE A
3 PARCELS
PROPERTY OWNERS:
FMG BODY SHOP LLC
FMG INVESTMENTS LLC RUDOLPH DIERICKX & KERENDIERICKX

SITE B 6
PARCELS
PROPERTY OWNERS:
METRO PROPERTY GROUP INC

SITE C 1
PARCEL
PROPERTY OWNERS: CAMAS SCHOOL DISTRICT #117

SITE D
4 PARCELS
PROPERTY OWNERS:
CALCEUS LLC
CITY OF CAMAS

SITE E 2
PARCELS
PROPERTY OWNERS:
CITY OF CAMAS

SITE F 3
PARCELS
PROPERTY OWNERS:
RONALD BROWN

SITE G 7
PARCELS
PROPERTY OWNERS:
RIVERVIEW SAVINGS BANK
JAY HOFER & SANDRA HOFER
CHRISTINA GREEN
GEORGIA PACIFIC CONSUMER PRODUCTS LLC

TCA
ARCHITECTURE + PLANNING + DESIGN

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CWFD STATION 41

10/04/2023

FIRE STATION SITE COMPARISON

	SITE A	SITE B	SITE C	SITE D	SITE E	SITE F	SITE G	SITE H
SITE								
SIZE / CONFIGURATION	Can accommodate entire program	Can accommodate entire program, challenging configuration	Can accommodate entire program	Cannot accommodate entire program	Cannot accommodate entire program	Cannot accommodate entire program	Can accommodate entire program	Can accommodate entire program
ENVIRONMENTAL REMEDIATION	Abuts active railroad	Known site contaminants	-	-	-	-	-	-
LAND USE / CODE	Downtown Commercial Zone	Multi-family residential zone	Residential zone	Downtown Commercial Zone	Downtown Commercial Zone	Downtown Commercial Zone	Heavy Industrial Zone	Downtown Commercial Zone
TOPOGRAPHY	Mostly flat site with sloped south	Steep slope to the North along 7th Ave., moderate slope to West	Mostly flat site	Mostly flat site	Mostly flat to the north, sloped along Everett St.	Mostly flat site	Sloped from North to South	Gradually sloped from North to South
OPERATIONS								
DELIVERY OF SERVICE	Central to target service area	Further away from target service area	Separated from target service area by significant grade change	Central to target service area	Central to target service area	Central to target service area	Separated from target service area by bridges, vulnerable infrastructure	Central to target service area
DRIVE-THRU BAYS	Can accommodate three drive-thru bays	Can accommodate two drive-thru bays	Can accommodate five drive-thru bays	Cannot accommodate drive-thru bays	Cannot accommodate drive-thru bays	Cannot accommodate drive-thru bays	Can accommodate two drive-thru bays	Can accommodate three drive-thru bays
APPARATUS APRON	Can accomodate longest apparatus	Can accomodate longest apparatus	Can accomodate longest apparatus	Can accomodate longest apparatus	Cannot accomodate full size apron	Cannot accomodate full size apron	Can accomodate longest apparatus	Can accomodate longest apparatus
TRAFFIC IMPACTS	Traffic signal not anticipated	Traffic signal needed, high traffic volume	-	-	-	-	-	-
FINANCIAL								
SITE ACQUISITION COSTS	-	-	-	-	-	-	-	Expensive property with existing building
DIFFICULTY OF ACQUISITION	Privately owned by two parties	Privately owned by one party	Owned by Camas school district, acquisition may exceed project timeline	Owned by Camas and private party. Potential City Hall expansion site	Owned by City of Camas	Privately owned by one party	Privately owned by four parties	Privately owned by one party
DEVELOPMENT COST	-	-	-	-	-	-	-	-

OPTIMAL CONDITION

MODERATE CONDITION

DIFFICULT CONDITION DEAL

BREAKER CONDITION LONG

LIST SITES / NOT IN PURSUIT

TCA
ARCHITECTURE + PLANNING + DESIGN

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CWFD STATION 41

10/04/2023

FIRE STATION SITE RUBRIC

	SITE A		SITE B	
SITE				
SIZE 10pts	Can accommodate entire program	30	Can accommodate entire program, challenging configuration	20
ENVIRONMENTAL REMEDIATION 5pts	Abuts active railroad	10	Known site contaminants	10
LAND USE / CODE 5pts	Downtown Commercial Zone	15	Multi-family residential zone	10
TOPOGRAPHY 5pts	Mostly flat site with sloped south	15	Steep slope to the North along 7th Ave., moderate slope to West	5
	SITE TOTAL	**70**	SITE TOTAL	**45**
OPERATIONS				
DELIVERY OF SERVICE 10pts	Central to target service area	30	Further away from target service area	20
DRIVE-THRU BAYS 1pt	Can accommodate drive-thru bays	3	Can accommodate drive-thru bays	3
APPARATUS APRON 5pts	Can accomodate longest apparatus	15	Can accomodate longest apparatus	15
TRAFFIC IMPACTS 5pts	Traffic signal not anticipated	15	Traffic signal needed, high traffic volume	10
	OPERATIONS TOTAL	**63**	OPERATIONS TOTAL	**48**
FINANCIAL				
SITE ACQUISITION COSTS 5pts	-	-	-	-
DIFFICULTY OF ACQUISITION 5pts	Privately owned by two parties	10	Privately owned by one party	10
DEVELOPMENT COST 5pt	xx	15	xx	10
	FINANCIAL TOTAL	**25**	FINANCIAL TOTAL	**20**
183 PTS POSSIBLE	TOTAL	**158**	TOTAL	**113**

OPTIMAL CONDITION
3x Multiplier

MODERATE
CONDITION 2x

Multiplier DIFFICULT
1x Multiplier DEAL
CONDITION

BREAKER CONDITION
0x Multiplier

CRITERIA IMPORTANCE 10pts:
5pts: Major Concern
3pts: Moderate Concern
1pt: Minor Concern

TCA
ARCHITECTURE + PLANNING + DESIGN

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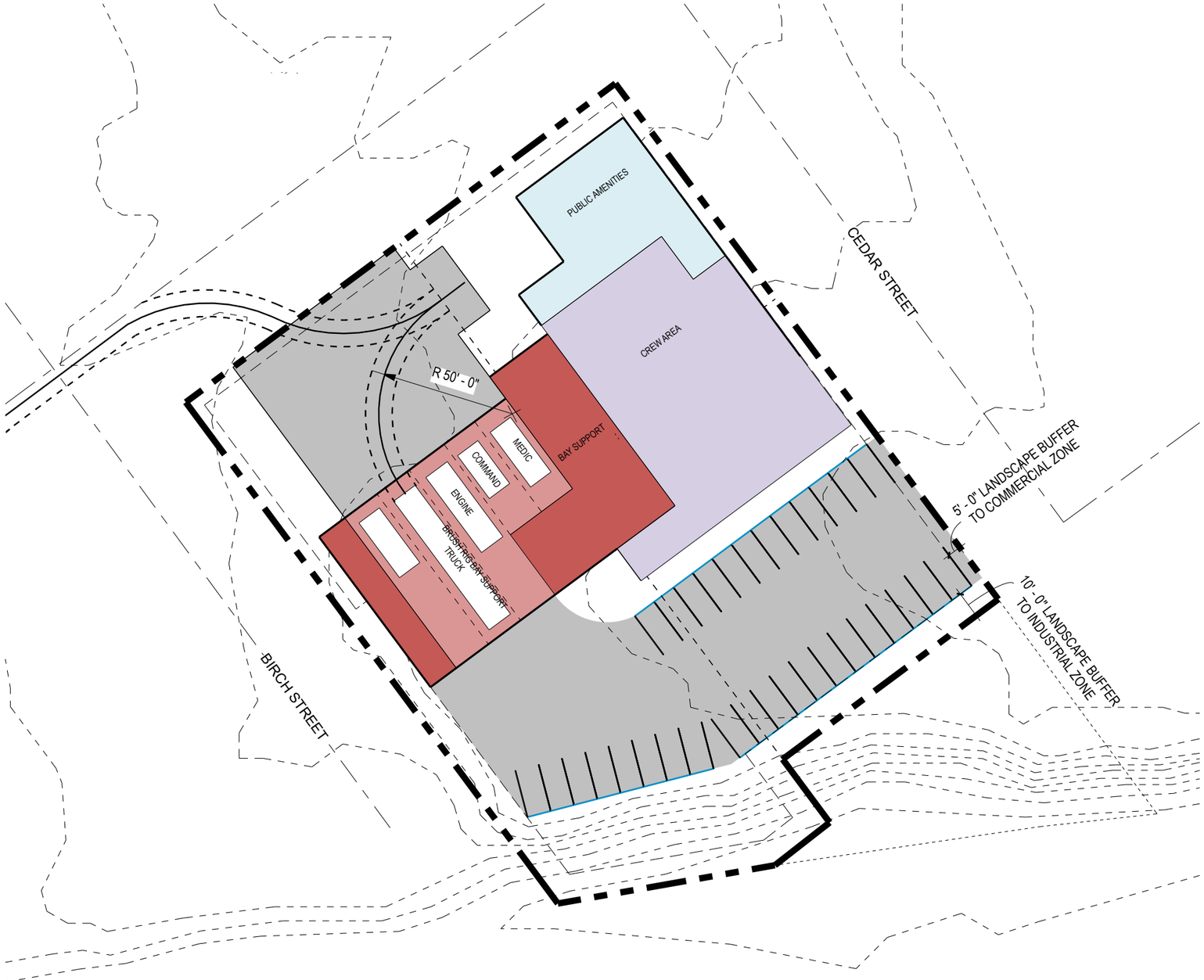
CWFD STATION 41

10/04/2023

SITE OPTION A1
LEVEL 1



SITE INFORMATION
• ADDRESS: 318 NE 3RD AVE
CAMAS, WA 98607

• PARCEL NUMBER: 77770000, 7776000, 77750000

PROPERTY OWNERS: FMG BODY SHOP LLC, FMG INVESTMENTS LLC, DIERICKX RUDOLPH P & DIERICKX KEREN R
• LEGAL DESCRIPTION: CAMAS
LOTS 1,2,3,4,5,6,7 &8 BLK 18

• SITE AREA: 40,000SF OR .92 ACRES

PLANNING
JURISDICTION: CITY OF CAMAS • CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
• MAXIMUM LOT COVERAGE: NONE
• MAXIMUM IMPERVIOUS AREA %:
N/A • MAX BUILDING HEIGHT:
NONE
• SETBACKS (CWMC TABLE 18.09.030):
- ROW: NONE - SIDE -
STREET: NONE -
REAR: NONE

• LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
-ABUTTING STREET: 5'-0" L2, LOW SCREEN
-ABUTTING INDUSTRIAL: 10'-0" L3 HIGH SCREEN

PARKING
• DETERMINED BY SIMILAR USES (CWMC 18.11.130)
- BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

• PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
- DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
• STALL COUNT: 32 STALLS
- ADMIN: 12 STALLS
- FF: 18 STALLS -
PUBLIC: 2 STALLS

0 40' 80'

TCA
ARCHITECTURE + PLANNING + DESIGN

NOTE: PROPERTY LINES ARE APPROXIMATE

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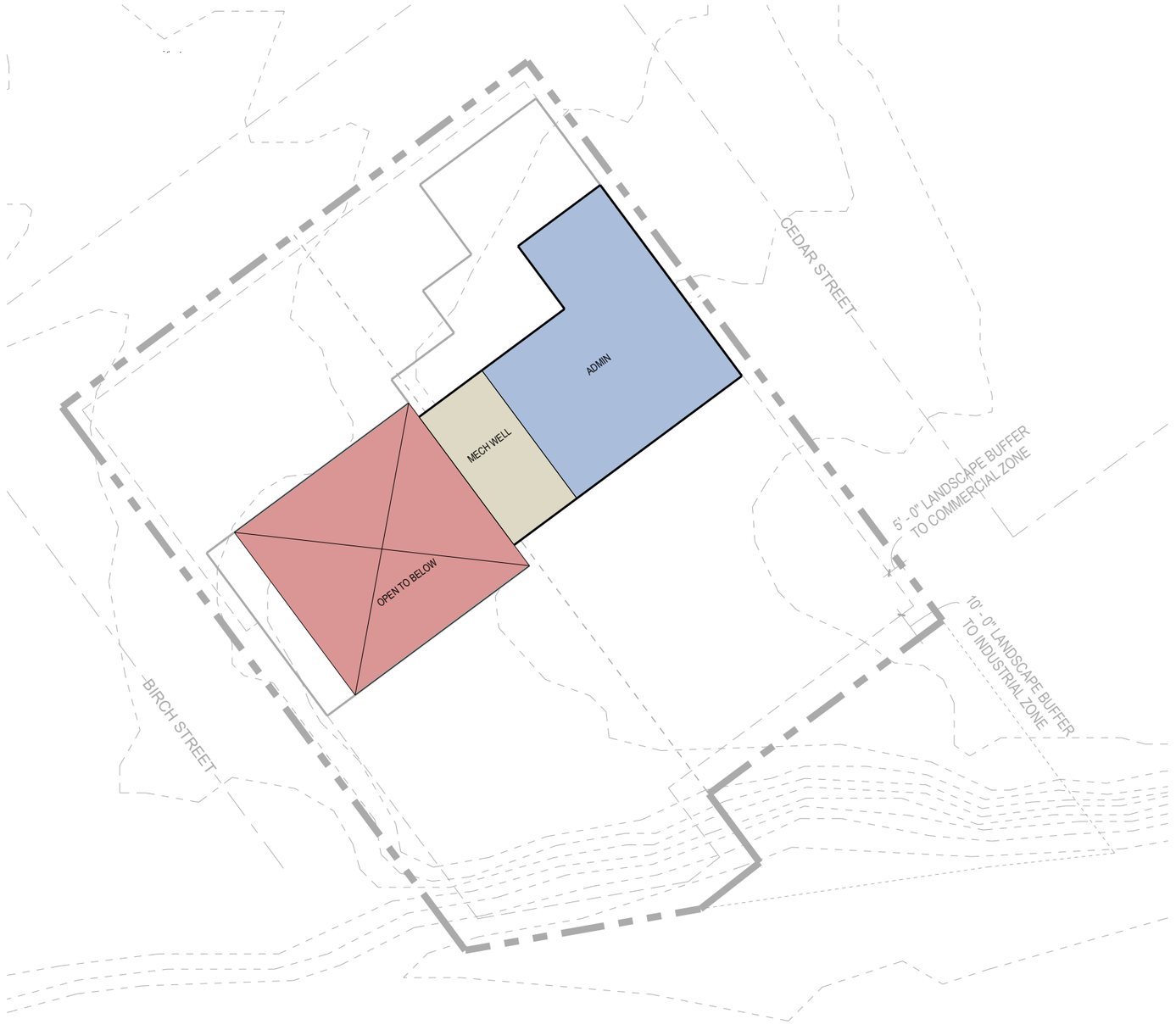
CWFD STATION 41

10/04/2023

SITE OPTION A1
LEVEL 2



NOTE: PROPERTY LINES ARE APPROXIMATE

SITE INFORMATION
- ADDRESS: 318 NE 3RD AVE
  CAMAS, WA 98607

- PARCEL NUMBER: 77770000, 7776000, 77750000

PROPERTY OWNERS: FMG BODY SHOP LLC, FMG INVESTMENTS LLC, DIERICKX RUDOLPH P & DIERICKX KEREN R
- LEGAL DESCRIPTION:
  CAMAS LOTS 1,2,3,4,5,6,7 &8 BLK 18

- SITE AREA: 40,000SF OR .92 ACRES

PLANNING • JURISDICTION:
CITY OF CAMAS
- CAMAS, WASHINGTON MUNICIPAL CODE (CWMC)
- ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
- MAXIMUM LOT COVERAGE: NONE

MAXIMUM IMPERVIOUS AREA %:
N/A • MAX BUILDING HEIGHT:
NONE
- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE
  - SIDE - STREET:
    NONE - REAR:
    NONE
- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2, LOW SCREEN
  -ABUTTING INDUSTRIAL: 10'-0" L3 HIGH SCREEN

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130)
  - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA
  - CREW AREA: 1 PER SLEEPING ROOM
- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0"
  - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"

STALL COUNT: 32 STALLS
- ADMIN: 12 STALLS -
FF: 18 STALLS
- PUBLIC: 2 STALLS

0 40' 80'

TCA
ARCHITECTURE + PLANNING + DESIGN

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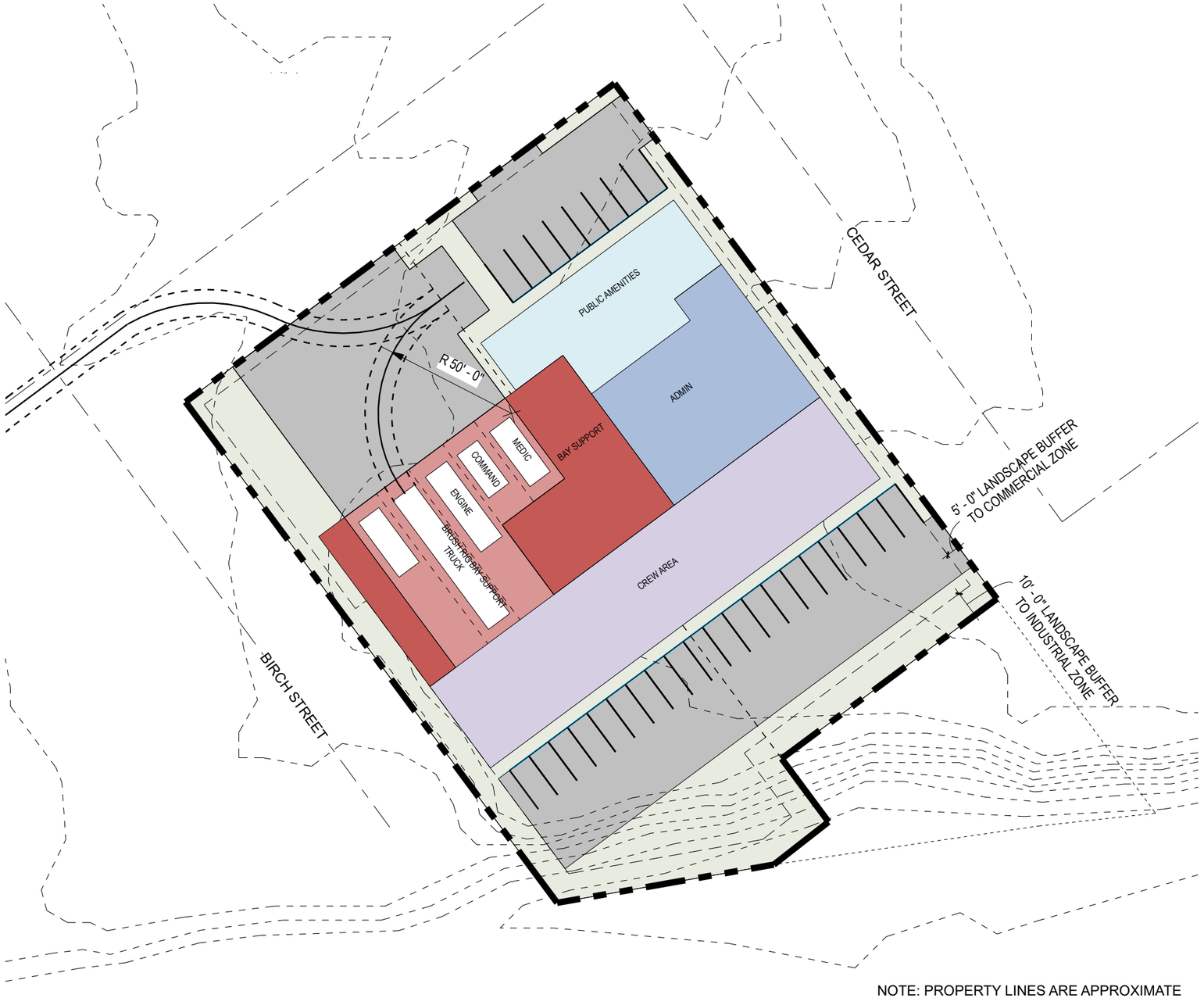
CWFD STATION 41

10/04/2023

SITE OPTION A2
LEVEL 1



NOTE: PROPERTY LINES ARE APPROXIMATE

SITE INFORMATION
• ADDRESS: 318 NE 3RD AVE
CAMAS, WA 98607

• PARCEL NUMBER: 77770000, 7776000, 77750000

PROPERTY OWNERS: FMG BODY SHOP LLC, FMG INVESTMENTS LLC, DIERICKX RUDOLPH P & DIERICKX KEREN R
• LEGAL DESCRIPTION: CAMAS
LOTS 1,2,3,4,5,6,7 &8 BLK 18

• SITE AREA: 40,000SF OR .92 ACRES

PLANNING
JURISDICTION: CITY OF CAMAS • CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) •
ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
• MAXIMUM LOT COVERAGE: NONE
• MAXIMUM IMPERVIOUS AREA %:
N/A • MAX BUILDING HEIGHT:
NONE
• SETBACKS (CWMC TABLE 18.09.030):
- ROW: NONE - SIDE -
STREET: NONE -
REAR: NONE

• LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
-ABUTTING STREET: 5'-0" L2, LOW SCREEN
-ABUTTING INDUSTRIAL: 10'-0" L3 HIGH SCREEN

PARKING
• DETERMINED BY SIMILAR USES (CWMC 18.11.130)
- BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

• PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
- DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" -
COMPACT PARKING SPACE: 8'-0" X 15'-0"
• STALL COUNT: 28 STALLS
- ADMIN: 6 STALLS
- FF: 18 STALLS -
PUBLIC: 4 STALLS

0 40' 80'

TCA
ARCHITECTURE + PLANNING + DESIGN

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CWFD STATION 41

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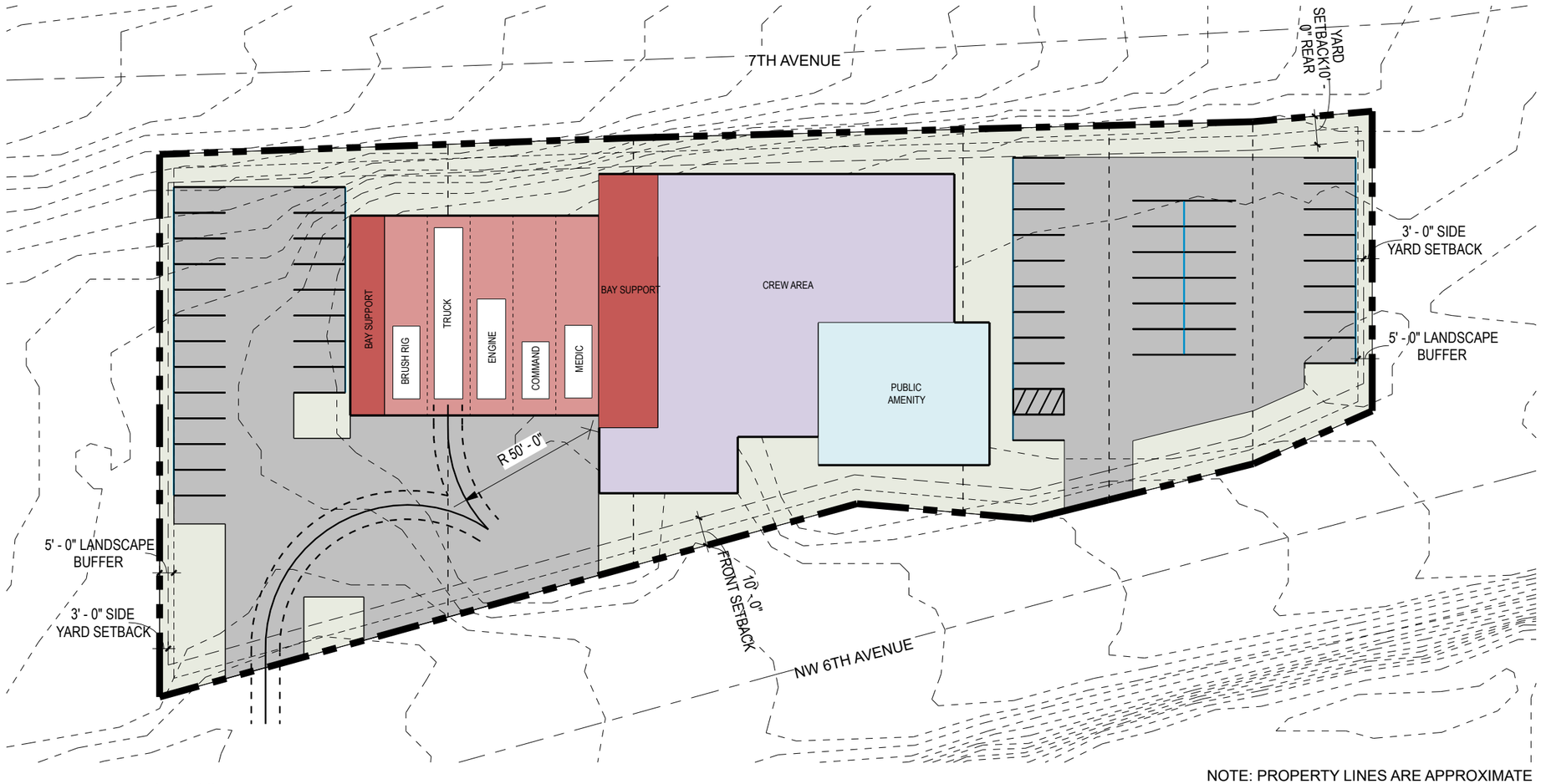
SITE OPTION B1
LEVEL 1



NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

SITE INFORMATION
- ADDRESS: N/A
- PARCEL NUMBER: 85184000, 85139000, 85239000, 85133000, 85238000, 85229000
- PROPERTY OWNERS: METRO PROPERTY GROUP INC

LEGAL DESCRIPTION: #70 OF SECTION 10 T1NR3EWM 0.33A #11 OF SECTION 10 T1NR3EWM 0.36A #141 OF SECTION 10 T1NR3EWM 0.57A #4 OF SECTION 10 T1NR3EWM .15A #140 OF SECTION 10 T1NR3EWM 0.14A #126 OF SECTION 10 T1NR3EWM 0.12A
- SITE AREA: 72,745 SF OR 1.67 ACRES

PLANNING
JURISDICTION: CITY OF CAMAS • CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: MULTIFAMILY RESIDENTIAL - 18 (R-18)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
• MAXIMUM LOT COVERAGE: 65% • MAXIMUM IMPERVIOUS AREA %: N/A • MAX BUILDING HEIGHT: 50 FT
• SETBACKS (CWMC TABLE 18.09.030): • STALL COUNT: 54 - FRONT: 10 FT - SIDE STREET: 3 FT - REAR: 10 FT - ADMIN: 12 STALLS - FF: 18 STALLS - PUBLIC: 24 STALLS • LAND (CWMC TABLE 18.13.055)

-ABUTTING STREET: 5'-0" L1, GENERAL LANDSCAPING
-ABUTTING RESIDENTIAL PROP: 5'-0" L1 GENERAL LANDSCAPING

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.030) - BUSINESS SPACE: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

• PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
- DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"

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CWFD STATION 41

10/04/2023

SITE OPTION B1
LEVEL 2

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

SITE INFORMATION
- ADDRESS: N/A
- PARCEL NUMBER: 85184000, 85139000, 85239000, 85133000, 85238000, 85229000
- PROPERTY OWNERS: METRO PROPERTY GROUP INC

LEGAL DESCRIPTION: #70 OF SECTION 10 T1NR3EWM 0.33A #11 OF SECTION 10 T1NR3EWM 0.36A #141 OF SECTION 10 T1NR3EWM 0.57A #4 OF SECTION 10 T1NR3EWM .15A #140 OF SECTION 10 T1NR3EWM 0.14A #126 OF SECTION 10 T1NR3EWM 0.12A
- SITE AREA: 72,745 SF OR 1.67 ACRES

PLANNING
JURISDICTION: CITY OF CAMAS • CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: MULTIFAMILY RESIDENTIAL - 18 (R-18)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
• MAXIMUM LOT COVERAGE: 65% • MAXIMUM IMPERVIOUS AREA %: N/A • MAX BUILDING HEIGHT: 50 FT
• SETBACKS (CWMC TABLE 18.09.030): • STALL COUNT: 54 - FRONT: 10 FT - SIDE STREET: 3 FT - REAR: 10 FT - ADMIN: 12 STALLS - FF: 18 STALLS - PUBLIC: 24 STALLS • LAND (CWMC TABLE 18.13.055)

-ABUTTING STREET: 5'-0" L1, GENERAL LANDSCAPING
-ABUTTING RESIDENTIAL PROP: 5'-0" L1 GENERAL LANDSCAPING

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.030)
  - BUSINESS SPACE: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

• PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"

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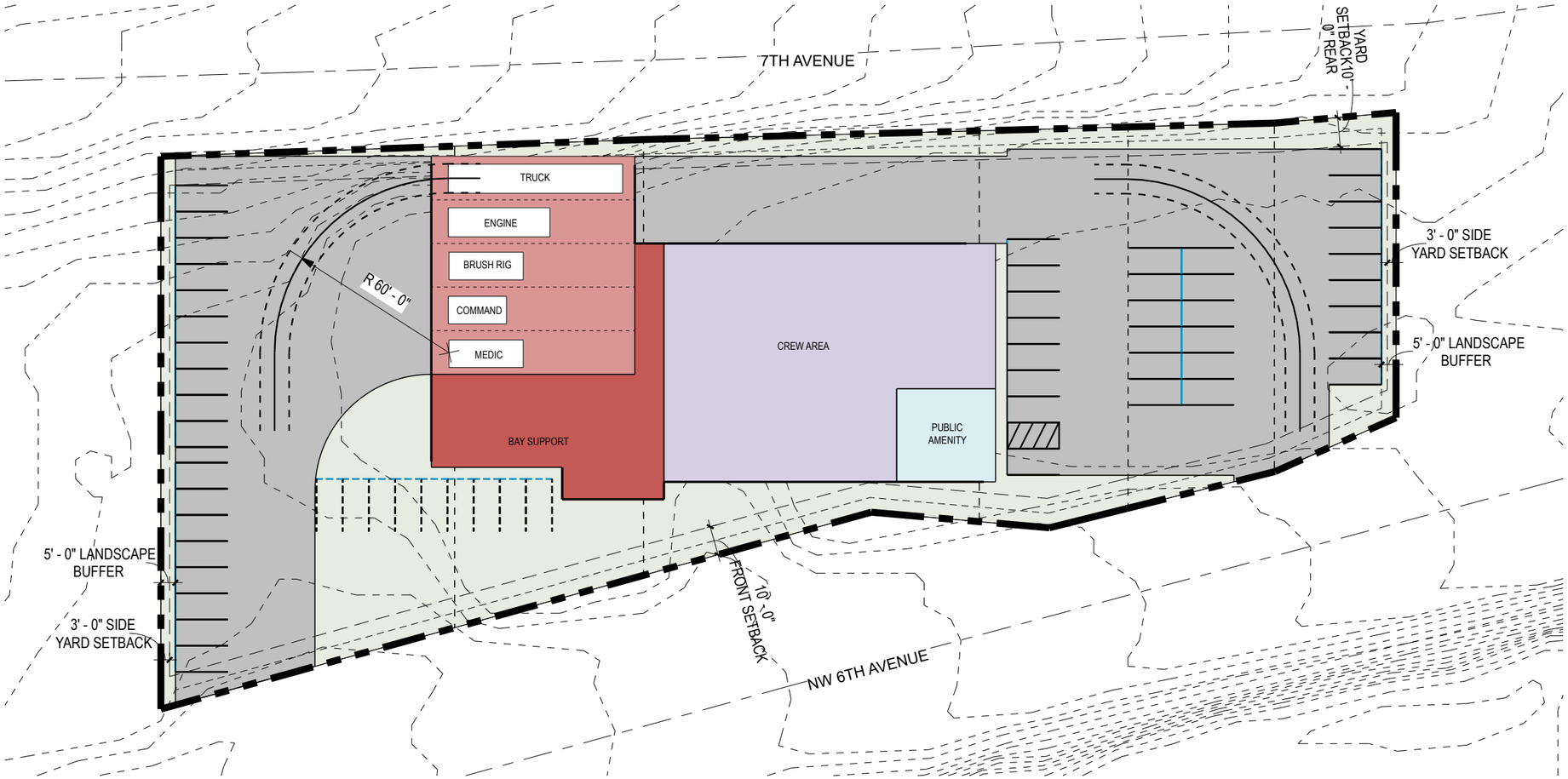
CWFD STATION 41

10/04/2023

SITE OPTION B2
LEVEL 1



NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

SITE INFORMATION
- ADDRESS: N/A

- PARCEL NUMBER: 85184000, 85139000, 85239000, 85133000, 85238000, 85229000
- PROPERTY OWNERS: METRO PROPERTY GROUP INC

LEGAL DESCRIPTION: #70 OF SECTION 10 T1NR3EWM 0.33A #11 OF SECTION 10 T1NR3EWM 0.36A #141 OF SECTION 10 T1NR3EWM 0.57A #4 OF SECTION 10 T1NR3EWM .15A #140 OF SECTION 10 T1NR3EWM 0.14A #126 OF SECTION 10 T1NR3EWM 0.12A
- SITE AREA: 72,745 SF OR 1.67 ACRES

PLANNING
JURISDICTION: CITY OF CAMAS • CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: MULTIFAMILY RESIDENTIAL 18 (R-18)

DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM **ZONE REQUIREMENTS** (CWMC TABLE 18.09.030) • PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)

• MAXIMUM LOT COVERAGE: 65% • MAXIMUM IMPERVIOUS AREA %: N/A • MAX BUILDING HEIGHT: 50 FT

• SETBACKS (CWMC TABLE 18.09.030): • STALL COUNT: 47 (56) STALLS - FRONT: 15' 0" REAR: 10 FT - FF: 18 STALLS - ADMIN: 12 STALLS - PUBLIC: 17 STALLS -
• LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)

PARKING
•

- DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 16'-0" - SIDE - STREET: 3 FT - .LS

-ABUTTING STREET: 5'-0" L1, GENERAL LANDSCAPING
-ABUTTING RESIDENTIAL PROP: 5'-0" L1 GENERAL LANDSCAPING

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CWFD STATION 41

10/04/2023

SITE OPTION B2
LEVEL 2

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

SITE INFORMATION •
ADDRESS: N/A
• PARCEL NUMBER: 85184000, 85139000, 85239000, 85133000, 85238000, 85229000
• PROPERTY OWNERS: METRO PROPERTY GROUP INC

ŁEGAL DESCRIPTION: #70 OF SECTION 10 T1NR3EWM 0.33A #11 OF SECTION 10 T1NR3EWM 0.36A #141 OF SECTION 10 T1NR3EWM 0.57A #4 OF SECTION 10 T1NR3EWM .15A #140 OF SECTION 10 T1NR3EWM 0.14A #126 OF SECTION 10 T1NR3EWM 0.12A
• SITE AREA: 72,745 SF OR 1.67 ACRES

PLANNING

S • CAMAS,

(R-18)
ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
• MAXIMUM LOT COVERAGE: 65% •
MAXIMUM IMPERVIOUS AREA %:
N/A • MAX BUILDING HEIGHT: 50 FT

• SETBACKS (CWMC TABLE 18.09.030):
- FRONT: 10 FT -
SIDE - STREET: 3 FT
- REAR: 10 FT

• LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
-ABUTTING STREET: 5'-0" L1, GENERAL LANDSCAPING
-ABUTTING RESIDENTIAL PROP: 5'-0" L1 GENERAL LANDSCAPING

PARKING

NG ROOM

• PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
- DRIVE AISLE: 24'-0" - STANDARD
PARKING SPACE: 9'-0" X 18'-0" -
COMPACT PARKING SPACE: 8'-0" X 15'-0"
• STALL COUNT: 55 STALLS
- FF: 18 STALLS -
ADMIN: 12 STALLS -
PUBLIC: 25 STALLS

TCA
ARCHITECTURE + PLANNING + DESIGN

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CWFD STATION 41

10/04/2023

SITE OPTION C
LEVEL 1

SITE INFORMATION
- ADDRESS: 1707 NE IONE STREET CAMAS, WA 98607
- PARCEL NUMBER: 90993000
- PROPERTY OWNERS: CAMAS SCHOOL DISTRICT #117
- LEGAL DESCRIPTION: #184 HJG MAXON DLC 12.30A M/L
- SITE AREA: 94,115 SF OR 2.16 ACRES

PLANNING • JURISDICTION:
CITY OF CAMAS
- CAMAS, WASHINGTON MUNICIPAL CODE (CWMC)
- ZONING: RESIDENTIAL - 7,500 (R-7.5)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
- MAXIMUM LOT COVERAGE: 40%

MAXIMUM IMPERVIOUS AREA %:
N/A • MAX BUILDING HEIGHT: 35 FT

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: 30 FT
  - SIDE - STREET: 15 FT
  - SIDE YARD: 15 FT
  - REAR: 35 FT

- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L1, GENERAL LANDSCAPING
  -ABUTTING RESIDENTIAL PROP: 5'-0" L1, GENERAL LANDSCAPING

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130)
  - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020) - DRIVE AISLE: 24'-0"
  - STANDARD PARKING SPACE: 9'-0" X 18'-0"
  - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 50 STALLS
  - ADMIN: 8 STALLS
  - FF: 18 STALLS
  - PUBLIC: 24 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

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CWFD STATION 41

10/04/2023

SITE OPTION D
GARAGE LEVEL

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

SITE INFORMATION • ADDRESS: 306 NE EVERETT STREET CAMAS, WA 98607

- PARCEL NUMBERS: 7814000, 7815000, 7817000, 78180000
- PROPERTY OWNERS: CALCEUS LLC, CITY OF CAMAS

LEGAL DESCRIPTION:
CAMAS LOTS 1, 2, 3, & 4 BLK 26
- SITE AREA: 19,750 SF OR .44 ACRES

PLANNING
JURISDICTION: CITY OF CAMAS • CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030) • MAXIMUM LOT COVERAGE: MAXIMUM IMPERVIOUS AREA %: N/A • MAX BUILDING HEIGHT: NONE
- SETBACKS (CWMC TABLE 18.09.030) -SIDE - STREET: NONE - REAR: NONE
- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055) -ABUTTING STREET: L1 LOW SCREEN -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN - ADMIN: 8 STALLS

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM
- DIMENSIONAL STANDARDS (CWMC 18.11.020) - ROW: NONE - DRIVE AISLE: 24'-0" - STANDARD '-0" X 18'-0"
  - COMPACT PARKING SPACE: 8'-0" X 15'-0"
  - TOTAL: 23 STALLS
  - PUBLIC: 0 STALLS

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CWFD STATION 41

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SITE OPTION D
LEVEL 1

SITE INFORMATION

- 306 NE EVERETT STREETADDRESS: CAMAS, WA 98607
- 78180000 PARCEL NUMBERS: 7814000, 7815000, 7817000,
- CAMAS PROPERTY OWNERS: CALCEUS LLC, CITY OF
- CAMAS LOTS 1, 2, 3, & 4 BLK 26 LEGAL DESCRIPTION:
- SITE AREA: 19,750 SF OR .44 ACRES

PLANNING

JURISDICTION: CITY OF CAMAS • CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)

MAXIMUM LOT COVERAGE: NONE • MAXIMUM IMPERVIOUS AREA %: N/A • MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE - SIDE - STREET: NONE - REAR: NONE
- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  - -ABUTTING STREET: 5'-0" L2 LOW SCREEN
  - -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING

- DETERMINED BY SIMILAR USES (CWMC 18.11.030)
  - BUSINESS SPACES: 1 SPACE PER 1,501 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM
- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 23 STALLS
  - FF: 15 STALLS - ADMIN: 8 STALLS - PUBLIC: 0 STALLS

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CWFD STATION 41

10/04/2023

SITE OPTION D
LEVEL 2

SITE INFORMATION • ADDRESS: 306 NE EVERETT STREET CAMAS, WA 98607

- PARCEL NUMBERS: 7814000, 7815000, 7817000, 78180000

- PROPERTY OWNERS: CALCEUS LLC, CITY OF CAMAS

LEGAL DESCRIPTION:
CAMAS LOTS 1, 2, 3, & 4 BLK 26

- SITE AREA: 19,750 SF OR .44 ACRES

PLANNING

- JURISDICTION: CITY OF CAMAS
CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030) • MAXIMUM LOT COVERAGE: MAXIMUM IMPERVIOUS AREA %: N/A • MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW:
  - SIDE
  - STREET:

- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055) -ABUTTING STREET: 5'-0" L2 LOW SCREEN -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN - ADMIN: 8 STALLS

- PUBLIC: 0 STALLS

PARKING

- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  -DRIVE AISLE: 24'-0" - STANDARD
  PARKING SPACE: 9'-0" X 18'-0"

NOTE: PROPERTY LINES ARE

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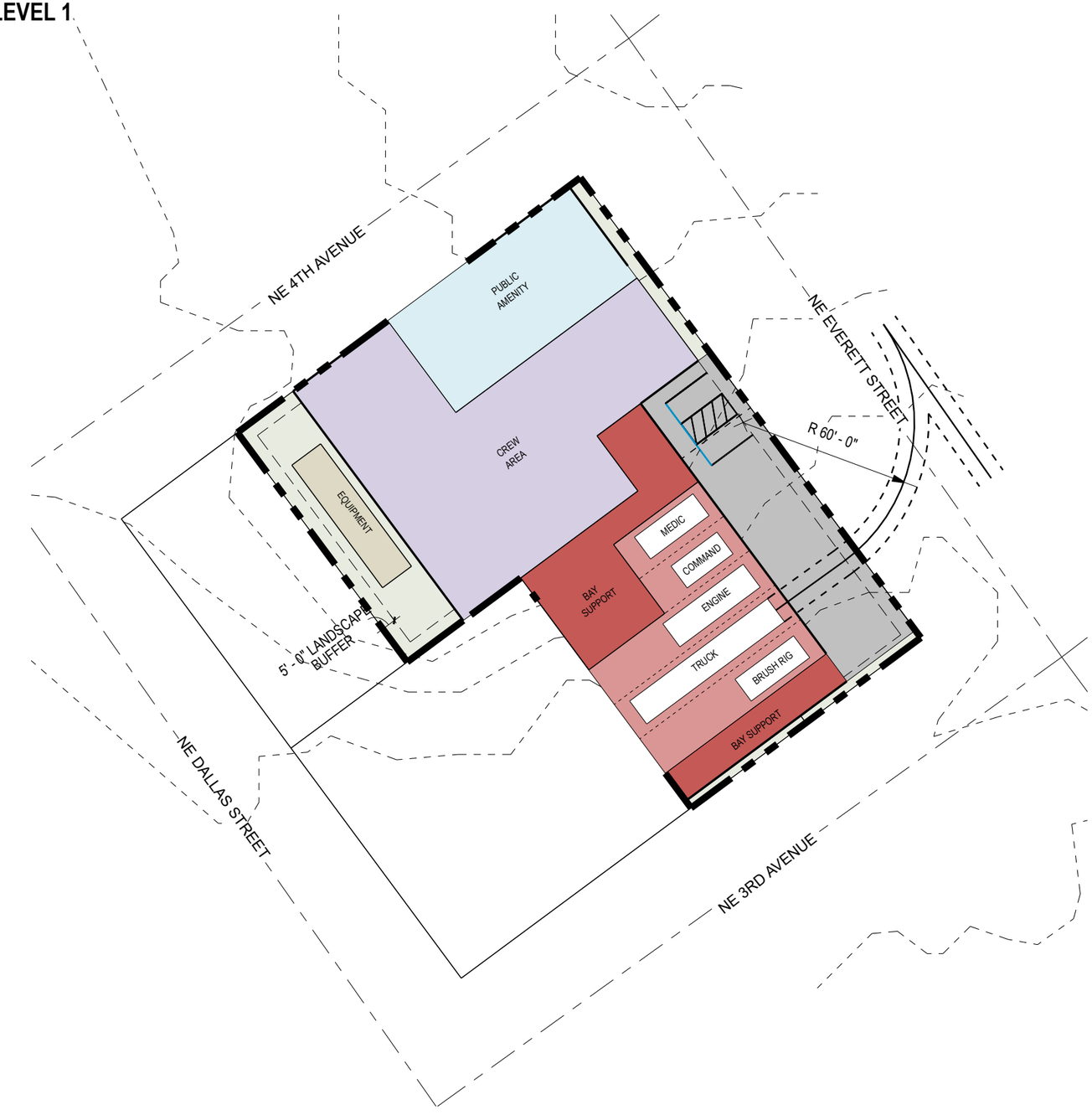
CWFD STATION 41

10/04/2023

SITE OPTION E1
LEVEL 1



SITE INFORMATION •
ADDRESS: 528 NE 4TH AVE
CAMAS, WA 98607

- PARCEL NUMBERS: 78100000, 78105000
- PROPERTY OWNERS: CITY OF CAMAS
- LEGAL DESCRIPTION:
  CAMAS LOTS 3,4,5,6 & 7 BLK 25
- SITE AREA: 25,000 SF OR .57 ACRES

PLANNING
- JURISDICTION: CITY OF CAMAS
- CAMAS, WASHINGTON MUNICIPAL CODE (CWMC)
- ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE
  - SIDE - STREET: NONE
  - REAR: NONE

- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2 LOW SCREEN
  -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 2 STALLS
  - FF: 0 STALLS - ADMIN: 0 STALLS - PUBLIC: 2 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

TCA
ARCHITECTURE + PLANNING + DESIGN

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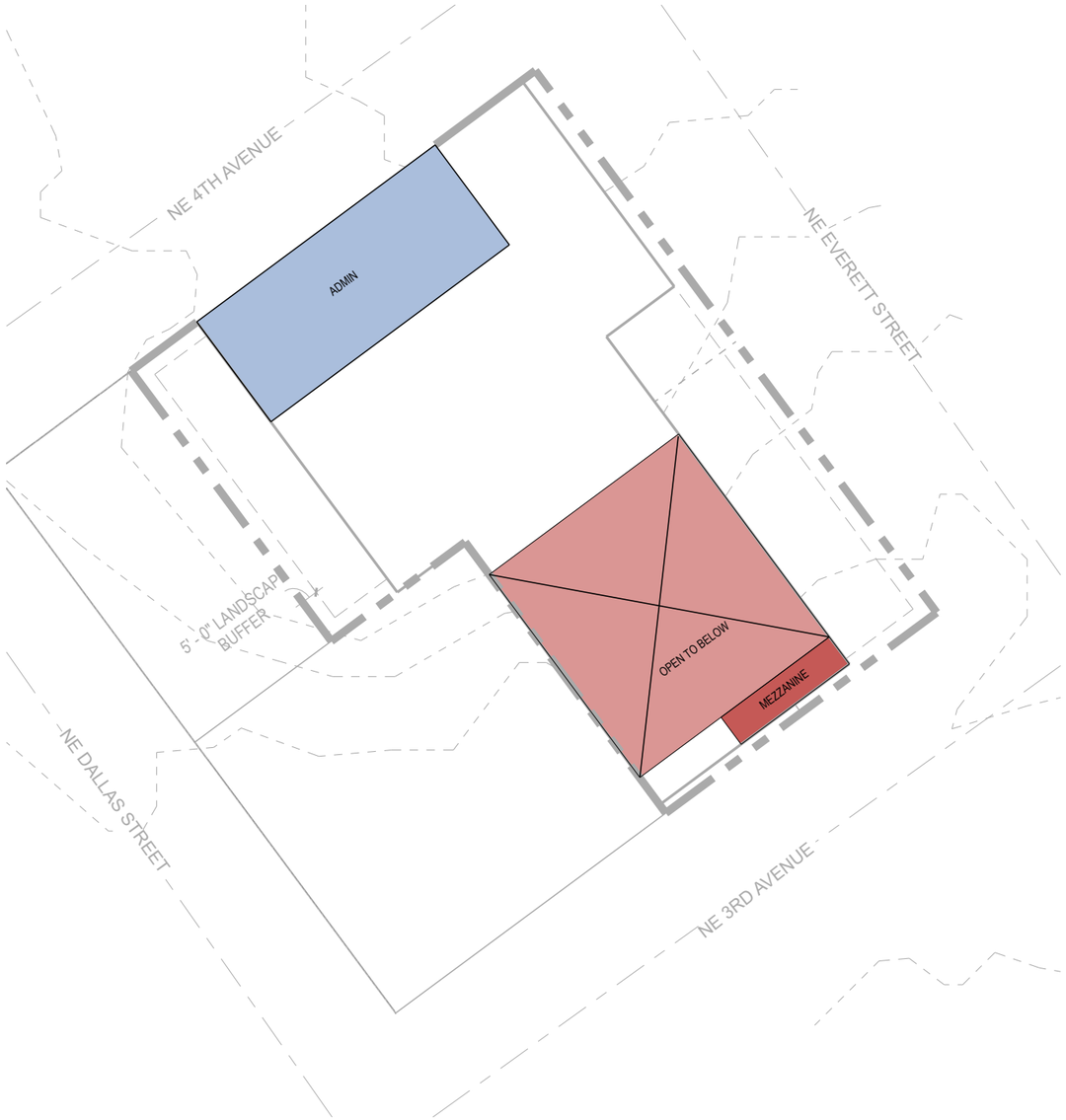
CWFD STATION 41

10/04/2023

SITE OPTION E1
LEVEL 2



SITE INFORMATION •
ADDRESS: 528 NE 4TH AVE
CAMAS, WA 98607

- PARCEL NUMBERS: 78100000, 78105000
- PROPERTY OWNERS: CITY OF CAMAS
- LEGAL DESCRIPTION:
  CAMAS LOTS 3,4,5,6 & 7 BLK 25
- SITE AREA: 25,000 SF OR .57 ACRES

PLANNING
• JURISDICTION: CITY OF CAMAS
€AMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE
  - SIDE - STREET: NONE
  - REAR: NONE

- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2 LOW SCREEN
  -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 2 STALLS
  - FF: 0 STALLS - ADMIN: 0 STALLS - PUBLIC: 2 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

TCA
ARCHITECTURE + PLANNING + DESIGN

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CWFD STATION 41

10/04/2023

SITE OPTION E1
LEVEL 1

SITE INFORMATION •
ADDRESS: 528 NE 4TH AVE
CAMAS, WA 98607

- PARCEL NUMBERS: 78100000, 78105000
- PROPERTY OWNERS: CITY OF CAMAS
- LEGAL DESCRIPTION:
  CAMAS LOTS 3,4,5,6 & 7 BLK 25
- SITE AREA: 25,000 SF OR .57 ACRES

PLANNING
- JURISDICTION: CITY OF CAMAS
- CAMAS, WASHINGTON MUNICIPAL CODE (CWMC)
- ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE - SIDE - STREET: NONE - REAR: NONE
- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2 LOW SCREEN
  -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 2
  STALLS - FF: 0 STALLS
  - ADMIN: 0 STALLS -
  PUBLIC: 2 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

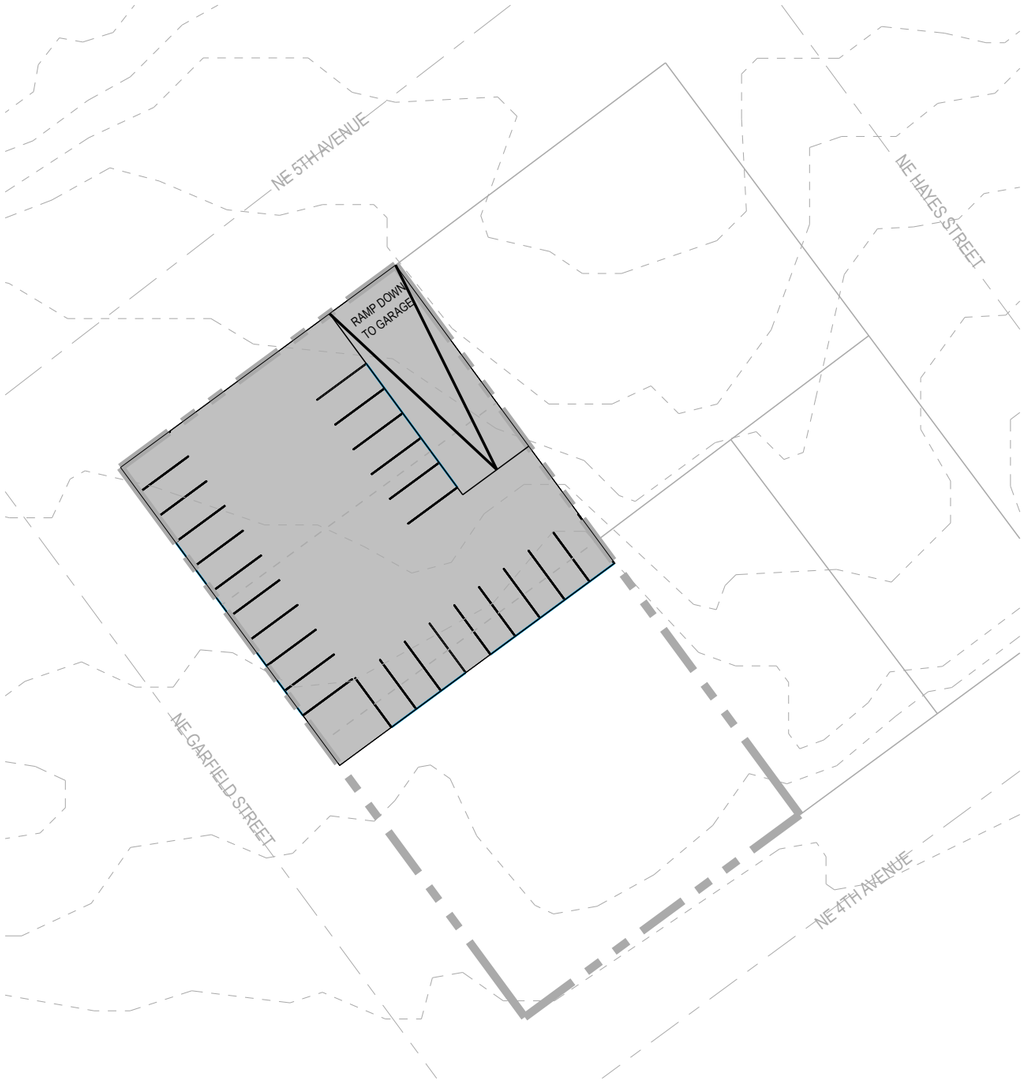
TCA
ARCHITECTURE + PLANNING + DESIGN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

CWFD STATION 41

10/04/2023

SITE OPTION F
GARAGE



SITE INFORMATION • ADDRESS:
410 NE GARFIELD ST CAMAS,
WA 98607

- PARCEL NUMBERS: 78560000,78600000, 7861000,
- PROPERTY OWNER: RONALD A BROWN
- LEGAL DESCRIPTION:
  CAMAS LOTS 1, 2, 7 & 8 BLK 33
- SITE AREA: 20,000 SF OR .46 ACRES

PLANNING
- JURISDICTION: CITY OF CAMAS
- CAMAS, WASHINGTON MUNICIPAL CODE (CWMC)
- ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE
  - SIDE - STREET: NONE
  - REAR: NONE

- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2 LOW SCREEN
  -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 23
  STALLS - FF: 15 STALLS
  - ADMIN: 8 STALLS -
  PUBLIC: 0 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

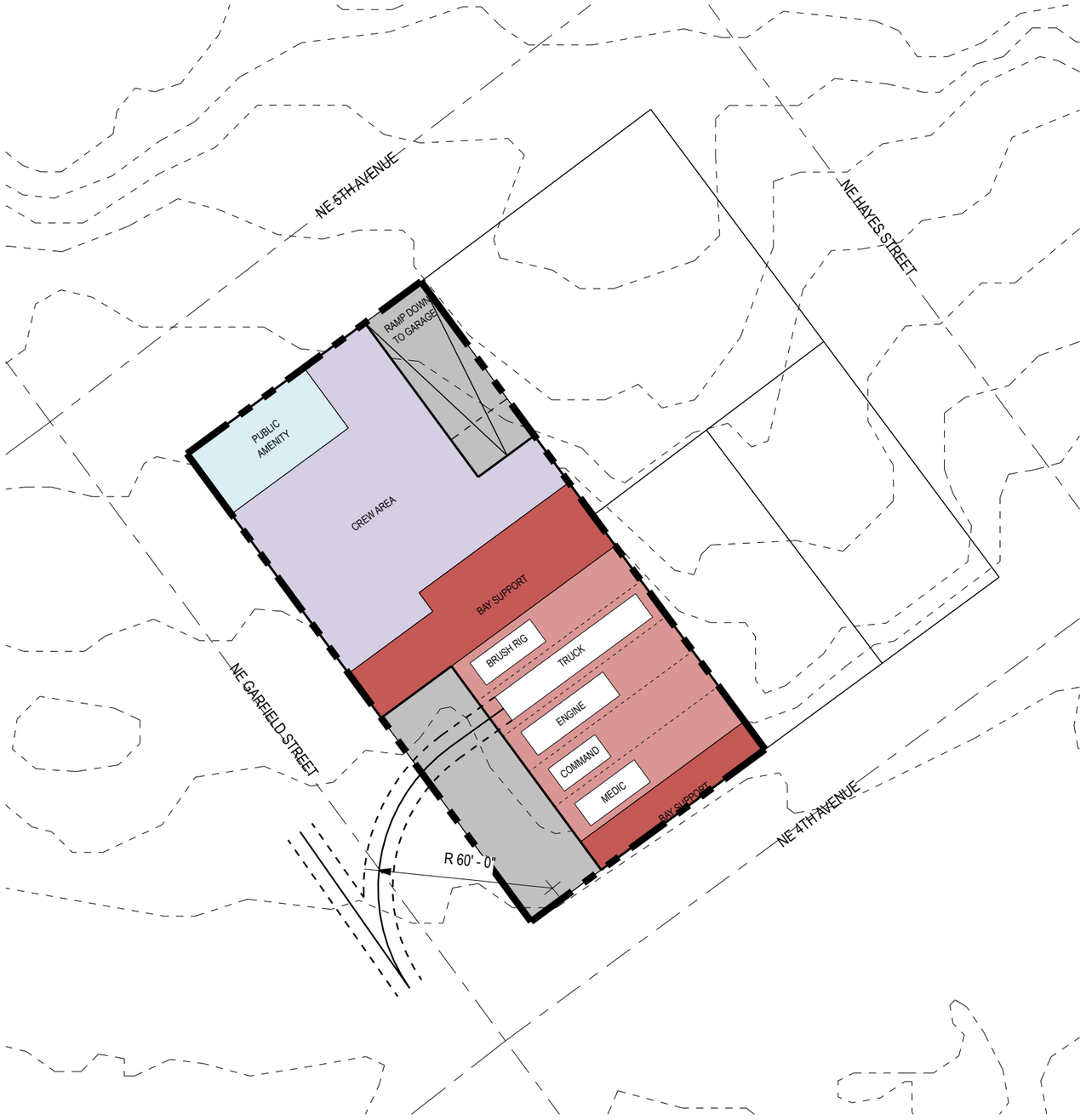
TCA
ARCHITECTURE + PLANNING + DESIGN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

CWFD STATION 41

10/04/2023

SITE OPTION F
LEVEL 1



SITE INFORMATION • ADDRESS:
410 NE GARFIELD ST CAMAS,
WA 98607

- PARCEL NUMBERS: 78560000,78600000, 7861000,
- PROPERTY OWNER: RONALD A BROWN
- LEGAL DESCRIPTION:
  CAMAS LOTS 1, 2, 7 & 8 BLK 33
- SITE AREA: 20,000 SF OR .46 ACRES

PLANNING
• JURISDICTION: CITY OF CAMAS
CAMAS, WASHINGTON MUNICIPAL CODE
(CWMC) • ZONING: DOWNTOWN COMMERCIAL
(DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
• MAXIMUM LOT COVERAGE: NONE •
MAXIMUM IMPERVIOUS AREA %:
NMAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE
  - SIDE - STREET:
    NONE - REAR:
    NONE
- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2 LOW SCREEN
  -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD
    PARKING SPACE: 9'-0" X 18'-0" -
    COMPACT PARKING SPACE: 8'-0" X
    15'-0"
- STALL COUNT: 23 STALLS
  - FF: 15 STALLS
    - ADMIN: 8
    STALLS -
    PUBLIC: 0
    STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

TCA
ARCHITECTURE + PLANNING + DESIGN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

CWFD STATION 41

10/04/2023

SITE OPTION F
LEVEL 2

SITE INFORMATION • ADDRESS:
410 NE GARFIELD ST CAMAS,
WA 98607

- PARCEL NUMBERS: 78560000,78600000, 7861000,
- PROPERTY OWNER: RONALD A BROWN
- LEGAL DESCRIPTION:
  CAMAS LOTS 1, 2, 7 & 8 BLK 33
- SITE AREA: 20,000 SF OR .46 ACRES

PLANNING
- JURISDICTION: CITY OF CAMAS
- CAMAS, WASHINGTON MUNICIPAL CODE (CWMC)
- ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: NONE
- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE
  - SIDE - STREET: NONE
  - REAR: NONE
- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2 LOW SCREEN
  -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM
- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 23 STALLS
  - FF: 15 STALLS
  - ADMIN: 8 STALLS -
  - PUBLIC: 0 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

TCA
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CWFD STATION 41

10/04/2023

SITE OPTION G1
LEVEL 1

SITE INFORMATION
- ADDRESS: 231 SE EVERETT STREET CAMAS, WA 98607
- PARCEL NUMBERS: 89550000, 89560000, 89565000, 89570000, 89580000, 89590000, & 89600000
- PROPERTY OWNER: RIVERVIEW SAVINGS BANK, JAY HOFER & SANDRA HOFER, CHRISTINA GREEN, & GORGIA PACIFIC CONSUMER PRODUCTS LLC
- LEGAL DESCRIPTION: OVERLOOK ADDN CAMAS LOT 1, 2, 3, 4, 5, 6, 7 & 8 BLK 17
- SITE AREA: 38,522 SF OR .88 ACRES

PLANNING
- JURISDICTION: CITY OF CAMAS CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: HEAVY INDUSTRIAL (HI)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030) • MAXIMUM LOT COVERAGE: NONE • MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE -
    SIDE - STREET:
    NONE
  - REAR: NONE
- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L1 GENERAL LANDSCAPING

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020) - DRIVE AISLE: 24'-0"
  - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 38 STALLS
  - FF: 17 STALLS
  - ADMIN: 11 STALLS
  - PUBLIC: 10 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

TCA
ARCHITECTURE + PLANNING + DESIGN

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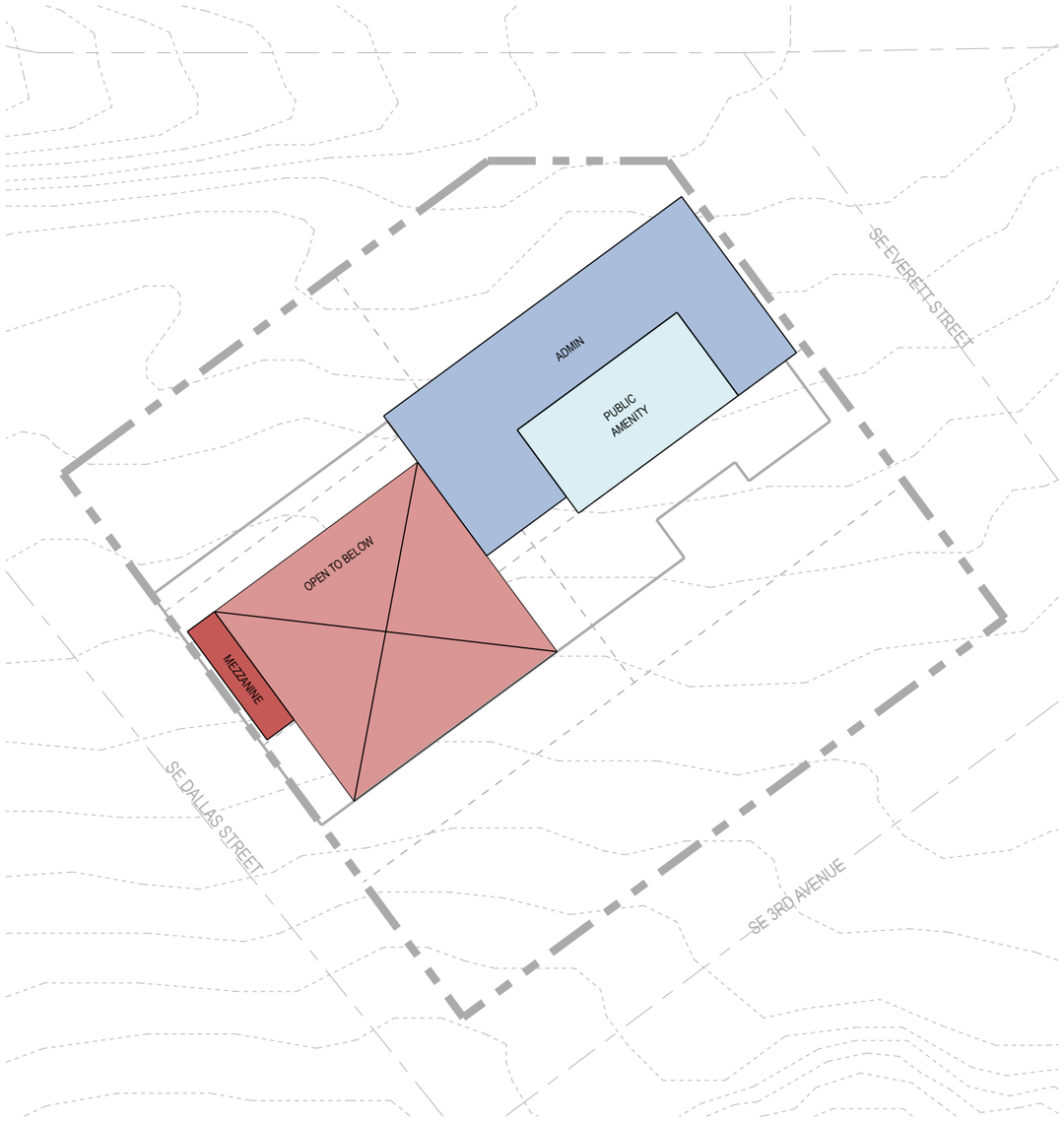
CWFD STATION 41

10/04/2023

SITE OPTION G1
LEVEL 2



SITE INFORMATION • ADDRESS: 231 SE EVERETT STREET CAMAS, WA 98607

- PARCEL NUMBERS: 89550000, 89560000, 89565000, 89570000, 89580000, 89590000, & 89600000
- PROPERTY OWNER: RIVERVIEW SAVINGS BANK, JAY HOFER & SANDRA HOFER, CHRISTINA GREEN, & GORGIA PACIFIC CONSUMER PRODUCTS LLC
- LEGAL DESCRIPTION: OVERLOOK ADDN CAMAS LOT 1, 2, 3, 4, 5, 6, 7 & 8 BLK 17

- SITE AREA: 38,522 SF OR .88 ACRES

PLANNING
• JURISDICTION: CITY OF CAMAS
CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: HEAVY INDUSTRIAL (HI)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030) • MAXIMUM LOT COVERAGE: NONE
• MAXIMUM IMPERVIOUS AREA %: N/A
• MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE -
    SIDE - STREET:
    NONE
  - REAR: NONE
- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L1 GENERAL LANDSCAPING

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 38 STALLS
  - FF: 17 STALLS
  - ADMIN: 11 STALLS - PUBLIC: 10 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

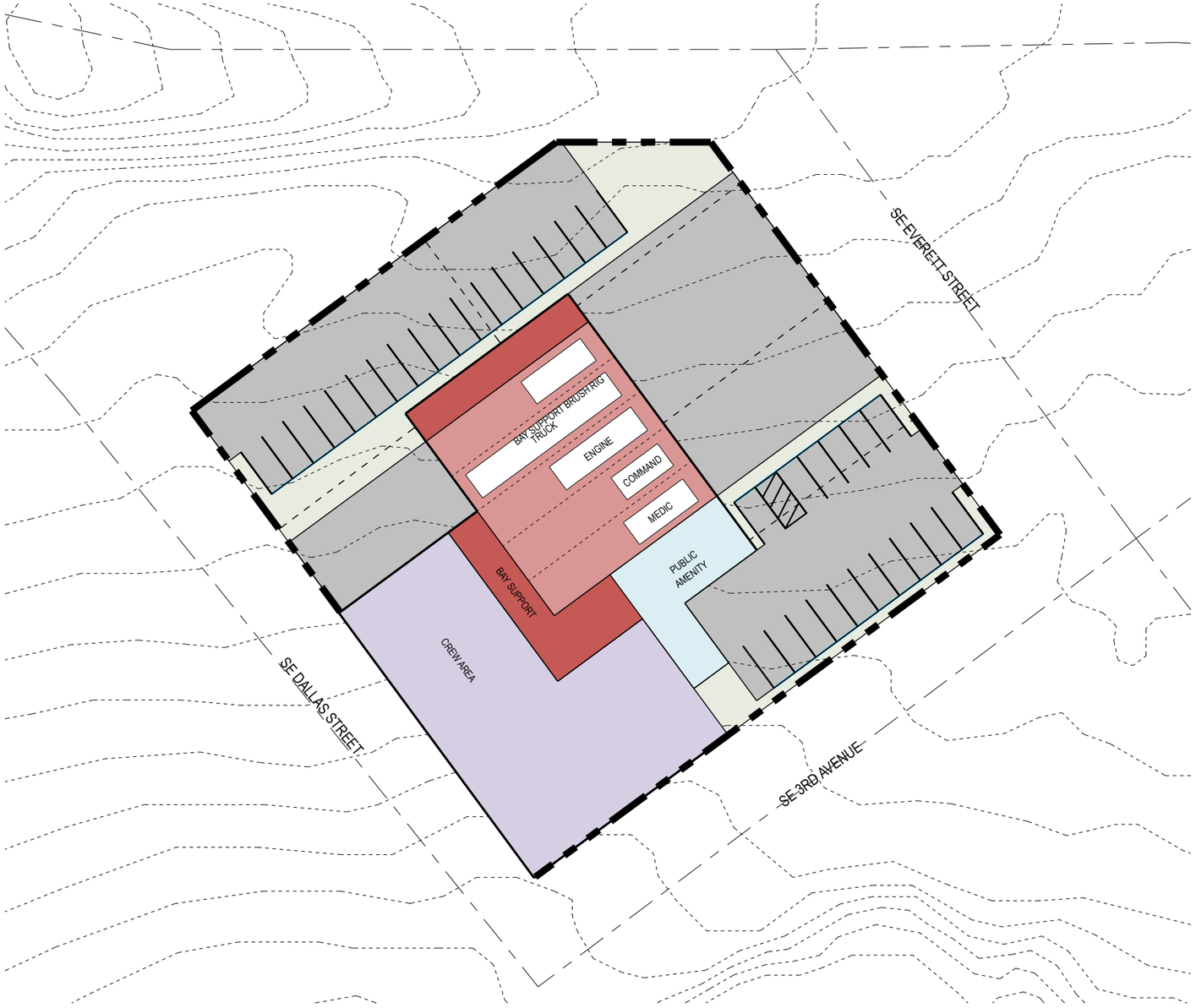
TCA
ARCHITECTURE + PLANNING + DESIGN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

CWFD STATION 41

10/04/2023

SITE OPTION G2
LEVEL 1



SITE INFORMATION
- ADDRESS: 231 SE EVERETT STREET CAMAS, WA 98607
- PARCEL NUMBERS: 89550000, 89560000, 89565000, 89570000, 89580000, 89590000, & 89600000
- PROPERTY OWNER: RIVERVIEW SAVINGS BANK, JAY HOFER & SANDRA HOFER, CHRISTINA GREEN, & GORGIA PACIFIC CONSUMER PRODUCTS LLC
- LEGAL DESCRIPTION: OVERLOOK ADDN CAMAS LOT 1, 2, 3, 4, 5, 6, 7 & 8 BLK 17
- SITE AREA: 38,522 SF OR .88 ACRES

PLANNING
- JURISDICTION: CITY OF CAMAS
CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: HEAVY INDUSTRIAL (HI)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030) • MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE - SIDE - STREET: NONE
  - REAR: NONE
- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L1 GENERAL LANDSCAPING

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 33 STALLS
  - FF: 17 STALLS
  - ADMIN: 8 STALLS
  - PUBLIC: 8 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

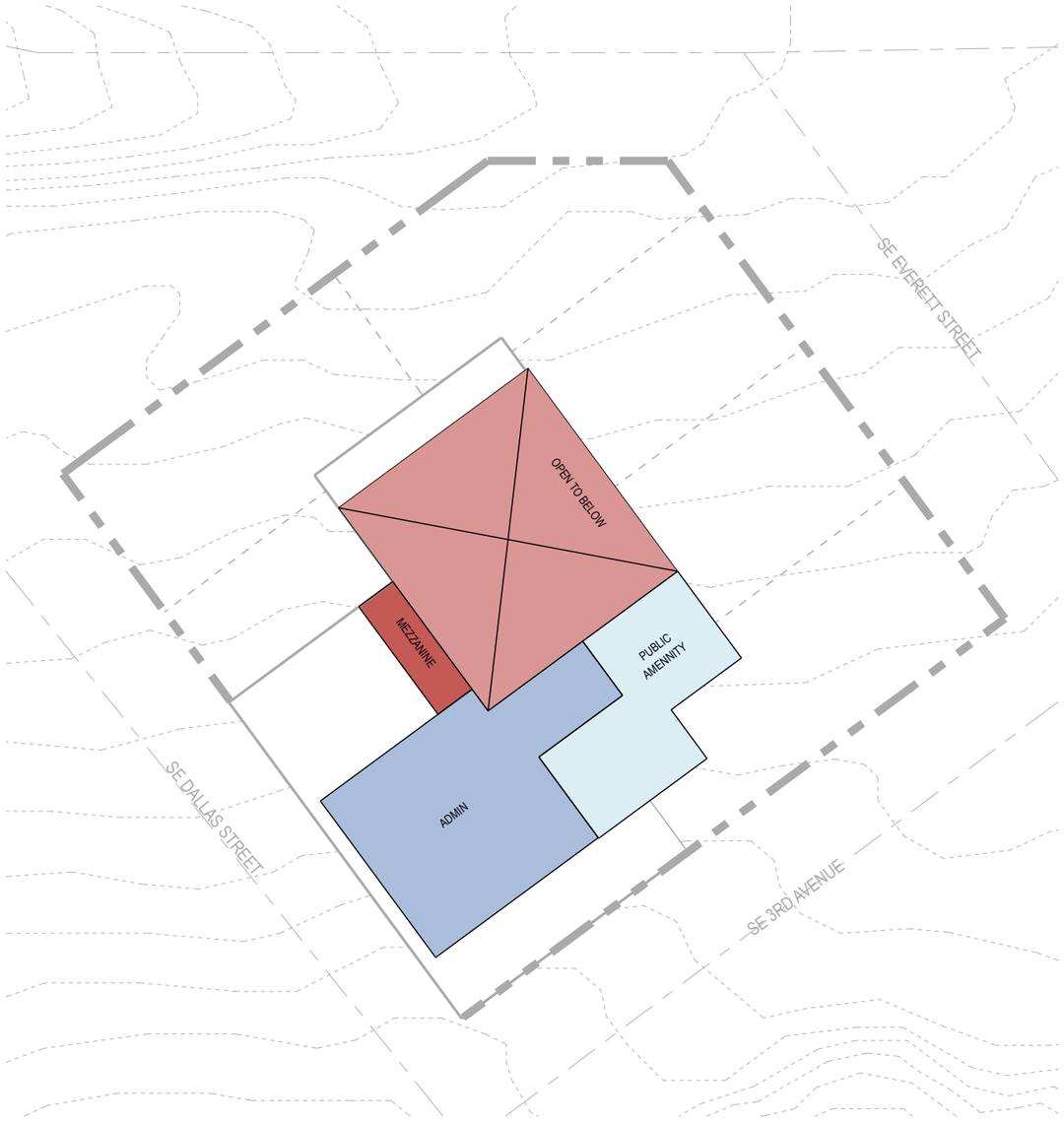
TCA
ARCHITECTURE + PLANNING + DESIGN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

CWFD STATION 41

10/04/2023

SITE OPTION G2
LEVEL 2



SITE INFORMATION • ADDRESS: 231 SE EVERETT STREET CAMAS, WA 98607

- PARCEL NUMBERS: 89550000, 89560000, 89565000, 89570000, 89580000, 89590000, & 89600000
- PROPERTY OWNER: RIVERVIEW SAVINGS BANK, JAY HOFER & SANDRA HOFER, CHRISTINA GREEN, & GORGIA PACIFIC CONSUMER PRODUCTS LLC
- LEGAL DESCRIPTION: OVERLOOK ADDN CAMAS LOT 1, 2, 3, 4, 5, 6, 7 & 8 BLK 17

- SITE AREA: 38,522 SF OR .88 ACRES

PLANNING
• JURISDICTION: CITY OF CAMAS
CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: HEAVY INDUSTRIAL (HI)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030) • MAXIMUM LOT COVERAGE: NONE
• MAXIMUM IMPERVIOUS AREA %: N/A
• MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE - SIDE - STREET: NONE
  - REAR: NONE
- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L1 GENERAL LANDSCAPING

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 33 STALLS
  - FF: 17 STALLS
  - ADMIN: 8 STALLS - PUBLIC: 8 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

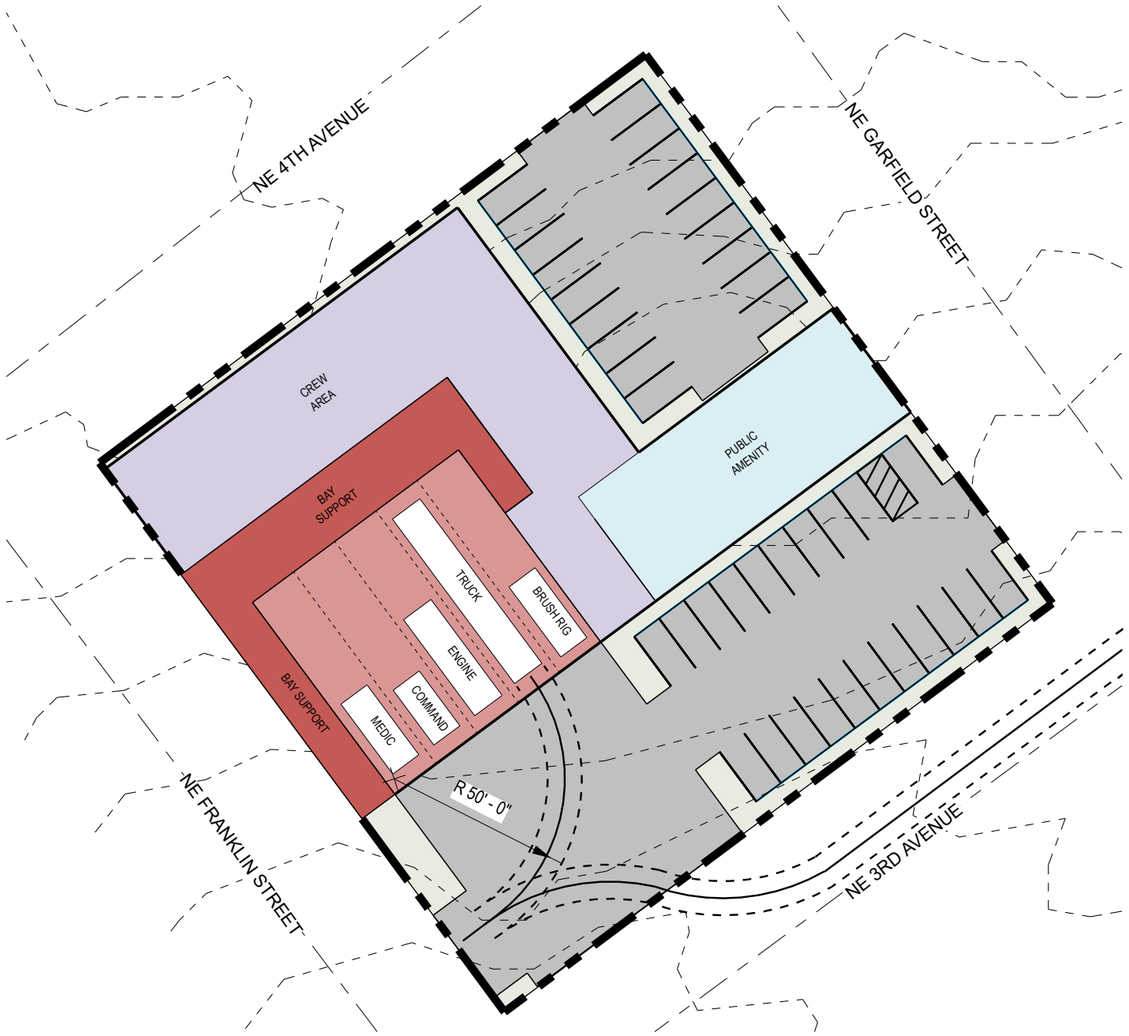
TCA
ARCHITECTURE + PLANNING + DESIGN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

CWFD STATION 41

10/04/2023

SITE OPTION H1
LEVEL 1



SITE INFORMATION •
ADDRESS: 700 NE 4TH AVENUE
CAMAS, WA 98607

- PARCEL NUMBERS: 78200000

- PROPERTY OWNERS: RIVCAM LLC

ŁEGAL DESCRIPTION:
CAMAS BLOCK 27

- SITE AREA: 40,000SF / 0.92 ACRES

PLANNING
- JURISDICTION: CITY OF CAMAS
- CAMAS, WASHINGTON MUNICIPAL CODE (CWMC)
- ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE
  - SIDE - STREET: NONE
  - REAR: NONE

- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2 LOW SCREEN
  -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 39 STALLS
  - FF: 18 STALLS - ADMIN: 12 STALLS - PUBLIC: 9 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

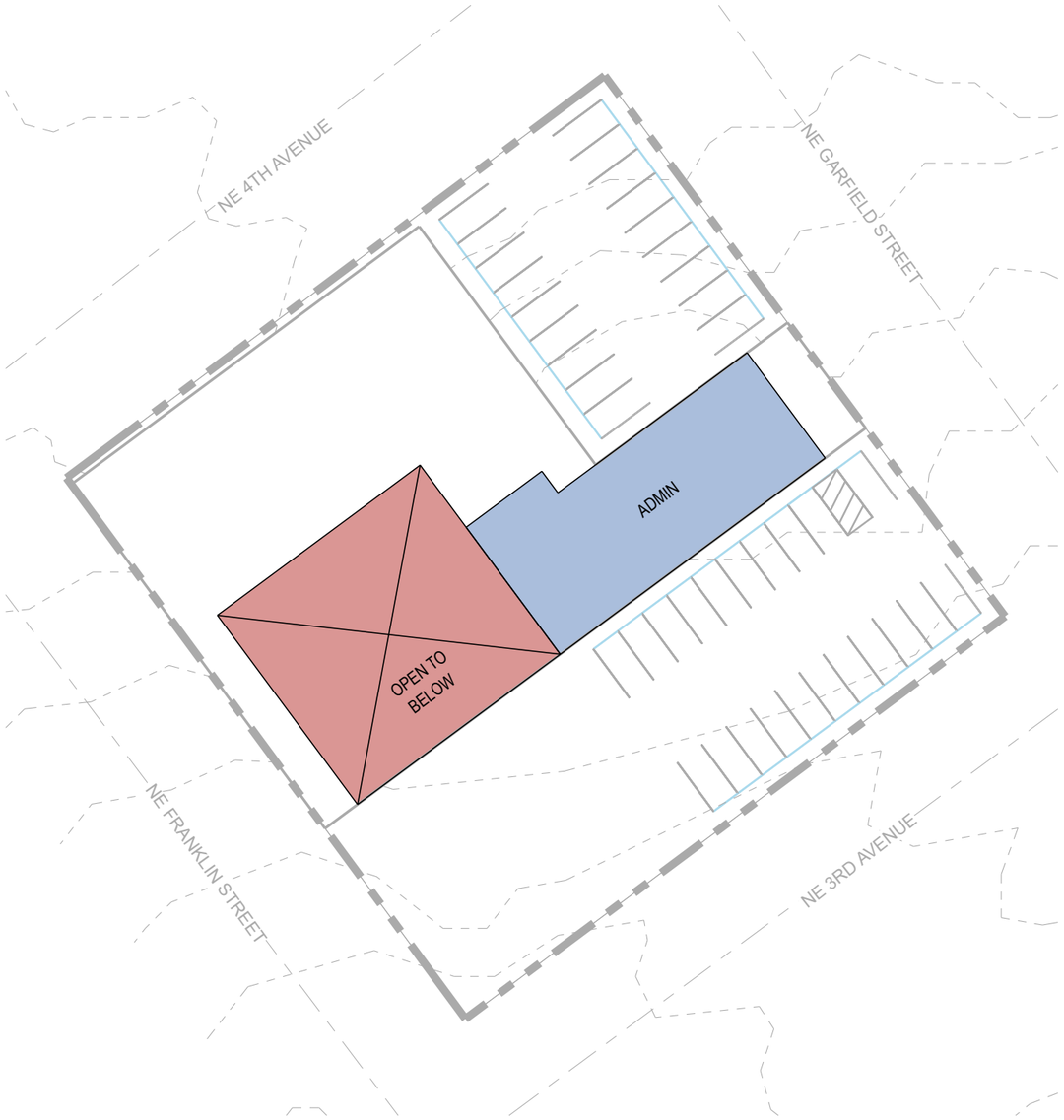
TCA
ARCHITECTURE + PLANNING + DESIGN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

CWFD STATION 41

10/04/2023

SITE OPTION H1
LEVEL 2



SITE INFORMATION •
ADDRESS: 700 NE 4TH AVENUE
CAMAS, WA 98607

- PARCEL NUMBERS: 78200000

- PROPERTY OWNERS: RIVCAM LLC

ŁEGAL DESCRIPTION:
CAMAS BLOCK 27

- SITE AREA: 40,000SF / 0.92 ACRES

PLANNING
- JURISDICTION: CITY OF CAMAS
- CAMAS, WASHINGTON MUNICIPAL CODE (CWMC)
- ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE
  - SIDE - STREET: NONE
  - REAR: NONE

- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2 LOW SCREEN
  -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 39 STALLS
  - FF: 18 STALLS - ADMIN: 12 STALLS - PUBLIC: 9 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

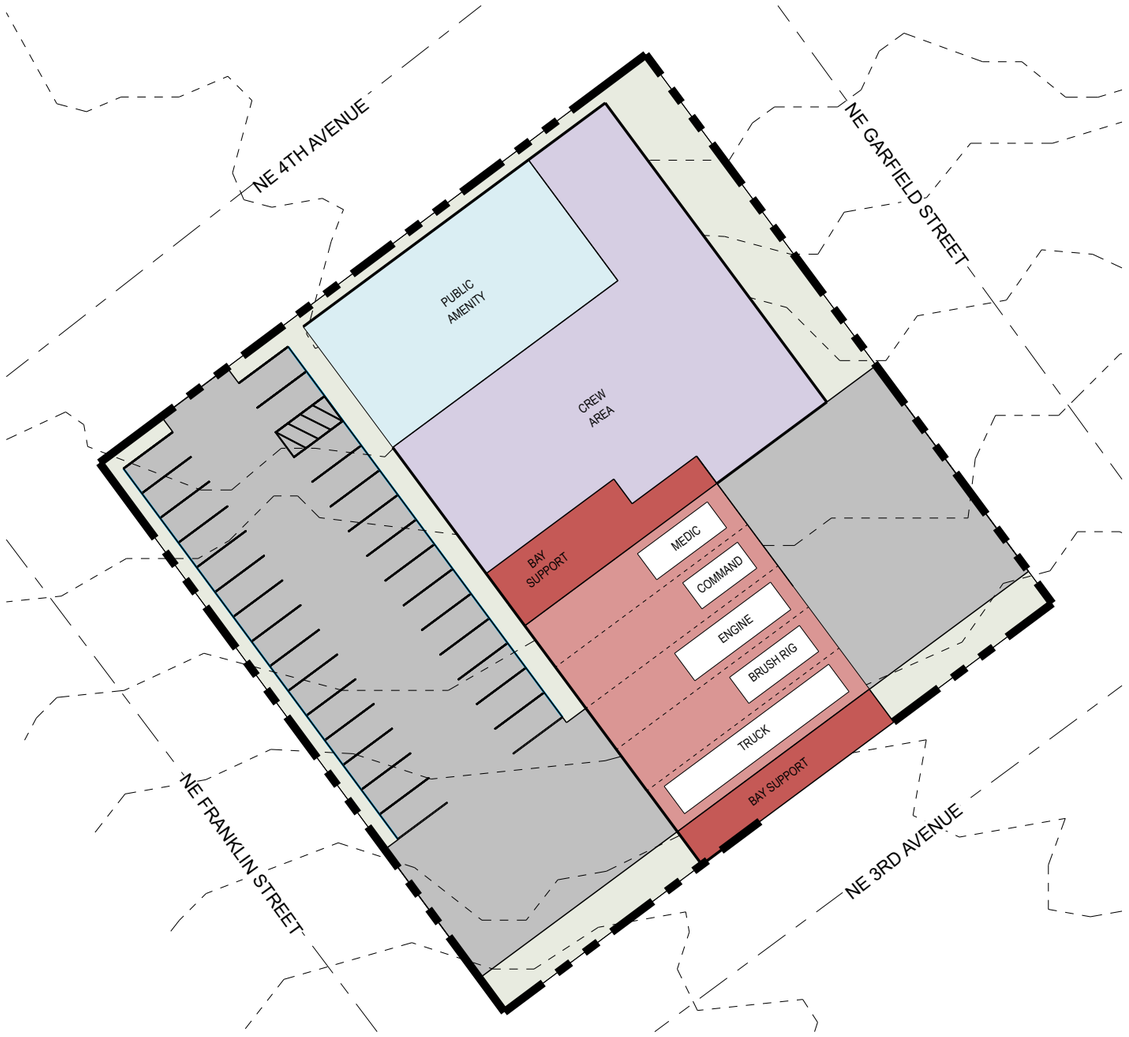
TCA
ARCHITECTURE + PLANNING + DESIGN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

CWFD STATION 41

10/04/2023

SITE OPTION H2
LEVEL 1



SITE INFORMATION •
ADDRESS: 700 NE 4TH AVENUE
CAMAS, WA 98607

- PARCEL NUMBERS: 78200000

- PROPERTY OWNERS: RIVCAM LLC

ŁEGAL DESCRIPTION:
CAMAS BLOCK 27

- SITE AREA: 40,000SF / 0.92 ACRES

PLANNING
- JURISDICTION: CITY OF CAMAS
- CAMAS, WASHINGTON MUNICIPAL CODE (CWMC)
- ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: NONE

- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE
  - SIDE - STREET: NONE
  - REAR: NONE

- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2 LOW SCREEN
  -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
  - DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
- STALL COUNT: 29 STALLS
  - FF: 18 STALLS - ADMIN: 10 STALLS - PUBLIC: 1 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

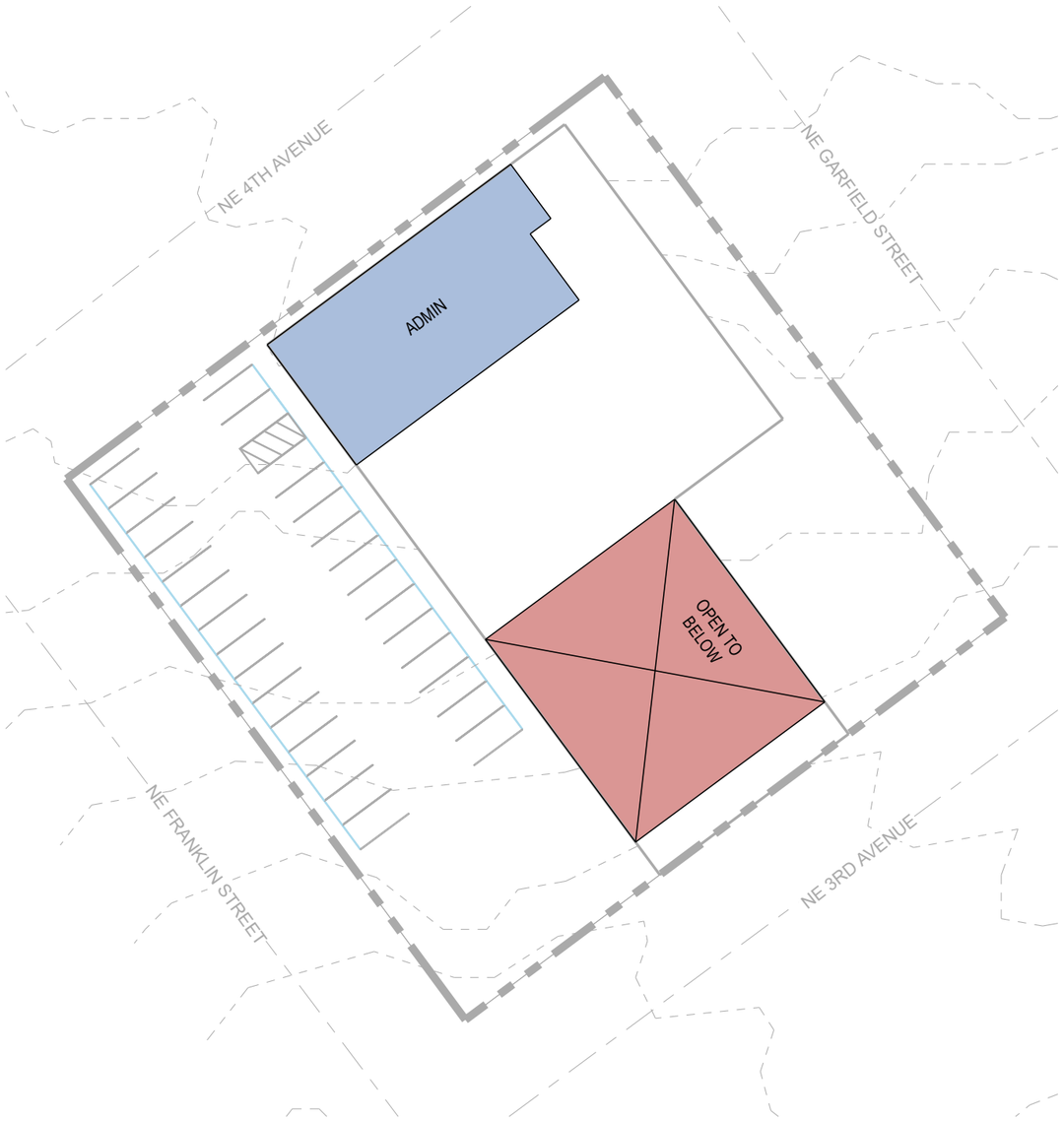
TCA
ARCHITECTURE + PLANNING + DESIGN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

CWFD STATION 41

10/04/2023

SITE OPTION H2
LEVEL 2



SITE INFORMATION •
ADDRESS: 700 NE 4TH AVENUE
CAMAS, WA 98607

• PARCEL NUMBERS: 78200000

• PROPERTY OWNERS: RIVCAM LLC

ŁEGAL DESCRIPTION:
CAMAS BLOCK 27

• SITE AREA: 40,000SF / 0.92 ACRES

PLANNING
• JURISDICTION: CITY OF CAMAS
• CAMAS, WASHINGTON MUNICIPAL CODE (CWMC)
• ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
• MAXIMUM LOT COVERAGE: NONE
• MAXIMUM IMPERVIOUS AREA %: N/A
• MAX BUILDING HEIGHT: NONE

• SETBACKS (CWMC TABLE 18.09.030):
- ROW: NONE -
SIDE - STREET:
NONE - REAR:
NONE
• LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
-ABUTTING STREET: 5'-0" L2 LOW SCREEN
-ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
• DETERMINED BY SIMILAR USES (CWMC 18.11.130) - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

• PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
- DRIVE AISLE: 24'-0" - STANDARD
PARKING SPACE: 9'-0" X 18'-0" -
COMPACT PARKING SPACE: 8'-0" X
15'-0"
• STALL COUNT: 29 STALLS
- FF: 18 STALLS -
ADMIN: 10
STALLS -
PUBLIC: 1
STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

TCA
ARCHITECTURE + PLANNING + DESIGN

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SITE OPTION E
INFORMATION & DIAGRAMS

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Station 41 Site Candidate #5

Legend

- Taxlots

Notes:

One Property Owner (City-owned)
Two Parcels
0.57 Acres

752.3 0 376.17 Feet752.3

WGS_1984_Web_Mercator_Auxiliary_Sphere
Clark County, WA. GIS - http://gis.clark.wa.gov

This map was generated by Clark County's "MapsOnline" website. Clark County does not warrant the accuracy, reliability or timeliness of any information on this map, and shall not be held liable for losses caused by using this information. Taxlot (i.e., parcel) boundaries cannot be used to determine the location of property lines on the ground.

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CWFD STATION 41

1/2/2024

SITE OPTION E + VACATION 4
LEVEL 1

SECTION

SITE INFORMATION
- ADDRESS: 528 NE 4TH AVE
  CAMAS, WA 98607

- PARCEL NUMBERS: 78100000, 78105000, 7814000, 7815000, 7817000, 78180000

- PROPERTY OWNERS: CITY OF CAMAS, CALCEUS LLC

- LEGAL DESCRIPTION:
  CAMAS LOTS 3,4,5,6 & 7 BLK 25 1,2,3, & 4 BLK 26

- SITE AREA: 44,750 SF OR 1.01 ACRES

PLANNING
JURISDICTION: CITY OF CAMAS • CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
MAXIMUM LOT COVERAGE: NONE • MAXIMUM IMPERVIOUS AREA %: N/A • MAX BUILDING HEIGHT: NONE
- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE - SIDE -
  STREET: NONE -
  REAR: NONE

- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2 LOW SCREEN
  -ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
- DETERMINED BY SIMILAR USES (CWMC 18.11.130)
  - BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

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- STALL COUNT: 2 STALLS
  - FF: 0 STALLS - ADMIN: 0 STALLS
  - PUBLIC: 2 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

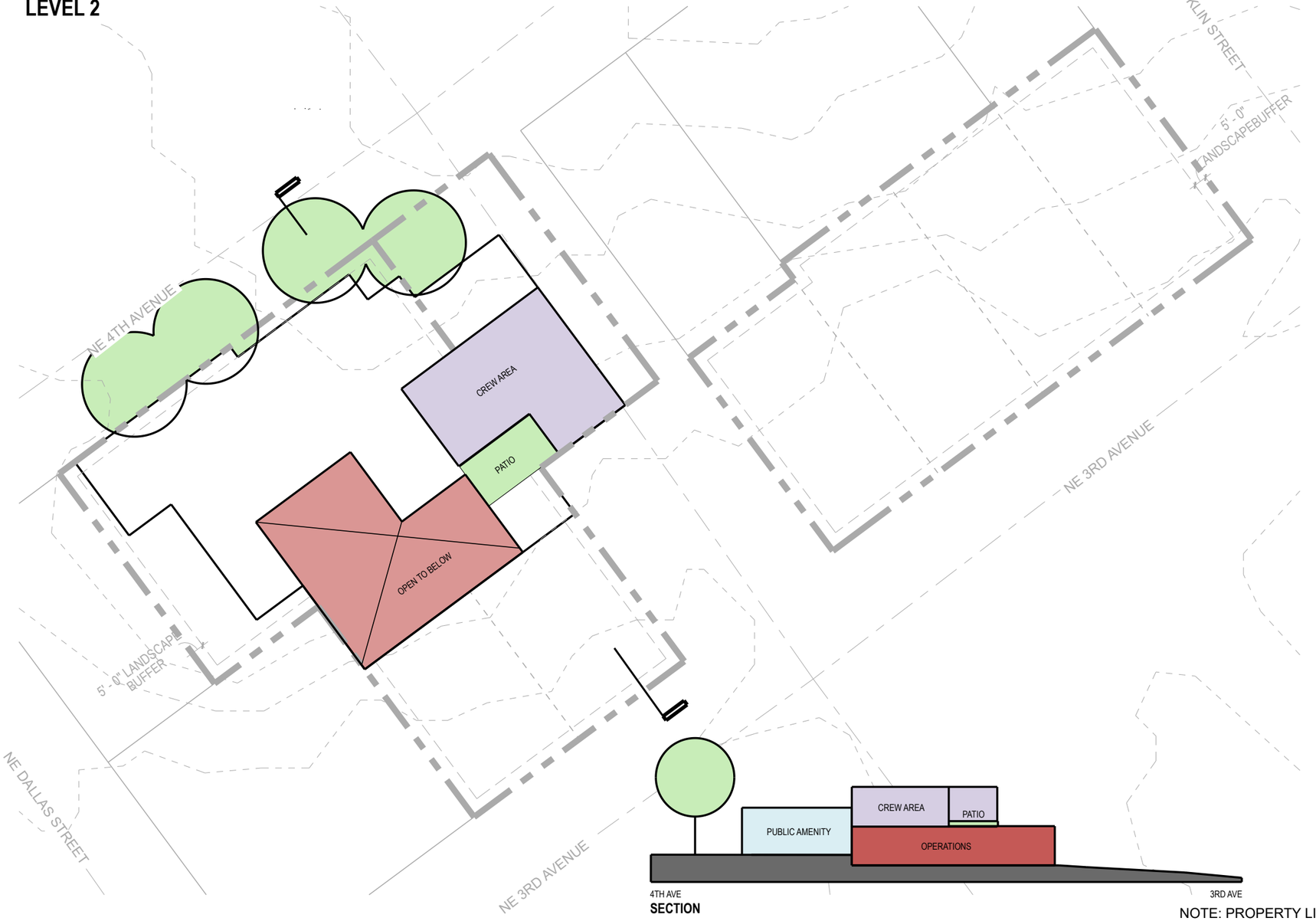
TCA
ARCHITECTURE + PLANNING + DESIGN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

CWFD STATION 41

1/2/2024

SITE OPTION E + VACATION 4
LEVEL 2



SECTION

SITE INFORMATION
• ADDRESS: 528 NE 4TH AVE

• PARCEL NUMBERS: 78100000, 78105000 • PROPERTY OWNERS: CITY OF CAMAS CAMAS, WA 98607

• LEGAL DESCRIPTION:
CAMAS LOTS 3,4,5,6 & 7 BLK
25
• SITE AREA: 25,000 SF OR .57 ACRES

PLANNING
JURISDICTION: CITY OF CAMAS • CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
MAXIMUM LOT COVERAGE: NONE • MAXIMUM IMPERVIOUS AREA %:
N/A • MAX BUILDING HEIGHT:
NONE
• SETBACKS (CWMC TABLE 18.09.030):
- ROW: NONE - SIDE -
STREET: NONE -
REAR: NONE

• LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
-ABUTTING STREET: 5'-0" L2 LOW SCREEN
-ABUTTING COMMERCIAL: 5'-0" L2 LOW SCREEN

PARKING
• DETERMINED BY SIMILAR USES (CWMC 18.11.130)
- BUSINESS SPACES: 1 SPACE PER 250 SF OF GROSS FLOOR AREA - CREW AREA: 1 PER SLEEPING ROOM

• PARKING STALL AND AISLE DIMENSIONAL STANDARDS (CWMC 18.11.020)
- DRIVE AISLE: 24'-0" - STANDARD PARKING SPACE: 9'-0" X 18'-0" - COMPACT PARKING SPACE: 8'-0" X 15'-0"
• STALL COUNT: 2 STALLS
- FF: 0 STALLS - ADMIN: 0 STALLS
- PUBLIC: 2 STALLS

NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

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ARCHITECTURE + PLANNING + DESIGN

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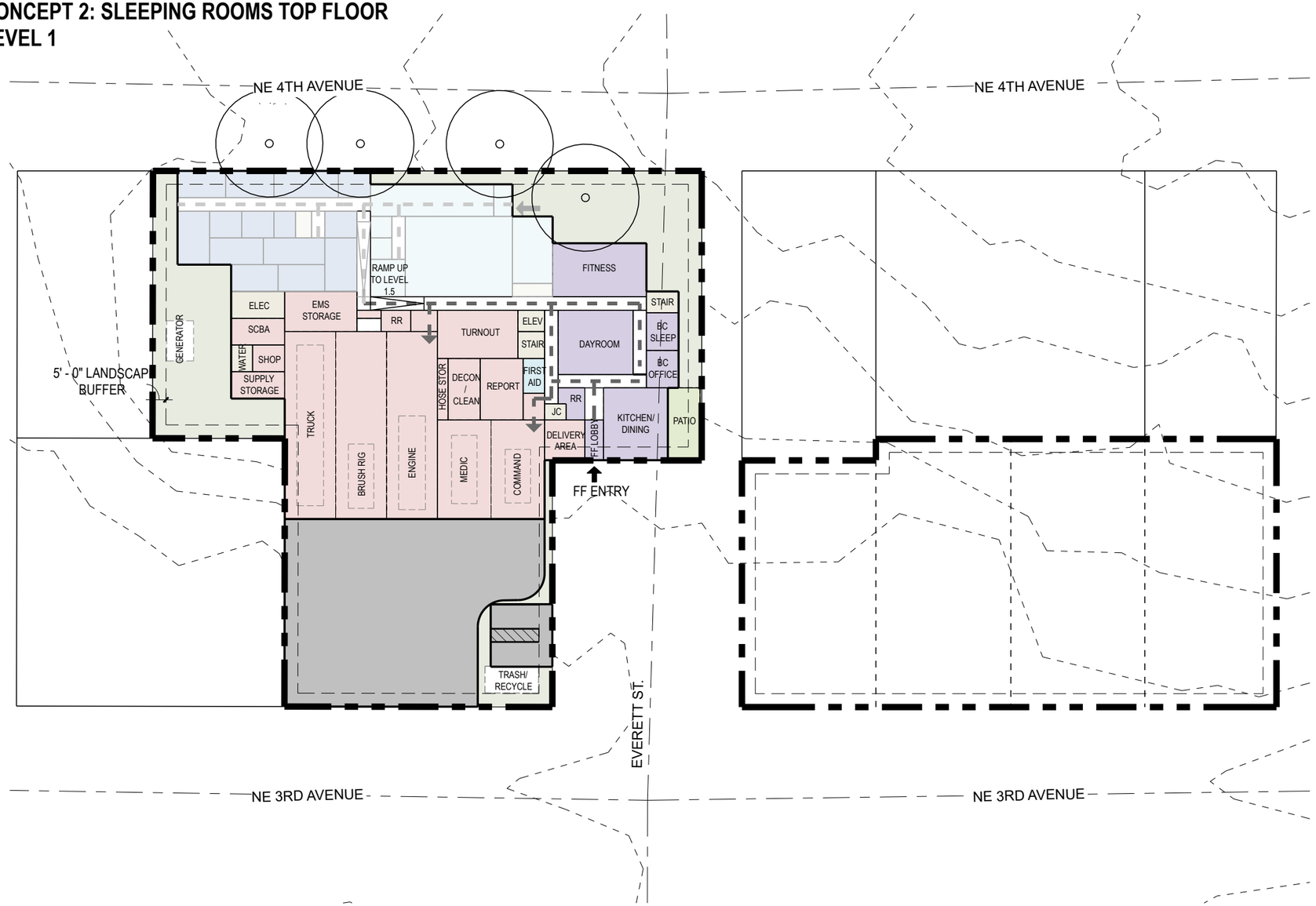
SITE OPTION E
CONCEPT FLOOR PLANS

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

CWFD STATION 41

2/8/2024

SITE OPTION E + STREET VACATION
CONCEPT 2: SLEEPING ROOMS TOP FLOOR
LEVEL 1



SITE INFORMATION
- ADDRESS: 528 NE 4TH AVE

- PARCEL NUMBERS: 78100000, 78105000 • PROPERTY OWNERS: CITY OF CAMAS CAMAS, WA 98607

- LEGAL DESCRIPTION: CAMAS LOTS 3,4,5,6 & 7 BLK 25
- SITE AREA: 25,000 SF OR .57 ACRES

PLANNING
JURISDICTION: CITY OF CAMAS • CAMAS, WASHINGTON MUNICIPAL CODE (CWMC) • ZONING: DOWNTOWN COMMERCIAL (DC)

ZONE REQUIREMENTS (CWMC TABLE 18.09.030)
MAXIMUM LOT COVERAGE: NONE • MAXIMUM IMPERVIOUS AREA %: N/A • MAX BUILDING HEIGHT: NONE
- SETBACKS (CWMC TABLE 18.09.030):
  - ROW: NONE - SIDE - STREET: NONE - REAR: NONE

- LANDSCAPE BUFFERS (CWMC TABLE 18.13.055)
  -ABUTTING STREET: 5'-0" L2 LOW SCREEN
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PARKING
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- STALL COUNT: 2 STALLS
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NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

TCA ARCHITECTURE + PLANNING + DESIGN

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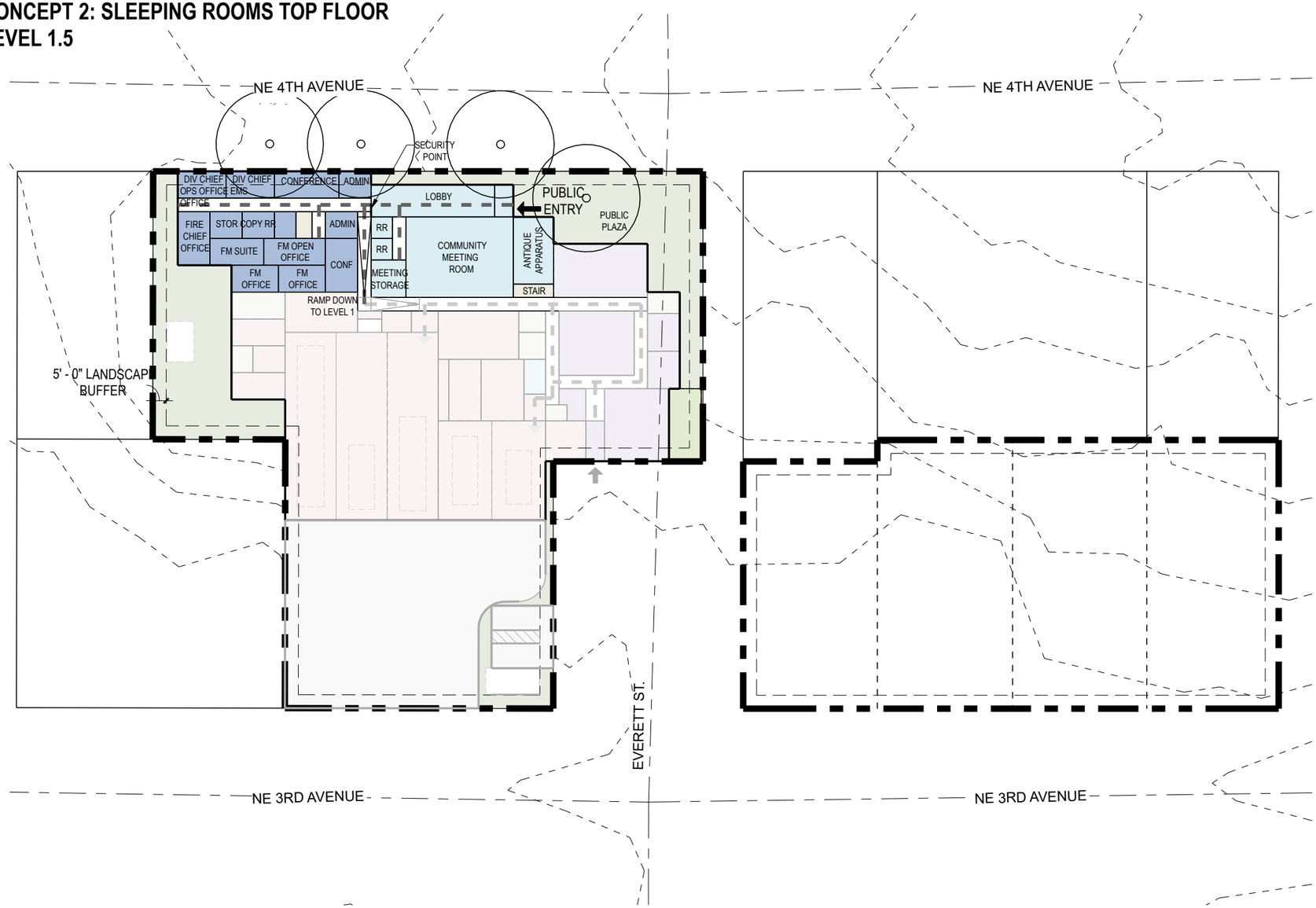
SITE OPTION E + STREET VACATION
CONCEPT 2: SLEEPING ROOMS TOP FLOOR
LEVEL 1.5



NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

TCA
ARCHITECTURE + PLANNING + DESIGN

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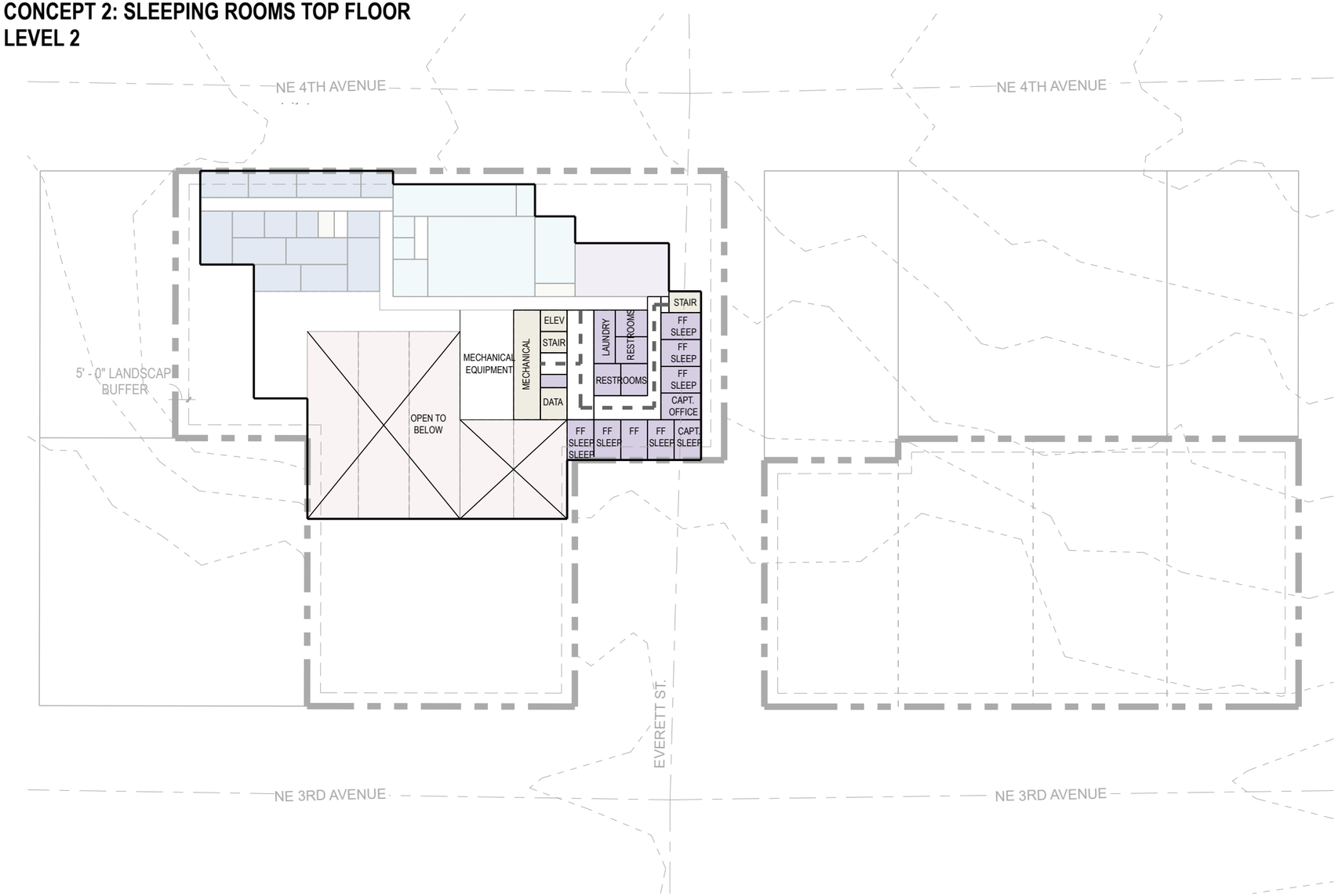
SITE OPTION E + STREET VACATION
CONCEPT 2: SLEEPING ROOMS TOP FLOOR
LEVEL 2



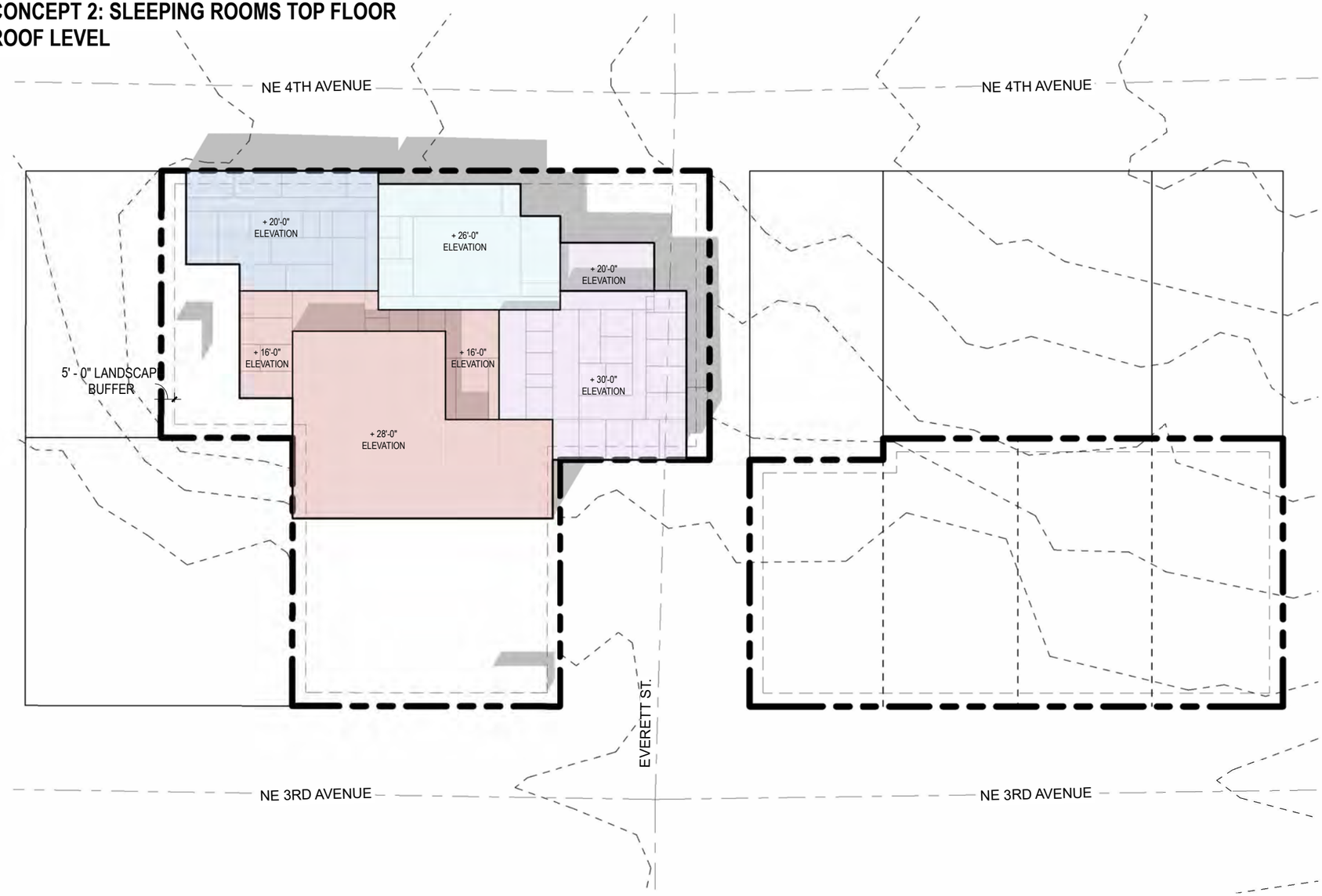
NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

TCA ARCHITECTURE + PLANNING + DESIGN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

SITE OPTION E + STREET VACATION
CONCEPT 2: SLEEPING ROOMS TOP FLOOR
ROOF LEVEL



NOTE: PROPERTY LINES ARE APPROXIMATE

0 40' 80'

TCA
ARCHITECTURE + PLANNING + DESIGN

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FIRE STATION 41
PROJECT RENDERINGS

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ARCHITECTURAL
CONCEPT
NARRATIVE

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Architectural Concept Narrative

Project Description

CWFD HQ Fire Station 41 is planned as a 23,280 square foot station to be developed on a 0.57 acre parcel located at 528 NE 4th Ave, Camas, WA. The City of Camas owns this property. CWFD prefers NE 3rd Avenue for emergency response. Upon opening for service, 5-6 personnel (in 4 shifts) will staff the station, and the apparatus bay will house 1 engine, 1 truck, 1 command vehicle, 1 medic and 1 brush rig. The station will have the ability to house 9 fire fighters for future growth.

Project Understandings and Considerations:

- Site consists of 2 parcels which would need to be combined by boundary line adjustments.
- Environmental Assessment and Geotechnical Investigations have not been performed to date. Estimating excludes environmental mitigation measures and soil improvements. A site contingency is included to mitigate risks from unforeseen conditions.
- A topographic survey has not been provided. The concept is based on available GIS information.

Code Data and Analysis

1. Local AHJ: City of Camas
2. Building Codes: 2021 IBC and I-Codes, UPC as amended by state and local government, WAC 296-305, 2010 ADA Standards, 2017 ANSI-ICC A117.1.
   a. Occupancies:
      i. Fire Station: B, R-3, S-1, S-2.
   b. Type of Construction: V-B, Sprinklered.
   c. Allowable Area: No maximum lot coverage regulations.
   d. Allowable Stories/Height: Not limited.
   e. Separations:
      i. A non-separated mixed-use occupancy approach is taken per IBC 508.3.
      ii. 1-hour fire-resistive construction is required between sleeping rooms and the apparatus bay per WAC 296-305-06507. An IBC 1-hour fire barrier will be used for assembly requirements.
      iii. 1/2 hour partition between sleeping rooms per IBC 420.2 & 708.1. Energy Code: 2021 Washington State Energy Code.
   f. Climate Zone: 4C.

Anticipated Bid Date: TBD
Construction Schedule: 395 days (13 months) from NTP until Substantial Completion.

CWFD HQ Fire Station 41
Concept Narrative
February 8, 2024

Concept Design Elements:

1. Frontage
   a. See Concept Plan and Rendering
2. Site
   a. See Concept Plan
   b. 8” thick reinforced concrete apparatus bay front apron.
   c. 10’ high, 8” wide structural brick enclosure at new pad-mounted backup generator.
   d. Landscaping.
   e. Flagpole with external halyard beacon lighting.
   f. Trash and Recycling enclosure with gates.
   g. Security camera system.
   h. Public plaza with site fixtures and enhanced landscaping.
   i. (2) parking spots adjacent to apron and trash enclosure.

3. Building Structural
   a. Steel structure with Buckling Restrained Braced Frames.
   b. Metal Deck for roof structure with 20% using a Concrete/Metal Deck.
   c. Framing Options:
      i. Steel stud framing. ii. Wood stud framing.
   d. Slab on grade.
      i. 8” reinforced concrete at apparatus bay.
      ii. 4” reinforced concrete at other locations.
   e. Conventional footings.
   f. <u>Alternate</u>: Provide wood frame structure as a cost alternate in lieu of steel frame

4. Building Envelope
   a. Exterior Walls: 6” (metal or wood) stud, 1/2" gypsum sheathing, 2” polyiso rigid insul., fluid applied WRB (e.g., Prosoco Cat5), R-21 batt insul. with:
      i. Brick Masonry, 2 colors (20%).
      ii. Metal Siding, concealed fastener, 2 profiles, 2 colors (70%).
      iii. Wood Like/Solid Phenolic Panels (10%).
   b. Roof: 1/4” denz deck coverboard, R-40 polyiso. rigid insulation., vapor barrier with:
      i. Single-Ply Membrane Roof System (e.g., Sarnafil PVC).
   Crickets: i. tapered insulation (expanded polystyrene). c.
   Roof accessories:
      i. Access hatch.
      ii. Fall protection.
      iii. Skylight allowance.
   d. Windows: Fiberglass (Cascadia or similar).
   e. Doors & Frames: Storefront (fiberglass); Insulated Hollow Metal, OH Sectional Alum. fully glazed at Fitness Room and Antique Apparatus display.
   f. Bay Door Options:
   g. <u>Alternates</u>
      i. 14’ x 14’ Hi-speed Coiling Doors (Hormann or similar).
      ii. 14’ x 14’ Side Acting Bi-Fold Doors
      iii. 14’ x 14’ Sectional doors with vision panels

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h. Access Control: proximity and keypad at doors to station, inner lobby door, and gates.

5. Exterior Detailing
   a. Awnings: Prefinished Metal Roofing, Steel Frame.
   b. Mechanical Screen Wall: Posts, Girts and Metal Siding.

6. Vertical Circulation
   a. Hydraulic Elevator – with pit and machine room.
   b. (2) Enclosed Stairs.

7. Patio
   a. Covered BBQ area.
   b. Concrete paving. c. Landscaping.
   c. Masonry screen wall.

8. Building Interior
   a. Floors: Primarily Polished Concrete, Athletic Flooring (Exercise Room)
   b. Base: Rubber, Porcelain Tile (Restrooms)
   c. Walls:
      i. Interior Wood Paneling (Lobby) 30%
      ii. Light Orange Peel Texture GWB.
      iii. Fiber-Reinforced Wall Covering (Tnemec product) (Decon, Cleanroom. Airlocks, PPE Storage, Bay Toilet).
   d. Wainscot: 5’ high Porcelain Tile (Restrooms).
   e. Wainscot: 8’ high CMU Veneer (Apparatus Bay). f. Ceilings
      i. Exposed Structure (Apparatus Bay, Fitness, Elec. and Mech. Rms).
      ii. GWB (Restrooms, App. Bay Support Spaces).
      iii. 2x4 Suspended Acoustical Panel.
   g. Doors: Solid Core Wood, Hollow Metal (at Apparatus Bay)
   h. Casework:
      i. Counters:
         1. Solid Surface (Crew Area)
         2. Stainless Steel (Apparatus Bay)
      ii. Cabinets: P-lam with 3mm Edge Banding.
   i. Equipment
      i. Washer Extractor
      ii. Washer & Dryer- Decon
      iii. SCBA Compressor & Remote Fill Station
      iv. RamAir Gear Dryer
      v. Washer & Dryer- Linens
      vi. 6 Burner range with type 1 hood
      vii. 4 Refrigerators viii. 2 Dishwashers
      ix. 2 Microwaves
      x. Garbage Disposal

Electrical Concept Narrative

Power Systems

Electrical Service

Optimally 480V service is preferred based on anticipated electrical needs for mechanical heat pumps. The service will terminate in a service rated distribution panel. It will originate from CPU infrastructure with primary power delivered underground to a CPU pad mount transformer located on the fire station site. Secondary service will be delivered underground to the building via a CT cabinet located on the exterior and from there to the Main Distribution Panel in the electrical room. Meter base will be located adjacent to the CT cabinet. Main Distribution Panel will consist of a main circuit breaker and molded case group mounted circuit breakers.

Additionally, 480V power will likely be required should electrical apparatus be used in the future. No electric apparatus are not being considered in the near future.

Power Distribution

Panelboards with bolt in breakers will be provided.

Panelboards will have door in door style hinged doors.

Surge protectors to be provided for all panelboards.

Four total branch panelboards are anticipated.

Branch Circuitry

Branch circuitry will be provided as required for convenience receptacles, equipment, mechanical units and kitchen appliances.

Branch circuitry will be conduit (typically EMT) and wire. EMT will be required for homeruns. MC cable will be allowed for branches from homeruns.

Receptacles not serving equipment required to be on continuously will be controlled per requirements of Washington State Energy Code. Controlled receptacles will be controlled by occupancy sensors which shut the receptacles off when a room is unoccupied.

Shore power will be provided in apparatus bay for rigs. Shore power will consist of cord drops from ceiling with 20 amp or 30 amp outlets.

Controls for apparatus bay doors to be located on driver side of rigs. A central location with controls for all bay doors will also be provided.

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Emergency Power System

Service

A diesel or natural gas generator with integral base fuel tank or propane will be provided to backup the entire building for a minimum of 72 hours at full load without refueling. Plug-in for mobile generator.

Elevator will not be on the generator.

Generator will be located in a sound attenuated, weatherproof enclosure.

System will have one automatic transfer switch. Emergency egress lighting will be handled with battery units, battery backup integral to light fixtures, or inverters to avoid a code requirement for a second transfer switch.

Kohler, Caterpillar and Onan are potential manufacturers of the generator system with Kohler being the Owner's preference given several existing facilities have Kohler generators.

Lighting

Equipment

Energy efficient LED lighting will be provided. Fixture types to be selected per ceiling conditions, room types and architectural considerations. Lamping will be LED.

Digital switches will be provided for manual switching in all areas. Automatic control of lighting fixtures will be provided per requirements of Washington State Energy Code. Vacancy or occupancy sensors will be provided in most spaces. Spaces without occupancy sensors will be automatically controlled per a schedule maintained in the lighting control system. Exception is bunk rooms which will have manual switching but no automatic controls.

Photosensors will be provided for automatic dimming of fixtures in daylight zones. Automatic dimming will be configured for fixtures to turn completely off when daylight levels are sufficient.

Lighting controls will be interfaced to Alerting System. Alerting System will signal lighting controls to turn fixtures on in selected areas during an alarm condition. Fixtures will initially turn on at a low level and then ramp up to full brightness.

Lighting control system will be a networked distributed system. Room controllers will be provided in each room and the automatic (occupancy sensors, photosensors) and manual (digital switches) controls will connect to the room controller which in turn determines status of light fixtures. Small rooms will be equipped with digital switches with integral occupancy sensors. These rooms will not require room controllers.

CWFD HQ Fire Station 41
Concept Narrative
February 8, 2024

Emergency egress lighting to be provided using battery backup integral to LED fixtures or emergency lighting units ("bugeyes"). Fixtures with battery backup and emergency lighting units to be located as required to achieve code lighting levels for emergency egress lighting. Inverters will be used for fixtures where integral battery backup is not an option.

LED exit signs with battery backup to be located as required by code.

Exterior lighting will generally be located on building walls or under soffits. Pole lights will be used for parking areas. All exterior fixtures will have sharp cutoff optics to reduce light pollution. Exterior fixtures will be controlled by an astronomic timeclock to be on during prescribed hours between dusk and dawn. Selected exterior fixtures will be controlled by occupancy sensors as well. These fixtures will be on at reduced output normally and then increase to full output upon detection of occupancy. All pole fixtures will have integral occupancy sensors.

Communications Systems Analysis

Telephone/Data/TV

Fiber optic?, telephone and TV services will be delivered to the building underground. (3)4" conduits will be provided from locations coordinated with franchise utilities. Cabling for services will be by applicable utilities.

Services will be routed to the main communications room in the building.

A complete raceway system for data, voice and TV cabling will be provided in project. Raceways will be 1" EMT minimum. Cables will be routed in raceways where in walls or above non-accessible ceilings. Open cabling allowed above accessible ceilings.

Data/voice cables and outlets will be Cat 6. Cables will homerun to rack mounted patch panels in comm room. Outlets will be located as required by program. Typical comm outlet at each workstation or other location will be a 2-port outlet. Outlets will be provided at selected locations for wireless access points.

TV cables will be RG6 coax with F-style connectors. Cable will homerun to wall mounted TV headend in comm room.

Fire Alarm System

Equipment

System will meet code requirements. RF based wireless monitoring will be utilized. If necessary, an antenna for the RF signal will be installed.

Smoke alarms and CO detectors will be provided for bunk rooms and outside of bunk rooms.

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Addressable fire alarm system will be provided. Smoke detection to be provided for egress pathways and elevator recall. Horn/strobes and strobes to be provided throughout building for code required audibility and visibility levels.

LCD annunciator to be located at fire fighter entry.

Other Systems

Alerting

Station alerting system will be provided. System will receive dispatch communications from local 911 dispatch system. Upon an alarm condition for station, alerting system will take the following actions:

- Sound alarm via paging speakers
- Distribute alarm message via paging speakers
- Signal lighting controls to bring lights on in selected rooms. Lights in bunk rooms will be ramped up slowly to a prescribed output level upon receiving alerting signal.
- Activate visual indicator wall lights
- Shut down gas and electric appliances

Alerting system will include dynamic check-in capability. Firefighters will be able to check-in daily in the alerting system to a particular bunk room. The system will then dynamically configure notifications to only alert the bunk rooms occupied by firefighters involved in the particular type of alarm. Only the applicable bunk rooms will be notified with each alarm.

Alerting system headend equipment will be rack mounted in the data room.

Paging system speakers will be located to deliver alarms and messages throughout the building. The paging system can also be used for general announcements, messages and communications.

Doorbell system will be connected to Alerting system so that tones can be distributed throughout building over paging speakers.

Doorbell

A doorbell system will be provided with a doorbell at the main entry and possibly at other entries.

Doorbell will be tied into the paging system for distribution of tone throughout the facility.

2-Way communication intercom to integrate into the building at entry points.

Access Control System

Access control system will be provided with card readers at all exterior man doors. Each door will include an electric strike, door switch (for monitoring door position), card reader, and request to exit (REX) device.

CCTV System

CCTV system will be provided with cameras to view all entries. Cameras will be IP based with a Cat 6 cable run to each camera location.

Audio Visual System

AV cabling and connectors will be provided in selected rooms coordinated with monitors and projectors to be used.

PV System

Photovoltaic panels will be located on roof. Size of system to be based on code requirements.

Inverters will be located on roof or in main electrical room.

Electric Vehicle Charging Stations

Level 2 charging stations will be provided in parking lot if required. Quantity to be determined. Minimum number to be per code requirements.

Charging stations for electrical apparatus are not required.

Antennas

Antennas for fire department communications will be located on the roof. Conduits will be provided from rooftop antenna locations to station office and comm room as required to support cabling needs at antennas.

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Mechanical Concept Narrative

Fire Protection Description: NFPA 13 compliant sprinkler system with full building coverage.

Plumbing Description: New plumbing fixtures. New heat pump water heater with storage tanks. Air compressor with distribution piping and outlet. Air piping to SCBA fill. Natural gas (or LPG) service to kitchen range and BBQ with solenoid valves.

HVAC Description: New VRF heat pump systems with dedicated outdoor air system (ERV) in the admin, living quarters and support areas. New package rooftop heat pump for the apparatus bay. New vehicle source capture exhaust system for the apparatus bay. Type I kitchen hood with makeup air if required by AHJ.

I. Site Work/Utilities
1. Fire service to the building.
2. Water service to the building to accommodate flush-valve toilets.
3. Sewer service to the building.
4. Apparatus bay drainage oil/water separator (sewer) .
5. Natural gas (LPG) service to the building for kitchen range and BBQ.

II. Fire Protection
A. General:
1. New NFPA 13 wet sprinkler system with dry heads where required.
2. Semi-recessed heads in ceilings. Exposed heads with guard covers.
3. Schedule 40 black steel or thinwall steel pipe. Threaded or grooved end fittings.

B. Service: A 6” fire service and post FDC.
C. A dry system will be needed to cover long overhangs and cold attic spaces.

III. Plumbing
A. Piping materials will be as follows.
1. Above grade water: Type ‘L’ copper.
2. Below grade water: Type ‘K’ copper. 3. Above grade waste: Cast iron.
4. Below grade waste: PVC plastic pipe.
5. Vent: PVC/ABS.
6. Natural gas / LPG: Schedule 40 black steel.
7. Pipe insulation: Preformed fiberglass with white laminated jacket. Molded PVC covers. B. Plumbing Fixtures will be as follows:
1. Water Closets: Floor mount, vitreous china, open front seats, water saving dual-flush (1.6/1.1 gpf) manual flush valves. ADA compliance as required.
2. Lavatories: Countertop or wall-hung units, vitreous china, manual single handle mixing faucet. ADA compliant.
3. Showers: Single piece fiberglass stalls with single lever pressure balancing valve and adjustable 1.8 gpm Water Sense spray head. ADA compliance with grab bars, fold down seat and hand wand as required.
4. Kitchen Sinks: 18-gauge stainless steel, double bowl unit with single lever faucet, swing spout, hose spray, garbage disposal and “insta-hot”.
5. Laundry Sink: 18-gauge stainless steel, deep single bowl with single lever faucet, swing spout.

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Concept Narrative
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6. Janitor Service Sink: 24” x 24” molded stone floor mount with wall mount mixing faucet, pail hook, edge guards, backsplash and hose.
7. Faucets: Commercial quality, polished chrome plated, cast brass.
8. Cold Water Valve: Installed at locations for refrigerator ice makers and coffee makers. 9. Pot Filler Faucet: Installed at center line above stove.
10. Decon Sink: Heavy duty, stainless steel scullery type with drain boards and back-splash, single bowl unit with blade handle faucet, swing spout, rotary drain valve and commercial style hand spray.
11. Eyewash: Swing down style mount on decon sink with CSA certified mixing valve meeting ANSI Z358.1 providing tempered water.
12. Water Coolers: Electric, ADA double fountain hi-lo units with bottle filler.

C. Domestic Hot Water:
1. Domestic heat pump water heater (HPWH) storage tanks electric water heater finishing tank located in a water room. Exterior supply and return piping with 3” insulation, heat trace and aluminum jacket run from the water room to the HPWH.
2. There will be a recirculating hot water piping loop and pump that ensures a short wait for hot water at fixtures.
3. Master mixing valve to supply 120 F water from 140 F storage.
4. Point of use mixing valves at each lavatory.

D. Plumbing accessories will be provided as follows:
1. Laundry Box: Fire rated, with hot and cold water connections and drain.
2. Hose bibbs (interior): Located in work areas and bays.
3. Hose reels: Located at interior hose bibb locations in the apparatus bay.
4. Floor drains: Cast iron body, round polished nickel bronze strainer with trap primer. Located in potential wet areas (restrooms, etc.)
5. Gear Extractor: Hot & cold water supply with RPBA protection and trench drain indirect waste.
6. Trench drains: Extra-heavy duty, 6” width, center lengthwise in each bay.

E. Natural gas (LPG) systems and piping will be as follows:
1. Piping to kitchen range and BBQ.
2. Normally closed solenoid valves will be provided to shut off gas to the kitchen range and barbecue automatically on station call alarm, with separate wall mounted manual resets controlled by the station alerting system.

F. Compressed air system as follows:
1. Tank mounted 175 psi reciprocating type compressor with filters for shop air.
2. Wall outlets, with quick connect fittings, in the shop and apparatus bay and overhead air drops with reels in the apparatus bay.

G. Elevator hoistway sump pump, with controls and force-main piping

IV. Heating, Ventilation and Air Conditioning
A. Living Quarters: VRFZ (variable refrigerant flow zoning) multi-zone heat pump system with individual fan coils for each zone connected to central exterior condensing units via refrigerant controller/manifolds and built-in electronic digital controls. R-410A refrigerant system. B. Support Spaces: VRFZ (variable refrigerant flow zoning) multi-zone heat pump system with individual fan coils for each zone connected to central exterior condensing units via refrigerant controller/manifolds and built-in electronic digital controls. R-410A refrigerant system. C. DOAS/ERV: Decoupled Dedicated Outside Air (DOAS) unit to supply outside air directly to all occupied areas of the building and recover heat from exhaust air through an Energy Recovery Ventilator (ERV). The ERV unit consists of outside air intake, MERV 13 high efficiency filters, supply Page 10 of 11

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fan, exhaust fan and heat exchanger. Two separate ERV units, one unit serves the living and work areas, and the other unit serves the support spaces.
Fan Coils: Horizontal ducted units consisting of filter box, refrigerant coil and fan. Ductless wall, ceiling or floor units consisting of filters, refrigerant coil and fan. E. Zones: Each zone will be ventilated by the ERV and served by a fan coil with a wall mounted temperature control located in the space served. Each Sleep Room will be a separate zone as will the Kitchen, Exercise, Lobby, Conference Rm and Offices, and support areas.
Exhaust: Provide in Restrooms, Laundry, Janitor and Exercise. Ducting to ERV for continuous operation in conjunction with outside air supply for ventilation and building pressure. H. Controls:

1. VRFZ zone sensor controls with LCD display and space temperature adjustment.
2. VRFZ central controller with touch screen interface for system operation and remote web interface.
3. ERV remote interface with LCD display.
4. Other equipment with standalone electronic controls.
5. Provide controls internet connectivity for remote access by District. I. Apparatus Bays
6. Package rooftop heat pump with backup electric heat, spiral ductwork with drum louvers.
7. Ventilation: General exhaust at 1.5 CFM/ft2 controlled manually with a wall timer or automatically activated with CO/NO2 sensors. Alarm bell warning for high CO/NO2 levels. Wall louvers with motorized dampers for intake when exhaust fan is operating.
8. Vehicle Exhaust: Source capture exhaust system on rails with nozzle attached to the apparatus.
9. HVLS ceiling fans.
10. 1-1/2” threaded pipe domestic water outlet for vehicle filling.

J. PPE Storage Room (Bunker Gear)
1. 2-speed ventilation (via ERV) with drying mode.
2. Drying cabinet or tubular system..
3. Heat maintains room temperature and provides passive gear drying.
4. Exhaust fan operates continuously.

K. Kitchen
1. Type I hood above range with roof mounted exhaust fan. Type 1 system include Ansul fire suppression in hood.
2. Hood makeup air with inline fan, filters and electric heat tempering.
3. Pot filler over range.
4. Exterior BBQ gas outlet.

L. SCBA Compressor Room
1. Cooling ventilation with roof exhaust fan and intake air louver. Hard-piped breathable air intake.

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CONCEPTUAL
COST ESTIMATE

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COMMUNITY OUTREACH INFORMATION

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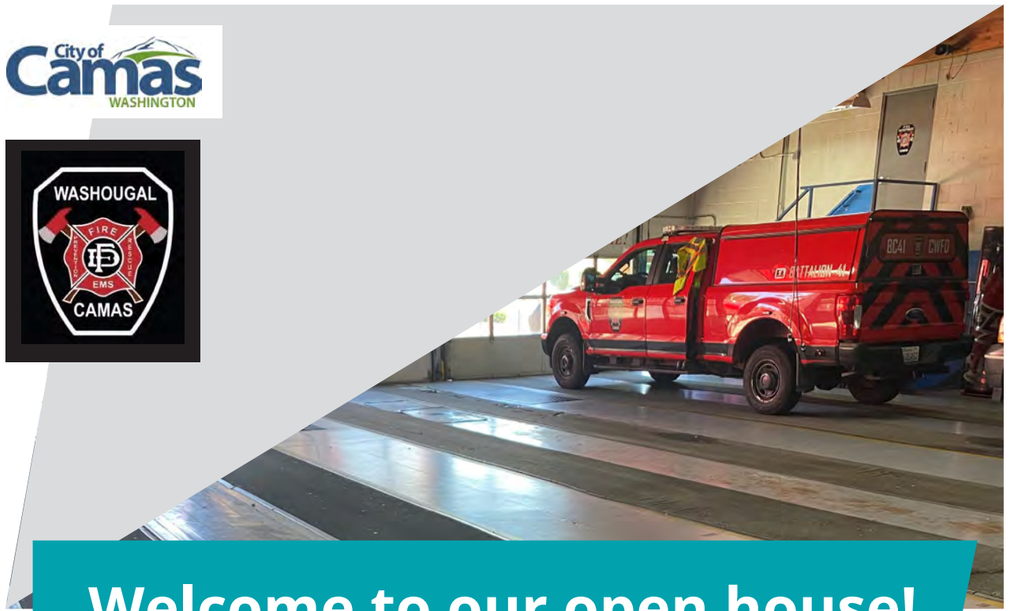
Downtown Camas Fire Station 41 Replacement Project

City of Camas WASHINGTON

WASHOUGAL FIRE EMS CAMAS



Welcome to our open house!

Please sign in here

Learn more at **engagecamas.com** or contact us at **360-834-2262** or **fire@cityofcamas.us**

tt aetta. Architects | TCA ARCHITECTURE + PLANNING + DESIGN | jla Public Involvement | MacKay Sposito

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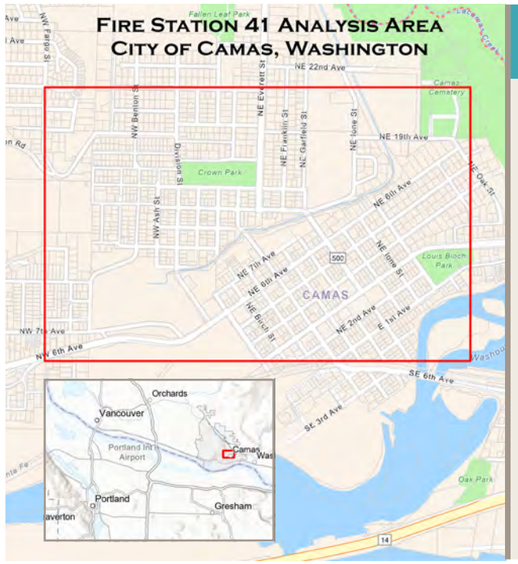
POSTER

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E



Site Selection Process and Results

The City conducted a process to consider different site options that could accommodate the new fire station. Multiple sites dropped off the list due to a variety of reasons, including:

- Proximity to response calls
- Lot size
- Zoning regulations
- Topography
- Traffic circulation
- Site cost and ability to acquire

After considering eight different sites based upon the above selection criteria, we have identified the City Hall Annex site, located at 528 NE Fourth Avenue, as the potential location for the new downtown fire station.

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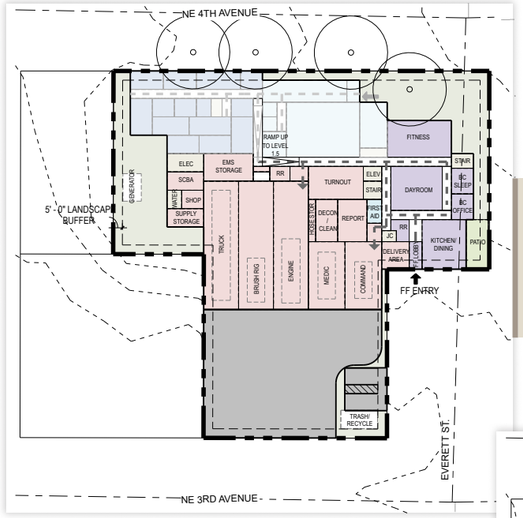
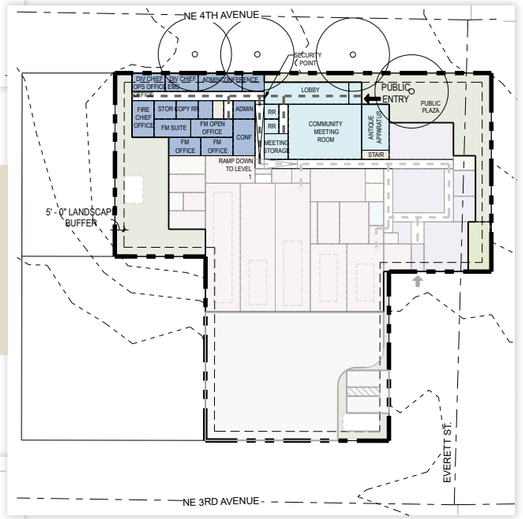
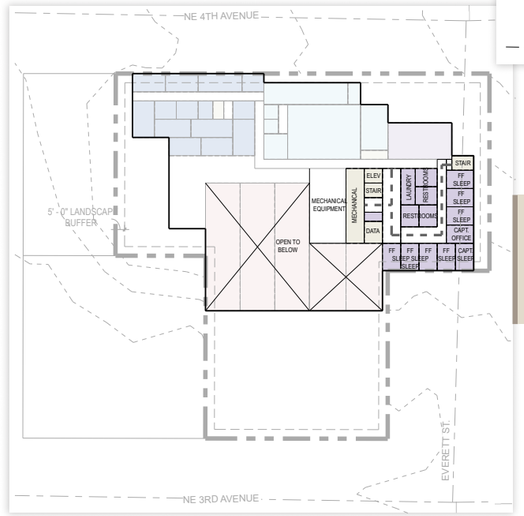
Draft Floorplans: Levels 1 and 2



The ground floor will house the fire engines, emergency vehicles, equipment storage, and a fitness room.



The Fourth Avenue entrance will include a community meeting room, Fire Marshall and Administrative offices, and a conference room for the fire station staff.



The second floor will house sleeping quarters for working personnel.

City of Camas WASHINGTON

WASHOUGAL CAMAS

36”x48”
POSTER

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Building Design Concept / View from Fourth Avenue

This image shows an early idea of what the new fire station could look like from Fourth Avenue. Additional public input will be gathered during the design process.

City of Camas WASHINGTON

WASHOUGAL CAMAS

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POSTER

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Building Design Concept / View from Third Avenue

This image shows an early idea of what the new fire station could look like from Third Avenue. Additional public input will be gathered during the design process.

36”x48”
POSTER

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City of Camas
616 NE 4th Avenue
Camas, WA 98607

Summer 2024

A NEW FIRE STATION FOR CAMAS?

On August 6, it's your choice.

Camas needs adequate fire and emergency medical services as the city grows but Fire Station 41 is outdated and worn out.

Scan the QR code or visit **bit.ly/Firestation41** to learn more.

What it has:

- Intermittent sewage backups.
- No expectation of withstanding a significant earthquake (when the city would need it most).
- Concrete walls showing significant signs of damage and decline.

What it lacks:

- Dedicated space for cleaning contaminants from clothing and gear (to protect firefighters' health by limiting carcinogen exposure).
- An exhaust system for keeping out fumes when moving or working on fire engines.
- Room for more firefighters as the city's needs grow.

Remodeling or repairing the current facility would cost as much or more than building a new fire station and would still be inadequately sized.

How much is a new station?

On August 6, you can vote on a bond for $26.3 million:

- For someone who owns a median-value home, it would cost about $9.33 a month.
- It would last 25 years.

Take a virtual tour of the current station:
VideoURL.com

Learn more at: **bit.ly/Firestation41**

Questions or Comments?
fire@cityofcamas.us | **360-834-2262**

9"x6"
FLYER

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Camas needs a new Fire Station!

Camas Washougal Fire Department (CWFD) is developing plans to replace the existing Fire Station 41 to ensure adequate fire and emergency medical services for our community as we continue to grow. A new station will serve as the headquarters for CWFD and will be located in downtown Camas, in the core of the department's response area.

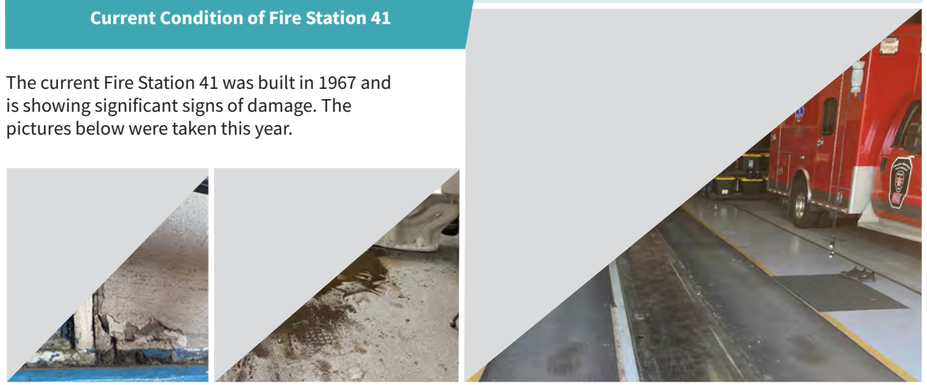
Why is a new Downtown Fire Station 41 needed?

The current Fire Station 41 facility has outlived its useful life and due to its current location being confined within the structure of City Hall, it cannot be increased in size to accommodate the needs required of a modern fire station, including:

- Ability to withstand a significant earthquake
- Compliance with the Americans with Disabilities Act (ADA)
- Space for additional firefighters/EMS personnel to meet growing demands
- Crucial, up-to-date decontamination facilities and separation to limit firefighters' carcinogen exposure
- Elimination of apparatus exhaust from entering City Hall's interior office spaces
- Space for fire apparatus
- Mandated safety clearances around equipment
- Facilities for a diverse workforce (male/female changing rooms) to be consistent with diversity, equity and inclusion guidelines
- Providing public access to emergency service crews
- Providing parking for emergency medical drive-ins
- Providing private medical screening and treatment area for walk-ins and drive-ins

Current Condition of Fire Station 41

The current Fire Station 41 was built in 1967 and is showing significant signs of damage. The pictures below were taken this year.



Concrete walls are showing significant and decline. *The sewer system is insufficient, unreliable and prone to back-up.* *The engine bay flooring shows signs of damage and needs replacing. signs of damage*

Timeline

- **Site analysis and selection** *Fall 2023*
- **Preliminary building design** *Winter 2024*
- **Cost estimating** *Winter 2024*
- **Bond measure on ballot** *August 6, 2024*
- **Design & permitting** *Pending bond approval*
- **Construction** *Pending bond approval*

Learn more at **bit.ly/Firestation41**

City of Camas WASHINGTON

WASHOUGAL CAMAS

24”x36”
STORY BOARD

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Funding for the new Downtown Camas Fire Station 41

Voters will have the opportunity to decide whether to fund the new fire station through a bond-approval in the August 6th Primary Election. This approval would allow the sale of City-owned bonds to fund design and construction costs for the new facility. If the bond passes, construction could begin as soon as 2025.

The bond amount is $26.3 million. The City is securing this bond with an estimated 3.91% interest rate over a 25-year term.

The monthly costs for the owner of a median priced home will be approximately $9.33 (based upon median assessed home value of $862,000).

Building Design Concept / Views from NE 4th Avenue (left) and NE 3rd Avenue (right)

The images above show an early idea of what the new fire station could look like. Additional public input will be gathered during the design process.

Learn more at **bit.ly/Firestation41**

24”x36” **STORY BOARD**

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72”x48” **VINYL SIGN**

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Proposed site of a new Downtown Camas Fire Station 41

Building Design Concept

City of Camas WASHINGTON

WASHOUGAL CAMAS

Learn more at: **bit.ly/Firestation41**

72”x48” **VINYL SIGN**

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VALLEY REGIONAL FIRE AUTHORITY

2022-2026 CAPITAL FACILITIES IMPROVEMENTS PLAN

JULY 10, 2023

ARCHITECTURE + PLANNING + DESIGN

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B.	Space Diagrams
C.	A/E Narratives
D.	Detailed Cost Estimates
E.	Visioning Workshop
F.	Tour Notes

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1.1 ACKNOWLEDGEMENTS

We would like to thank and express our gratitude to the Valley Regional Fire Authority (VRFA) Board of Governance, Senior Leadership, the Station Design Committee, and Staff for the opportunity to capture and refine their Capital Facilities Improvement needs and vision.

VRFA BOARD OF GOVERNANCE

Chair Troy Linnell	Mayor of the City of Algona
Lynda Osborn	City of Algona Councilmember
Bill Thomas	City of Algona Councilmember
Vice Chair Nancy Backus	Mayor of the City of Auburn
Larry Brown	City of Auburn Councilmember
Robyn Mulenga	City of Auburn Councilmember
Leanne Guier	Mayor of the City of Pacific
James "Vic" Kave	City of Pacific Councilmember
Kerry Garberding	City of Pacific Councilmember

VRFA SENIOR LEADERSHIP

Brad Thompson	Fire Chief
Rick Olson	Deputy Chief of Operations
Tim Day	Deputy Chief of Community Risk Reduction
Mark Horaski	Chief Financial Officer
Sarah Borden	Human Resource Director

VRFA STATION DESIGN COMMITTEE

Tyler Eliason	Captain
Stefanie Harper	Admin Services Coordinator
Robin Irvine	Deputy Fire Marshal
Blake Laidlaw	Firefighter
Meghan Loudon	Firefighter
Jesse Mitchell	Captain
John Monsebroten	Firefighter
Ryan Simpson	Firefighter
Jim Smith	IT Manager
Stephen Sparks	Firefighter

TCA ARCHITECTURE PLANNING TEAM

Brian Harris, AIA	Principal-in-Charge, TCA Architecture + Planning
Forest Hooker, AIA	Principal, TCA Architecture + Planning
William Fierst, P.E.	Principal, AHBL, inc., Civil Engineering
Jon Shafer, P.E.	Principal, Sider + Byers, Mechanical Engineering
James Whigham, P.E.	Associate, Sider + Byers, Mechanical Engineering
Kevin Wartelle, P.E.	Principal, TFWB, Electrical Engineering
Matt Wiggins	Director, Roen Associates, Cost Estimating
Dan Deymonaz	Senior Cost Estimator, Roen Associates, Cost Estimating

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1.2 EXECUTIVE SUMMARY

The Valley Regional Fire Authority Capital Facilities Improvements Plan follows VRFA's Strategic Plan and Capital Facilities Plan. The Improvements Plan is a pre-funding effort with the objective of detailing improvement needs, estimating order of magnitude costs, and providing a priority-based total budget in support of the Capital Facilities Plan's financial options and recommendations. Please refer to Section 1.3 for more detail on the evolution of the planning effort.

For the facilities recommended and prioritized by the Capital Facilities Plan, the Improvements Plan captures detailed programmatic needs, design narratives, and facility concepts. The Improvements Plan also includes general concepts for improvements to better support VRFA's training needs.

The Capital Facilities Improvements Plan concludes with a recommended total project budget. The budget assumes a design, bid, build project delivery method (i.e., publicly bid work) and considers construction costs, escalation of the cost to targeted construction timelines, and project soft costs (items outside of the construction contract, e.g., sales taxes and fees). Both the construction cost estimates and the soft costs rely on contingencies to budget for unknowns and mitigate overall project risk.

Budget sizing considers the prioritization of and schedule for the improvements within the context of VRFA's opinion of appropriate costs to be supported by the financial recommendations of the Capital Facilities Plan. Budget sizing components include:

- Concurrent design and construction of Fire Stations 36 and 38, followed by a staggered start for the following projects (every six months).
- $4M construction cost allowance for Logistics and Maintenance Improvements while the VRFA continues to look at options at the leased Station 35 site.
- $1M construction cost allowance for Training improvements which would fund the integration of a training tower at a new or existing facility.

The Capital Facilities Improvement Plan recommends a $95M priority-based total capital facilities improvements budget. The table below identifies total project costs with schedule-based escalation.

TABLE 1.1.2: SUMMARY OF COSTS

PRIORITY NO. AND FACILITY	CONSTRUCTION START	TOTAL COST WITH ESCALATION
1. Fire Station 36	September 2024	$20,380,021
2. Fire Station 38	September 2024	$24,822,686
3. HQ Station 31	April 2025	$41,464,833
4. Logistics and Maintenance	October 2025	$6,730,013
5. Training	April 2026	$1,635,598
	Total	**$95,033,151**

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1.3 PURPOSE, SCOPE, & METHODOLOGY

PURPOSE AND SCOPE

The purpose of the Valley Regional Fire Authority (VRFA) Capital Facilities Improvements Plan is to further develop the vision and needs set forth in the VRFA 2020-2025 Strategic Plan which implemented the following VRFA Mission Statement:

> We serve the whole community. The VRFA saves lives and protects property through reliable emergency services, preparedness, and prevention.

VRFA's Strategic Plan identified a Capital Facilities Plan as a major strategic initiative in support of the Regional Fire Authority's mission and service to the cities of Algona, Auburn, and Pacific. The VRFA 2021-2027 Capital Facilities Plan followed. The Plan assessed existing conditions, forecasted future service demands based on growth, provided financial options and recommendations, and prioritized the following facility needs.

Priority 1. Additional North End Station (New Station 36)
Priority 2. Relocate / Rebuild Pacific Station 38
Priority 3. Remodel / Replace Station 31
Priority 4. Permanent Support Services Location (currently at Station 35)

Building upon the Capital Facilities Plan, the Capital Facilities Improvements Plan captures detailed facility needs to meet VRFA's Operational and Administrative requirements. Within the context of current and future deployment strategies, the Improvements Plan provides facility programming, conceptual designs, site considerations, and order of magnitude costs for the prioritized improvements. The Capital Facilities Improvements Plan concludes with a recommended implementation schedule and a priority-based total budget in support of the Capital Facility Plan's financial options and recommendations.

METHODOLOGY

The work of the VRFA Capital Facilities Improvements Plan began in the fall of 2022 with vision and input provided by Senior Leadership and VRFA Staff representing operations, administration, logistics, maintenance, and training. The work progressed through the following meetings and activities:

- Kickoff Meeting
- Visioning Meeting
- Facility Tours
- User Interviews
- Facility Programming
- Facility Sizing
- Code Analysis
- Facility Systems Needs
- Conceptual Project Narratives
- Site Test-to-Fits
- Cost Estimating
- Scheduling
- Budget Sizing & Prioritization
- Documentation

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2.1 SUMMARY OF FACILITIES

SUMMARY OF EXISTING AND RECOMMENDED FACILITIES

The Capital Facilities Improvements Plan is intended as a complementary document to the VRFA 2021-2027 Capital Facilities Plan. The latter provided conditions assessments of all existing VRFA facilities, and the Improvements Plan assesses programmatic needs for the recommended new facilities. The two plans should be read together.

The table below provides a summary of existing and recommended VRFA Facilities.

TABLE 2.1.1: SUMMARY OF VFRA FACILITIES

Fire Station 31	VRFA Headquarters, Auburn	Existing and recommended to be replaced
Fire Station 32	South Auburn	Existing (to remain)
Fire Station 33	Lakeland Hills/Lake Tapps	Existing (to remain)
Fire Station 34	Lea Hill	Existing (to remain)
Fire Station 35	FMO/Support Services, Auburn	Existing (leased) and needs permanent location
Fire Station 36	North End Station	Recommended new facility
Fire Station 38	Pacific	Existing and recommended to be replaced

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2.2 PROGRAMMATIC NEEDS ASSESSMENT APPROACH

The assessment of programmatic needs started with a Visioning Workshop (see Appendix E), followed by facility tours of recently completed fire stations throughout King County (see Appendix F). These activities set the vision for the new facilities, identified what was working and not working at existing facilities (both VRFA's and those of departments toured), and provided reference design options and current trends in modern fire station design.

New VRFA facility programs were developed and refined through a series of interviews and follow-up meetings. Representative staff attended the following interviews:

- Operations
- Administration
- Logistics
- Training
- Maintenance
- Mechanical, Electrical, and Plumbing Systems

Current and future programmatic needs have been assessed and include deployment, staffing, space components, facility sizing, and site needs. Space diagrams -see Appendix B, are provided to aid in understanding areas identified in the spreadsheets and document operational needs, e.g., furnishings and equipment. Detailed programmatic needs can be found in Appendix A. Section 2.3 summarizes facility sizing by programmatic area.

The Requirements and Standards of the National Fire Protection Agency (NFPA), Washington Administrative Code (WAC), the Americans with Disabilities ACT (ADA), and the International Code Council Codes (I-Codes) are factored into the programming. Specifically, health and safety emerged as a common theme. This includes the welfare of firefighters and all administrative and support staff as well as visitors. Space is built into the facility programs to allow for contaminate control (hot zone design), active areas for staff interaction, quiet areas to recover from intense activities, fitness rooms, and private outdoor areas.

The adoption of future building codes has also been considered. Notably, the 2021 Washington State Energy Code (WSEC) is scheduled to be adopted in October of 2023. The 2021 WSEC code prohibits the use of natural gas and electric resistance heating (with some specific exceptions). These changes mean system spaces will need to be larger to accommodate increases in electrical service and newer mechanical system technologies.

Finally, turnout efficiency is an overarching principle in fire station programmatic needs and space planning. Program components and adjacencies have been evaluated for their role in reducing the number of steps during the turnout segment of an emergency response.

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2.3-1 FIRE STATIONS 36 & 38

With similar deployment goals, Stations 36 and 38 share the same programmatic needs. The table below summarizes present and future staffing needs and sizes programmatic areas. Program areas include a summation of individual spaces (e.g., net room areas) and a grossing factor to accommodate circulation (e.g., halls). A facility grossing factor (e.g., the footprint of walls) is added to determine the total facility building area (all areas are in square feet).

TABLE 2.3.1: VRFA FIRE STATIONS 36 & 38 SUMMARY OF PROGRAMMATIC NEEDS

STAFFING		MOVE-IN			+ 5-15 YEARS	
	Apparatus	Qty	Staff		Qty	Staff
	Engine (approx. 35 ft)	1	3		1	3
	Aid (approx. 25 ft)	0	0		2	4
	Total Apparatus & Staff		3		3	7
	Additional Sleeping Room		0			1
	Reserve Apparatus					
	Ladder (approx. 60 ft)				1	

PROGRAM AREAS	*circulation grossing included*	MOVE-IN Area (SF)		+ 5-15 YEARS Area (SF)
1.00	PUBLIC AREA	688		688
3.00	CREW OFFICE	425		625
4.00	CREW LIVING	2,633		4,078
5.00	APPARATUS	4,908		6,860
6.00	SYSTEMS	540		687
	Facility Grossing	735		1,035
TOTAL (W/ ALL GROSSING)		**9,928**		**13,971**
8.00	SITE AMENITIES	Qty		Qty
	Public Space			
	Parking Guests & ADA	3		3
	Parking FF's	6		16
	Visiting apparatus parking			
	Backup Generator			
	Reader Board			
	Integrated Training			

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2.3-2 FIRE STATION 31

Fire Station 31 will continue to be collocated with VRFA's Administrative Headquarters. Station needs and administrative needs are summarized separately. The table below summarizes present and future staffing needs and sizes programmatic areas for Fire Station 31. Program areas include a summation of individual spaces (e.g., net room areas) and a grossing factor to accommodate circulation (e.g., halls). A facility grossing factor (e.g., the footprint of walls) is added to determine the total facility building area (all areas are in square feet).

TABLE 2.3.2: VRFA FIRE STATION 31 SUMMARY OF PROGRAMMATIC NEEDS

STAFFING	MOVE-IN			+ 5-15 YEARS	
Apparatus	Qty	Staff		Qty	Staff
Engine (approx. 35 ft)	0	0		1	3
Aid (approx. 25 ft)	1	2		1	2
BC (approx. 20 ft)	1	1		1	1
Ladder (approx. 60 ft)	1	3		1	4
Medic (approx. 25 ft)	1	2		1	2
Total Apparatus & Staff	4	8		5	12
Additional Sleeping Room		0			0
Reserve Apparatus					
Ladder (approx. 60 ft)				1	
Engine (approx. 35 ft)				1	

PROGRAM AREAS	MOVE-IN		+ 5-15 YEARS
circulation grossing included	Area (SF)		Area (SF)
1.00 PUBLIC AREA	225		288
3.00 CREW OFFICE	1,150		1,225
4.00 CREW LIVING	4,378		6,375
5.00 APPARATUS	7,934		9,787
6.00 SYSTEMS	362		436
7.00 CIRCULATION (vertical)	468		468
Facility Grossing	1,484		1,300
TOTAL (W/ ALL GROSSING)	**15,533**		**19,878**
8.00 SITE AMENITIES	Qty		Qty
Public Space			
Parking Guests & ADA	3		3
Parking FF's	22		24
Visiting apparatus parking			
Backup Generator			
Reader Board			
Integrated Training			

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2.3-3 HEADQUARTERS 31

The table below summarizes present and future staffing needs and sizes programmatic areas for VRFA's Administrative Headquarters to be collocated with Fire Station 31. Program areas include a summation of individual spaces (e.g., net room areas) and a grossing factor to accommodate circulation (e.g., halls). A facility grossing factor (e.g., the footprint of walls) is added to determine the total facility building area (all areas are in square feet).

TABLE 2.3.3: VRFA HEADQUARTERS 31 ADMINISTRATION SUMMARY OF PROGRAMMATIC NEEDS

STAFFING DEPARTMENT	MOVE-IN Staff		+ 5-15 YEARS Staff
CHIEF	1.5		2
OPERATIONS	1		1
COMMUNITY RISK REDUCTION	21		24.5
FINANCE	4		5
HUMAN RESOURCES	2.5		3
INFORMATION SYSTEMS	3		5
SUPPORT SERVICES	0		1.5
ADMIN STAFF TOTAL	**33**		**42**

PROGRAM AREAS *circulation grossing included*	MOVE-IN Area (SF)		+ 5-15 YEARS Area (SF)
1.00 PUBLIC AREA	425		488
2.00 MULTIPURPOSE ROOM	1,888		1,888
3.000 CHIEF	300		375
3.100 OPERATIONS	188		188
3.200 COMMUNITY RISK REDUCTION	2,445		2,865
3.300 FINANCE	498		578
3.400 HUMAN RESOURCES	388		463
3.500 INFORMATION SYSTEMS	363		575
3.600 SUPPORT SERVICES	0		268
4.00 SUPPORT SPACE	2,928		3,138
5.00 STORAGE	984		1,008
6.00 SYSTEMS	362		436
7.00 CIRCULATION (vertical)	468		468
Facility Grossing	674		764
TOTAL (W/ ALL GROSSING)	**11,908**		**13,498**
8.00 SITE AMENITIES	Qty		Qty
Public Space			
Parking Guests & ADA	TBD		TBD
Staff Parking	33		42
Cares Vans			2
Special Vehicles			6

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2.3-4 LOGISTICS & MAINTENANCE

Facility needs have been assessed for a collocated approach to VRFA's Logistic Support Services and the Maintenance Garage. These functions could be separated and developed on separate sites. The table below summarizes present and future staffing needs and sizes programmatic areas. Program areas include a summation of individual spaces (e.g., net room areas) and a grossing factor to accommodate circulation (e.g., halls). A facility grossing factor (e.g., the footprint of walls) is added to determine the total facility building area (all areas are in square feet).

TABLE 2.3.4: VRFA LOGISTICS AND MAINTENANCE SUMMARY OF PROGRAMMATIC NEEDS

STAFFING		**MOVE-IN**		**+ 5-15 YEARS**
LOGISTICS		**Staff**		**Staff**
BATTALION CHIEF		1		1
CAPTAINS		2		2
FACILITY TECH		1		2
AIDE		1		2
	LOGISTICS STAFF TOTAL	**5**		**7**
MAINTENANCE				
MECHANICS		2		2
	MAINTENANCE STAFF TOTAL	**2**		**2**

PROGRAM AREAS		**MOVE-IN**		**+ 5-15 YEARS**
circulation grossing included		**Area (SF)**		**Area (SF)**
3.00	OFFICE	535		695
4.00	SUPPORT SPACES	1,947		2,338
5.00	WAREHOUSE	5,138		5,173
5.10	MAINTENANCE BAY	4,138		5,329
6.00	SYSTEMS	566		654
	Facility Grossing	986		1,135
TOTAL (W/ ALL GROSSING)		**13,309**		**15,324**
8.00	SITE AMENITIES	Qty		Qty
	Parking	10		12
	Special Vehicles	10		12
	Oversized Vehicles	3		3
	Propane Storage			
	Hose Testing			

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2.3-5 TRAINING

The VRFA Capital Facilities Improvements Plan captures the need for a training facility.

A site has not been identified for the training facility. Section 3.6 considers the development of the facility on a hypothetical site.

VRFA training needs include a 3-story pre-engineered training tower (WHP or similar) with the following features:

- Center Hall
- Commercial and Residential Structural Elements
- Ability to Rearrange Interior Spaces
- Horizontal and Vertical Ventilation Props
- Multiple Opening Scenarios (E.g., Windows and Doors)
- Door Breach Prop
- Anchor Points
- FDC and Sprinkler Connections

Training site needs include areas for:

- Hose Lays
- Ladder Operations
- Prop Storage
- Power Line Prop
- Row and Confined Apparatus Response Areas
- Pump Operator Training
- Training Hydrants
- Parking
- Training Water Collection

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3.1 SITE EVALUATION AND TEST-TO-FIT APPROACH

Based on facility sizing, programmatic areas, and site needs determined through the Part 2 Needs Assessments, facility concepts have been developed and evaluated. The following sections provide concepts for the development of each new facility.

For development on known properties, Authority Having Jurisdiction (AHJ) site constraints (e.g., building setbacks) and site data are shown. For facilities without a specific site, a hypothetical site has been derived based on facility sizing needs and assumed AHJ requirements.

The concepts consider the layout of the facility by programmatic areas supporting VRFA goals (e.g., optimized turnout and occupant health and safety). Building organization, front apron design, and emergency response access drives have been developed and refined based on VRFA review and input. The A/E Narratives in Appendix C provide additional information and detail on the approach to the structures, aesthetics, systems, and utilities as well as overall site design.

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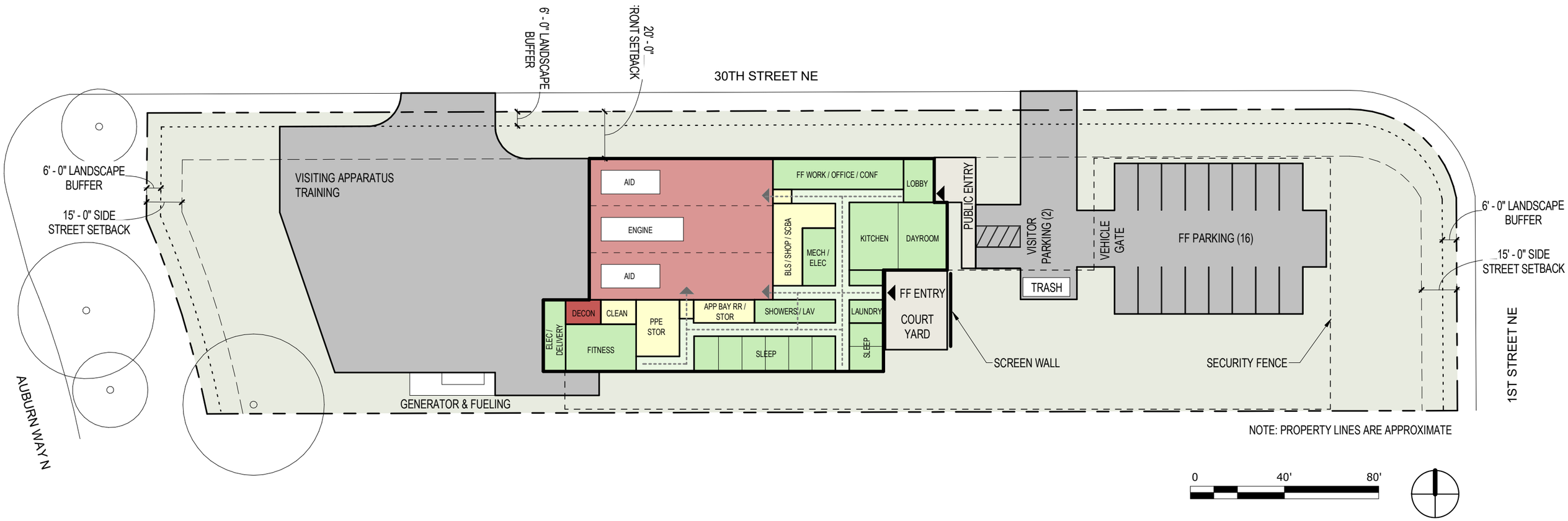
3.2 VALLEY REGIONAL FIRE AUTHORITY
810 30TH STREET NE

FS 36 SITE CONCEPT OPTION 2



SITE INFORMATION
- ADDRESS: 810 30TH STREET NE
  AUBURN, WA 98002
- PARCEL NUMBER: 0001000020
- LEGAL DESCRIPTION:
  BRANNAN W - DC #37 LOT 2 LESS RD OF AUB SHORT PLAT #SPL0001-96 REC #9605301424 SD SP LOCATED IN POR OF NE 1/4 OF SW 1/4 OF SEC 6-21-5 LY ELY OF AUBURN WAY N & WLY OF "I" ST NE (INCLUDES POR OF H JONES DLC #39 & W BRANNAN DLC #37 & INCLUDES ALL OF PCL A OF AUBURN SHORT PLAT #SP-2-80 REC #8003260873
- SITE AREA: 69,354 SF OR 1.59 ACRES

PLANNING
- JURISDICTION: CITY OF AUBURN
- AUBURN CITY CODE (ACC)
- ZONING: C-3 HEAVY COMMERCIAL

ZONE REQUIREMENTS (ACC TABLE 18.23.040A)
- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: 75'-0"
- SETBACKS (ACC TABLE 18.23.040A):
  - ROW: 20'-0"
  - SIDE - STREET: 15'-0"
  - REAR: NONE
- LANDSCAPE BUFFERS (ACC TABLE 18.50.040)
  -ABUTTING STREET: 6'-0"
  -ABUTTING RESIDENTIAL PROP: 10'-0"

PARKING
- DETERMINED BY SIMILAR USES (ACC 18.52.02)
  - BUSINESS SPACES: 2 SPACES PER 1,000 SF
  - CREW AREA: 1 PER SLEEPING ROOM
- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (ACC 18.52.050)
  - DRIVE AISLE: 24'-0"
  - STANDARD PARKING SPACE: 9'-0" X 19'-0"
  - COMPACT PARKING SPACE: 8'-0" X 16'-0"

SIGNAGE (ACC 18.56.040B)
1. ACC 18.56.040 B - MAXIMUM SIGN AREA OF ALL SIGNS IS 150 SQUARE FEET PER FRONTAGE
2. ONE FREESTANDING SIGN PERMITTED PER FRONTAGE, NOT TO EXCEED TWO TOTAL. MAXIMUM HEIGHT: 22 FT; MAXIMUM AREA: 100 SF PER FACE, CALCULATED AT A RATE OF 1 SF OF SIGN AREA PER EVERY 2 LINEAL FT OF FRONTAGE; SECOND FREESTANDING SIGN SHALL NOT EXCEED 50 PERCENT OF THE AREA ALLOWED FOR A SINGLE FREESTANDING SIGN AND 150 FEET IN A STRAIGHT LINE DISTANCE MUST SEPARATE MULTIPLE POLE SIGNS.
3. ONE WALL SIGN PER FRONTAGE; MAXIMUM AREA: 100 SF, CALCULATED AT A RATE OF 1 SF OF SIGN AREA PER EVERY 1.5 LINEAL FT OF FRONTAGE; SIGNS MAY BE DIRECTLY OR INDIRECTLY ILLUMINATED.
4. ONE SUSPENDED SIGN PER ENTRANCE; MAXIMUM AREA: 6 SF PER FACE; MINIMUM CLEARANCE: 8 FT FROM SIGN TO GRADE.
5. ONE PROJECTING SIGN IN LIEU OF A PERMITTED FREESTANDING SIGN; MAXIMUM HEIGHT: HEIGHT REQUIREMENT OF THE ZONING DISTRICT; MAXIMUM AREA: 50% OF THE AREA ALLOWED FOR A SINGLE FREESTANDING SIGN.

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3.3 VALLEY REGIONAL FIRE AUTHORITY FS 38 SITE CONCEPT OPTION 2

205 5TH AVE NW

SITE INFORMATION

- ADDRESS: 205 5TH AVE NW
  PACIFIC , WA 98047
- PARCEL NUMBERS: 8856004035, 8856004036, 8856004037, 8856004038, 8856004039, 8856004040, 8856004041, 8856004042
- LEGAL DESCRIPTION: LOTS 6-10, INCLUSIVE, AND LOTS 12 THROUGH 14, INCLUSIVE, ALL IN BLOCK 26, VALLEY CITY LAND CO.'S ADDITION TO THE CITY OF SEATTLE, ACCODRING TO THE PLAT RECORDED IN VOLUME 16, OF PLATS, PAGE 92, RECORDS OF KING COUNTY, WASHINGTON. EXCEPTING THEREFROM, ALL THAT PORTION OF LOTS 9, 10, 12, 13 AND 14 CONVEYED TO THE STATE OF WASHINGTON IN WARRANTY DEED RECORDED UNDER RECORDING NO. 7104150255, RECORDS OF KING COUNTY, WASHINGTON

PLANNING

- JURISDICTION: CITY OF PACIFIC
- PACIFIC MUNICIPAL CODE (PMC)
- ZONING: HC HIGHWAY COMMERCIAL
- SEPA EXEMPTION (PMC CH 16.70.100 A 3): FOR OFFICE, SCHOOL , COMMERCIAL,RECREATIONAL, SERVICE, OR STORAGE BUILDINGS IN WAC 197-11-800

ZONE REQUIREMENTS

- PERMITTED USE (PMC CH. 20.58.020): PUBLIC SAFETY SERVICES
- MAX LOT COVERAGE (PMC CH. 20.58.060): NONE
- MAX IMPERVIOUS: N/A
- MAX BUILDING HEIGHT (PMC CH 20.58.040): 30'-0"
- SETBACKS (PMC CH. 20.58.050)
  - MAJOR ARTERIALS: 30'-0"
  - OTHER ROADS: 25'-0"
  - SIDE: NONE
  - REAR: NONE
- LANDSCAPE BUFFERS (PMC CH 20.70.055)
  - REFER TO CH. 20.70.070 FOR LANDSCAPE TYPES
  - ABUTTING STREET: 10' OF TYPE III LANDSCAPING
  - PERIMETER: 10' OF TYPE IV LANDSCAPING
  - PARKING AREAS: TYPE IV LANDSCAPING

PARKING (PMC CH 20.72.130)

- DETERMINED BY SIMILAR USES
  - BUSINESS SPACES: 1 SPACE PER 400 SF OF GROSS FLOOR AREA
  - CREW AREA: 1 SPACE PER SLEEPING ROOM
- STANDARD PARKING SPACE: 8'-6" X 18'-0" MIN (PMC CH 20.72.020)

SIGNAGE (PMC 20.84)

- SIGNS, ADVERTISING STRUCTURES AND AREA ILLUMINATION ARE PERMITTED, SUBJECT TO SIGN CODE

3.4 VALLEY REGIONAL FIRE AUTHORITY

1101 D STREEET NE

FS 31 SITE CONCEPT

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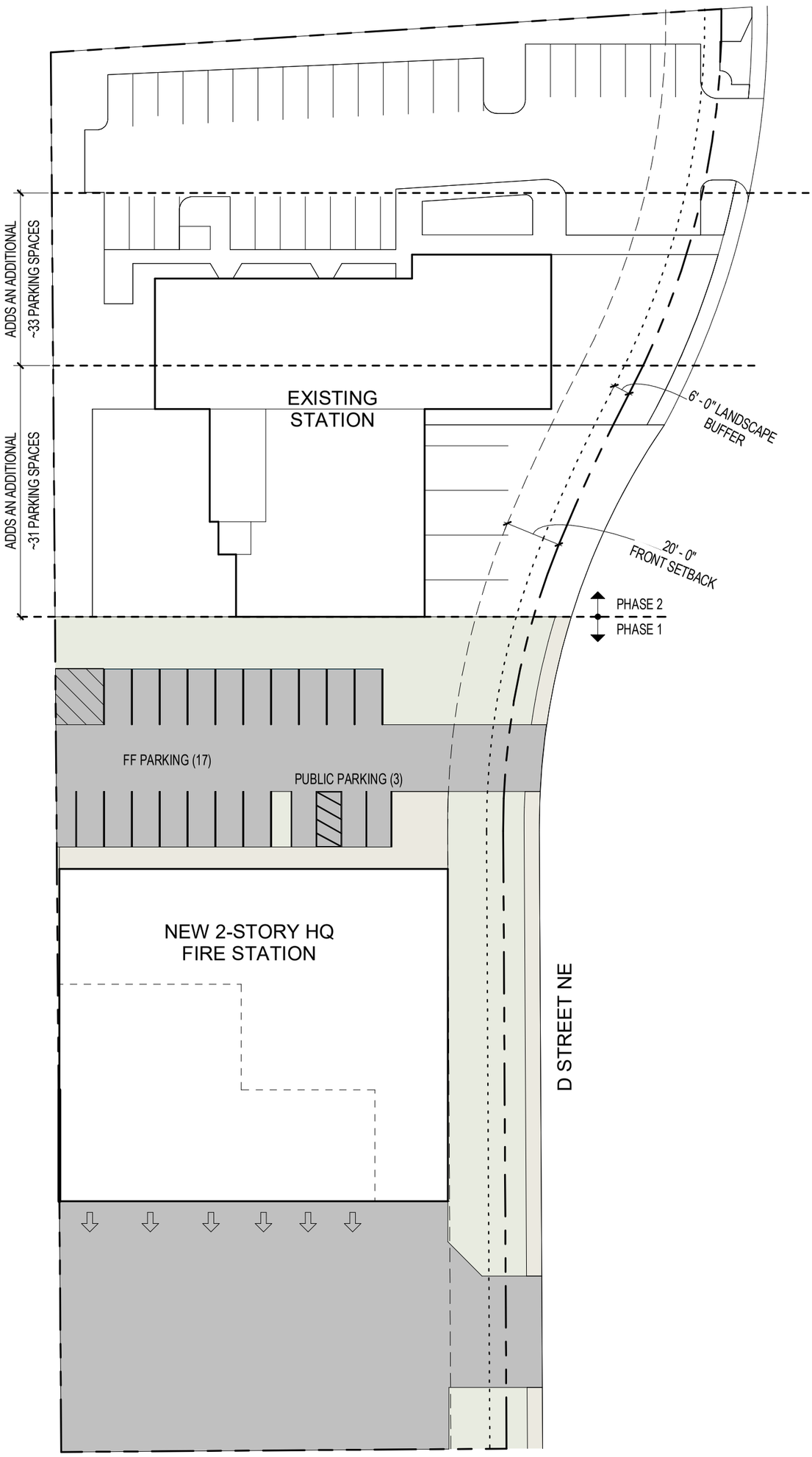


NOTE: PROPERTY LINES ARE APPROXIMATE

SITE INFORMATION

- ADDRESS: 1101 D STREET NE
  AUBURN, WA 98002
- PARCEL NUMBER: 7459920010
- LEGAL DESCRIPTION:
  RPM - AUBURN LESS ST PER REC# 20211228000600
- SITE AREA: 92,223 SF OR 2.12 ACRES

PLANNING

- JURISDICTION: CITY OF AUBURN
- AUBURN CITY CODE (ACC)
- ZONING: C-1 LIGHT COMMERCIAL

ZONE REQUIREMENTS (ACC TABLE 18.23.040A)

- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: 45'-0"
- SETBACKS (ACC TABLE 18.23.040A):
  - ROW: 20'-0"
  - SIDE - STREET: 15'-0"
  - REAR: NONE
- LANDSCAPE BUFFERS (ACC TABLE 18.50.040)
  -ABUTTING STREET: 6'-0"
  -ABUTTING RESIDENTIAL PROP: 10'-0"

PARKING

- DETERMINED BY SIMILAR USES (ACC 18.52.02)
  - MEETING SPACES: 1 SPACE PER 4 SEATS BASED ON REQUIREMENTS FOR THEATER
  - BUSINESS SPACES: 2 SPACES PER 1,000 SF FOR OFFICE SPACE
  -CREW AREA: 2 SPACES PER SLEEPING ROOM

PARKING STALL AND AISLE DIMENSIONAL STANDARDS (ACC 18.52.050)

- DRIVE AISLE: 24'-0"
- STANDARD PARKING SPACE: 9'-0" X 19'-0"
- COMPACT PARKING SPACE: 8'-0" X 16'-0"

SIGNAGE (ACC 18.56.040B)

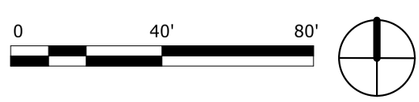
1. ACC 18.56.040 B - MAXIMUM SIGN AREA OF ALL SIGNS IS 150 SQUARE FEET PER FRONTAGE

2. ONE FREESTANDING SIGN PERMITTED PER FRONTAGE, NOT TO EXCEED TWO TOTAL. MAXIMUM HEIGHT: 22 FT; MAXIMUM AREA: 100 SF PER FACE, CALCULATED AT A RATE OF 1 SF OF SIGN AREA PER EVERY 2 LINEAL FT OF FRONTAGE; SECOND FREESTANDING SIGN SHALL NOT EXCEED 50 PERCENT OF THE AREA ALLOWED FOR A SINGLE FREESTANDING SIGN AND 150 FEET IN A STRAIGHT LINE DISTANCE MUST SEPARATE MULTIPLE POLE SIGNS.

3. ONE WALL SIGN PER FRONTAGE; MAXIMUM AREA: 100 SF, CALCULATED AT A RATE OF 1 SF OF SIGN AREA PER EVERY 1.5 LINEAL FT OF FRONTAGE; SIGNS MAY BE DIRECTLY OR INDIRECTLY ILLUMINATED.

4. ONE SUSPENDED SIGN PER ENTRANCE; MAXIMUM AREA: 6 SF PER FACE; MINIMUM CLEARANCE: 8 FT FROM SIGN TO GRADE.

5. ONE PROJECTING SIGN IN LIEU OF A PERMITTED FREESTANDING SIGN; MAXIMUM HEIGHT: HEIGHT REQUIREMENT OF THE ZONING DISTRICT; MAXIMUM AREA: 50% OF THE AREA ALLOWED FOR A SINGLE FREESTANDING SIGN.



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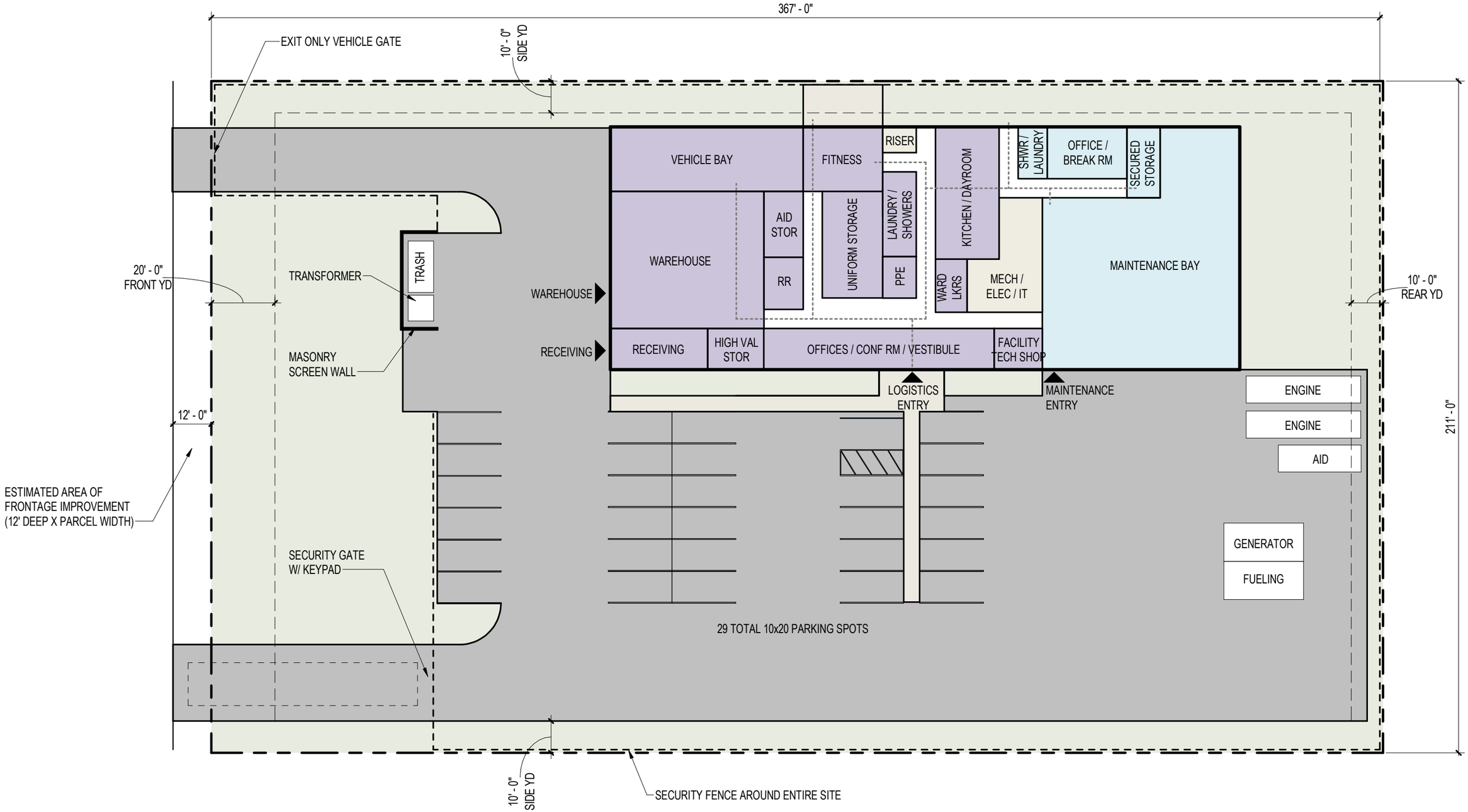
3.5 VALLEY REGIONAL FIRE AUTHORITY

LOGISTICS/MAINTENANCE



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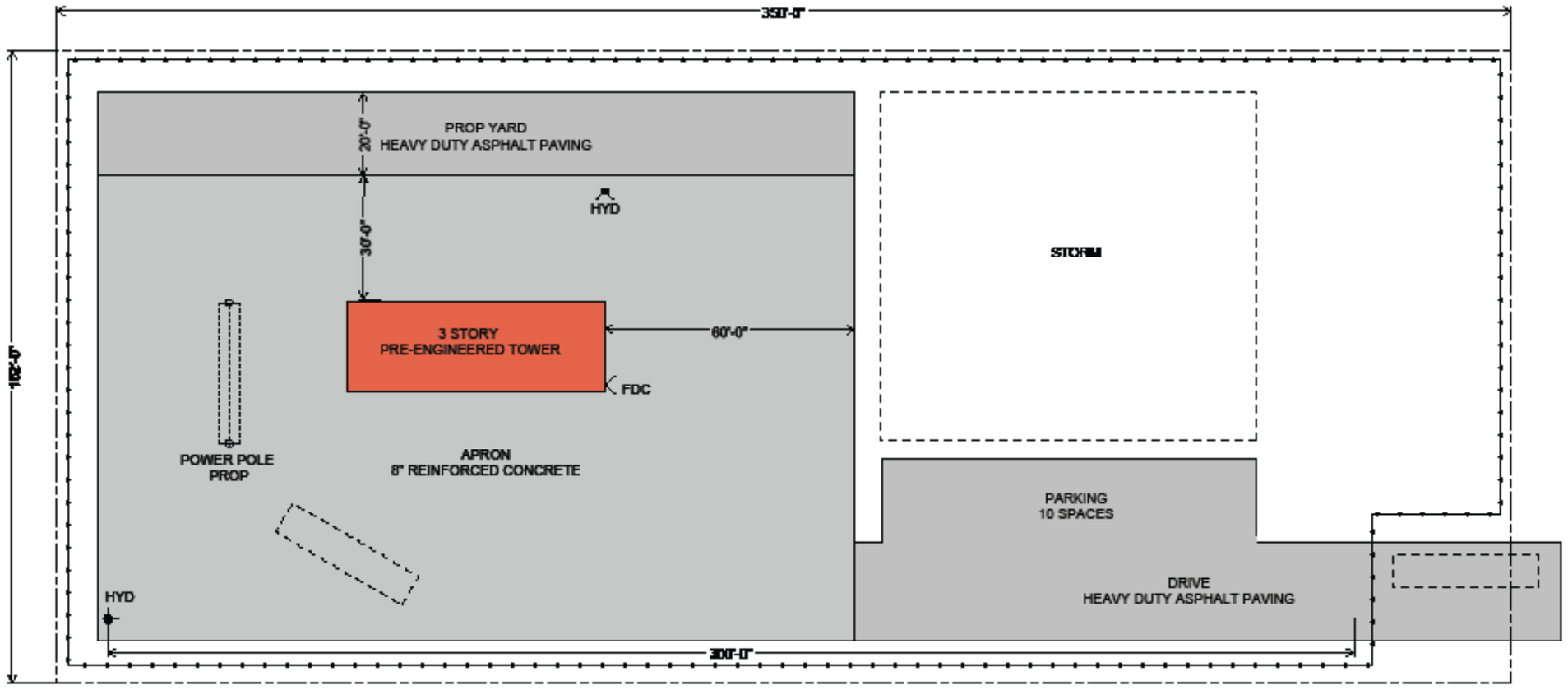
3.6 VALLEY REGIONAL FIRE AUTHORITY
TRAINING



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4.1 COSTING METHODOLOGY

Roen Associates provided cost estimating services for the VRFA Capital Facilities Improvements Plan. Roen developed order of magnitude opinions of construction costs for each facility based on the following information:

- Building Area and Space Components (See Section 2 and Appendix A).
- Conceptual Site Plans (See Section 3).
- Architectural and Engineering Narratives (See Appendix C).
- Design, Bid, Build Project Delivery Methods (i.e., projects will be publicly bid).
- Available Property Data, (e.g., surveys, environmental reports, and geotechnical reviews).
- Discussions with VRFA and the Design Team.
- Review input from TCA Architecture Planning.

Construction costs are summarized in Section 4.3 based on the detailed cost estimates provided in Appendix D. These cost estimates provide the maximum anticipated construction cost (MACC) to build the new facilities. These are pre-design cost estimates. Design contingencies are employed to cover the detail that will develop during the design phases (schematic design, design development, and construction documents). Additional contingencies are used to capture project unknowns.

As designs progress, subsequent cost estimates are recommended to inform design decisions and the project budgets. The construction cost estimates are in today's dollars, and these estimates represent one of three cost components discussed in Section 4.2.

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4.2 COST COMPONENTS

The calculation of the total budget for VRFA Capital Facilities Improvements relies on three cost components applied to each facility in the Improvements Plan.

Construction Cost is the anticipated construction contract sum for a specific project. These are also known as "Hard Costs". These costs are in today's dollars. See Section 4.1 for additional detail on the development of construction costs.

Soft Costs are all project costs outside of the construction contract sum. State Sales tax is an example of a soft cost. Soft costs are represented by a percentage of the construction cost and vary by project type and location. The table below shows the soft costs developed for each facility in the Improvement Plan. The Construction Contingency soft cost is for additional costs added to the contract during construction by Change Orders. Scope changes and unforeseen conditions commonly necessitate the need to adjust the contract sum. The Project Contingency is a significant soft cost and is meant to mitigate overall project risk. For example, escalated costs due to supply chain disruptions not known or forecasted during estimate preparation would be addressed by the Project Contingency. This line item may also be termed "Management Reserve." For multiple projects sequenced over time, project contingency balances (under or over) from completed projects should be tracked and incorporated into budget updates and may inform future design decisions.

Escalation captures the predicted increase in the cost of construction over time and is applied to both construction and soft costs. Per annum escalation percentages are provided by the cost estimator based on historical data, current trends, market considerations, and industry consensus. Section 4.3 Summary of Costs provides total project costs in today's dollars. The Implementation and Cost Framework in Section 5.3 applies escalation to total project costs.

TABLE 4.2.1: VRFA CAPITAL FACILITIES IMPROVEMENTS PLAN SOFT COSTS

	36 & 38	HQ 31	LOGISTICS	TRAINING
Architecture/Engineering	15.00%	15.00%	14.00%	13.00%
Other Design Team Consultants	3.00%	3.00%	3.00%	2.50%
Project Manager	3.00%	2.00%	1.00%	1.00%
Permits	1.00%	1.00%	1.00%	1.00%
Construction Contingency	5.00%	5.00%	5.00%	5.00%
Builder's Risk	0.75%	0.75%	0.75%	0.75%
Washington State Sales Tax	10.20%	10.20%	10.20%	10.20%
Furnishings and Equipment	2.50%	3.00%	2.50%	3.00%
Technology	2.50%	3.00%	2.00%	1.50%
Jurisdictional/Utility Fees	0.50%	0.50%	0.50%	0.50%
Staff Planning/Moving	0.50%	0.50%	0.50%	0.25%
Project Contingency	10.00%	10.00%	10.00%	5.00%
Total	53.95%	53.95%	50.45%	43.70%

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4.3 SUMMARY OF COSTS

The tables below show total project costs (construction plus soft costs) in today's dollars. The total project costs exclude escalation. Escalation is applied in the Implementation and Cost Framework provided in Section 5.3.

Table 4.3.1 represents the total costs before priority-based budget sizing. Table 4.3.2 captures cost reductions as the result of the prioritization of needs as described in Section 5.1.

TABLE 4.3.1: TOTAL COST IN TODAY'S DOLLARS BASED ON ALL NEEDS

FACILITY	CONSTRUCTION COST	COST PER SF	SOFT COSTS %	SOFT COSTS	TOTAL PROJECTED COST
FS 36	$12,313,441	$881	53.95%	$6,643,101	$18,956,542
FS 38	$14,997,663	$1,073	53.95%	$8,091,239	$23,088,902
HQ 31	$24,525,490	$735	53.95%	$13,231,502	$37,756,992
Log. Maint.	$10,516,209	$686	50.45%	$5,305,427	$15,821,636
Training	$2,500,000	-	43.70%	$1,092,500	$3,592,500
TOTAL	$64,852,803			$34,363,770	$99,216,573

TABLE 4.3.2: TOTAL COST IN TODAY'S DOLLARS BASED ON PRIORITY-BASED BUDGET SIZING

	FACILITY	CONSTRUCTION COST	COST PER SF	SOFT COSTS %	SOFT COSTS	TOTAL PROJECTED COST
1	FS 36	$12,313,441	$881	53.95%	$6,643,101	$18,956,542
2	FS 38	$14,997,663	$1,073	53.95%	$8,091,239	$23,088,902
3	HQ 31	$24,525,490	$735	53.95%	$13,231,502	$37,756,992
4	Log. Maint.	$4,000,000	$261	50.45%	$2,018,000	$6,018,000
5	Training	$1,000,000	-	43.70%	$437,000	$1,437,000
	TOTAL	$56,836,594			$30,420,842	$87,257,436

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5.1 PRIORITIZATION

The VRFA Capital Facilities Improvements Plan first studied all programmatic needs to support the Regional Fire Authority's mission today and into the future. Concepts were developed, schedules were considered, and costs were estimated to meet all identified needs. The total cost (including escalation) of capital facilities improvements to meet all needs exceeded $110M.

VRFA's Senior Leadership considered the priorities and financial recommendations put forth by the Capital Facilities Plan and concluded VRFA's mission will be best served by the preservation and modification of improvement scopes as follows:

- Fire Station 36: All needs are essential and no change in scope is recommended.
- Fire Station 38: All needs are essential and no change in scope is recommended.
- Headquarters Station 31: All fire station and administrative needs are essential and no change is recommended.
- Logistics and Maintenance: Scope reductions are recommended for a reduced cost of construction. The Improvements Plan captures a collocated Logistics and Maintenance Facility on a hypothetical site (requiring property to be acquired). The Regional Fire Authority will continue to investigate the long-term use of Station 35 (currently leased) for logistics and explore options for developing a maintenance facility at a separate site.
- Training: Scope revisions are recommended and assume a training facility will be integrated into an existing or new facility. The Improvements Plan studied a standalone Training Facility on a hypothetical site (requiring property to be acquired). By collocating training (chiefly, a pre-engineered training tower) at an existing or future facility site, costs will be reduced as there would be significant reductions in site development needs and additional property would not need to be acquired.

The recommended scope modifications result in a $15M reduction in the overall budget. This process of priority-based budget sizing ensures that the highest priority needs for delivering current and forecasted demands for emergency services to the communities of Algona, Auburn, and Pacific will be addressed while targeting a total budget sized appropriately for the financial recommendations of the Capital Facilities Plan and the resulting funding method.

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5.2 SCHEDULE

The schedule for VRFA Capital Facilities Improvements is driven by both the established priorities of the Capital Facilities Plan and the consideration of cost escalation (i.e., the anticipated increase in the cost of construction over time). The Improvements Plan recommends concurrently designing and constructing Fire Stations 36 and 38. Due to site complexities, Fire Station 38 will need a longer construction duration. Design for Headquarters Station 31 is recommended to start 6 months after the start of design for 36 and 38. Due to the need to keep the existing Headquarters Station 31 in service while the new facility is being built, a longer and phased construction duration will be needed. While the stations are being designed and built, options for Logistics and Maintenance Facilities and opportunities for integrating a Training Tower at a facility will continue to be studied for solutions meeting targeted construction costs with design and construction to follow.

The 5.3 Implementation and Cost Framework provides costs for the improvements within the context of the overall schedule. Targeted construction start and completion dates should be considered approximate and could vary within 3 months without a significant impact on the overall cost.

The sequencing of facility development is more important. For instance, if the projects were developed sequentially (i.e., no concurrent design and construction) this would significantly extend the overall timeline and add additional dollars of escalation to the overall budget.

For each project, the schedule for construction should be studied during design and regularly updated as designs progress. The individual project scopes and project conditions will also inform schedules, e.g., the timing of major earthwork in relation to wet weather months. The Capital Facilities Improvements overall schedule should also be regularly updated and proposed revisions should be considered for overall budget impacts.

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5.3 IMPLEMENTATION AND COST FRAMEWORK

The Implementation and Cost Framework ties together the costing components described in Section 4.2, the prioritization recommendations from Section 5.1, and the schedule approach from Section 5.2. The table below provides the recommended total project budget of $95M for the Valley Regional Fire Authority Capital Facilities Improvements.

TABLE 5.3.1: VRFA IMPLEMENTATION AND COST FRAMEWORK

	FIRE STATION 36	FIRE STATION 38	HQ FIRE STATION 31	LOGISTICS & MAINTENANCE	TRAINING	TOTALS
Construction Cost TD	$12,313,441	$14,997,663	$24,525,490	$4,000,000	$1,000,000	$56,836,594
Cost Per SF	$881	$1,073	$735	n/a	n/a	
Soft Cost %	53.95%	53.95%	53.95%	50.45%	43.70%	
Soft Costs	$6,643,101	$8,091,239	$13,231,502	$2,018,000	$437,000	$30,420,842
Total Project Cost TD	$18,956,542	$23,088,902	$37,756,992	$6,018,000	$1,437,000	$87,257,436
Construction Start	Oct-24	Oct-24	Apr-25	Oct-25	Apr-26	
Duration Months	12	14	20	12	6	
Substantial Completion	Oct-25	Nov-25	Nov-26	Oct-26	Sep-26	
Years of Escalation	1.69	1.69	2.27	2.77	3.27	
Cost of Escalation	$1,423,478	$1,733,784	$3,707,841	$712,013	$198,597	$7,775,715
Total Project Cost	$20,380,021	$24,822,686	$41,464,833	$6,730,013	$1,635,597	**$95,033,151**

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APPENDICES

A. Detailed Program Needs
B. Space Diagrams
C. AE Narratives
D. Detailed Cost Estimates
E. Visioning Workshop
F. Facility Tours

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DETAILED PROGRAM NEEDS

VALLEY REGIONAL FIRE AUTHORITY SATELLITE NEEDS (FS 36 & 38)

3.6.23 Draft v1

STAFFING		MOVE-IN		+ 5-15 YEARS		
Apparatus	Qty	Staff	Qty	Staff		
Engine (approx. 35 ft)	1	3	1	3		
Aid (approx. 25 ft)	0	0	2	4		
BC (approx. 20 ft)	0	0	0	0	BC may take place of 2nd Aid	
Total Apparatus & Staff		**3**	3	**7**	4 Platoons	
Additional Sleeping Room		0		1		
Reserve Apparatus						
Ladder (approx. 60 ft)			1		at bay 3 w/ Aid Engine stack in bays 1 or 2	

	MOVE-IN			+ 5-15 YEARS				
1.00 PUBLIC AREA	Qty	SF	Total SF	Qty	SF	Total SF	Zone	Notes
1.01 Entry Vestibule	1	40	40	1	40	40		Code Required
1.02 Lobby	1	120	120	1	120	120		BP Check
1.03 Conference Room	1	330	330	1	330	330		for meeting w/ public, off of lobby, -seats 12
1.04 Unisex Restroom	1	60	60	1	60	60		ADA
Subtotal Net			550			550		
w/ Circulation			**688**			**688**		circulation grossing factor 1.25

	MOVE-IN			+ 5-15 YEARS				
3.00 CREW OFFICE	Qty	SF	Total SF	Qty	SF	Total SF	Zone	Notes
3.01 Captain -Office Type B	1	120	120	1	120	120		
3.02 FF Workroom	1	220	220	1	380	380		mail slots, island for mtgs, desktop copy/print
Subtotal Net			340			500		
w/ Circulation			**425**			**625**		circulation grossing factor 1.25

	MOVE-IN			+ 5-15 YEARS				
4.00 CREW LIVING	Qty	SF	Total SF	Qty	SF	Total SF	Zone	Notes
4.01 Kitchen/Dining	1	400	400	1	500	500		
4.02 Dayroom	1	350	350	1	400	400		separate but adjacent (by door) to Kitchen
4.03 Quiet Room	1	80	80	1	80	80		for study or decompression
4.04 Fitness	1	500	500	1	600	600		
4.05 Toilet/Shower	2	90	180	4	90	360		
4.06 Lav. Room	1	48	48	1	54	54		
4.07 Sleep Room	3	80	240	8	80	640		include desk
4.08 Wardrobe Alcove	3	60	180	8	60	480		accommodate bedding storage
4.09 Laundry	1	80	80	1	100	100		
4.10 Custodial	1	48	48	1	48	48		mop sink and push cart
Subtotal Net			2,106			3,262		
w/ Circulation			**2,633**			**4,078**		circulation grossing factor 1.25

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VALLEY REGIONAL FIRE AUTHORITY FS 31 NEEDS

3.8.23 Draft v2

STAFFING	MOVE-IN		+ 5-15 YEARS		
Apparatus	Qty	Staff	Qty	Staff	
Engine (approx. 35 ft)	0	0	1	3	
Aid (approx. 25 ft)	1	2	1	2	
BC (approx. 20 ft)	1	1	1	1	
Ladder (approx. 60 ft)	1	3	1	4	
Medic (approx. 25 ft)	1	2	1	2	
Total Apparatus & Staff	**4**	**8**	**5**	**12**	4 Platoons
Additional Sleeping Room		0		0	
Reserve Apparatus					
Ladder (approx. 60 ft)			1		
Engine (approx. 35 ft)			1		at bay 4 behind aid or BC

		MOVE-IN			+ 5-15 YEARS				
1.00	**PUBLIC AREA (areas are shared with 31 admin)**	Qty	SF	Total SF	Qty	SF	Total SF	Zone	Notes
1.01	Lobby	0.5	200	100	0.5	200	100		BP Check
1.02	Antique Display	0	100	0	0.5	100	50		
1.03	Male RR	0.25	180	45	0.25	180	45		
1.04	Female RR	0.25	140	35	0.25	140	35		
	Subtotal Net			180			230		
	w/ Circulation			**225**			**288**		circulation grossing factor 1.25

		MOVE-IN			+ 5-15 YEARS				
3.00	**CREW OFFICE**	Qty	SF	Total SF	Qty	SF	Total SF	Zone	Notes
3.01	BC -Shared Office Type A	1	180	180	1	180	180		for 2 BC's at shift change
3.02	Captain -Shared Office Type A	1	180	180	1	180	180		for 2 Captains
3.03	Medic -Shared Office Type A	1	180	180	1	180	180		for 2 KC Medics
3.04	FF Workroom	1	380	380	1	440	440		7 workstations, mail slots, island for mtgs, desktop copy/print
	Subtotal Net			920			980		
	w/ Circulation			**1150**			**1225**		circulation grossing factor 1.25

		MOVE-IN			+ 5-15 YEARS				
4.00	**CREW LIVING**	Qty	SF	Total SF	Qty	SF	Total SF	Zone	Notes
4.01	Kitchen/Dining	1	500	500	1	840	840		
4.02	Dayroom	1	400	400	1	672	672		separate but adjacent (by door) to Kitchen
4.03	Quiet Room	1	80	80	1	80	80		for study or decompression
4.04	Fitness	1	700	700	1	1000	1000		fitness also used by Admin staff
4.05	Toilet/Shower	4	90	360	6	90	540		
4.06	Lav. Room	1	54	54	1	80	80		
4.07	Sleep Room	8	80	640	12	80	960		BC office adjacent to room

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VALLEY REGIONAL FIRE AUTHORITY HQ ADMIN NEEDS

3.8.23 Draft v2

		MOVE-IN			+ 5-15 YEARS			
1.00 PUBLIC AREA (areas are shared with FS31)	Qty	SF	Total SF	Qty	SF	Total SF	Notes	
1.01 Lobby	0.5	200	100	0.5	200	100	BP Check	
1.02 Antique Display	0	100	0	0.5	100	50	Off of Lobby	
1.03 Male RR	0.75	180	135	0.75	180	135	2 lavs, 2 urinals, 2 toilets (ADA)	
1.04 Female RR	0.75	140	105	0.75	140	105	2 lavs, 2 toilets (ADA)	
Subtotal Net			340			390		
w/ Circulation			**425**			**488**	circulation grossing factor	1.25

		MOVE-IN			+ 5-15 YEARS			
2.00 MULTIPURPOSE ROOM	Qty	SF	Total SF	Qty	SF	Total SF	Notes	
2.01 Multipurpose Room	1	1280	1280	1	1280	1280	36 at tables, cocktail tables, coffee bar. Backup DOC, partition	
2.02 Room Storage	1	150	150	1	150	150	Tables, chairs, training material	
2.03 Board Storage	1	80	80	1	80	80	BOG is (9) and (1) Admin	
Subtotal Net			1,510			1,510		
w/ Circulation			**1,888**			**1,888**	circulation grossing factor	1.25

		MOVE-IN				+ 5-15 YEARS				
3.000 CHIEF	Staff	Qty	SF	Total SF	Staff	Qty	SF	Total SF	Notes	
3.001 Chief -Office Type D	1	1	180	180	1	1	180	180		
3.002 Admin -Office Type B	0.5	0.5	120	60	1	1	120	120	Shared w/ HR at move-in	
Subtotal Staff	**1.5**				2					
Subtotal Net				240				300		
w/ Circulation				**300**				**375**	circulation grossing factor	1.25

		MOVE-IN				+ 5-15 YEARS				
3.100 OPS	Staff	Qty	SF	Total SF	Staff	Qty	SF	Total SF	Notes	
3.101 Deputy Chief -Office Type C	1	1	150	150	1	1	150	150		
Subtotal Staff	**1**				**1**					
Subtotal Net				150				150		
w/ Circulation				**188**				**188**	circulation grossing factor	1.25

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VALLEY REGIONAL FIRE AUTHORITY LOGISTICS & MAINTENANCE NEEDS

3.6.23 Draft v1

		MOVE-IN				+ 5-15 YEARS					
3.00	**OFFICE**	Staff	Qty	SF	Total SF	Staff	Qty	SF	Total SF	Notes	
3.01	BC -Office Type B	1	1	120	120	1	1	120	120		
3.02	Captains -Shared Office Type A	2	1	180	180	2	1	180	180		
3.03	Facility Tech Workstation	1	1	64	64	2	2	64	128		
3.04	Aide Workstation	1	1	64	64	2	2	64	128		
	see maintenance bay for related office										
	Subtotal Staff	**5**				**7**					
	Subtotal Net				428				556		
	w/ Circulation				**535**				**695**	circulation grossing factor	1.25

		MOVE-IN				+ 5-15 YEARS				
4.00	**SUPPORT SPACE**	Qty	SF	Total SF	Qty	SF	Total SF	Notes		
4.01	Kitchen	1	340	340	1	400	400			
4.02	Dayroom	1	340	340	1	400	400			
4.03	S. Conference	1	180	180	1	200	200			
4.04	Wardrobe Lockers	1	38	38	1	50	50	(8) lockers		
4.05	Fitness	1	360	360	1	500	500	for 4-6 working out		
4.06	Laundry	1	60	60	1	80	80			
4.07	Unisex RR	1	60	60	1	60	60			
4.08	Toilet/Shwr	2	90	180	2	90	180			
	see maintenance bay for related support									
	Subtotal Net			1,558			1,870			
	w/ Circulation			**1,947**			**2,338**	circulation grossing factor		1.25

		MOVE-IN				+ 5-15 YEARS				
5.000	**WAREHOUSE**	Qty	SF	Total SF	Qty	SF	Total SF	Notes		
5.001	Warehouse	1	2016	2,016	1	2,016	2,016	3 rows of high bay storage		
5.002	Vehicle Storage Bay	1	1125	1,125	1	1,125	1,125	for 1 engine		
5.003	Uniform Storage	1	600	600	1	600	600			
5.004	Aid Storage	1	200	200	1	200	200			
5.005	High Value Storage	1	200	200	1	200	200			
5.006	Facility Tech Shop	1	170	170	1	170	170	with storage		
5.007	PPE Storage	1	96	96	1	128	128	8 lockers		
5.008	Surplus PPE Storage							100 set, look at system, stored in open warehouse		
5.009	Receiving Area	1	264	264	1	264	264	1 bay with code for vendor, awning		
	Subtotal Net			4,671			4,703			
	w/ Circulation			**5,138**			**5,173**	circulation grossing factor		1.1

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SPACE DIAGRAMS

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OFFICE STANDARDS

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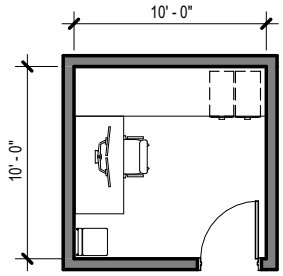
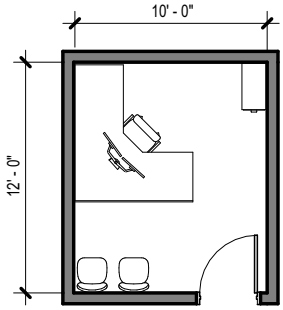
OFFICE STANDARDS



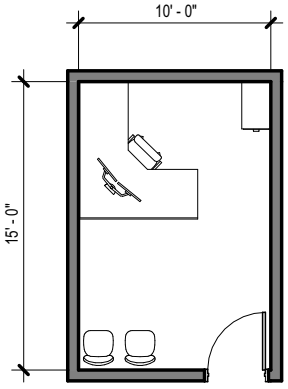
COMPUTER STATION
30" DESK
(2) 2-DRAWER VERTICAL FILE
WHITE BOARD
(1) GUEST CHAIR

OFFICE TYPE A 100 SF



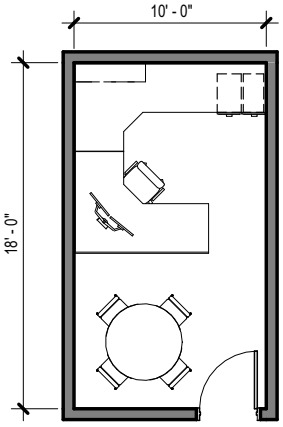
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

OFFICE TYPE B 120 SF



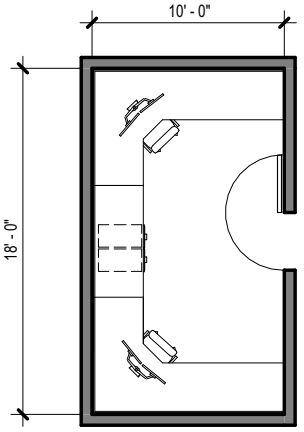
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

OFFICE TYPE C 150 SF



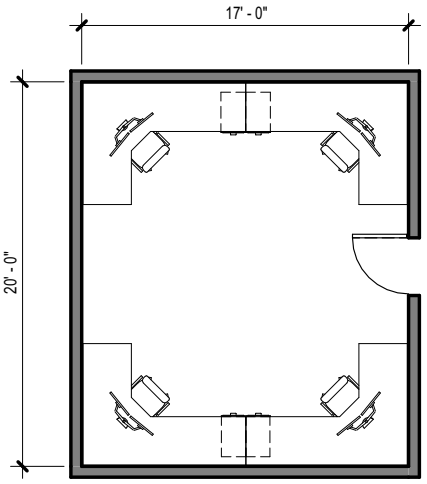
COMPUTER STATION
30" DESK
(2) 2-DRAWER VERTICAL FILE
WHITE BOARD
14" DEEP UPPER CABINET
42" DIA TABLE
(4) GUEST CHAIRS

OFFICE TYPE D 180 SF



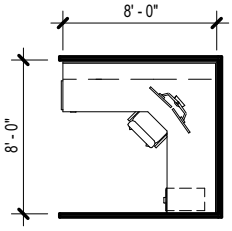
(2) COMPUTER STATIONS
(2) 30" DESKS
(2) 2-DRAWER VERTICAL FILE
WHITE BOARD
TACK BOARD
(2) GUEST CHAIRS

SHARED OFFICE TYPE A 180 SF
(FOR 2)



(4) COMPUTER STATIONS
(4) 30" DESKS
(4) 2-DRAWER VERTICAL FILE
WHITE BOARDS
TACK BOARD
OPTIONAL DOOR

SHARED OFFICE TYPE B 340 SF
(FOR 4)



COMPUTER STATION
30" DESK
2 DRAWER VERTICAL FILE
WHITE BOARD
14" DEEP UPPER CABINET
PARTITIONS

WORKSTATION 64 SF

0' 5' 10'

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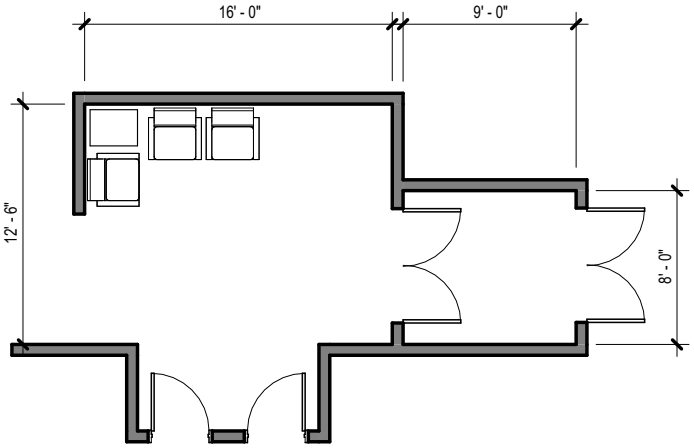
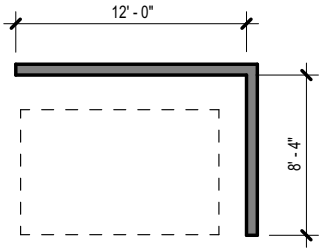
FIRE STATION 31

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

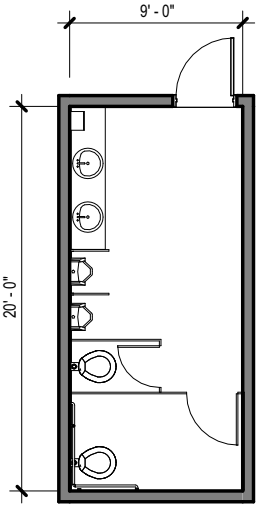
1.00 PUBLIC AREA



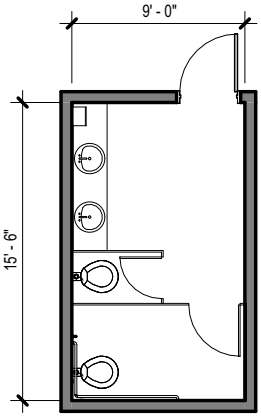
1.01 LOBBY 200 SF (AND 72 SF VESTIBULE)



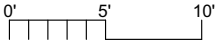
1.02 ANTIQUE DISPLAY 100 SF



1.03 MALE RR 180 SF



1.04 FEMALE RR 140 SF



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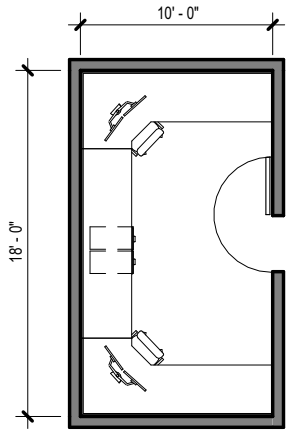
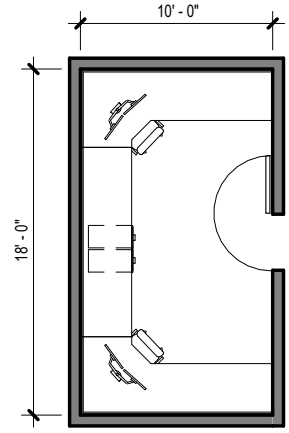
3.00 CREW OFFICE



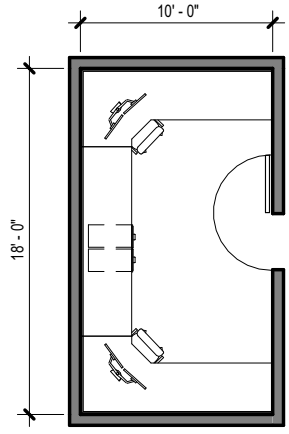
(2) COMPUTER STATIONS
(2) 30" DESKS
(2) 2-DRAWER VERTICAL FILE
WHITE BOARD
TACK BOARD
(2) GUEST CHAIRS

3.01 BC - SHARED OFFICE TYPE A 180 SF



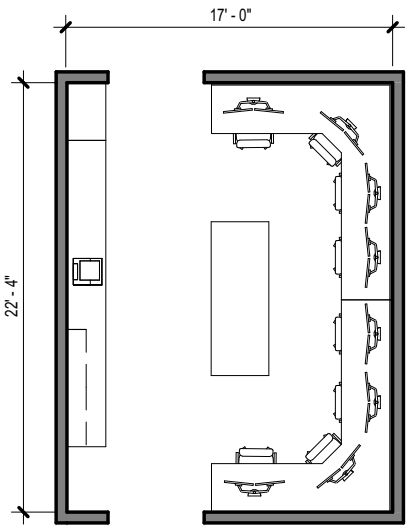
(2) COMPUTER STATIONS
(2) 30" DESKS
(2) 2-DRAWER VERTICAL FILE
WHITE BOARD
TACK BOARD
(2) GUEST CHAIRS

3.02 CAPTAIN - SHARED OFFICE TYPE A 180 SF



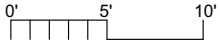
(2) COMPUTER STATIONS
(2) 30" DESKS
(2) 2-DRAWER VERTICAL FILE
WHITE BOARD
TACK BOARD
(2) GUEST CHAIRS

3.03 MEDIC - SHARED OFFICE TYPE A 180 SF



MAIL SLOTS
ISLAND FOR MEETINGS
COPY/PRINT

3.04 FF WORKROOM 440 SF



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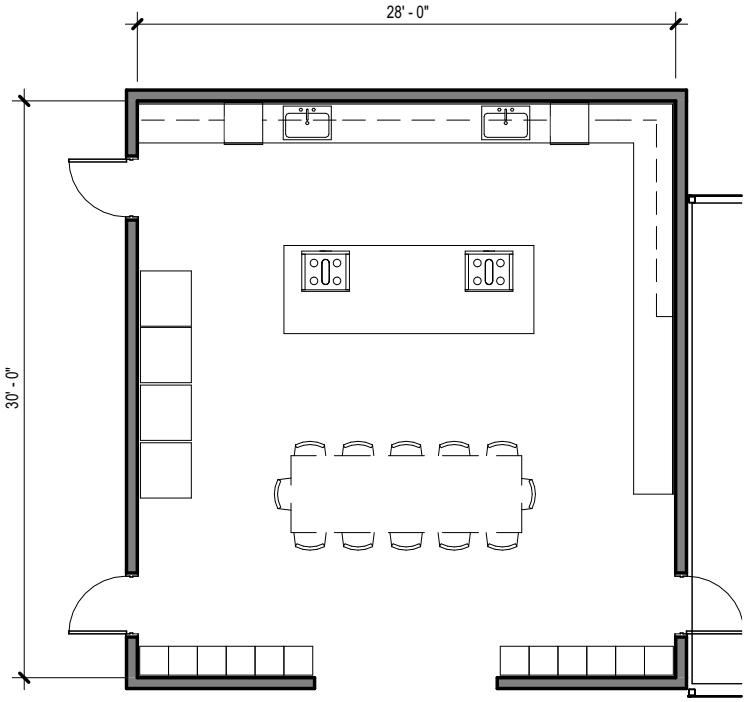
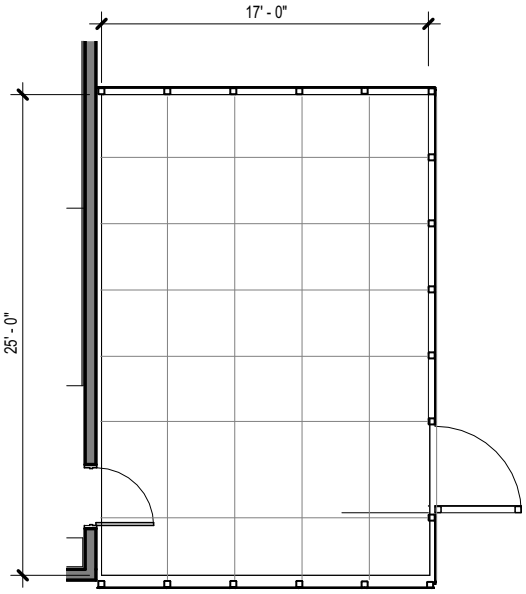
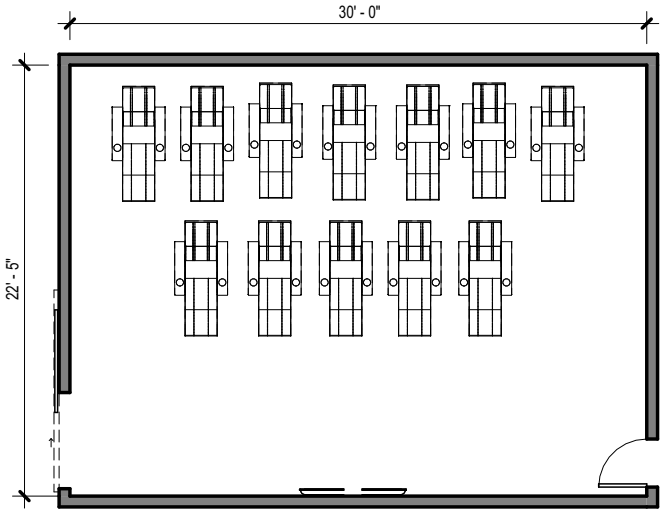
4.00 CREW LIVING



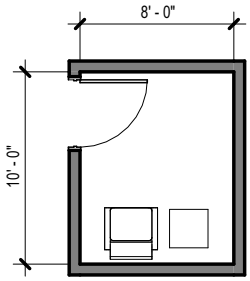
4.01 KITCHEN/DINING 840 SF



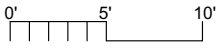
8.00 PATIO 425 SF



4.02 DAYROOM 672 SF



4.03 QUIET ROOM 80 SF



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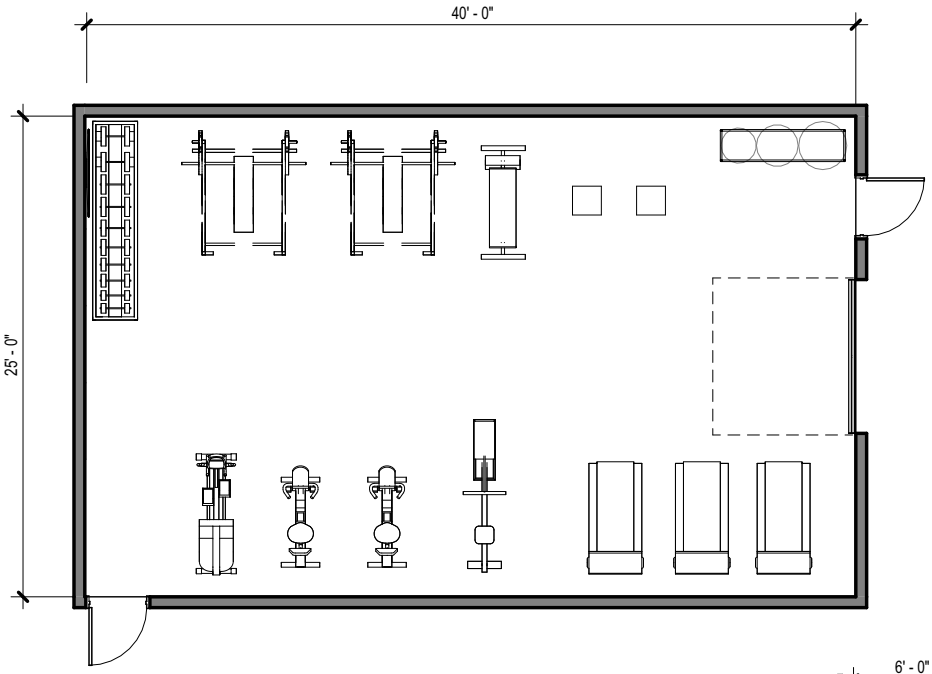
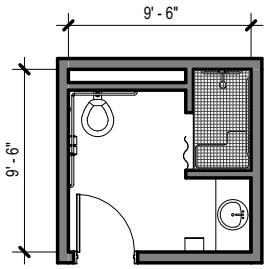
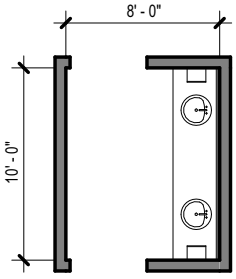
4.00 CREW LIVING



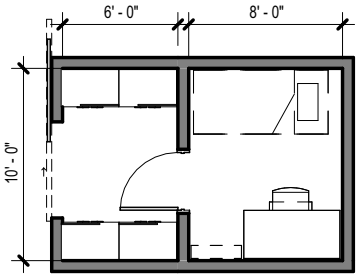
4.04 FITNESS 1000 SF



4.05 TOILET/SHOWER 90 SF

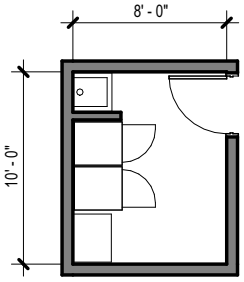


4.06 LAVATORY ROOM 80 SF

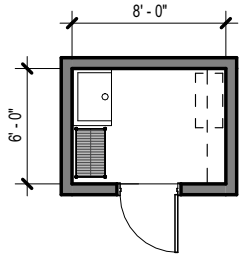


4.07 SLEEP ROOM 80 SF

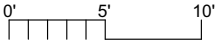
4.08 WARDROBE ALCOVE 60 SF



4.09 LAUNDRY 80 SF



4.10 CUSTODIAL 48 SF



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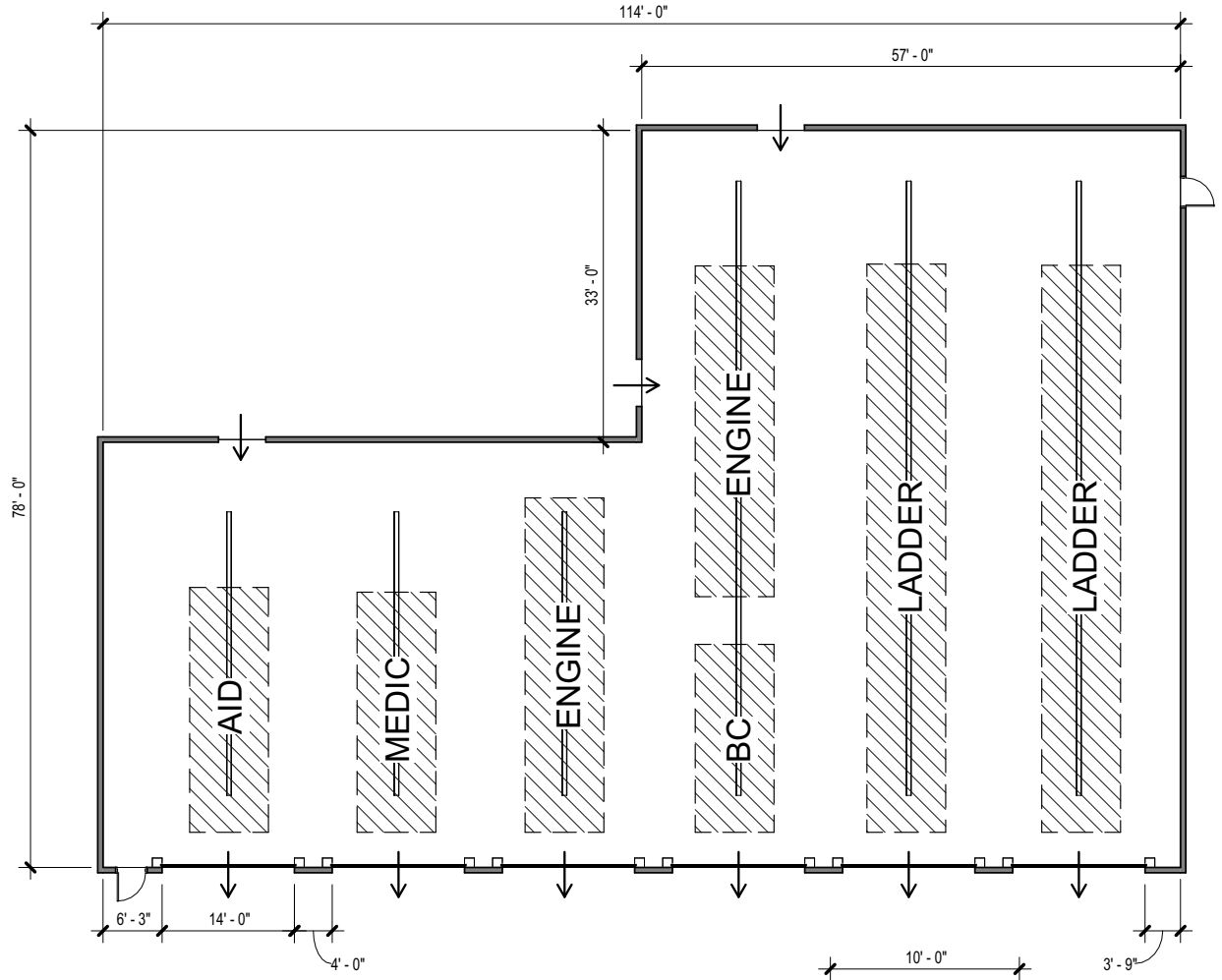
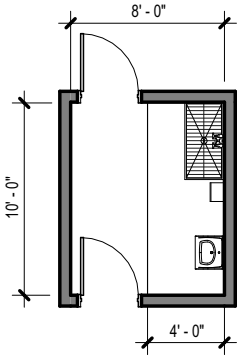
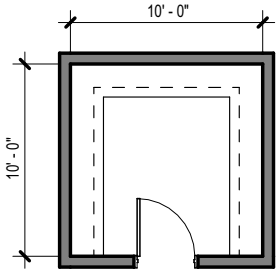
5.00 APPARATUS BAYS



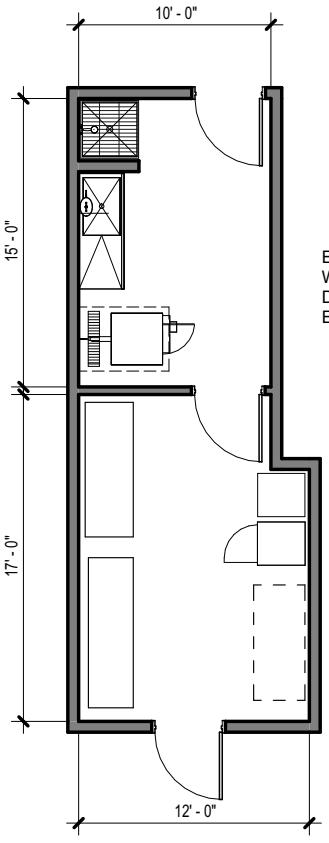
5.01 APPARATUS ROOM 7,011 SF (SCALE: 1" = 20'-0")



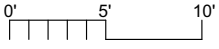
5.02 AIRLOCK 40 SF



5.03 BLS AND ALS STORAGE 100 SF



5.04 DECON 150 SF 5.05 CLEAN ROOM 200 SF



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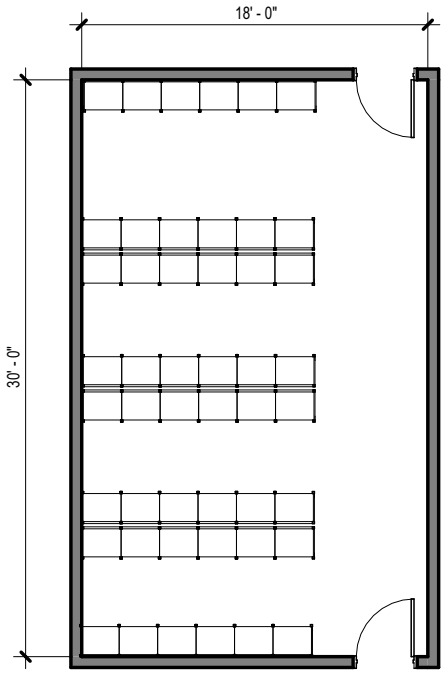
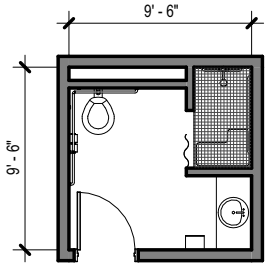
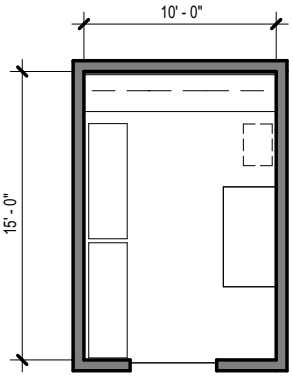
5.00 APPARATUS BAYS



5.06 PPE STORAGE 540 SF

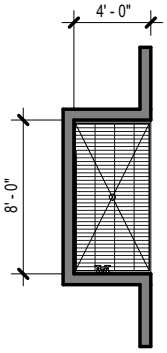


5.07 BAY TOILET 90 SF



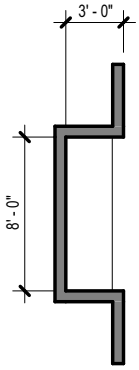
METAL SHELVING
TOOLBOX
WORKBENCH

5.08 SHOP 150 SF

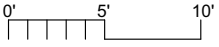


RECESSED METAL GRATE
WASH RACK
HOSE BIB

5.09 WASH ALCOVE 32 SF



5.10 BATTERY ALCOVE 24 SF



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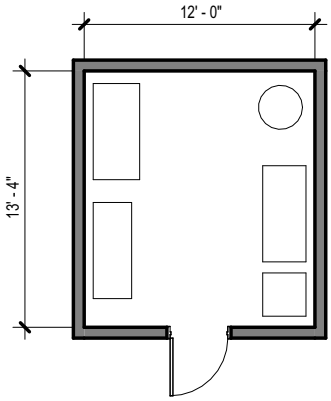
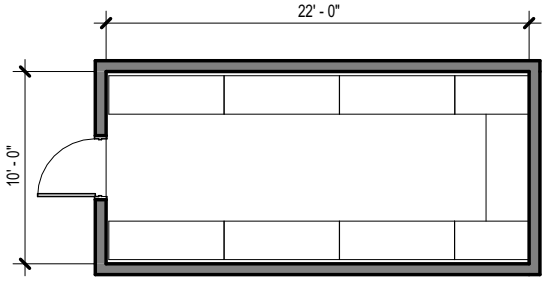
5.00 APPARATUS BAYS



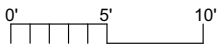
HOUSE AIR
SCBA COMP.
FILL STATION
BOTTLE STORAGE
TABLE

5.11 SCBA FILL AND COMPRESSOR 120 SF

5.12 HOUSE AIR COMPRESSOR 40 SF



5.13 GENERAL STORAGE 220 SF



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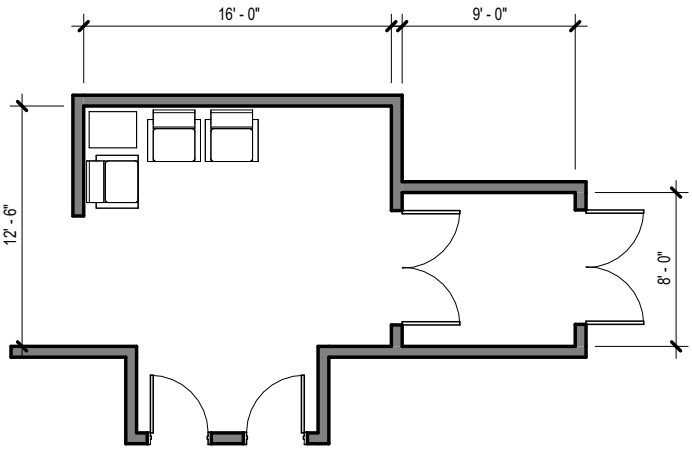
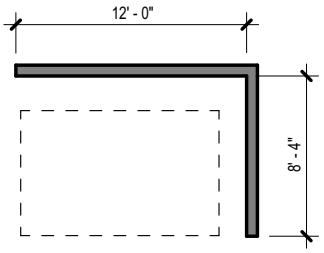
FIRE STATION 31 ADMIN

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

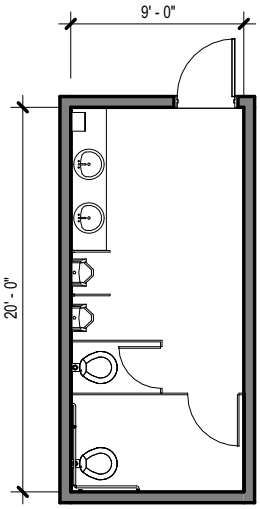
1.00 PUBLIC AREA



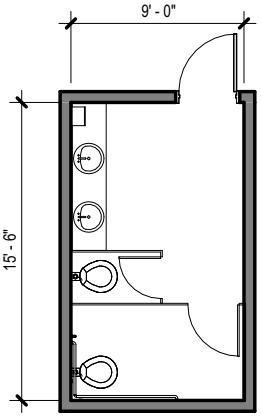
1.01 LOBBY 200 SF (AND 72 SF VESTIBULE)



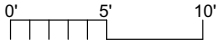
1.02 ANTIQUE DISPLAY 100 SF



1.03 MALE RR 180 SF



1.04 FEMALE RR 140 SF



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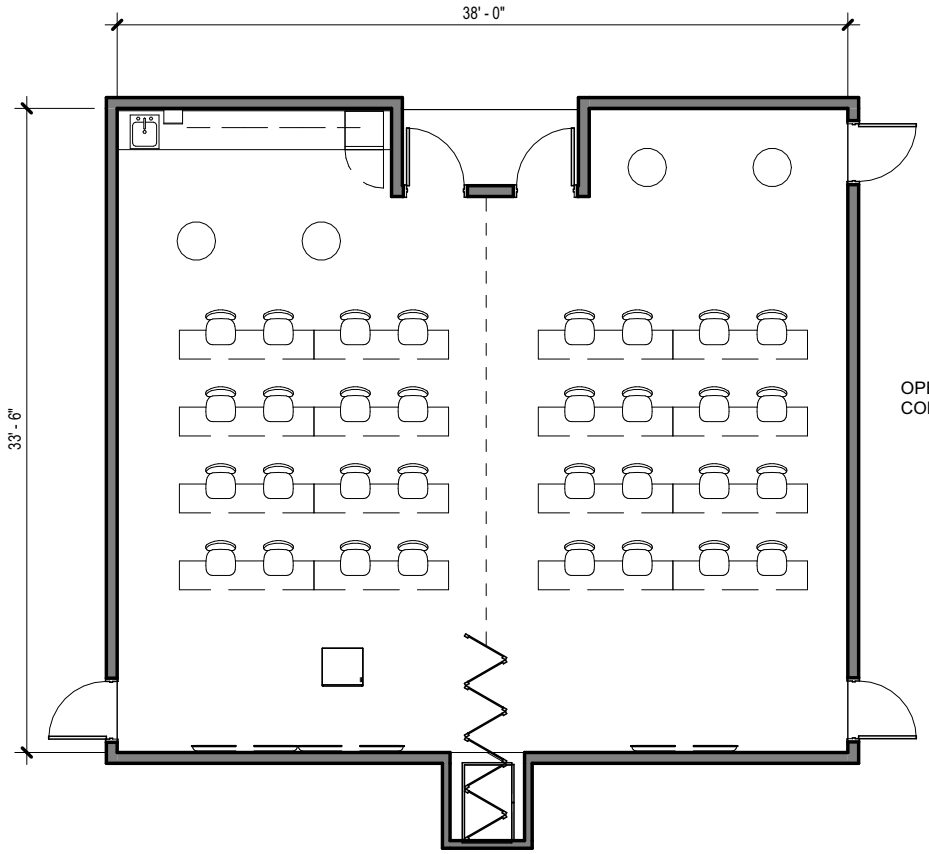
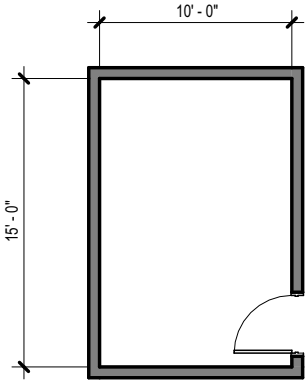
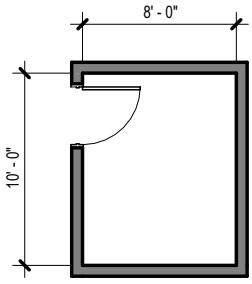
2.00 MULTIPURPOSE ROOM



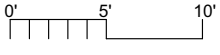
2.01 MULTIPURPOSE ROOM 1280 SF



2.02 ROOM STORAGE 150 SF



2.03 BOARD STORAGE 80 SF



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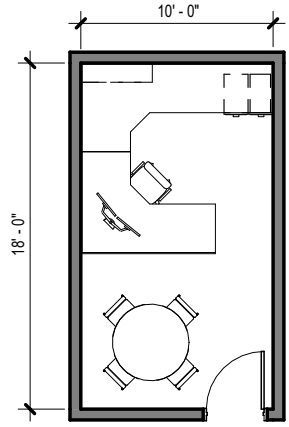
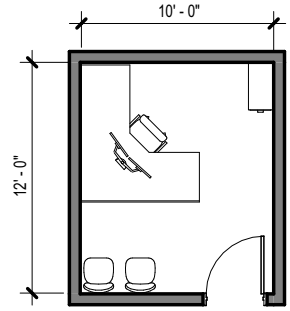
3.00 CHIEF



COMPUTER STATION
30" DESK
(2) 2-DRAWER VERTICAL FILE
WHITE BOARD
14" DEEP UPPER CABINET
42" DIA TABLE
(4) GUEST CHAIRS

3.001 CHIEF - OFFICE TYPE D 180 SF



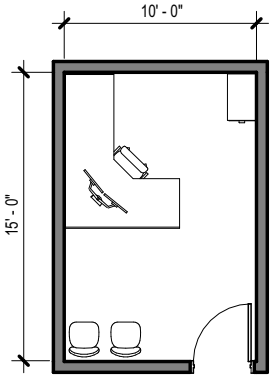
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.002 ADMIN - OFFICE TYPE B 120 SF

0' 5' 10'

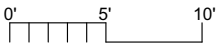
Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

3.10 OPS



COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.101 DEPUTY CHIEF - OFFICE TYPE C 150 SF



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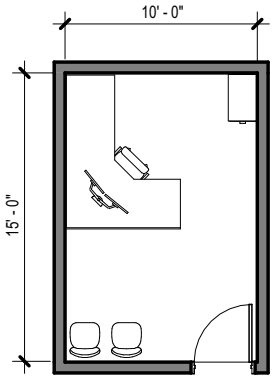
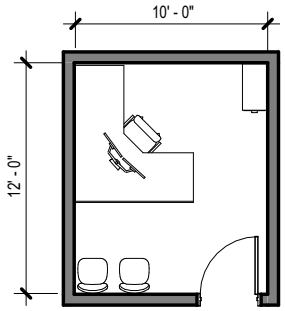
3.20 CRR



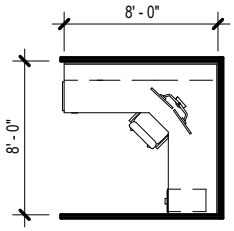
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.201 DEPUTY CHIEF - OFFICE TYPE C 150 SF



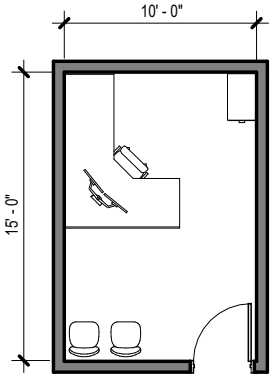
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.202 EM - OFFICE TYPE B 120 SF



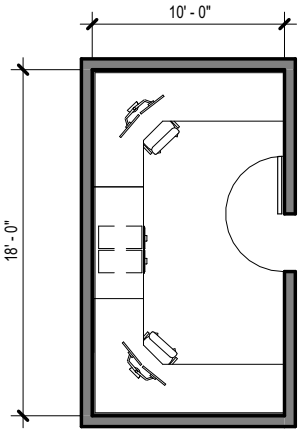
COMPUTER STATION
30" DESK
2 DRAWER VERTICAL FILE
WHITE BOARD
14" DEEP UPPER CABINET
PARTITIONS

3.203 ADMIN WORKSTATION 64 SF



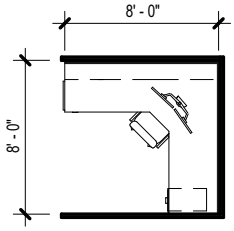
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.204 FIRE MARSHAL - OFFICE TYPE C 150 SF



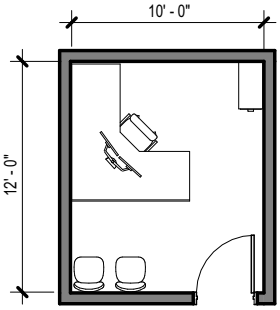
(2) COMPUTER STATIONS
(2) 30" DESKS
(2) 2-DRAWER VERTICAL FILE
WHITE BOARD
TACK BOARD
(2) GUEST CHAIRS

3.205 ASST. FIRE MARSHAL - SHARED OFFICE TYPE A 180 SF



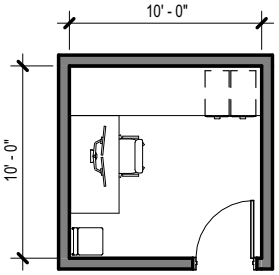
COMPUTER STATION
30" DESK
2 DRAWER VERTICAL FILE
WHITE BOARD
14" DEEP UPPER CABINET
PARTITIONS

3.206 DEPUTY FIRE MARSHAL WORKSTATIONS 64 SF



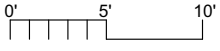
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.207 ANALYTICS MANAGER - OFFICE TYPE B 120 SF



COMPUTER STATION
30" DESK
(2) 2-DRAWER VERTICAL FILE
WHITE BOARD
(1) GUEST CHAIR

3.208 RECORDS ANALYST - OFFICE TYPE A 100 SF



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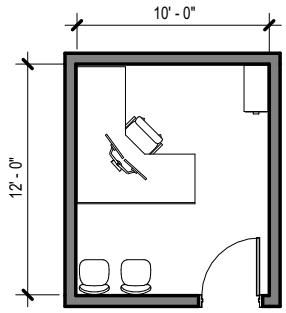
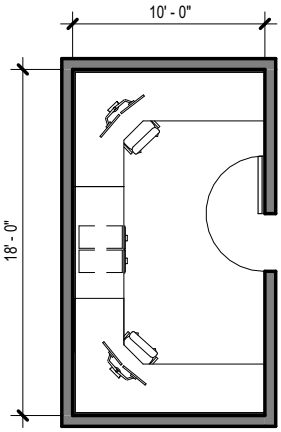


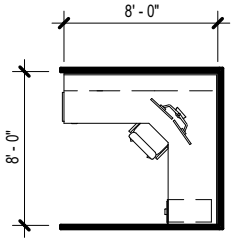
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.209 SOCIAL WORKER - OFFICE TYPE B 120 SF



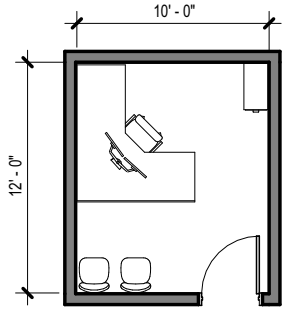
(2) COMPUTER STATIONS
(2) 30" DESKS
(2) 2-DRAWER VERTICAL FILE
WHITE BOARD
TACK BOARD
(2) GUEST CHAIRS

3.212 PIO - SHARED OFFICE TYPE A 200 SF



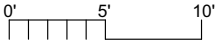
COMPUTER STATION
30" DESK
2 DRAWER VERTICAL FILE
WHITE BOARD
14" DEEP UPPER CABINET

3.210 INTERNS - WORKSTATIONS 64 SF



COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.211 CAPTAIN - OFFICE TYPE B 120 SF



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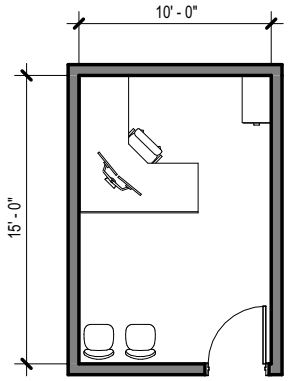
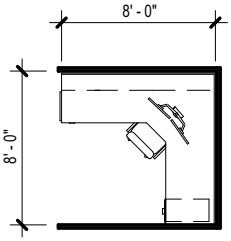
3.30 FINANCE



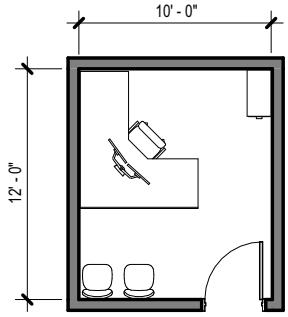
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.301 CFO - OFFICE TYPE C 150 SF



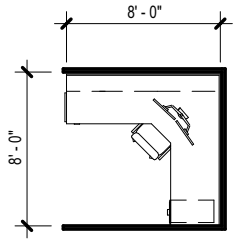
COMPUTER STATION
30" DESK
2 DRAWER VERTICAL FILE
WHITE BOARD
14" DEEP UPPER CABINET

3.004 ADMIN - WORKSTATION 64 SF



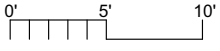
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.002 FINANCIAL MANAGER - OFFICE TYPE B 120 SF



COMPUTER STATION
30" DESK
2 DRAWER VERTICAL FILE
WHITE BOARD
14" DEEP UPPER CABINET

3.003 ACCOUNTANT - WORKSTATION 64 SF



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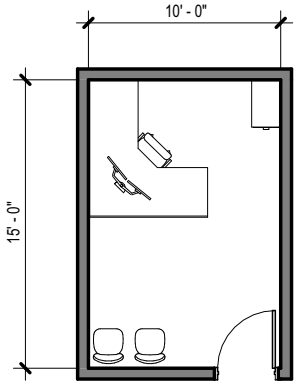
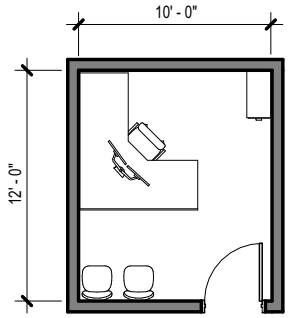
3.40 HR



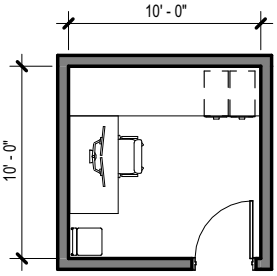
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.401 HR MANAGER OFFICE - OFFICE TYPE C 150 SF



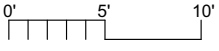
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.402 ADMIN - OFFICE TYPE B 120 SF



COMPUTER STATION
30" DESK
(2) 2-DRAWER VERTICAL FILE
WHITE BOARD
(1) GUEST CHAIR

HRA - OFFICE TYPE A 100 SF



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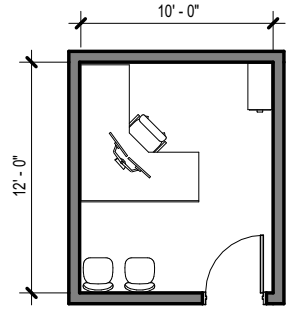
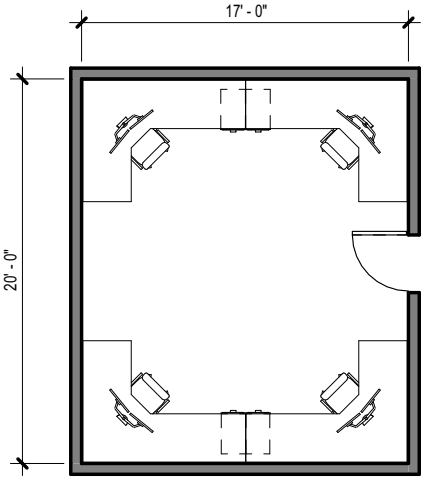
3.50 IS



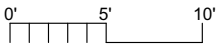
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

8.010 IS MANAGER - OFFICE TYPE B 120 SF



(4) COMPUTER STATIONS
(4) 30" DESKS
(4) 2-DRAWER VERTICAL FILE
WHITE BOARDS
TACK BOARD
OPTIONAL DOOR

8.020 ADMIN - SHARED OFFICE TYPE B 340 SF



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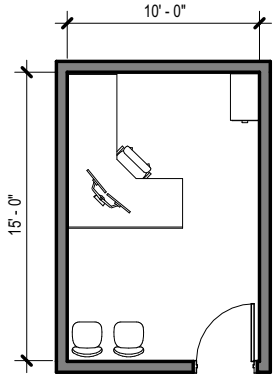
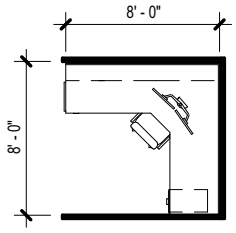
3.60 SUPPORT SERVICES



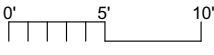
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

9.010 DEPUTY CHIEF - OFFICE TYPE C 150 SF



COMPUTER STATION
30" DESK
2 DRAWER VERTICAL FILE
WHITE BOARD
14" DEEP UPPER CABINET
PARTITIONS

9.020 ADMIN - WORKSTATION 64 SF



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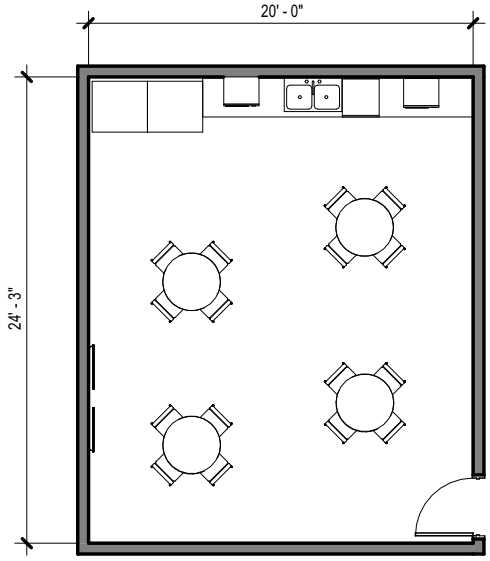
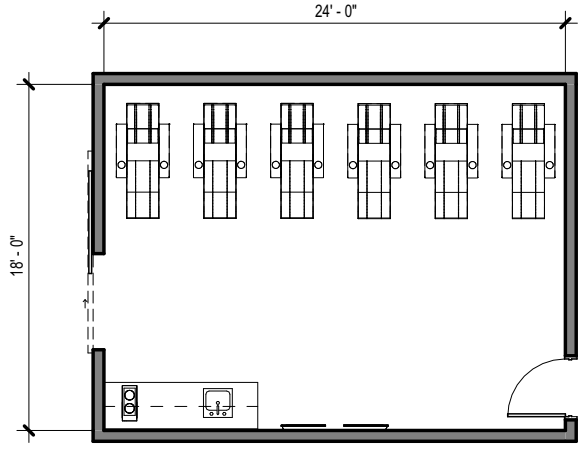
4.00 SUPPORT SPACES

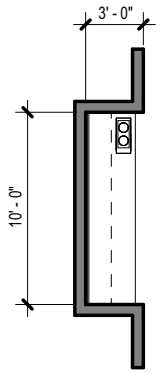


4.01 BREAKROOM 528 SF

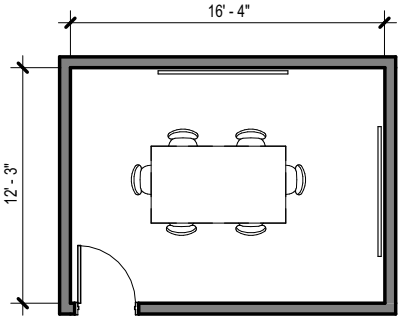


(6) RECLINERS
COFFEE BAR
TV

4.02 ADMIN DAYROOM 432 SF

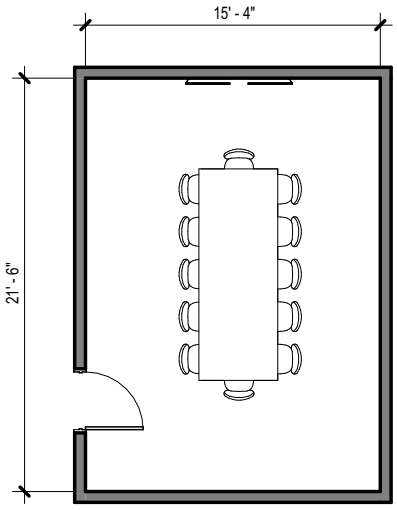


4.03 COFFEE STATION 30 SF



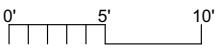
WHITE BOARD
TV
48" X 84" TABLE
(6) CHAIRS

4.04 SMALL CONFERENCE 200 SF



WHITE BOARD
TV
48" X 132" TABLE
(12) CHAIRS

4.05 MEDIUM CONFERENCE 325 SF



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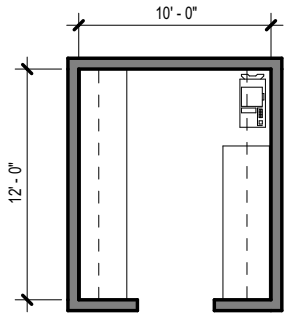
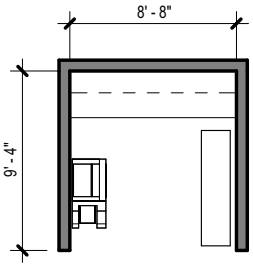
4.00 SUPPORT SPACES



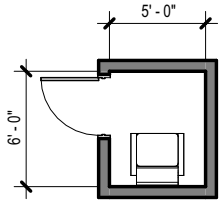
30" DEEP COUNTERS
TRASH AND RECYCLING
COPY/PRINT

4.06 COPY/WORKROOM 120 SF



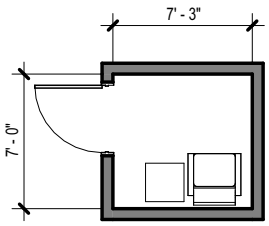
30" DEEP COUNTER
LARGE FORMAT PRINTER
COPY/PRINT
ADJ. TO FIRE PREVENTION

4.07 LARGE FORMAT COPY ROOM 80 SF

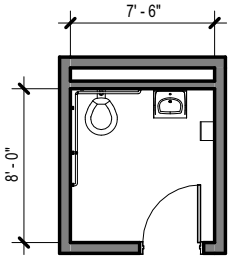


BENCH

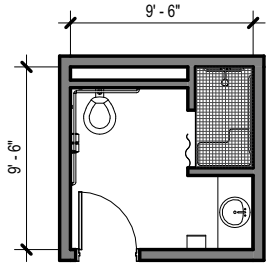
4.08 PRIVATE POD 30 SF



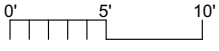
4.09 LACTATION ROOM 50 SF



4.10 UNISEX RR 60 SF



4.11 UNISEX RR/SHOWER 90 SF



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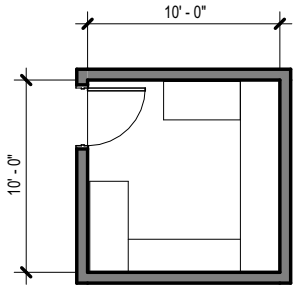
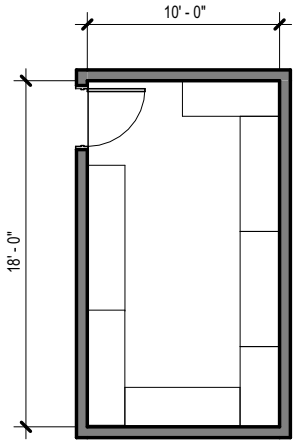
5.00 STORAGE

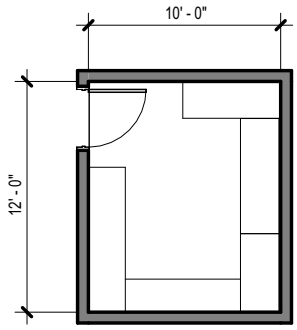


11.01 ACTIVE FILING 100 SF



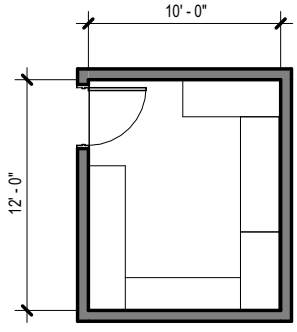
(2) 4 DRAWER FIREPROOF
LATERAL FILE CABINET

11.02 ARCHIVE FILING 180 SF



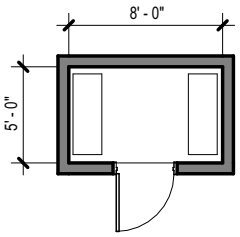
OPEN SHELVING

11.03 IT STORAGE 120 SF

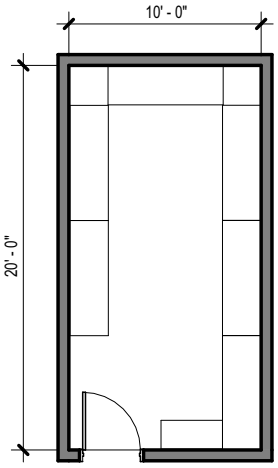


OPEN SHELVING

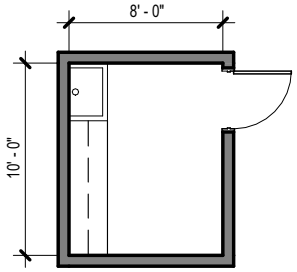
11.04 IT SURPLUS 120 SF



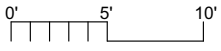
11.05 SUPPLY CLOSET 40 SF



11.06 PIO SUPPLIES 200 SF



11.07 JANITORIAL SUPPLIES 80 SF



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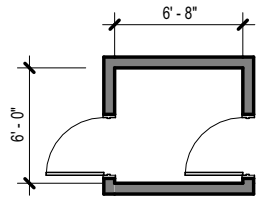
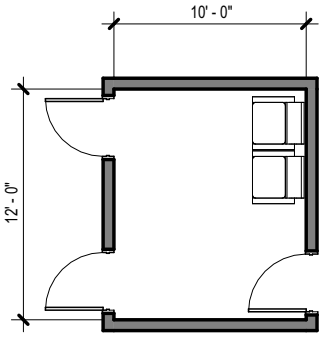
FIRE STATION 36 & 38

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

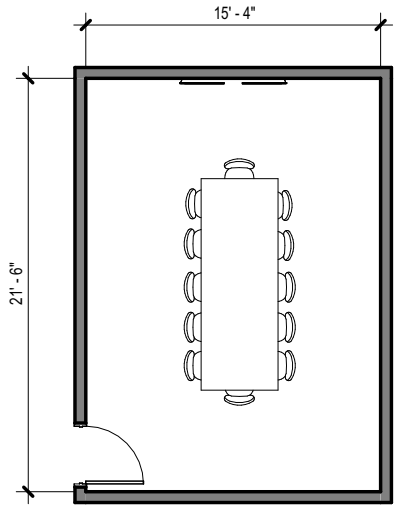
1.00 PUBLIC AREA



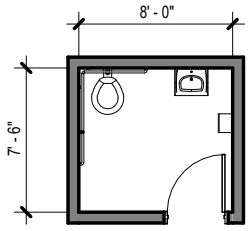
1.01 ENTRY VESTIBULE 40 SF



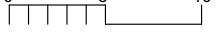
1.02 LOBBY 120 SF



1.03 CONFERENCE ROOM 330 SF



1.04 UNISEX RESTROOM 60 SF



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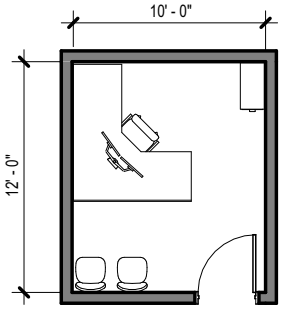
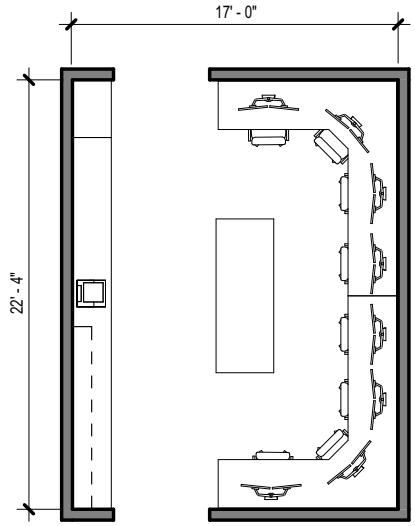
3.00 CREW OFFICE



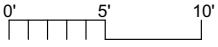
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.01 CAPTAIN OFFICE TYPE B 120 SF



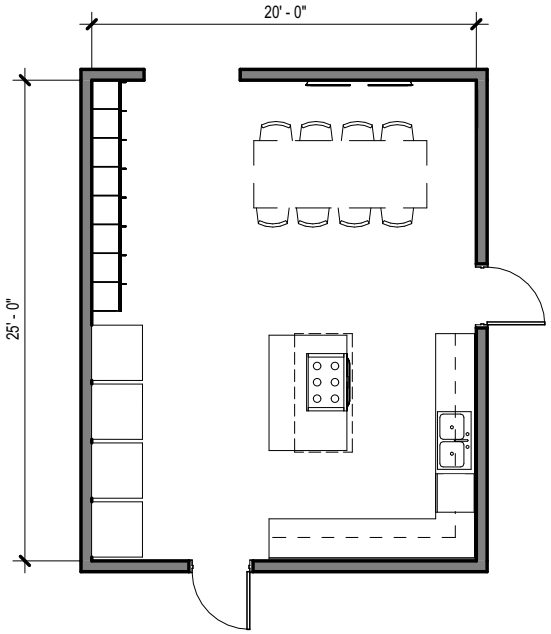
MAIL SLOTS
ISLAND FOR MEETINGS
DESKTOP COPY/PRINT

3.02 FF WORKROOM 380 SF

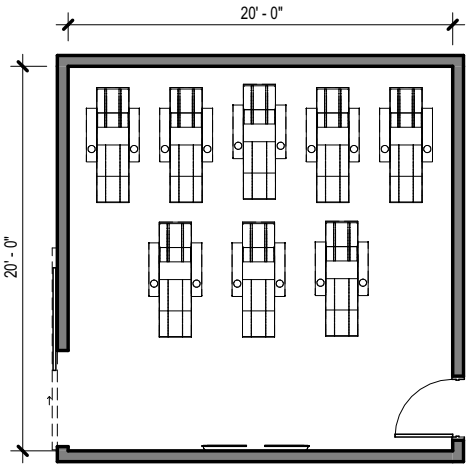


Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

4.00 CREW LIVING

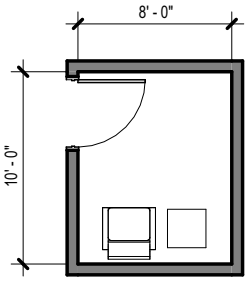


4.01 KITCHEN/DINING 500 SF

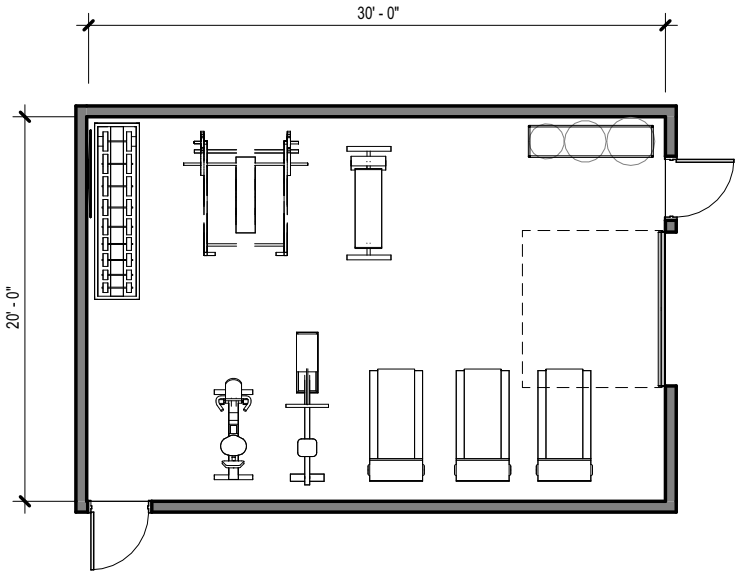


(8) RECLINERS
DOOR TO KITCHEN

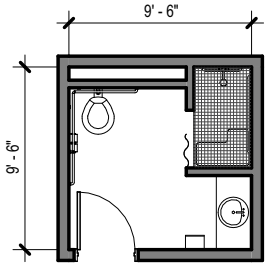
4.02 DAYROOM 400 SF



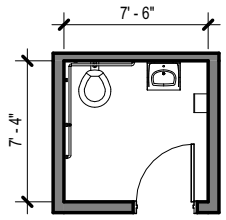
4.03 QUIET ROOM 80 SF



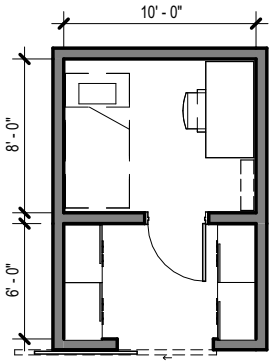
4.04 FITNESS 600 SF



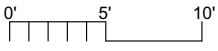
4.05 TOILET/SHOWER 90 SF



4.06 LAVATORY ROOM 54 SF



4.07 SLEEP ROOM 80 SF
4.08 WARDROBE ALCOVE



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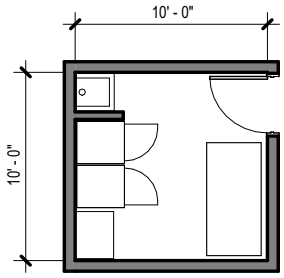
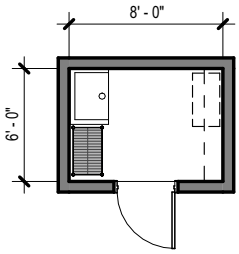
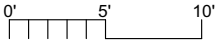
4.00 CREW LIVING



4.09 LAUNDRY 100 SF



4.10 CUSTODIAL 48 SF



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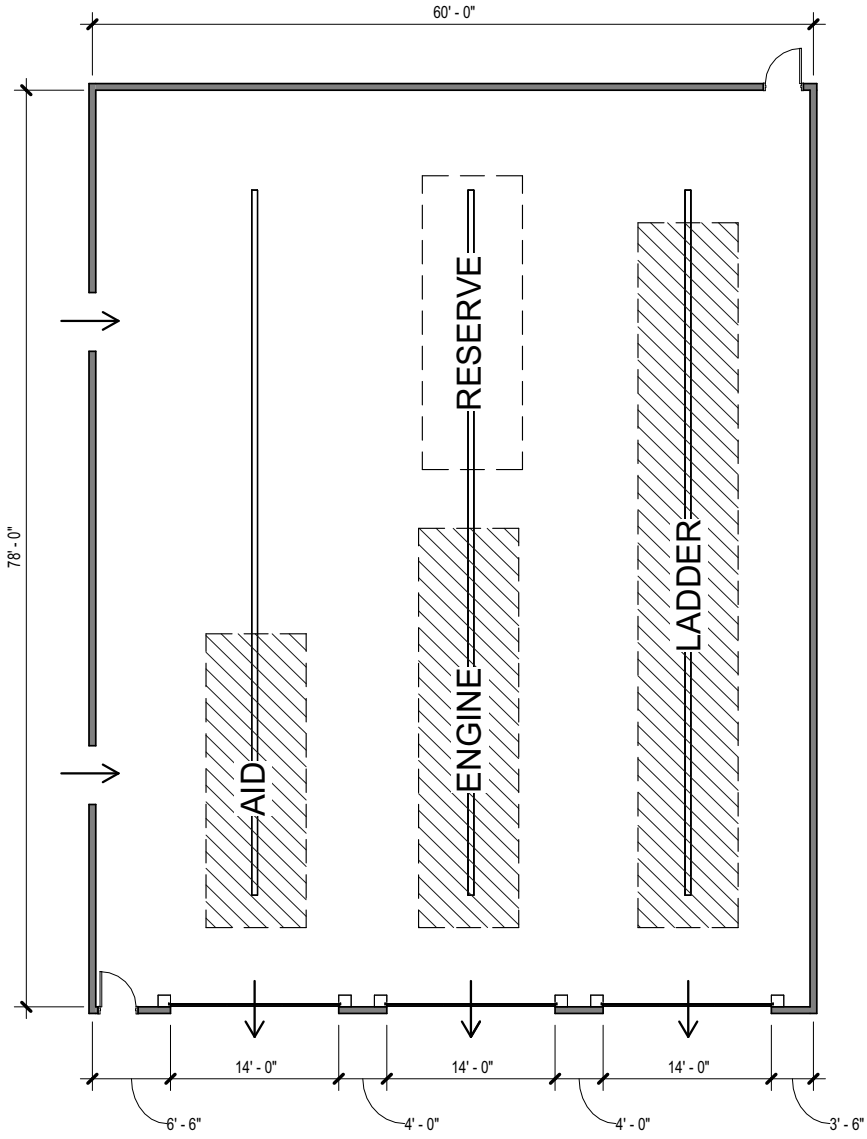
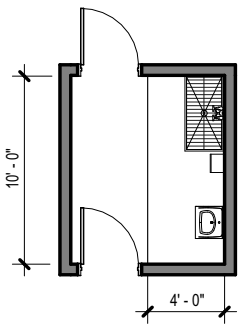
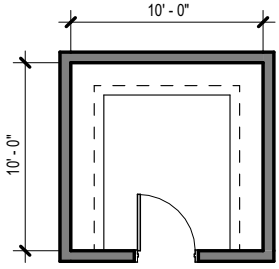
5.000 APPARATUS



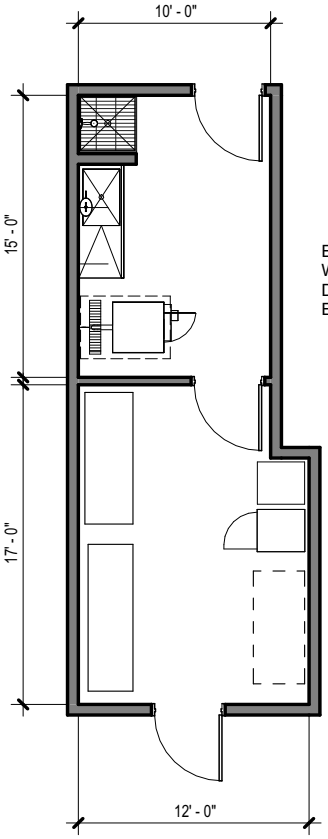
5.01 APPARATUS ROOM 4680 SF (1/16" SCALE)



5.02 AIR LOCK 40 SF



5.03 BLS STORAGE 100 SF



5.04 DECON 150 SF

5.05 CLEAN ROOM 200 SF

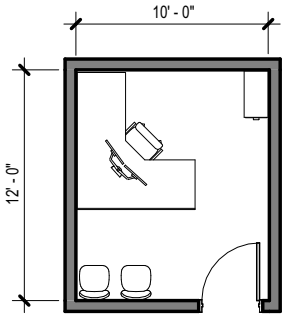
0' 5' 10'

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

LOGISTICS & MAINTENANCE

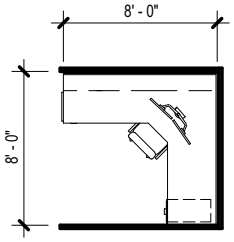
Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

3.00 LOGISTICS OFFICE



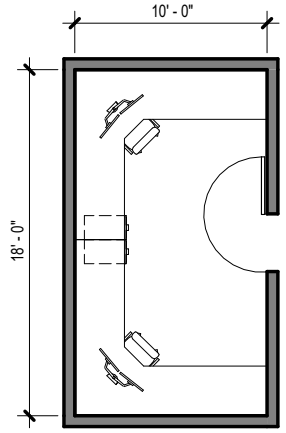
COMPUTER STATION
30" DESK
4-DRAWER VERTICAL FILE
WHITE BOARD
(2) GUEST CHAIRS

3.01 BC - OFFICE TYPE B 120 SF



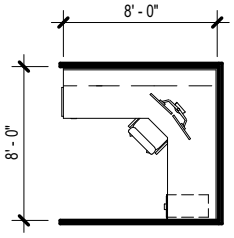
COMPUTER STATION
30" DESK
2 DRAWER VERTICAL FILE
WHITE BOARD
14" DEEP UPPER CABINET

3.03 FACILITY TECH WORKSTATION 64 SF



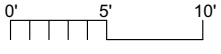
(2) COMPUTER STATIONS
(2) 30" DESKS
(2) 2-DRAWER VERTICAL FILES
WHITE BOARD
TACK BOARD
(2) GUEST CHAIRS

3.02 CAPTAINS - SHARED OFFICE TYPE A 180 SF
(FOR 2)



COMPUTER STATION
30" DESK
2 DRAWER VERTICAL FILE
WHITE BOARD
14" DEEP UPPER CABINET

3.04 AIDE WORKSTATION 64 SF



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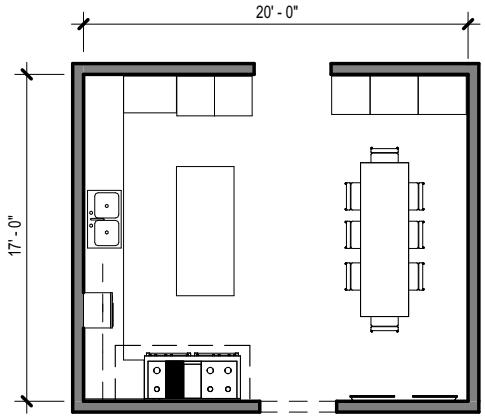
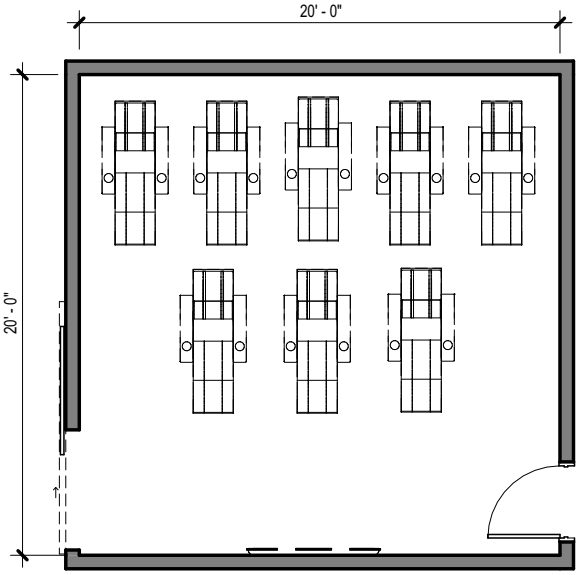
4.00 LOGISTICS SUPPORT SPACE

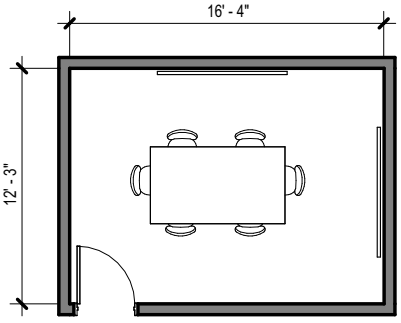


4.01 KITCHEN 340 SF



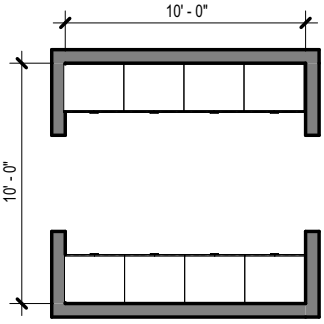
(8) RECLINERS
TV

4.02 DAYROOM 400 SF

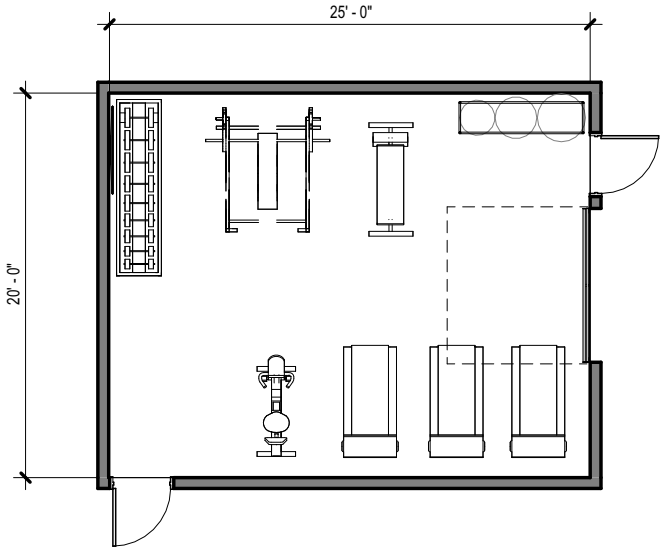


WHITE BOARD
TV
48" X 84" TABLE
(6) CHAIRS

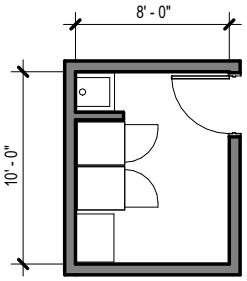
4.03 SMALL CONFERENCE 200 SF



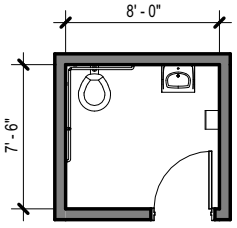
4.04 WARDROBE LOCKERS 50 SF



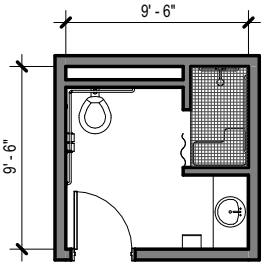
4.05 FITNESS 500 SF



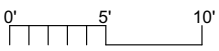
4.06 LAUNDRY 80 SF



4.07 UNISEX RR (ADA) 60 SF



4.08 UNISEX TOILET SHOWER (ADA) 90 SF



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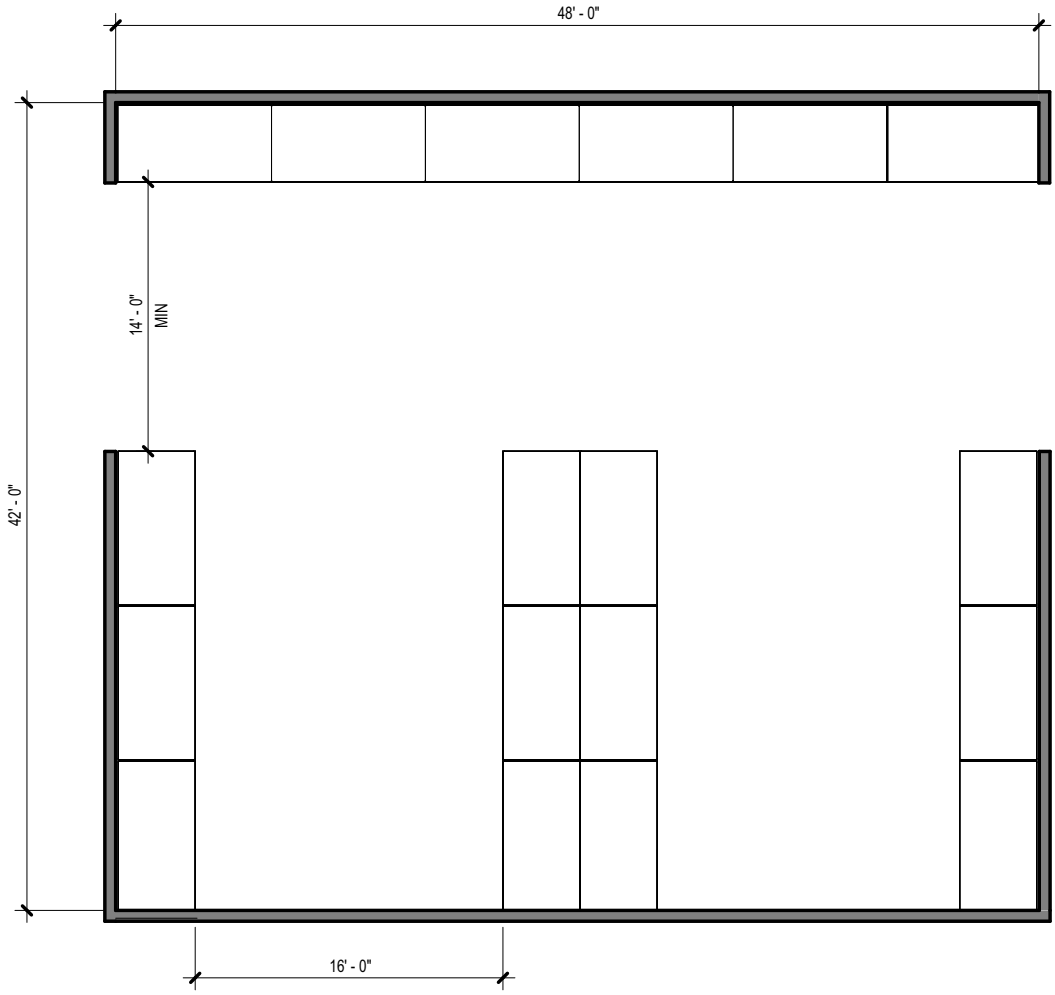
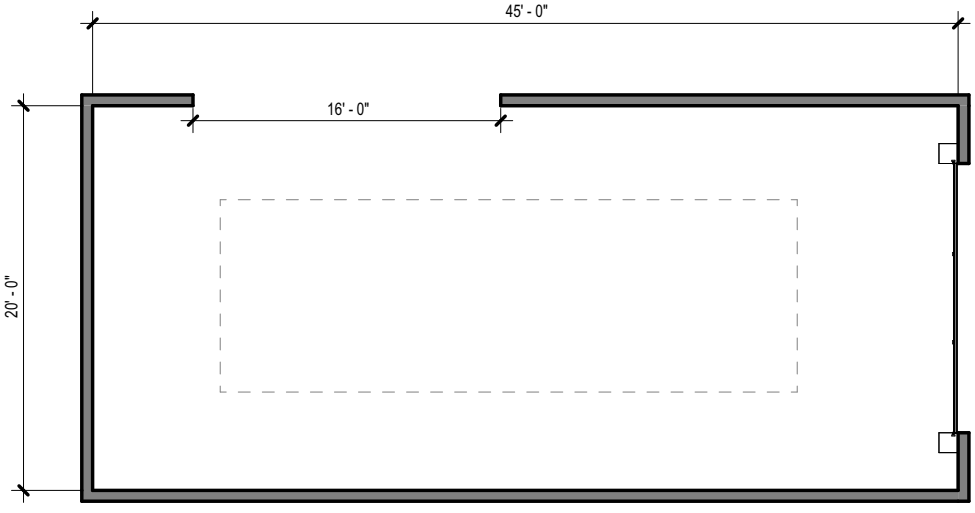
5.000 LOGISTICS WAREHOUSE

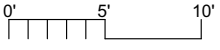


(18) 4' X 8' HIGH BAY
STORAGE RACKS

5.001 WAREHOUSE 2016 SF



5.002 VEHICLE STORAGE BAY 900 SF
(FOR SINGLE ENGINE)



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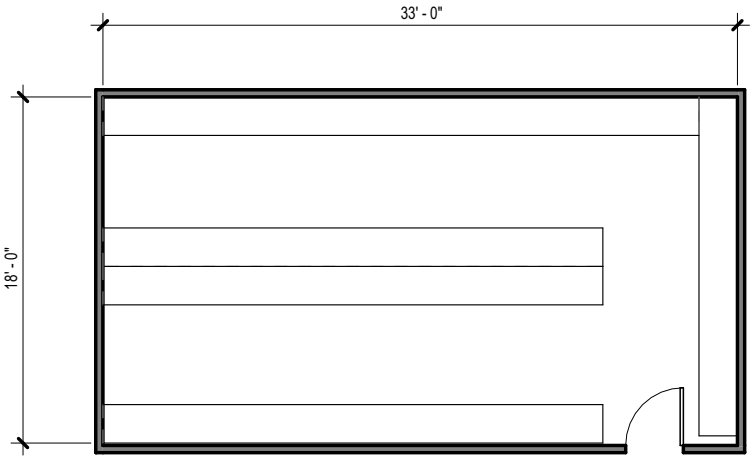
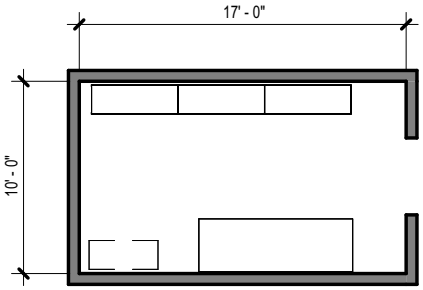
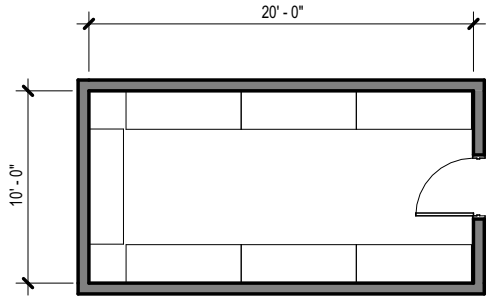
5.000 LOGISTICS WAREHOUSE



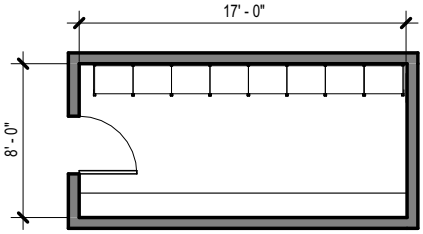
5.003 UNIFORM STORAGE 600 SF



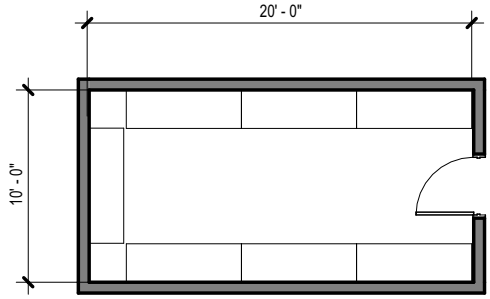
5.006 FACILITY TECH SHOP 150 SF



5.004 AIDE STORAGE 200 SF

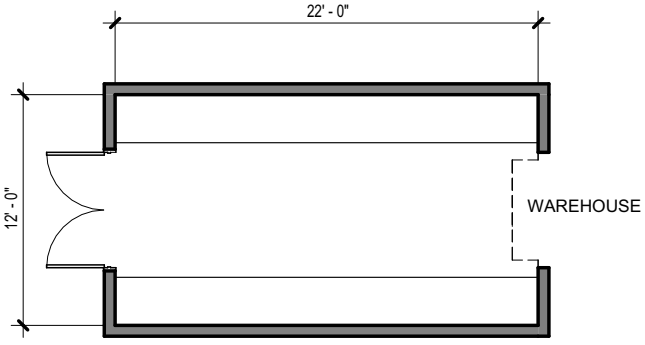


5.007 PPE STORAGE 128 SF
(8 LOCKERS)

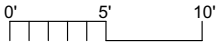


5.005 HIGH VALUE STORAGE 200 SF

EXTERIOR
SIDE WITH
KEYPAD



5.009 RECEIVING AREA 264 SF



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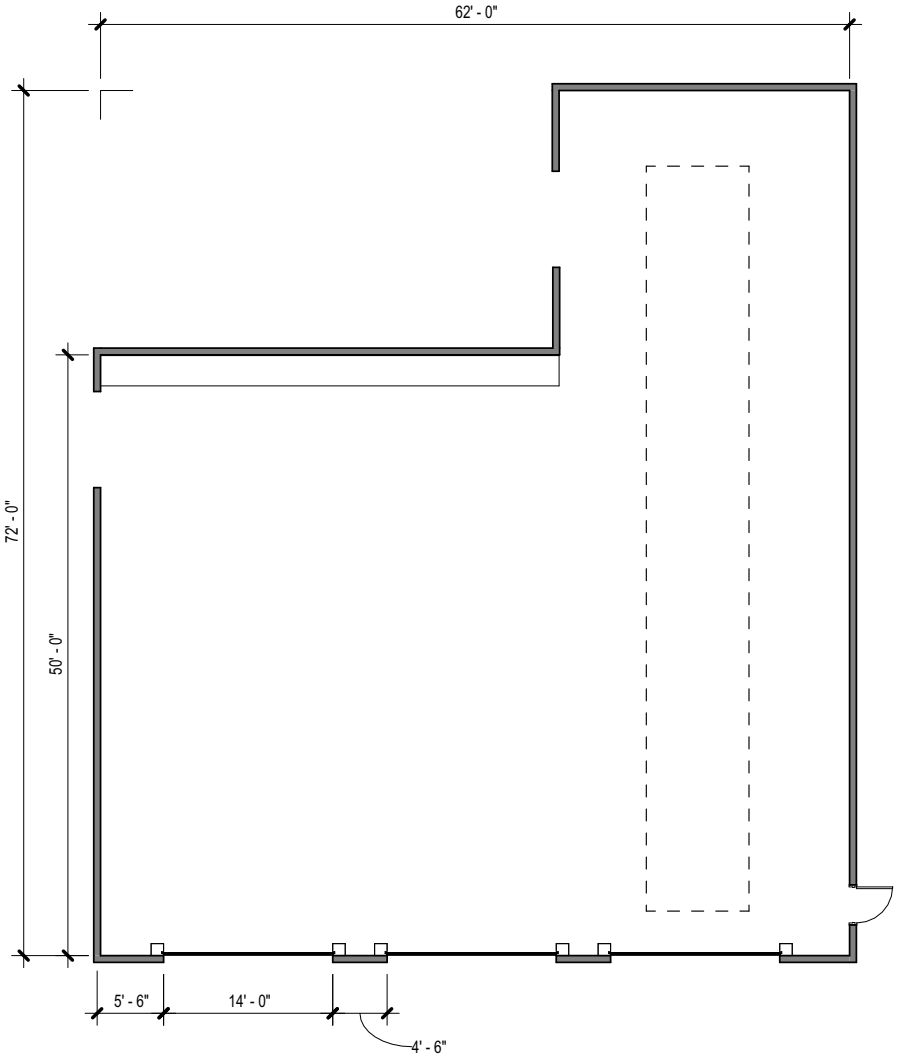
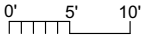
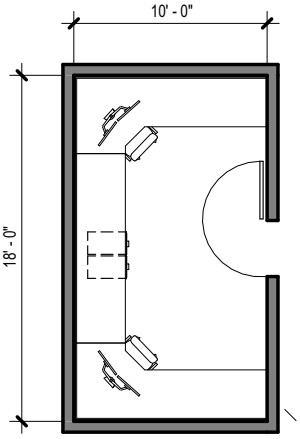
5.100 MAINTENANCE BAY



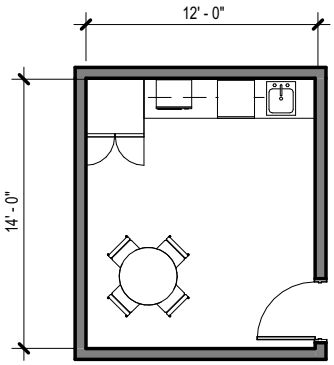
5.101 LAUNDRY MAINTENANCE BAY 3916 SF (1/16" = 1'-0")



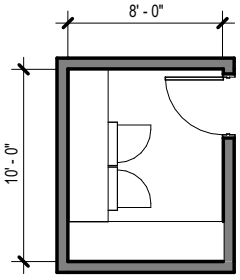


(2) COMPUTER STATIONS
(2) 30" DESKS
(2) 2-DRAWER VERTICAL FILES
WHITE BOARD
TACK BOARD
(2) GUEST CHAIRS

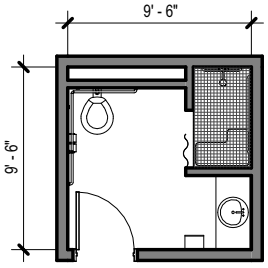
5.102 MECHANIC'S SHARED OFFICE TYPE A 180 SF
(FOR 2)



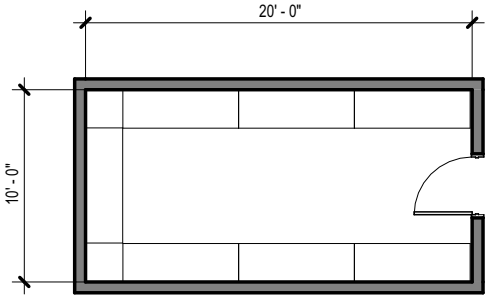
5.103 BREAKROOM 168 SF



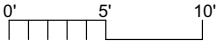
5.104 SF LAUNDRY 80 SF



5.105 UNISEX TOILET SHOWER (ADA) 90 SF



5.106 SECURED STORAGE 200 SF



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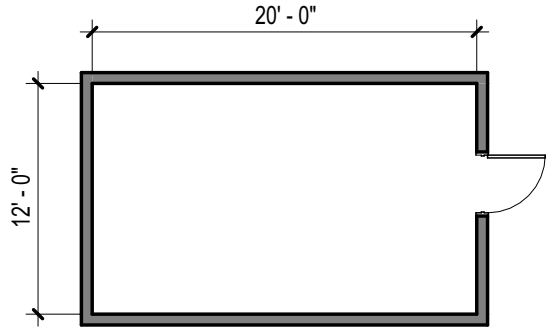
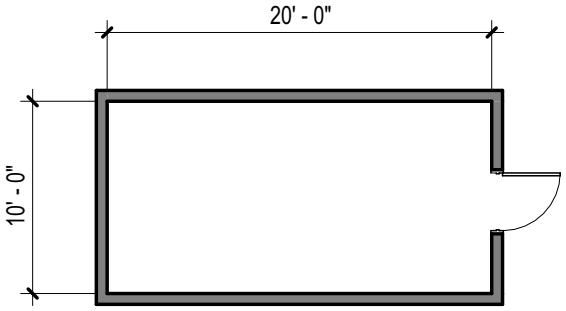
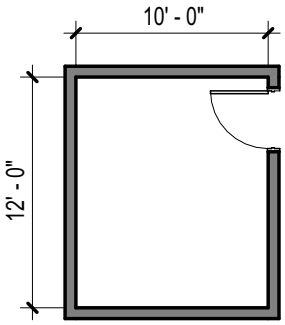
6.00 SYSTEMS



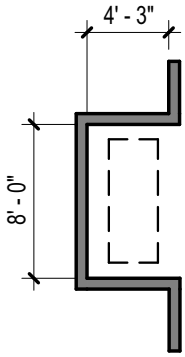
6.01 ELECTRICAL 240 SF



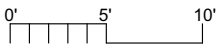
6.02 MECHANICAL 200SF



6.03 IT 120 SF



6.04 RISER 34 SF



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AE NARRATIVES

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

FIRE STATION 36

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Architectural Concept Narrative

Project Description

VRFA Fire Station 36 is planned as a 13,971 square foot satellite station to be developed on a 1.59 acre parcel located at 810 30th Street NE, Auburn, WA. VRFA owns the property. VRFA prefers 30th St. NE for emergency response. Upon opening for service, 3 firefighters (in 4 shifts) will staff the station, and the apparatus bay will house 1 engine. Over 5 to 15 years, staffing is anticipated to grow to 7 firefighters with 1 engine and 2 aids deployed.

Project Understandings and Considerations:

- Environmental Assessment and Geotechnical Investigations have not been performed to date. Estimating excludes environmental mitigation measures and soil improvements. A site contingency is included to mitigate risks from unforeseen conditions.
- There is no current data suggesting the presence of wetlands or buffers on the property. Mitigation efforts are excluded.
- A topographic survey has not been provided. The concept is based on available GIS information.

Code Data and Analysis

1. Local AHJ: City of Auburn

2. Building Codes: 2021 IBC and I-Codes, UPC as amended by state and local government, WAC 296-305, 2010 ADA Standards, 2017 ANSI-ICC A117.1.
    a. Occupancies:
        i. Fire Station: B, R-3, S-1, S-2.
    b. Type of Construction: V-B, Sprinklered.
    c. Allowable Area: 36,000 SF (using B or S-1 as most restrictive, excludes available frontage increases).
    d. Allowable Stories/Height: Allowable Area is based on a single-story building. Additional stories and height are allowed by IBC Chapter 5 and Zoning.
    e. Separations:
        i. A non-separated mixed-use occupancy approach is taken per IBC 508.3.
        ii. 1-hour fire-resistive construction is required between sleeping rooms and the apparatus bay per WAC 296-305-06507. An IBC 1-hour fire barrier will be used for assembly requirements.
        iii. 1/2 hour partition between sleeping rooms per IBC 420.2 & 708.1.

3. Energy Code: 2021 Washington State Energy Code.
    a. Climate Zone: 4C.

Anticipated Bid Date: TBD
Construction Schedule: 365 days (12 months) from NTP till Substantial Completion.

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Concept Design Elements:

1. Frontage
    a. See Concept Plan, AHBL Markups and Memo.

2. Site
    a. See Concept Plan, AHBL Markups and Memo.
    b. 10’ high, 8” wide structural brick enclosure at new pad-mounted backup generator.
    c. Fueling station with diesel tank plumbed to backup generator.
    d. EV charging stations.
    e. Landscaping.
    f. Flagpole with external halyard beacon lighting.
    g. Trash and Recycling enclosure with gates.
    h. 6’ high ornamental aluminum security fencing at firefighter parking and south property line with cantilevered vehicle gate and operator and person gate.
    i. Security camera system.

3. Building Structural
    a. Steel structure with Buckling Restrained Braced Frames.
    b. Metal Deck for roof structure with 20% using a Concrete/Metal Deck.
    c. Steel stud framing.
    d. Slab on grade.
        i. 8” reinforced concrete at apparatus bay.
        ii. 4” reinforced concrete at other locations.
    e. Conventional footings.

4. Building Envelope
    a. Exterior Walls: 6” metal stud, 1/2" gypsum sheathing, 2” polyiso rigid insul., fluid applied WRB (e.g., Prosoco Cat5), R-21 batt insul. with:
        i. Brick Masonry, 2 colors (20%).
        ii. Metal Siding, exposed fastener, 2 profiles, 2 colors (80%).
    b. Roof: 1/4” denz deck coverboard, R-40 polyiso. rigid insulation., vapor barrier with:
        i. Single-Ply Membrane Roof System (e.g., Sarnafil PVC).
        ii. Crickets: tapered insulation (expanded polystyrene).
    c. Roof accessories:
        i. Access hatch.
        ii. Fall protection.
        iii. Skylights.
    d. Windows: Fiberglass (Cascadia or similar).
    e. Doors & Frames: Storefront (fiberglass); Insulated Hollow Metal, OH Sectional Alum. fully glazed at Fitness Room.
    f. Bay Doors: 14’ x 14’ Hi-speed Coiling Doors (Hormann or similar).
    g. Access Control: proximity and keypad at doors to station, inner lobby door, and gates.

5. Exterior Detailing
    a. Awnings: Prefinished Metal Roofing, Steel Frame.
    b. Mechanical Screen Wall: Posts, Girts and Metal Siding.

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6. Courtyard
    a. Covered BBQ area.
    b. Concrete paving.
    c. Landscaping.
    d. Masonry Screen Wall.

7. Building Interior
    a. Floors: Primarily Polished Concrete, Athletic Flooring (Exercise Room)
    b. Base: Rubber, Porcelain Tile (Restrooms)
    c. Walls:
        i. Interior Brick Masonry (Lobby)
        ii. Limited Wood accent.
        iii. Light Orange Peel Texture GWB.
        iv. Fiber-Reinforced Wall Covering (Tnemec product) (Decon, Cleanroom. Airlocks, PPE Storage, Bay Toilet).
    d. Wainscot: 5’ high Porcelain Tile (Restrooms).
    e. Wainscot: 8’ high Plywood with high-performance Paint finish (Apparatus Bay).
    f. Ceilings
        i. Exposed Structure (Apparatus Bay, Kitchen, Dayroom, Fitness, Elec. and Mech. Rms).
        ii. GWB (Restrooms, App. Bay Support Spaces).
        iii. 2x4 Suspended Acoustical Panel.
    g. Doors: Solid Core Wood, Hollow Metal (at Apparatus Bay), Barn Doors from Hall to Wardrobe Alcoves.
    h. Casework:
        i. Counters: Solid Surface.
        ii. Cabinets: P-lam with 3mm Edge Banding.

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PROJECT MEMO

TO:	Forest T Hooker, AIA LEED AP BD+C TCA Architecture & Planning, Inc 6211 Roosevelt Way NE Seattle, WA 98115	**DATE:**	April 4, 2023
FROM:	Brian Schend Tacoma - (253) 383-2422	**PROJECT NO.:**	2220601.10
		PROJECT NAME:	Valley Regional Fire Authority Capital Facilities Phase 1
SUBJECT:	Feasibility review, Station 36, 810 30th St NE, Auburn, WA		

AHBL has been hired to review the feasibility and cost of several potential sites for new and expanded Valley Regional Fire Authority (VRFA) facilities. This feasibility study includes preliminary layout, estimating, and review of the requirements of the local city government.

The project site under consideration for Station 36 is located at 810 30th St NE in Auburn, WA. This project is located in the City of Auburn. AHBL based the following analysis on a proposed site plan dated March 17, 2023 provided by TCA Architecture & Planning Inc.

Existing Conditions and Demolition

The site is bounded by 30th St NE to the north, I St NE to the east, private property to the south, and Auburn Way N to the west. Currently, the site is vacant and is primarily lawn. The site is on parcel number 0001000020, and has a total area of approximately 1.6 acres.

There has not yet been soil explorations on this site. We reviewed the Natural Resources Conservation Service (NRCS) soil survey which describes the soil in this area as Renton Silt Loam, an alluvium soil. We also reviewed soil reports for nearby sites. Shannon & Wilson prepared an Infiltration Report for Dick Scobee Elementary School, about one mile to the south, dated September 2018. This site has alluvium soils and an infiltration rate of approximately 1.0 inch per hour, and a groundwater table approximately 8 feet below grade. The NRCS data generally matches the data from Shannon & Wilson, so we expect that soils on this site will be similar to those at Dick Scobee ES. Based on this, we assumed that infiltration is feasible for this site, and we used an approximate infiltration rate of 0.5 in/hour. We also expect that the groundwater will be less than 10 ft below grade.

Before construction, the contractor shall mark the clearing limits and provide inlet protection in all catch basins on and around the site. Clearing work in the right-of-way would consists of remove a small amount of vegetation to allow for sidewalk widening.

Erosion and Sediment Controls

The site is roughly 1.6 acres which is over the 1 acre threshold triggering an NPDES Construction Stormwater Permit through Department of Ecology. Sound Transit will acquire a Notice of Intent (NOI) and transfer this permit to the winning bidder. A Stormwater Pollution Prevention Plan (SWPPP) will be required and will meet the requirements of WSDOE Stormwater Management Manual for Western Washington (SWMMWW), 2019 Edition as adopted by the City of Auburn. The contractor will have a Certified Stormwater Erosion Control Lead (CSECL). Stormwater monitoring for pH and Turbidity will be provided by the Contractors CSECL as well as maintaining the SWPPP and providing reports and record keeping.

Erosion and sediment control measures will include the following best management practices (BMPs): silt fencing, straw wattle, erosion and sediment control ponds, catch basin inlet protection, plastic covering, construction entrance, watering trucks, interceptor swales, and check dams. Additional BMPs may be used as necessary based on site conditions at the time. Disturbed soils shall be temporarily covered with plastic sheeting or straw mulch. For final stabilization, exposed soils not receiving surfacing shall be hydroseeded, turf or landscaping installed.

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Grading

Grading work will include the removal of topsoil, muck, and peat, and its replacement with fill materials that are adequate for supporting pavement and structures. The site will be graded to slope away from the proposed buildings into a series of catch basins in the parking lots. Due to the shallow groundwater, it may be necessary to raise the grade of the site to allow positive drainage of conveyance systems to stormwater flow infiltration system. Based upon projects completed near the site, we anticipate site grades may need to be raised approximately 2-feet.

Water and Fire Sprinkler

City of Auburn GIS data shows existing 12" water mains in 30th St NE and I St NE, and an 8" water main in Auburn Way N. There are two 12" water mains that extend from 30th St NE into the property and are capped. Both of these stubs land within the proposed parking areas. There is also an existing city-owned 8" main through a private property that ends just south of the project's south property line. We expect that we will be required to construct a water main loop through the property. This loop would connect the two stubs on the property and the existing 8" main to the south.

We expect that the proposed building would include a fire sprinkler system. This would require a total of three water service lines for the building. A domestic service would provide water to sinks, toilets, and other fixtures, and would require a domestic meter. A fire service would provide water to the sprinkler system, and would require double-detector type backflow preventer and a post indicator valve. The fire department connection line would connect the sprinkler system to a fire department connection. We expect that all service would connect to the new water main loop on-site. The site would also require an irrigation meter, that would also connect to the water main loop.

The City of Auburn requires all points on the building to be within 150' of a fire hydrant. There are 2 existing hydrants that provide partial coverage to the proposed building. 2 new hydrants will be required for full hydrant coverage.

Sanitary Sewer Service

The proposed site plan from TCA indicates that the new building will contain bathrooms, laundry, showers, kitchens, and a garage with vehicle cleaning facilities. There will also be an outdoor fueling facility. The bathrooms, laundry, and showers, will connect to a service line and then to an existing 12" sewer main in 30th St NE. We expect that the kitchen waste will be required to outfall to a grease interceptor before discharging to the public sewer. We also expect that the garage, vehicle washing area, and fueling area, will need to lead to an oil water separator before discharging to public sewer.

Stormwater Management

Stormwater management will conform to the 2019 Stormwater Management Manual for Western Washington by the Washington State Department of Ecology (DOE). The project needs to meet all ten minimum requirements described in the Manual. The soils on-site are assumed to have an infiltration rate of approximately 0.5 inches per hour based upon available soils data and projects completed near the site.

Flow control will be achieved using an infiltration chamber system. We expect to find a shallow groundwater table, and as a results, a shallow infiltration system will be required. The infiltration system would be designed to allow some flows from larger storm to discharge into the city's storm drainage main on 30th St NE.

We proposed to split the site into two basins, one for the west half of the site, and one for the east. The west basin will have approximately 0.2 acres of roof, 0.3 acres of pavement, and 0.3 acres of landscape. The east basin would have approximately 0.1 acres of roof, 0.2 acres of pavement, and 0.5 acres of landscape. The infiltration systems would use two Stormtech Chambers systems, with the west system under the fire truck

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parking area and the east system under the passenger vehicle parking area. The infiltration systems would be approximately 2.5' overall height measured from bottom to top of gravel and would use Stormtech model SC-310 chambers. We expect the west system to require 6,600 SF of area, and the east system to require 4,900 SF.

The paved areas will have a series of catch basins to collect drainage. Catch basins will typically be type 1 catch basins. 12" CPEP pipe will be used on the site while 12" PVC is required in the public right-of-way. The proposed building will require underground pipes to connect the roof runoff to the infiltration systems. Roof drain piping will be 6" PVC piping and approximately 460 LF will be required.

Surfacing

The project will use asphalt paving for the east parking area and concrete paving for the fire truck parking area west of the building. The project will useconcrete paving for walkways. The fueling and trash collection areas will also use concrete paving. On the surrounding roads, we expect asphalt for the roadway and concrete for the sidewalks.

We expect two different asphalt sections. A heavy-duty section will be used for 30th St NE, as this road needs to regularly accommodate large trucks. The east parking area will use a light-duty asphalt section, as these areas will mostly see passenger vehicle traffic. The fire truck parking area and fueling area will use a heavy-duty reinforced concrete section, while all other concrete will be light-duty. The exact paving sections will be determined by the geotechnical engineer in consultation with the traffic engineer.

Off-site Improvements

According to the City of Auburn GIS data, the City of Auburn classifies Auburn Way N as a Principal Arterial, I St NE as a Minor Arterial, and 30th St NE as a Non-Residential Collector.

The City of Auburn design standards require principal arterials and minor arterials to have a 61' wide driving surface and 10' sidewalks on each side. Auburn Way N is currently approximately 55' wide and has 5' sidewalks and I St NE is 45 feet wide with 6' sidewalks. A Non-residential Collector requires 44' roadway width with 10' sidewalks, while 30th St NE has a 44' roadway width with 8' sidewalks. Based on our previous experience on similar roads in the City of Auburn, we expect that we will not be required to widen the roadway pavement, but we will be required to widen the sidewalks to 10' wide.

Curb ramps are already present at the intersections adjacent to the site and they appear to meet City and ADA standards. We expect that these ramps may need to be modified when we widen the adjacent sidewalks. The existing streets already have a storm drainage conveyance system and we don't anticipate that any improvements will be required.

bjs/

c: Bill Fierst, AHBL
Adam Braun, AHBL

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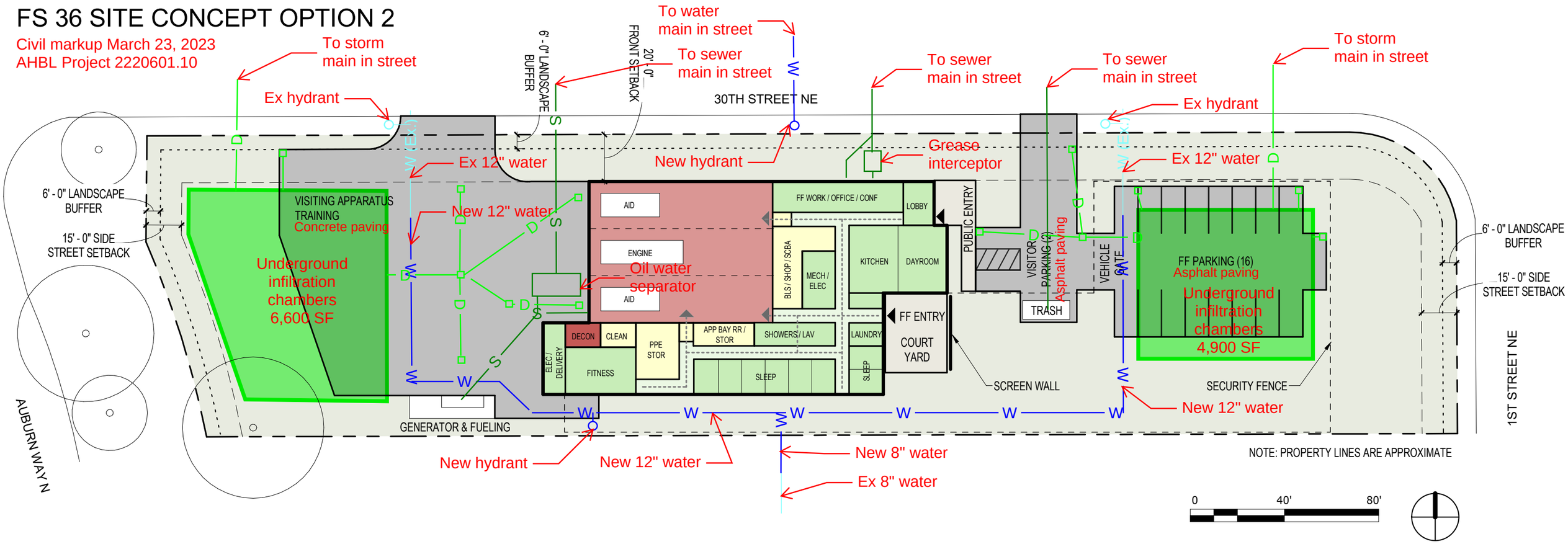
FS 36 SITE CONCEPT OPTION 2

Civil markup March 23, 2023
AHBL Project 2220601.10



SITE INFORMATION

- ADDRESS: 810 30TH STREET NE
  AUBURN, WA 98002
- PARCEL NUMBER: 0001000020
- LEGAL DESCRIPTION:
  BRANNAN W - DC #37 LOT 2 LESS RD OF AUB SHORT PLAT #SPL0001-96 REC #9605301424 SD SP LOCATED IN POR OF NE 1/4 OF SW 1/4 OF SEC 6-21-5 LY ELY OF AUBURN WAY N & WLY OF "I" ST NE (INCLUDES POR OF H JONES DLC #39 & W BRANNAN DLC #37 & INCLUDES ALL OF PCL A OF AUBURN SHORT PLAT #SP-2-80 REC #8003260873
- SITE AREA: 69,354 SF OR 1.59 ACRES

PLANNING

- JURISDICTION: CITY OF AUBURN
- AUBURN CITY CODE (ACC)
- ZONING: C-3 HEAVY COMMERCIAL

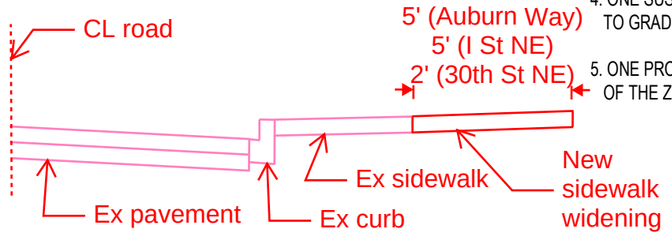
ZONE REQUIREMENTS (ACC TABLE 18.23.040A)

- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: 75'-0"
- SETBACKS (ACC TABLE 18.23.040A):
  - ROW: 20'-0"
  - SIDE - STREET: 15'-0"
  - REAR: NONE
- LANDSCAPE BUFFERS (ACC TABLE 18.50.040)
  -ABUTTING STREET: 6'-0"
  -ABUTTING RESIDENTIAL PROP: 10'-0"

PARKING

- DETERMINED BY SIMILAR USES (ACC 18.52.02)
  - BUSINESS SPACES: 2 SPACES PER 1,000 SF
  - CREW AREA: 1 PER SLEEPING ROOM
- PARKING STALL AND AISLE DIMENSIONAL STANDARDS (ACC 18.52.050)
  - DRIVE AISLE: 24'-0"
  - STANDARD PARKING SPACE: 9'-0" X 19'-0"
  - COMPACT PARKING SPACE: 8'-0" X 16'-0"

Typical Road Section
Auburn Way, I St NE, & 30th St NE



SIGNAGE (ACC 18.56.040B)

1. ACC 18.56.040 B - MAXIMUM SIGN AREA OF ALL SIGNS IS 150 SQUARE FEET PER FRONTAGE
2. ONE FREESTANDING SIGN PERMITTED PER FRONTAGE, NOT TO EXCEED TWO TOTAL. MAXIMUM HEIGHT: 22 FT; MAXIMUM AREA: 100 SF PER FACE, CALCULATED AT A RATE OF 1 SF OF SIGN AREA PER EVERY 2 LINEAL FT OF FRONTAGE; SECOND FREESTANDING SIGN SHALL NOT EXCEED 50 PERCENT OF THE AREA ALLOWED FOR A SINGLE FREESTANDING SIGN AND 150 FEET IN A STRAIGHT LINE DISTANCE MUST SEPARATE MULTIPLE POLE SIGNS.
3. ONE WALL SIGN PER FRONTAGE; MAXIMUM AREA: 100 SF, CALCULATED AT A RATE OF 1 SF OF SIGN AREA PER EVERY 1.5 LINEAL FT OF FRONTAGE; SIGNS MAY BE DIRECTLY OR INDIRECTLY ILLUMINATED.
4. ONE SUSPENDED SIGN PER ENTRANCE; MAXIMUM AREA: 6 SF PER FACE; MINIMUM CLEARANCE: 8 FT FROM SIGN TO GRADE.
5. ONE PROJECTING SIGN IN LIEU OF A PERMITTED FREESTANDING SIGN; MAXIMUM HEIGHT: HEIGHT REQUIREMENT OF THE ZONING DISTRICT; MAXIMUM AREA: 50% OF THE AREA ALLOWED FOR A SINGLE FREESTANDING SIGN.

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SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS

VALLEY REGIONAL FIRE AUTHORITY, STATION 36

Mechanical Systems Narrative – Pre-Design -DRAFT-

March 23, 2023

General Project Description: New 14,000 square foot, neighborhood fire station.

Fire Protection Description: NFPA 13 compliant sprinkler system with full building coverage.

Plumbing Description: New plumbing fixtures. New heat pump water heater with storage tanks. New shop air compressor with distribution piping and outlet. Air piping to SCBA fill. Natural gas (or LPG) service to kitchen range and BBQ with solenoid valves. Turn-key truck fueling by vendor.

HVAC Description: New VRF heat pump systems with dedicated outdoor air system (ERV) in the admin, living quarters and support areas. New package rooftop heat pump for the apparatus bay. New vehicle source capture exhaust system for the apparatus bay. Type I kitchen hood with makeup air.

I. Site Work/Utilities

1. Fire service to the building.
2. Water service to the building to accommodate flush-valve toilets.
3. Sewer/septic service to the building.
4. Apparatus bay drainage oil/water separator (sewer) or holding tank (septic).
5. Natural gas (LPG) service to the building for kitchen range and BBQ.

II. Fire Protection

A. General:
   1. New NFPA 13 wet sprinkler system with dry heads where required.
   2. Semi-recessed heads in ceilings. Exposed heads with guard covers.

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3. Schedule 40 black steel or thinwall steel pipe. Threaded or grooved end fittings.

B. Service: A 6" fire service and post FDC.

C. A dry system will be needed to cover long overhangs and cold attic spaces.

III. Plumbing

A. Piping materials will be as follows.
1. Above grade water: Type 'L' copper.
2. Below grade water: Type 'K' copper.
3. Above grade waste: Cast iron.
4. Below grade waste: PVC plastic pipe.
5. Vent: PVC/ABS.
6. Natural gas / LPG: Schedule 40 black steel.
7. Pipe insulation: Preformed fiberglass with white laminated jacket. Molded PVC covers.

B. Plumbing Fixtures will be as follows:
1. Water Closets: Floor mount, vitreous china, open front seats, water saving dual-flush (1.6/1.1 gpf) manual flush valves. ADA compliance as required.
2. Lavatories: Countertop or wall-hung units, vitreous china, manual single handle mixing faucet. ADA compliant.
3. Showers: Single piece fiberglass stalls with single lever pressure balancing valve and adjustable 1.8 gpm Water Sense spray head. ADA compliance with grab bars, fold down seat and hand wand as required.
4. Kitchen Sinks: 18-gauge stainless steel, double bowl unit with single lever faucet, swing spout, hose spray, garbage disposal and "insta-hot".
5. Laundry Sink: 18-gauge stainless steel, deep single bowl with single lever faucet, swing spout.
6. Janitor Service Sink: 24" x 24" molded stone floor mount with wall mount mixing faucet, pail hook, edge guards, backsplash and hose.
7. Faucets: Commercial quality, polished chrome plated, cast brass.
8. Cold Water Valve: Installed at locations for refrigerator ice makers and coffee makers.
9. Pot Filler Faucet: Installed at center line above stove.
10. Decon Sink: Heavy duty, stainless steel scullery type with drain boards and back-splash, single bowl unit with blade handle faucet, swing spout, rotary drain valve and commercial style hand spray.

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11. Eyewash: Swing down style mount on decon sink with CSA certified mixing valve meeting ANSI Z358.1 providing tempered water.
12. Water Coolers: Electric, ADA double fountain hi-lo units with bottle filler.

C. Domestic Hot Water:
   1. Domestic heat pump water heater (HPWH) located outside with two (2) 119-gallon storage tanks and a 119 gallon electric water heater finishing tank located in a water room. Exterior supply and return piping with 3" insulation, heat trace and aluminum jacket run from the water room to the HPWH.
   2. There will be a recirculating hot water piping loop and pump that ensures a short wait for hot water at fixtures.
   3. Master mixing valve to supply 120 F water from 140 F storage.
   4. Point of use mixing valves at each lavatory.

D. Plumbing accessories will be provided as follows:
   1. Laundry Box: Fire rated, with hot and cold water connections and drain.
   2. Hose bibbs (interior): Located in work areas and bays.
   3. Hose reels: Located at interior hose bibb locations in the apparatus bay.
   4. Floor drains: Cast iron body, round polished nickel bronze strainer with trap primer. Located in potential wet areas (restrooms, etc.)
   5. Gear Extractor: Hot & cold water supply with RPBA protection and trench drain indirect waste.
   6. Trench drains: Extra-heavy duty, 6" width, center lengthwise in each bay.

E. Natural gas (LPG) systems and piping will be as follows:
   1. Piping to kitchen range and BBQ.
   2. Normally closed solenoid valves will be provided to shut off gas to the kitchen range and barbecue automatically on station call alarm, with separate wall mounted manual resets controlled by the station alerting system.

F. Compressed air system as follows:
   1. Tank mounted 175 psi reciprocating type compressor with filters for shop air.
   2. Wall outlets, with quick connect fittings, in the shop and apparatus bay and overhead air drops with reels in the apparatus bay.

G. Elevator hoistway sump pump, with controls and force-main piping

IV. Heating, Ventilation and Air Conditioning

A. Living Quarters: VRFZ (variable refrigerant flow zoning) multi-zone heat pump system with individual fan coils for each zone connected to central exterior

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condensing units via refrigerant controller/manifolds and built-in electronic digital controls. R-410A refrigerant system.

B. Support Spaces: VRFZ (variable refrigerant flow zoning) multi-zone heat pump system with individual fan coils for each zone connected to central exterior condensing units via refrigerant controller/manifolds and built-in electronic digital controls. R-410A refrigerant system.

C. DOAS/ERV: Decoupled Dedicated Outside Air (DOAS) unit to supply outside air directly to all occupied areas of the building and recover heat from exhaust air through an Energy Recovery Ventilator (ERV). The ERV unit consists of outside air intake, MERV 13 high efficiency filters, supply fan, exhaust fan and heat exchanger. Two separate ERV units, one unit serves the living and work areas, and the other unit serves the support spaces.

D. Fan Coils: Horizontal ducted units consisting of filter box, refrigerant coil and fan. Ductless wall, ceiling or floor units consisting of filters, refrigerant coil and fan.

E. Zones: Each zone will be ventilated by the ERV and served by a fan coil with a wall mounted temperature control located in the space served. Each Sleep Room will be a separate zone as will the Kitchen, Exercise, Lobby, Conference Rm and Offices, and six (6) support areas for a total of twenty (20) zones.

F. Exhaust: Provide in Restrooms, Laundry, Janitor and Exercise. Ducting to ERV for continuous operation in conjunction with outside air supply for ventilation and building pressure.

G. HVAC Control Interlock: Magnet door switches on all roll-up doors to local HVAC zone equipment, with 5-minute countdown timer, to interrupt heat and cooling when door is open.

H. Controls:
   1. VRFZ zone sensor controls with LCD display and space temperature adjustment.
   2. VRFZ central controller with touch screen interface for system operation and remote web interface.
   3. ERV remote interface with LCD display.
   4. Other equipment with standalone electronic controls.
   5. Provide controls internet connectivity for remote access by District.

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I. Apparatus Bays
   1. Package rooftop heat pump with backup electric heat, spiral ductwork with drum louvers.
   2. Ventilation: General exhaust at 1.5 CFM/ft^2 controlled manually with a wall timer or automatically activated with CO/NO2 sensors. Alarm bell warning for high CO/NO2 levels. Wall louvers with motorized dampers for intake when exhaust fan is operating.
   3. Vehicle Exhaust: Plymovent source capture exhaust system on rails with nozzle attached to the apparatus.
   4. HVLS ceiling fans.
   5. 1-1/2" threaded pipe domestic water outlet for vehicle filling.

J. PPE Storage Room (Bunker Gear)
   1. 2-speed ventilation (via ERV) with drying mode.
   2. Drying cabinet by Owner used in space.
   3. Heat maintains room temperature and provides passive gear drying.
   4. Exhaust fan operates continuously.

K. Kitchen
   1. Type I hood above range with roof mounted exhaust fan. Type 1 system include Ansul fire suppression in hood.
   2. Hood makeup air with inline fan, filters and electric heat tempering.
   3. Pot filler over range.
   4. Exterior BBQ gas outlet.

L. SCBA Compressor Room
   1. Cooling ventilation with roof exhaust fan and intake air louver. Hard-piped breathable air intake.

M. Truck Fueling
   1. Turn-key system, by vendor. District request 1,000 gallons of diesel.

Jon Shafer, P.E.

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Valley Regional Fire Authority
Fire Station #36
Electrical Narrative
Phase 1: Pre-Funding
3/22/23

Power Systems

Electrical Service

Service will be 480Y/277V, 3 phase, 4 wire sized at 600 amps. The service will terminate in a service rated distribution panel. It will originate from PSE infrastructure with primary power delivered underground to a PSE pad mount transformer located on the fire station site. Secondary service will be delivered underground to the building via a CT cabinet located on the exterior and from there to the Main Distribution Panel in the electrical room. Meter base will be located adjacent to the CT cabinet.

Main Distribution Panel will consist of a main circuit breaker and molded case group mounted circuit breakers.

480V service is selected based on anticipated electrical needs for mechanical heat pumps. Additionally, 480V power will likely be required should electrical apparatus be used in the future.

Power Distribution

Panelboards with bolt in breakers will be provided.

Panelboards will have door in door style hinged doors.

Surge protectors to be provided for all panelboards.

Four total branch panelboards are anticipated.

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Branch Circuitry

Branch circuitry will be provided as required for convenience receptacles, equipment, mechanical units and kitchen appliances.

Branch circuitry will be conduit (typically EMT) and wire. EMT will be required for homeruns. MC cable will be allowed for branches from homeruns.

Receptacles not serving equipment required to be on continuously will be controlled per requirements of Washington State Energy Code. Controlled receptacles will be controlled by occupancy sensors which shut the receptacles off when a room is unoccupied.

Shore power will be provided in apparatus bay for rigs. Shore power will consist of cord drops from ceiling with 20 amp or 30 amp outlets.

Controls for apparatus bay doors to be located on driver side of rigs. A central location with controls for all bay doors will also be provided.

Emergency Power System

Service

A 250KW diesel generator with integral base fuel tank will be provided to backup the entire building for a minimum of 72 hours at full load without refueling. The generator will be connected to the diesel fueling tank on the site.

Elevator and EV charging stations (for cars) will not be on the generator. EV charging stations for apparatus will be on the generator but, at this time, no electric apparatus are anticipated.

Generator will be located in a sound attenuated, weatherproof enclosure.

System will have one automatic transfer switch. Emergency egress lighting will be handled with battery units, battery backup integral to light fixtures, or inverters to avoid a code requirement for a second transfer switch.

Kohler, Caterpillar and Onan are potential manufacturers of the generator system with Kohler being the Owner's preference given several existing facilities have Kohler generators.

Lighting

Equipment

Energy efficient LED lighting will be provided. Fixture types to be selected per ceiling conditions, room types and architectural considerations. Lamping will be LED.

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Digital switches will be provided for manual switching in all areas. Automatic control of lighting fixtures will be provided per requirements of Washington State Energy Code. Vacancy or occupancy sensors will be provided in most spaces. Spaces without occupancy sensors will be automatically controlled per a schedule maintained in the lighting control system. Exception is bunk rooms which will have manual switching but no automatic controls.

Photosensors will be provided for automatic dimming of fixtures in daylight zones. Automatic dimming will be configured for fixtures to turn completely off when daylight levels are sufficient.

Lighting controls will be interfaced to Alerting System. Alerting System will signal lighting controls to turn fixtures on in selected areas during an alarm condition. Fixtures will initially turn on at a low level and then ramp up to full brightness.

Lighting control system will be a networked distributed system. Room controllers will be provided in each room and the automatic (occupancy sensors, photosensors) and manual (digital switches) controls will connect to the room controller which in turn determines status of light fixtures. Small rooms will be equipped with digital switches with integral occupancy sensors. These rooms will not require room controllers.

Emergency egress lighting to be provided using battery backup integral to LED fixtures or emergency lighting units ("bugeyes"). Fixtures with battery backup and emergency lighting units to be located as required to achieve code lighting levels for emergency egress lighting. Inverters will be used for fixtures where integral battery backup is not an option.

LED exit signs with battery backup to be located as required by code.

Exterior lighting will generally be located on building walls or under soffits. Pole lights will be used for parking areas. All exterior fixtures will have sharp cutoff optics to reduce light pollution. Exterior fixtures will be controlled by an astronomic timeclock to be on during prescribed hours between dusk and dawn. Selected exterior fixtures will be controlled by occupancy sensors as well. These fixtures will be on at reduced output normally and then increase to full output upon detection of occupancy. All pole fixtures will have integral occupancy sensors.

Communications Systems Analysis

Telephone/Data/TV

Fiber optic, telephone and TV services will be delivered to the building underground. (3)4" conduits will be provided from locations coordinated with franchise utilities. Cabling for services will be by applicable utilities.

Services will be routed to the main communications room in the building.

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A complete raceway system for data, voice and TV cabling will be provided in project. Raceways will be 1" EMT minimum. Cables will be routed in raceways where in walls or above non-accessible ceilings. Open cabling allowed above accessible ceilings.

Data/voice cables and outlets will be Cat 6. Cables will homerun to rack mounted patch panels in comm room. Outlets will be located as required by program. Typical comm outlet at each workstation or other location will be a 2-port outlet. Outlets will be provided at selected locations for wireless access points.

TV cables will be RG6 coax with F-style connectors. Cable will homerun to wall mounted TV headend in comm room.

Fire Alarm System

Equipment

System will meet code requirements. RF based wireless monitoring will be utilized. If necessary, an antenna for the RF signal will be installed.

Smoke alarms and CO detectors will be provided for bunk rooms and outside of bunk rooms.

Addressable fire alarm system will be provided. Smoke detection to be provided for egress pathways and elevator recall. Horn/strobes and strobes to be provided throughout building for code required audibility and visibility levels.

LCD annunciator to be located at main entry.

Other Systems

Alerting

Station alerting system will be provided. It will be based on the Fast Alerting Systems Technology (FAST) platform and the installer will be Jaymarc AV. System will receive dispatch communications from local 911 dispatch system. Upon an alarm condition for station, alerting system will take the following actions:

Sound alarm via paging speakers

Distribute alarm message via paging speakers

Signal lighting controls to bring lights on in selected rooms. Lights in bunk rooms will be ramped up slowly to a prescribed output level upon receiving alerting signal.

Activate visual indicator wall lights

Traffic pre-emption as applicable

Shut down gas and electric appliances

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Alerting system will include dynamic check-in capability. Firefighters will be able to check-in daily in the alerting system to a particular bunk room. The system will then dynamically configure notifications to only alert the bunk rooms occupied by firefighters involved in the particular type of alarm. Only the applicable bunk rooms will be notified with each alarm.

Alerting system headend equipment will be rack mounted in the comm room.

Paging system speakers will be located to deliver alarms and messages throughout the building. The paging system can also be used for general announcements, messages and communications.

Doorbell system will be connected to Alerting system so that tones can be distributed throughout building over paging speakers.

Doorbell

A doorbell system will be provided with a doorbell at the main entry and possibly at other entries.

Doorbell will be tied into the paging system for distribution of tone throughout the facility.

Access Control System

Access control system will be provided with card readers at all exterior man doors. Each door will include an electric strike, door switch (for monitoring door position), card reader, and request to exit (REX) device.

CCTV System

CCTV system will be provided with cameras to view all entries. Cameras will be IP based with a Cat 6 cable run to each camera location.

Audio Visual System

AV cabling and connectors will be provided in selected rooms coordinated with monitors and projectors to be used.

PV System

Photovoltaic panels will be located on roof. Size of system to be based on code requirements and any applicable sustainable design certifications. A larger system may be considered depending on available roof space and budget.

Inverters will be located on roof or in main electrical room.

Battery storage for PV system is under consideration but not considered likely at this time. Battery storage options will be evaluated when project reaches design phase.

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Electric Vehicle Charging Stations

Level 2 charging stations will be provided in parking lot. Quantity to be determined. Minimum number to be per code requirements. Infrastructure to be provided for additional charging stations per code requirements and owner preferences.

Charging stations for electrical apparatus are not required but potentially could be in the future. Incremental cost items that will provide infrastructure for electrical apparatus charging stations will be included. These include vault sizing with spare capacity, room sizing with spare area, and additional conduits. Electrical service and generator will not be upsized significantly, however, due to uncertainty on if/when electrical apparatus will be used.

Antennas

Antennas for fire department communications will be located on the roof. Conduits will be provided from rooftop antenna locations to station office and comm room as required to support cabling needs at antennas.

Travis Fitzmaurice Wartelle Balangue Engineers Inc.
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FIRE STATION 38

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Architectural Concept Narrative

Project Description

VRFA Fire Station 38 is planned as a 13,971 square foot satellite station to be developed on a 1.90 acre parcel located at 205 5th Ave. NW, Pacific, WA. VRFA does not own the property and is currently conducting pre-purchase due diligence on the property. VRFA prefers Ellingson Rd. for emergency response. Upon opening for service, 3 firefighters (in 4 shifts) will staff the station, and the apparatus bay will house 1 engine. Over 5 to 15 years, staffing is anticipated to grow to 7 firefighters with 1 engine and 2 aids deployed.

Project Understandings and Considerations:

- Site consists of 8 parcels which would need to be combined by boundary line adjustments.
- Topographical survey has been performed by AHBL -see Boundary and Topographic Survey, February 10, 2023.
- A Phase 1 Environment Site Assessment has been conducted and noted the properties have been used for agriculture with associated pesticide use suspected -see Shockey Environmental Phase 1, February 2023. The cost estimate assumes surface soil remediation to abate pesticides.
- Wetlands are present on the site. The concept is to bridge a drive over the wetlands to not trigger Army Corp of Engineering permitting. See Wetland Resources Reconnaissance Report, February 20, 2023. Also, see Wetland Resource and TCA email thread subject: *VRFA wetland & geotech consultants.*
- Associated Earth Sciences Inc. provided a Pre-purchase Geotechnical Site Evaluation -see February 7, 2023 letter. Based on the evaluation and subsequent discussions between TCA and AESI. A deep foundation system or soils improvements will likely be required for development of the site. For the purposes of rough order of magnitude cost estimating, 50-foot deep piles (to reach bearing soil) are assumed.

Code Data and Analysis

1. Local AHJ: City of Pacific.

2. Building Codes: 2021 IBC and I-Codes, UPC as amended by state and local government, WAC 296-305, 2010 ADA Standards, 2017 ANSI-ICC A117.1.
    a. Occupancies:
        i. Fire Station: B, R-3, S-1, S-2.
    b. Type of Construction: V-B, Sprinklered.
    c. Allowable Area: 36,000 SF (using B or S-1 as most restrictive, excludes available frontage increases).
    d. Allowable Stories/Height: Allowable Area is based on a single-story building. Additional stories and height are allowed by IBC Chapter 5 and Zoning.
    e. Separations:
        i. A non-separated mixed-use occupancy approach is taken per IBC 508.3.

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ii. 1-hour fire-resistive construction is required between sleeping rooms and the apparatus bay per WAC 296-305-06507. An IBC 1-hour fire barrier will be used for assembly requirements.
iii. 1/2 hour partition between sleeping rooms per IBC 420.2 & 708.1.

3. Energy Code: 2021 Washington State Energy Code.
    a. Climate Zone: 4C.

Anticipated Bid Date: TBD
Construction Schedule: 426 days (14 months) from NTP till Substantial Completion.

Concept Design Elements:

1. Frontage
    a. See Concept Plan, AHBL Markups and Memo.

2. Site
    a. See Concept Plan, AHBL Markups and Memo.
    b. 8” thick reinforced concrete apparatus bay front apron.
    c. Bridge structure over wetlands.
    d. 10’ high, 8” wide structural brick enclosure at new pad-mounted backup generator.
    e. Fueling station with diesel tank plumbed to backup generator.
    f. EV charging stations.
    g. Landscaping.
    h. Flagpole with external halyard beacon lighting.
    i. Trash and Recycling enclosure with gates.
    j. 6’ high ornamental aluminum security fencing at firefighter parking and south property. line with cantilevered vehicle gate and operator and person gate.
    k. Security camera system.

3. Building Structural
    a. Steel structure with Buckling Restrained Braced Frames.
    b. Metal Deck for roof structure with 20% using a Concrete/Metal Deck.
    c. Steel stud framing.
    d. Slab on grade.
        i. 8” reinforced concrete at apparatus bay.
        ii. 4” reinforced concrete at other locations.
    e. 50’ piles foundation for pole soils.

4. Building Envelope
    a. Exterior Walls: 6” metal stud, 1/2" gypsum sheathing, 2” polyiso rigid insul., fluid applied. WRB (e.g., Prosoco Cat5), R-21 batt insul. with:
        i. Brick Masonry, 2 colors (20%).
        ii. Metal Siding, exposed fastener, 2 profiles, 2 colors (80%).
    b. Roof: 1/4” denz deck coverboard, R-40 polyiso. rigid insulation., vapor barrier with:
        i. Single-Ply Membrane Roof System (e.g., Sarnafil PVC).
        ii. Crickets: tapered insulation (expanded polystyrene).
    c. Roof accessories:

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i. Access hatch.
ii. Fall protection.
iii. Skylights.

d. Windows: Fiberglass (Cascadia or similar).
e. Doors & Frames: Storefront (fiberglass); Insulated Hollow Metal, OH Sectional Alum. fully glazed at Fitness Room.
f. Bay Doors: 14’ x 14’ Hi-speed Coiling Doors (Hormann or similar).
g. Access Control: proximity and keypad at doors to station, inner lobby door, and gates.

5. Exterior Detailing
   a. Awnings: Prefinished Metal Roofing, Steel Frame.
   b. Mechanical Screen Wall: Posts, Girts and Metal Siding.

6. Courtyard
   a. Covered BBQ area.
   b. Concrete paving.
   c. Landscaping.
   d. Masonry Screen Wall.

7. Building Interior
   a. Floors: Primarily Polished Concrete, Athletic Flooring (Fitness Room).
   b. Base: Rubber, Porcelain Tile (Restrooms).
   c. Walls:
      i. Interior Brick Masonry (Lobby).
      ii. Limited Wood accent.
      iii. Light Orange Peel Texture GWB.
      iv. Fiber-Reinforced Wall Covering (Tnemec product) (Decon, Cleanroom. Airlocks, PPE Storage, Bay Toilet).
   d. Wainscot: 5’ high Porcelain Tile (Restrooms).
   e. Wainscot: 8’ high Plywood with high-performance Paint finish (Apparatus Bay).
   f. Ceilings
      i. Exposed Structure (Apparatus Bay, Kitchen, Dayroom, Fitness, Elec. and Mech. Rms).
      ii. GWB (Restrooms, App. Bay Support Spaces).
      iii. 2x4 Suspended Acoustical Panel.
   g. Doors: Solid Core Wood, Hollow Metal (at Apparatus Bay), Barn Doors from Hall to Wardrobe Alcoves.
   h. Casework:
      i. Counters: Solid Surface.
      ii. Cabinets: P-lam with 3mm Edge Banding.

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PROJECT MEMO

TO:	Forest T Hooker, AIA LEED AP BD+C TCA Architecture & Planning, Inc 6211 Roosevelt Way NE Seattle, WA 98115	**DATE:**	April 12, 2023
FROM:	Brian Schend Tacoma - (253) 383-2422	**PROJECT NO.:**	2220601.10
		PROJECT NAME:	Valley Regional Fire Authority Capital Facilities Phase 1
SUBJECT:	Site feasibility – Station 38, 205 5th Ave NW, Pacific, WA		

AHBL has been hired to review the feasibility and cost of several potential sites for new and expanded Valley Regional Fire Authority (VRFA) facilities. This feasibility study includes preliminary layout, estimating, and review of the requirements of the local city government.

The proposed site for Fire Station 38 is located at 205 5th Ave NW in Pacific, WA. This project is located in the City of Pacific. AHBL based the following analysis on a proposed site plan dated March 17, 2023 provided by TCA Architecture & Planning Inc, and a survey performed by AHBL dated January 2023.

Existing Conditions and Demolition

The site is bounded by 5th Ave NW on the north, a light industrial property on the east, Ellingson Road on the south, and Tacoma Blvd N on the west. Adjacent parcels are a mix of single-family residential, light industrial, small-scale commercial properties, and vacant land. 5th Ave NW is the city limits, and points north of this road are located in the City of Algona. Currently, the site is occupied by a single-family house and a storage shed. The site is on parcels 8856004035, 8856004036, 8856004037, 8856004038, 8856004039, 8856004040, 8856004041, and 8856004042, and has a total area of approximately 1.9 acres.

There has not yet been soil explorations on this site. We reviewed the Natural Resources Conservation Service (NRCS) soil survey which describes the soil in this area as Seattle Muck, which consists of muck and peat and has high percentages of clays and fines. Based on this data, we assumed that infiltration in not feasible for this site.

The project site has a wetland that covers much of the south and east portions of the property. Some of the road improvements will require disturbance to this wetland. In addition, the project must preserve the existing flows into the wetland. Due to these issues, we expect additional wetland study will be required. The study will need to determine the restoration and mitigation requirements for work in the wetland. It will also need to determine the full extents of the wetland and the total area draining into it.

Before construction, the contractor shall mark the clearing limits and provide inlet protection in all catch basins on and around the site. The existing buildings and paving will be removed. Clearing work in the right-of-way includes filling the existing ditches to allow for construction of new sidewalks.

Erosion and Sediment Controls

The site is roughly 1.9 acres which is over the 1 acre threshold triggering an NPDES Construction Stormwater Permit through Department of Ecology. The owner will acquire a Notice of Intent (NOI) and transfer this permit to the winning bidder. A Stormwater Pollution Prevention Plan (SWPPP) will be required and will meet the requirements of 2021 King County Surface Water Design Manual. The contractor will have a Certified Stormwater Erosion Control Lead (CSECL). Stormwater monitoring for pH and Turbidity will be provided by the Contractors CSECL as well as maintaining the SWPPP and providing reports and record keeping.

Erosion and sediment control measures will include the following best management practices (BMPs): silt fencing, straw wattle, catch basin inlet protection, plastic covering, construction entrance, watering trucks, interceptor

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swales, sediment ponds, and check dams. Additional BMPs may be used as necessary based on site conditions at the time. Disturbed soils shall be temporarily covered with plastic sheeting or straw mulch. For final stabilization, exposed soils not receiving surfacing shall be hydroseeded, turf or landscaping installed.

Grading

The project site is flat, with the highest elevation of 71.5 and the lowest of 69.0. Ditches in the adjacent right-of-ways are as low as 66.8. The site typically slopes from north to south.

Grading work will include the removal of topsoil, muck, and peat, and its replacement with fill materials that are adequate for supporting pavement and structures. The site will be graded to slope away from the proposed buildings into a series of catch basins in the parking lots. Due to the flat slope and lack of adjacent storm drainage system, we expect that we will need to raise the grade of the site by approximately 3 feet. This will require 6,500 CY of fill. This will also require approximately 120 LF of retaining walls where the edge of the site is adjacent to the wetland buffer. These walls will be less than four feet high.

Water and Fire Sprinkler

The project survey did not locate any underground water mains. The City of Pacific GIS mapping system indicates that a water main is located in Ellingson Road, but does not indicate the size of this main. The survey located a water meter that appears to serve the site on 5th Ave NW, but the City of Pacific mapping does not show a water main in this road. We were unable to determine if the City of Algona has a water main in this road. Further research will be required to determine the locations and sizing of the water mains at this site.

In order to serve the building, two new fire hydrants will be required along Tacoma Blvd N. A new 8” water main will be constructed on that road to serve the new hydrants. We expect that all services would connect to this water main, and that the existing meter on 5th Ave NW would be removed.

We expect that the proposed building would include a fire sprinkler system. This would require a total of three water service lines for the building. A domestic service would provide water to sinks, toilets, and other fixtures, and would require a domestic meter. A fire service would provide water to the sprinkler system, and would require double-detector type backflow preventer and a post indicator valve. The fire department connection line would connect the sprinkler system to a fire department connection. There would also be a meter for irrigation purposes. These service lines would need to cross under one of the storm detention pipes.

Sanitary Sewer Service

The proposed site plan from TCA indicates that the new building will contain bathrooms, laundry, showers, kitchens, and a garage with vehicle cleaning facilities. There will also be an outdoor fueling facility. The bathrooms, laundry, and showers, will connect to a service line and then to an existing 8” sewer main on Tacoma Blvd N. We expect that the kitchen waste will need to lead to a grease interceptor before discharging to the public sewer. We also expect that the garage, vehicle washing area, and fueling area, will need to lead to an oil water separator before discharging to public sewer.

The existing sewer main is only six feet deep. However, as the site will be raised by 3 feet, we don’t anticipate that this will be a difficulty. The sewer service line will need to cross under one of the storm detention pipes.

Stormwater Management

Stormwater management will conform to the 2021 King County Surface Water Design Manual. The project needs to meet all ten minimum requirements described in the Manual. The soils on this site do not allow for infiltration.

The proposed site plan will include 0.8 acres of new pavement, 0.3 acres of roof area, and 0.3 acres of landscaping. Based on these areas, we anticipate a detention system with a capacity of 27,600 CF. We expect

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the detention system will be a detention tank system, using 2200 LF of 48" pipe, located under the two parking areas. Due to how shallow the downstream drainage is, we expect that the grade for the building and parking areas will need to be higher than existing, in order to provide flow and maintain adequate cover over the detention pipe.

For water quality treatment, we expect to use a manufactured device. Available devices include Biopod and Modular Wetlands. Filterra devices are not feasible as the required 2.5' drop is not possible on this site. Four devices will be installed on the site, all of them upstream of the detention system. The ditch adjacent to the site on Tacoma Blvd N carries a large upstream basin, that will be collected and bypassed around the detention system.

The project site includes a wetland. Stormwater regulations required that flows to the wetland after development match those from before development. To achieve this, the detention system's control structure will have a flow splitter downstream that directs flows to the wetland to match existing hydrology, while remaining flows discharge downstream without entering the wetland. Fully designing this will require additional research on the total area of the wetland, as well as the total drainage area that drains into it, which will require off-site investigation by both the civil engineer and the wetland biologist. This ultimately may result in design changes that change the location and arrangement of the detention system; however, the total detention volume required would remain approximately the same.

The paved areas will have a series of catch basins to collect drainage. Catch basins will typically be type 1 catch basins using 12" CPEP pipe. The proposed building will require underground pipes to connect the roof runoff to the infiltration systems. Roof drain and footing drain piping will each be 6" PVC piping and approximately 500 LF of each will be required. Parking lot and road drainage will be directed to treatment devices and the detention tank, while roof drains will lead directly to the detention tank.

Surfacing

The project will use asphalt paving for the north parking area and concrete paving for the fire truck parking area south of the building. The project will use concrete paving for walkways. The fueling and trash collection areas will also use concrete paving. On the surrounding roads, we expect asphalt for the roadway and concrete for the sidewalks.

We expect two different asphalt sections. A heavy-duty section will be used for Ellingson Road, as this road needs to regularly accommodate large trucks. The east parking area, Tacoma Blvd N, and 5th Ave NW will use a light-duty asphalt section, as these areas will mostly see passenger vehicle traffic. The fire truck parking area and fueling area will use a heavy-duty reinforced concrete section, while all other concrete will be light-duty. The exact paving sections will be determined by the geotechnical engineer in consultation with the traffic engineer.

The site will require that the fire truck parking area have direct access to Ellingson Road, through an area that has a wetland. In order to provide this access without placing fill in the wetland, a bridge over the wetland will be required to connect the parking area to Ellingson Road. A wetland study will be required to determine the restoration and mitigation requirements of this work.

Off-site Improvements

According to the transportation section of their comprehensive plan, the City of Pacific classifies Ellingson Road as a major arterial and a designated truck route, while all other roads at the site are local access streets. The city also classifies the intersection of Ellingson Road and Tacoma Blvd N as a critical intersection. Due to the major arterial and critical intersection adjacent to the site, we expect that the traffic studies will be more complex than is typical for a project of this size.

City of Pacific standard drawing ST-1, dated 2018, indicates that major arterials require a sidewalk of 6-10 ft in width. Currently, Ellingson Road has a strip of asphalt behind the curb that is less than 3 feet wide. As a result, we expect that we would be required to build a new 10 ft sidewalk on Ellingson Road. Tacoma Blvd N and 5th Ave

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NW have neither shoulders nor sidewalks, and per the city's standard drawing dated 1996, these roads would require new 5' sidewalks. The standard drawing shows 10' of paving on one side and 18' on the other without specifying which side is which – we will assume that this project will require the 18' width. Sidewalks will be concrete except as noted below.

There is a wetland on the south end of the property that extends to the embankments of Ellingson Road and portions of Tacoma Blvd N. In order to avoid placing fill in the wetland, Ellingson Road's 10-foot sidewalk will need to be an elevated walkway rather than a conventional concrete sidewalk. This is also true of the south one-third of Tacoma Blvd N, which will require a 5' elevated walkway to avoid fill on the wetland. A wetland study will be required to determine the restoration and mitigation requirements of this work.

All intersections adjacent to the project site will require curb ramps, and the new ramp crossing Ellingson Road will require a receiving ramp on the south side of the road. At the intersection of Ellingson Road and Tacoma Blvd N, we expect that additional improvements might be required, which may include crosswalks, warning signs, or bulb-outs. The city may require a traffic signal at this intersection, and we recommend that the costs of a signal be included for preliminary budgeting purposes.

These street improvements will require construction of a new storm drainage conveyance system. We expect that 5th Ave NW and the north half of Tacoma Blvd N would discharge to the detention system. Ellingson Road and the south half of Tacoma Blvd N are not able to discharge to the detention system due to low elevations in this area.

bjs/

c: Bill Fierst, Adam Braun, AHBL

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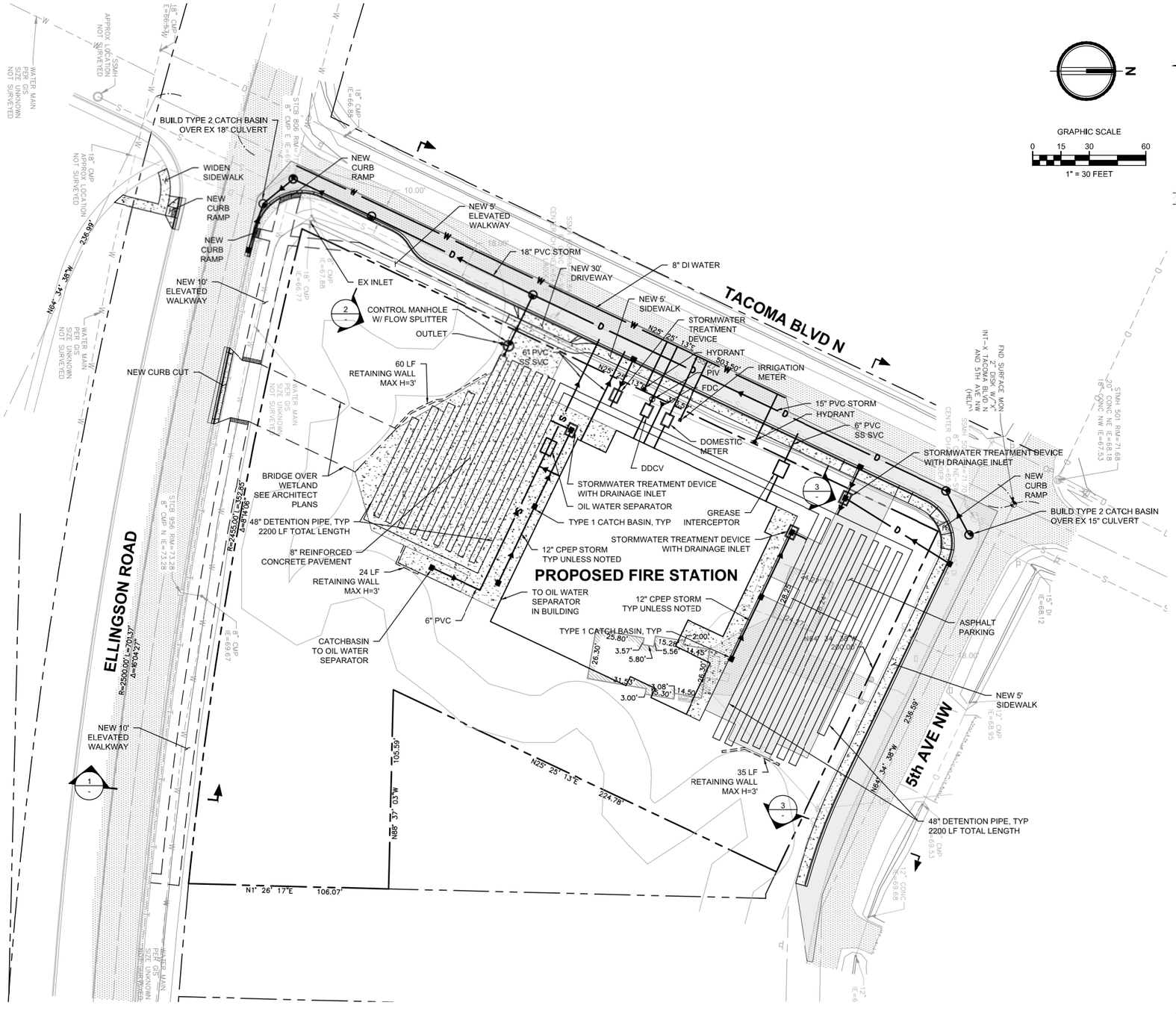
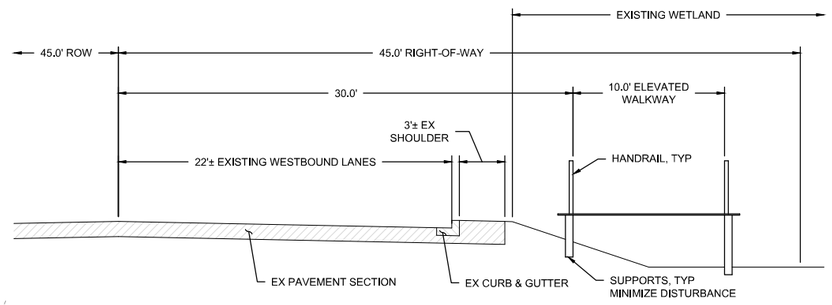
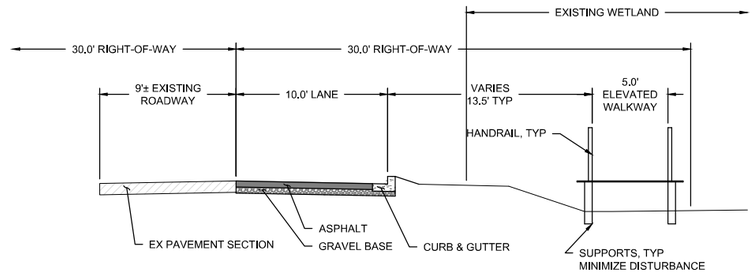
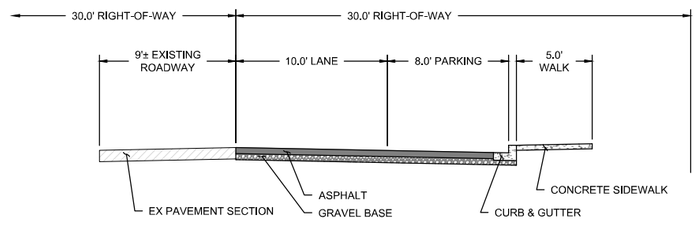




1 ELLINGSON ROAD TYPICAL SECTION
NOT TO SCALE



2 TACOMA BLVD N AT WETLAND TYPICAL SECTION
NOT TO SCALE



3 TACOMA BLVD N AND 5th AVE NW TYPICAL SECTION
NOT TO SCALE

AHBL
2215 North 30th Street,
Suite 300,
Tacoma, WA 98403
253.383.2422 TEL
253.383.2572 FAX

VALLEY REGIONAL FIRE AUTHORITY
CAPITAL FACILITIES PHASE 1
205 5th AVE NW, PACIFIC, WA
CONCEPTUAL SITE PLAN

JOB NO. 2220601.10
DATE: 4/18/2023
EX-1

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

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SIDER + BYERS
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VALLEY REGIONAL FIRE AUTHORITY, STATION 38

Mechanical Systems Narrative – Pre-Design -DRAFT-

March 31, 2023

General Project Description: New 14,000 square foot, neighborhood fire station.

Fire Protection Description: NFPA 13 compliant sprinkler system with full building coverage.

Plumbing Description: New plumbing fixtures. New heat pump water heater with storage tanks. New shop air compressor with distribution piping and outlet. Air piping to SCBA fill. Natural gas (or LPG) service to kitchen range and BBQ with solenoid valves. Turn-key truck fueling by vendor.

HVAC Description: New VRF heat pump systems with dedicated outdoor air system (ERV) in the admin, living quarters and support areas. New package rooftop heat pump for the apparatus bay. New vehicle source capture exhaust system for the apparatus bay. Type I kitchen hood with makeup air.

I. Site Work/Utilities

1. Fire service to the building.
2. Water service to the building to accommodate flush-valve toilets.
3. Sewer/septic service to the building.
4. Apparatus bay drainage oil/water separator (sewer) or holding tank (septic).
5. Natural gas (LPG) service to the building for kitchen range and BBQ.

II. Fire Protection

A. General:
   1. New NFPA 13 wet sprinkler system with dry heads where required.
   2. Semi-recessed heads in ceilings. Exposed heads with guard covers.

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3. Schedule 40 black steel or thinwall steel pipe. Threaded or grooved end fittings.

B. Service: A 6” fire service and post FDC.

C. A dry system will be needed to cover long overhangs and cold attic spaces.

III. Plumbing

A. Piping materials will be as follows.
1. Above grade water: Type ‘L’ copper.
2. Below grade water: Type ‘K’ copper.
3. Above grade waste: Cast iron.
4. Below grade waste: PVC plastic pipe.
5. Vent: PVC/ABS.
6. Natural gas / LPG: Schedule 40 black steel.
7. Pipe insulation: Preformed fiberglass with white laminated jacket. Molded PVC covers.

B. Plumbing Fixtures will be as follows:
1. Water Closets: Floor mount, vitreous china, open front seats, water saving dual-flush (1.6/1.1 gpf) manual flush valves. ADA compliance as required.
2. Lavatories: Countertop or wall-hung units, vitreous china, manual single handle mixing faucet. ADA compliant.
3. Showers: Single piece fiberglass stalls with single lever pressure balancing valve and adjustable 1.8 gpm Water Sense spray head. ADA compliance with grab bars, fold down seat and hand wand as required.
4. Kitchen Sinks: 18-gauge stainless steel, double bowl unit with single lever faucet, swing spout, hose spray, garbage disposal and “insta-hot”.
5. Laundry Sink: 18-gauge stainless steel, deep single bowl with single lever faucet, swing spout.
6. Janitor Service Sink: 24” x 24” molded stone floor mount with wall mount mixing faucet, pail hook, edge guards, backsplash and hose.
7. Faucets: Commercial quality, polished chrome plated, cast brass.
8. Cold Water Valve: Installed at locations for refrigerator ice makers and coffee makers.
9. Pot Filler Faucet: Installed at center line above stove.
10. Decon Sink: Heavy duty, stainless steel scullery type with drain boards and back-splash, single bowl unit with blade handle faucet, swing spout, rotary drain valve and commercial style hand spray.

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11. Eyewash: Swing down style mount on decon sink with CSA certified mixing valve meeting ANSI Z358.1 providing tempered water.
12. Water Coolers: Electric, ADA double fountain hi-lo units with bottle filler.

C. Domestic Hot Water:
   1. Domestic heat pump water heater (HPWH) located outside with two (2) 119-gallon storage tanks and a 119 gallon electric water heater finishing tank located in a water room. Exterior supply and return piping with 3" insulation, heat trace and aluminum jacket run from the water room to the HPWH.
   2. There will be a recirculating hot water piping loop and pump that ensures a short wait for hot water at fixtures.
   3. Master mixing valve to supply 120 F water from 140 F storage.
   4. Point of use mixing valves at each lavatory.

D. Plumbing accessories will be provided as follows:
   1. Laundry Box: Fire rated, with hot and cold water connections and drain.
   2. Hose bibbs (interior): Located in work areas and bays.
   3. Hose reels: Located at interior hose bibb locations in the apparatus bay.
   4. Floor drains: Cast iron body, round polished nickel bronze strainer with trap primer. Located in potential wet areas (restrooms, etc.)
   5. Gear Extractor: Hot & cold water supply with RPBA protection and trench drain indirect waste.
   6. Trench drains: Extra-heavy duty, 6" width, center lengthwise in each bay.

E. Natural gas (LPG) systems and piping will be as follows:
   1. Piping to kitchen range and BBQ.
   2. Normally closed solenoid valves will be provided to shut off gas to the kitchen range and barbecue automatically on station call alarm, with separate wall mounted manual resets controlled by the station alerting system.

F. Compressed air system as follows:
   1. Tank mounted 175 psi reciprocating type compressor with filters for shop air.
   2. Wall outlets, with quick connect fittings, in the shop and apparatus bay and overhead air drops with reels in the apparatus bay.

G. Elevator hoistway sump pump, with controls and force-main piping

IV. Heating, Ventilation and Air Conditioning

A. Living Quarters: VRFZ (variable refrigerant flow zoning) multi-zone heat pump system with individual fan coils for each zone connected to central exterior

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condensing units via refrigerant controller/manifolds and built-in electronic digital controls. R-410A refrigerant system.

B. Support Spaces: VRFZ (variable refrigerant flow zoning) multi-zone heat pump system with individual fan coils for each zone connected to central exterior condensing units via refrigerant controller/manifolds and built-in electronic digital controls. R-410A refrigerant system.

C. DOAS/ERV: Decoupled Dedicated Outside Air (DOAS) unit to supply outside air directly to all occupied areas of the building and recover heat from exhaust air through an Energy Recovery Ventilator (ERV). The ERV unit consists of outside air intake, MERV 13 high efficiency filters, supply fan, exhaust fan and heat exchanger. Two separate ERV units, one unit serves the living and work areas, and the other unit serves the support spaces.

D. Fan Coils: Horizontal ducted units consisting of filter box, refrigerant coil and fan. Ductless wall, ceiling or floor units consisting of filters, refrigerant coil and fan.

E. Zones: Each zone will be ventilated by the ERV and served by a fan coil with a wall mounted temperature control located in the space served. Each Sleep Room (and Quiet Rm) will be a separate zone as will the Kitchen, Exercise, Lobby, Conference Rm and Offices, and six (6) support areas for a total of twenty (21) zones.

F. Exhaust: Provide in Restrooms, Laundry, Janitor and Exercise. Ducting to ERV for continuous operation in conjunction with outside air supply for ventilation and building pressure.

G. HVAC Control Interlock: Magnet door switches on all roll-up doors to local HVAC zone equipment, with 5-minute countdown timer, to interrupt heat and cooling when door is open.

H. Controls:
   1. VRFZ zone sensor controls with LCD display and space temperature adjustment.
   2. VRFZ central controller with touch screen interface for system operation and remote web interface.
   3. ERV remote interface with LCD display.
   4. Other equipment with standalone electronic controls.
   5. Provide controls internet connectivity for remote access by District.

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I. Apparatus Bays
   1. Package rooftop heat pump with backup electric heat, spiral ductwork with drum louvers.
   2. Ventilation: General exhaust at 1.5 CFM/ft^2 controlled manually with a wall timer or automatically activated with CO/NO2 sensors. Alarm bell warning for high CO/NO2 levels. Wall louvers with motorized dampers for intake when exhaust fan is operating.
   3. Vehicle Exhaust: Plymovent source capture exhaust system on rails with nozzle attached to the apparatus.
   4. HVLS ceiling fans.
   5. 1-1/2” threaded pipe domestic water outlet for vehicle filling.

J. PPE Storage Room (Bunker Gear)
   1. 2-speed ventilation (via ERV) with drying mode.
   2. Drying cabinet by Owner used in space.
   3. Heat maintains room temperature and provides passive gear drying.
   4. Exhaust fan operates continuously.

K. Kitchen
   1. Type I hood above range with roof mounted exhaust fan. Type 1 system include Ansul fire suppression in hood.
   2. Hood makeup air with inline fan, filters and electric heat tempering.
   3. Pot filler over range.
   4. Exterior BBQ gas outlet.

L. SCBA Compressor Room
   1. Cooling ventilation with roof exhaust fan and intake air louver. Hard-piped breathable air intake.

M. Truck Fueling
   1. Turn-key system, by vendor. District request 1,000 gallons of diesel.

Jon Shafer, P.E.

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Valley Regional Fire Authority
Fire Station #38
Electrical Narrative
Phase 1: Pre-Funding
3/22/23

Power Systems

Electrical Service

Service will be 480Y/277V, 3 phase, 4 wire sized at 600 amps. The service will terminate in a service rated distribution panel. It will originate from PSE infrastructure with primary power delivered underground to a PSE pad mount transformer located on the fire station site. Secondary service will be delivered underground to the building via a CT cabinet located on the exterior and from there to the Main Distribution Panel in the electrical room. Meter base will be located adjacent to the CT cabinet.

Main Distribution Panel will consist of a main circuit breaker and molded case group mounted circuit breakers.

480V service is selected based on anticipated electrical needs for mechanical heat pumps. Additionally, 480V power will likely be required should electrical apparatus be used in the future.

Power Distribution

Panelboards with bolt in breakers will be provided.

Panelboards will have door in door style hinged doors.

Surge protectors to be provided for all panelboards.

Four total branch panelboards are anticipated.

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Branch Circuitry

Branch circuitry will be provided as required for convenience receptacles, equipment, mechanical units and kitchen appliances.

Branch circuitry will be conduit (typically EMT) and wire. EMT will be required for homeruns. MC cable will be allowed for branches from homeruns.

Receptacles not serving equipment required to be on continuously will be controlled per requirements of Washington State Energy Code. Controlled receptacles will be controlled by occupancy sensors which shut the receptacles off when a room is unoccupied.

Shore power will be provided in apparatus bay for rigs. Shore power will consist of cord drops from ceiling with 20 amp or 30 amp outlets.

Controls for apparatus bay doors to be located on driver side of rigs. A central location with controls for all bay doors will also be provided.

Emergency Power System

Service

A 250KW diesel generator with integral base fuel tank will be provided to backup the entire building for a minimum of 72 hours at full load without refueling. The generator will be connected to the diesel fueling tank on the site.

Elevator and EV charging stations (for cars) will not be on the generator. EV charging stations for apparatus will be on the generator but, at this time, no electric apparatus are anticipated.

Generator will be located in a sound attenuated, weatherproof enclosure.

System will have one automatic transfer switch. Emergency egress lighting will be handled with battery units, battery backup integral to light fixtures, or inverters to avoid a code requirement for a second transfer switch.

Kohler, Caterpillar and Onan are potential manufacturers of the generator system with Kohler being the Owner's preference given several existing facilities have Kohler generators.

Lighting

Equipment

Energy efficient LED lighting will be provided. Fixture types to be selected per ceiling conditions, room types and architectural considerations. Lamping will be LED.

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Digital switches will be provided for manual switching in all areas. Automatic control of lighting fixtures will be provided per requirements of Washington State Energy Code. Vacancy or occupancy sensors will be provided in most spaces. Spaces without occupancy sensors will be automatically controlled per a schedule maintained in the lighting control system. Exception is bunk rooms which will have manual switching but no automatic controls.

Photosensors will be provided for automatic dimming of fixtures in daylight zones. Automatic dimming will be configured for fixtures to turn completely off when daylight levels are sufficient.

Lighting controls will be interfaced to Alerting System. Alerting System will signal lighting controls to turn fixtures on in selected areas during an alarm condition. Fixtures will initially turn on at a low level and then ramp up to full brightness.

Lighting control system will be a networked distributed system. Room controllers will be provided in each room and the automatic (occupancy sensors, photosensors) and manual (digital switches) controls will connect to the room controller which in turn determines status of light fixtures. Small rooms will be equipped with digital switches with integral occupancy sensors. These rooms will not require room controllers.

Emergency egress lighting to be provided using battery backup integral to LED fixtures or emergency lighting units ("bugeyes"). Fixtures with battery backup and emergency lighting units to be located as required to achieve code lighting levels for emergency egress lighting. Inverters will be used for fixtures where integral battery backup is not an option.

LED exit signs with battery backup to be located as required by code.

Exterior lighting will generally be located on building walls or under soffits. Pole lights will be used for parking areas. All exterior fixtures will have sharp cutoff optics to reduce light pollution. Exterior fixtures will be controlled by an astronomic timeclock to be on during prescribed hours between dusk and dawn. Selected exterior fixtures will be controlled by occupancy sensors as well. These fixtures will be on at reduced output normally and then increase to full output upon detection of occupancy. All pole fixtures will have integral occupancy sensors.

Communications Systems Analysis

Telephone/Data/TV

Fiber optic, telephone and TV services will be delivered to the building underground. (3)4" conduits will be provided from locations coordinated with franchise utilities. Cabling for services will be by applicable utilities.

Services will be routed to the main communications room in the building.

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A complete raceway system for data, voice and TV cabling will be provided in project. Raceways will be 1" EMT minimum. Cables will be routed in raceways where in walls or above non-accessible ceilings. Open cabling allowed above accessible ceilings.

Data/voice cables and outlets will be Cat 6. Cables will homerun to rack mounted patch panels in comm room. Outlets will be located as required by program. Typical comm outlet at each workstation or other location will be a 2-port outlet. Outlets will be provided at selected locations for wireless access points.

TV cables will be RG6 coax with F-style connectors. Cable will homerun to wall mounted TV headend in comm room.

Fire Alarm System

Equipment

System will meet code requirements. RF based wireless monitoring will be utilized. If necessary, an antenna for the RF signal will be installed.

Smoke alarms and CO detectors will be provided for bunk rooms and outside of bunk rooms.

Addressable fire alarm system will be provided. Smoke detection to be provided for egress pathways and elevator recall. Horn/strobes and strobes to be provided throughout building for code required audibility and visibility levels.

LCD annunciator to be located at main entry.

Other Systems

Alerting

Station alerting system will be provided. It will be based on the Fast Alerting Systems Technology (FAST) platform and the installer will be Jaymarc AV. System will receive dispatch communications from local 911 dispatch system. Upon an alarm condition for station, alerting system will take the following actions:

Sound alarm via paging speakers

Distribute alarm message via paging speakers

Signal lighting controls to bring lights on in selected rooms. Lights in bunk rooms will be ramped up slowly to a prescribed output level upon receiving alerting signal.

Activate visual indicator wall lights

Traffic pre-emption as applicable

Shut down gas and electric appliances

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Alerting system will include dynamic check-in capability. Firefighters will be able to check-in daily in the alerting system to a particular bunk room. The system will then dynamically configure notifications to only alert the bunk rooms occupied by firefighters involved in the particular type of alarm. Only the applicable bunk rooms will be notified with each alarm.

Alerting system headend equipment will be rack mounted in the comm room.

Paging system speakers will be located to deliver alarms and messages throughout the building. The paging system can also be used for general announcements, messages and communications.

Doorbell system will be connected to Alerting system so that tones can be distributed throughout building over paging speakers.

Doorbell

A doorbell system will be provided with a doorbell at the main entry and possibly at other entries.

Doorbell will be tied into the paging system for distribution of tone throughout the facility.

Access Control System

Access control system will be provided with card readers at all exterior man doors. Each door will include an electric strike, door switch (for monitoring door position), card reader, and request to exit (REX) device.

CCTV System

CCTV system will be provided with cameras to view all entries. Cameras will be IP based with a Cat 6 cable run to each camera location.

Audio Visual System

AV cabling and connectors will be provided in selected rooms coordinated with monitors and projectors to be used.

PV System

Photovoltaic panels will be located on roof. Size of system to be based on code requirements and any applicable sustainable design certifications. A larger system may be considered depending on available roof space and budget.

Inverters will be located on roof or in main electrical room.

Battery storage for PV system is under consideration but not considered likely at this time. Battery storage options will be evaluated when project reaches design phase.

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Electric Vehicle Charging Stations

Level 2 charging stations will be provided in parking lot. Quantity to be determined. Minimum number to be per code requirements. Infrastructure to be provided for additional charging stations per code requirements and owner preferences.

Charging stations for electrical apparatus are not required but potentially could be in the future. Incremental cost items that will provide infrastructure for electrical apparatus charging stations will be included. These include vault sizing with spare capacity, room sizing with spare area, and additional conduits. Electrical service and generator will not be upsized significantly, however, due to uncertainty on if/when electrical apparatus will be used.

Antennas

Antennas for fire department communications will be located on the roof. Conduits will be provided from rooftop antenna locations to station office and comm room as required to support cabling needs at antennas.

Travis Fitzmaurice Wartelle Balangue Engineers Inc.
1200 Westlake Ave N, Ste 509 Seattle WA 98109
p. 206.285.7228
f. 206.413.5007

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

associated earth sciences incorporated

February 7, 2023
Project No. 20220419E001

Valley Regional Fire Authority
1101 D Street NE
Auburn, Washington 98002

Attention: Tim Day, Deputy Chief

Subject: Pre-Purchase Geotechnical Site Evaluation
205 5th Avenue NW
Pacific, Washington

Dear Mr. Day:

Per your request, Associated Earth Sciences, Inc. (AESI) completed a limited geologic hazard reconnaissance and pre-purchase evaluation of the property located at 205 5th Avenue NW in Pacific, Washington (King County Parcel No. 856004035), along with the currently undeveloped contiguous parcels 856004036, 8856004037, 8856004038, 8856004039, 8856004040, 8856004041, and 8856004042, totaling approximately 2.046 acres. We understand that Valley Regional Fire Authority (VRFA) is considering the purchase of the above parcels for the purpose of developing the property with a new fire station and associated improvement. VRFA has requested a review of available geotechnical documentation related to this property, along with a cursory visual reconnaissance of the current condition of the site, to provide a geotechnical opinion regarding the feasibility of the site for a future fire station. Our limited site review and this letter are being completed for VRFA's use only.

The purpose of our reconnaissance was to review the general surface condition of the subject site and surrounding area. Then, based upon our site visit and knowledge of the geology in the surrounding area, you requested a written opinion about the subject site and the likely geotechnical-related challenges posed to potential fire station construction.

Site Conditions

The subject property is bounded by 5th Avenue NW to the north, Tacoma Boulevard to the west, and Ellingson Road to the south. Existing commercial property is located to the east. The site is generally flat-lying, with drainage ditches located along Ellingson Road and Tacoma Boulevard. A single-family residence with a detached garage/outbuilding is located at the northern portion of the site. Vegetation includes abundant blackberry brambles, brush, tall grasses, and both deciduous and evergreen trees. Standing water was observed in the perimeter drainage ditches.

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Geologic Mapping/Previous Explorations

As part of our work, we reviewed a geologic map of this area of Pacific. Review of the regional geologic map titled *Lidar-revised geologic map of the Poverty Bay 7.5' quadrangle, King and Pierce Counties, Washington*, by Tabor et al. (2014) indicates that the area of the subject site is underlain by Holocene alluvium (Qa). These sediments represent recent and older material deposited in former channels of the White River subsequent to the last glacial age.

We reviewed a geotechnical report, prepared by Hart Crowser and dated August 29, 2019, for the commercial development ("7-Eleven") located at 100 Ellingson Road, roughly 400 feet to the east of the subject site. The Hart Crowser explorations included shallow (10 feet) push probes which encountered elastic silt with scattered organics, wet peat deposits, and wet medium sand. Cone Penetrometer Tests (CPTs) indicated that medium dense sandy material, with interbeds of soft clayey soil, extended to approximately 40 feet below the ground surface and were underlain by dense sand and gravel. Hart Crowser encountered groundwater in the push probes, or estimated groundwater via the CPTs, between 2.4 and 4 feet below the ground surface.

We also reviewed a geotechnical report, prepared by RZA Agra, Inc. (RZA) and dated March 13, 1992, for the Algona-Pacific Library, located at 255 Ellingson Road, immediately to the south of the subject site. The RZA explorations encountered very soft peat or organic silt to approximately 5 to 8 feet below the ground surface, underlain by loose to medium dense sand with silt interbeds and peat stringers. Soil density generally increased below roughly 30 to 40 feet below the ground surface. RZA encountered groundwater between 1 and 8.5 feet below the ground surface.

Findings and Recommendations

Based on our limited site review, we have the following comments:

- Based on our review of the referenced geologic map and available geotechnical information, we anticipate that the depth to bearing soil may be such that a deep foundation system, such as piles, or ground improvement, such as rammed aggregate piers, may be needed. In addition, given the loose/soft alluvial sediments likely underlying the site and the presence of shallow groundwater, we anticipate that liquefaction-induced settlement will be a design consideration. A site-specific subsurface exploration will be needed to verify the presence and estimate the depth to bearing soil, relative to the proposed foundation elevation of new structures, and to provide recommendations for the mitigation of the risks posed by seismic liquefaction settlement and long-term soil consolidation settlement beneath the planned building.
- Given the near-surface peat and organic-laden alluvial soils described in the above-referenced geotechnical reports, we anticipate that long-term soil consolidation will also be a design consideration, particularly for paved surfaces under heavy vehicle loading, such as from fire trucks, and for buried utility connections to the planned

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building. Preloading with a fill surcharge may be a mitigation to reduce post-construction settlement.

- As stated above, the subject site is vegetated with abundant blackberry brambles. These brambles inhibit access to much of the site for subsurface exploration equipment. Clearing of pathways through these brambles with excavation equipment (dozers, trackhoes, etc.) will be needed to facilitate future subsurface exploration efforts.
- Stormwater runoff from impermeable surfaces should be collected, routed, and discharged through a properly designed stormwater system. Based on the standing water observed in the shallow drainage ditches, along with the shallow silt and peat deposits and shallow groundwater levels documented in the above-referenced reports, we anticipate that infiltration of stormwater will not be feasible. A site-specific subsurface exploration will be needed to determine the nature of the soils underlying the subject site and estimate the depth to groundwater.

Conclusions

Because of our very limited scope and the limited visual windows into the subject site, there was much that we were unable to observe. Should you desire that a comprehensive risk assessment and design-level geotechnical report be performed, additional research, exploration (including exploration borings), and evaluation by our firm will be needed. However, we are confident in our conclusions, based on experience, literature review, and site observations.

We trust that this letter provides you additional information as a basis for decision-making. Should you require further information, or review or interpretation of this letter, please call at any time.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington

Jeffrey P. Laub, P.E., L.G., L.E.G.
Associate Engineer/Geologist

Bruce L. Blyton, P.E.
Senior Principal Engineer

JPL/jh – 20220419E001-002

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Forest Hooker

From: Jeff Mallahan <jeff@wetlandresources.com>
Sent: Friday, April 7, 2023 2:29 PM
To: Forest Hooker
Cc: Brian Harris; Tim Day; William Fierst; Adam Braun; matt wiggins; Amanda Lo
Subject: Re: VRFA wetland & geotech consultants

Hi Forest,

That is correct, for access this approach would completely avoid having to go to the USACE or DOE for permitting wetland fill.

The only other item that I mentioned that may trigger a Corps permit for wetland fill would be for frontage improvements (curb/gutter/sidewalk). This would be something that the City may require.

If the City is requiring frontage improvements along Ellingson or Tacoma Blvd avoiding wetland fill would be difficult, although not impossible. To avoid this fill, we could propose an elevated walkway or a sidewalk on piles, which is considered structural fill and would not require a permit from USACE or DOE.

Feel free to let me know if there are any additional questions!

Best,

Jeff Mallahan
Senior Ecologist
Wetland Resources, Inc.
9505 19th Ave SE, Suite 106
Everett, WA 98208
Office (425) 337-3174
Cell (425)232-4270
jeff@wetlandresources.com

> On Apr 7, 2023, at 2:11 PM, Forest Hooker <forest@tca-inc.com> wrote:
>
> Hi Jeff,
>
> I understand from VRFA that based on Wetland Resources' input, the attached concept for Fire Station 38 for the Ellingson Rd property with a bridge over the wetland would mean the project would not need to pursue permitting through the Army Corp of Engineers.

Is this a reasonable assumption as we move forward with conceptual rough order of magnitude costing? Beyond the cost of the bridge, are there other AHJ mitigation measures we should capture?

Thanks!

Forest T Hooker **AIA LEED AP BD+C**
Principal

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From: Jeff Mallahan <jeff@wetlandresources.com>
Sent: Tuesday, February 28, 2023 6:15 PM
To: Tim Day <Tim.Day@vrfa.org>
Cc: Forest Hooker <forest@tca-inc.com>; Brian Harris <brian@tca-inc.com>
Subject: Re: VRFA wetland & geotech consultants

Hey Tim,

I am working to get clarification on the additional building setbacks from the City. We will have an updated map as soon as possible.

Unfortunately, these are not concurrent processes. It would serve the project to select the one we are most likely to have a positive result on, which I would say is applying for a NWP. I do have a contact at the Corps that has helped us in permitting a Fire Training Facility in Snohomish County that I will start a dialogue with. This may help get some concrete clarification on timing, as well as likelihood of the wetland being jurisdictional, which my gut says that that it will be. This leaves us with the NWP option, if the access to the South is required for the project to be a go.

I agree that multiple years for an answer on what you can do is not encouraging. Let me do a little digging this week, and I will have some further information on timelines and probability of approval.

Best,

Jeff Mallahan
Senior Ecologist
Wetland Resources, Inc.
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Everett, WA 98208
Office (425) 337-3174
Cell (425)232-4270
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On Feb 28, 2023, at 3:24 PM, Tim Day <Tim.Day@vrfa.org> wrote:

Hi Jeff,

Two questions:

First, will the City of Pacific be able to provide requirements for additional setback requirements before the JD is complete?

Second, I'm assuming the JD and NWP processes are consecutive, meaning ~8 months for the JD and another 12-18 months for the NWP. Is this correct?

I'm beginning to question the wisdom of closing on this property if we won't know what's buildable for another 2 years.

Thanks,

Tim

From: Jeff Mallahan <jeff@wetlandresources.com>
Sent: Monday, February 27, 2023 6:24 PM
To: Forest Hooker <forest@tca-inc.com>
Cc: Tim Day <Tim.Day@vrfa.org>; Brian Harris <brian@tca-inc.com>
Subject: Re: VRFA wetland & geotech consultants

[EXTERNAL]
Forest,

Thank you for providing that thoughtful summary of our conversation!

One thing to clarify, is that the JD (Jurisdictional Determination) is also a federal process for the Army Corps of Engineers (USACE) to determine if the wetland is jurisdictional. This is not a City of Pacific process.

As a conservative measure, the timeline for applying for both a NWP for wetland fill or applying for a JD, is about 12 to 18 months. More recently, we have been receiving NWP permits in about 10 months and JD's have been taking 8 months. However, we have also recently heard that the USACE have been prioritizing NWPs, due to a significant backlog. This is why we like to set expectations for permit issuance between 12 to 18 months.

Happy to answer any additional questions that may arise!

Jeff Mallahan
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On Feb 24, 2023, at 1:52 PM, Forest Hooker <forest@tca-inc.com> wrote:

> You don't often get email from forest@tca-inc.com. Learn why this is important

I copied the wrong Jeff before.
My apologies!

From: Tim Day <Tim.Day@vrfa.org>
Sent: Friday, February 24, 2023 9:36 AM
To: Forest Hooker <forest@tca-inc.com>; Brian Harris <brian@tca-inc.com>
Cc: jlaub@aesgeo.com
Subject: Re: VRFA wetland & geotech consultants

Thank you, Forest (and Jeff).

On another front, I am waiting to hear back from a different group at AESI regarding cost and scope of a Phase 2 study.

Get Outlook for iOS

From: Forest Hooker <forest@tca-inc.com>
Sent: Friday, February 24, 2023 09:18
To: Tim Day <Tim.Day@vrfa.org>; Brian Harris <brian@tca-inc.com>
Cc: jlaub@aesgeo.com <jlaub@aesgeo.com>
Subject: RE: VRFA wetland & geotech consultants

[EXTERNAL]
Good Morning Tim,

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We have a call into AESI and will report back on borings.

Had a good conversation with Jeff at Wetland Resources.

For permitting, the first step is a jurisdictional (Pacific) determination on whether the wetland is regulated. If unregulated, we'd look to the local and state governments for requirements. Jeff believes it is likely regulated which means an Army Corp of Engineers Nationwide Permit will be required (their experience is this is a 12-18 month process).

VRFA will need to demonstrate there is no way to avoid filling wetlands, i.e., no other way to develop a station on the site. Apron access for emergency response would be the likely solid argument.

Jeff said the local authority typically provides a building setback in addition to the wetland buffer in the range of 5-15 feet. He will follow up on Pacific's requirement which TCA will need for test-to-fits.

Jeff provided the following potential mitigation measures and ROM costs (in terms of dollars per square foot of wetland mitigated):

- In lieu of fee $25/sf
- Mitigation banking $15/sf
- Onsite mitigation $3-$5/sf
- Offsite mitigation, on VRFA acquired property in the same basin (any property costs + $3-$5/SF)

Wetland resources puts further biological and permit assistance fees at $30K.

TCA would suggest a conservative approach to establishing budget and schedule contingencies for dealing with the wetlands.
We will get estimator input but would start with ballparks of:

- 2 years to complete permitting.
- $250K for mitigation.

There does appear to be potential for onsite mitigation which would be the most cost-effective mitigation approach.

I've cc'd Jeff for any clarification/correction on the info above.

Thanks,

Forest T Hooker **AIA LEED AP BD+C**
Principal

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From: Tim Day <Tim.Day@vrfa.org>
Sent: Wednesday, February 22, 2023 4:41 PM
To: Forest Hooker <forest@tca-inc.com>; Brian Harris <brian@tca-inc.com>
Subject: VRFA wetland & geotech consultants

Hi Forest and Brian,

Below is the contact information for the wetland and geotech consultants.

Associated Earth Sciences
Jeff Laub
jlaub@aesgeo.com
O: 425-827-7701
C: 425-766-2867

Wetland Resources
Jeff Mallahan
jeff@wetlandresources.com
O: 425-337-3174
C: 425-232-4270

Thanks,

Tim

<Pages from 2023_0317 VRFA Site Studies.pdf>

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HEADQUARTERS 31

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Architectural Concept Narrative

Project Description

VRFA Fire Station 31 is planned as a 33,376 square-foot headquarters station to be developed on a 2.12-acre parcel located at 1101 D St. NE Auburn, WA. The site is the location of VRFA's current headquarters. The existing headquarters will remain in operation during the construction of the new headquarters. Upon opening for service, 8 firefighters (in 4 shifts) will staff the station, and the apparatus bay will house multiple vehicles with 6 bays. Over 5 to 15 years, staffing is anticipated to grow to 12 firefighters. The facility will accommodate an initial administrative staff of 33 employees which is foreseen to grow to 42 employees.

Project Understandings and Considerations:

- The existing HQ will remain operational until the new HQ achieves a certificate of occupancy.
- Project to be phased -see Concept Plan
    - Phase 1 -construct new HQ and provide all improvements at south portion of the site.
    - Phase 2 -demo existing HQ and provide all improvements at north portion of the site.
- Environmental Assessments and Geotechnical Investigations have not been performed to date. Estimating excludes environmental mitigation measures and soil improvements. A site contingency is included to mitigate risks from unforeseen conditions.
- There is no current data suggesting the presence of wetlands or buffers on the property. Mitigation efforts are excluded.
- A Topographic Survey has not been provided. The concept is based on available GIS information.

Code Data and Analysis

1. Local AHJ: City of Auburn.

2. Building Codes: 2021 IBC and I-Codes, UPC as amended by state and local government, WAC 296-305, 2010 ADA Standards, 2017 ANSI-ICC A117.1.
    a. Occupancies:
        i. Fire Station: A-3, B, R-3, S-1, S-2.
    b. Type of Construction: V-B, Sprinklered.
    c. Allowable Area: TBD based on a combination of IBC 508 separated and non-separated occupancy approaches.
    d. Allowable Stories/Height: 45'-0" Zoning.
    e. Separations:
        i. The first and second floors shall be separated by a 1-hour horizontal floor assembly per IBC 711.
        ii. Floor areas shall use a non-separated mixed occupancy approach per IBC 508.3
        iii. 1-hour fire-resistive construction is required between sleeping rooms and the apparatus bay per WAC 296-305-06507. An IBC 1-hour fire barrier will be used for assembly requirements.

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iv. 1/2-hour partition between sleeping rooms per IBC 420.2 & 708.1.

3. Energy Code: 2021 Washington State Energy Code
    a. Climate Zone: 4C.

Anticipated Bid Date: TBD
Construction Schedule:
Phase 1: 487 days (16 months) from NTP till first phase Substantial Completion (SC).
Phase 2: 91 days (4 months) from first phase SC to second phase SC.

Concept Design Elements:

1. Frontage
    a. See Concept Plan, AHBL Markups and Memo.

2. Site
    a. See Concept Plan, AHBL Markups and Memo.
    b. 8” thick reinforced concrete apparatus bay front apron.
    c. 10’ high, 8” wide structural brick enclosure at new pad-mounted backup generator
    d. Fueling station with unleaded and diesel fuel (see mechanical narrative). Diesel tank plumbed to a backup generator.
    e. EV charging stations.
    f. Landscaping.
    g. Flagpole with external halyard beacon lighting.
    h. Trash and Recycling enclosure with gates.
    i. 6’ high ornamental aluminum security fencing at north, west, and south property lines.
    j. Security camera system.

3. Building Structural
    a. Structure shall span the apparatus bay with no intermediate supports -e.g. no columns between apparatus parking spots.
    b. Concrete/Metal Deck for second-floor structure.
    c. Metal Deck for roof structure with 20% using a Concrete/Metal Deck.
    d. Steel structure with Buckling Restrained Braced Frames.
    e. Steel stud framing.
    f. Slab on grade.
        i. 8” reinforced concrete at apparatus bay.
        ii. 4” reinforced concrete at other locations.
    g. 50’ deep piles.

4. Building Envelope
    a. Exterior Walls: 6” metal stud, 1/2" gypsum sheathing, 2” polyiso rigid insul., fluid applied WRB (e.g., Prosoco Cat5), R-21 batt insul. with:
        i. Brick Masonry, 2 colors (20%).
        ii. Metal Siding, concealed fastener, 2 profiles, 2 colors (30%).
        iii. Metal Siding, exposed fastener, 2 profiles, 2 colors (50%).
    b. Roof: 1/4” denz deck coverboard, R-40 polyiso. rigid insulation., vapor barrier with:
        i. Single-Ply Membrane Roof System (e.g., Sarnafil PVC).

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ii. Crickets: tapered insulation (expanded polystyrene).

c. Roof accessories:
   i. Access hatch.
   ii. Fall protection.
   iii. Skylights.
d. Windows: Fiberglass (Cascadia or similar).
e. Doors & Frames: Storefront (fiberglass); Insulated Hollow Metal, OH Sectional Alum. fully glazed at Fitness Room.
f. Bay Doors: 14' x 14' Hi-speed Coiling Doors (Hormann or similar).
g. Access Control: proximity and keypad at doors to station, inner lobby door, and gates.

5. Exterior Detailing
   a. Awnings: Prefinished Metal Roofing, Steel Frame.
   b. Mechanical Screen Wall: Posts, Girts, and Metal Siding.

6. Vertical Circulation
   a. Hydraulic Elevator -with pit and machine room.
   b. (2) Enclosed Stairs (constructed as rated exits).

7. Patio (at Second Floor)
   a. Covered BBQ area.
   b. Concrete paving.
   c. Landscaping.
   d. Masonry Screen Wall.

8. Building Interior
   a. Floors: Primarily Polished Concrete, Athletic Flooring (Fitness Room).
   b. Base: Rubber, Porcelain Tile (Restrooms).
   c. Walls:
      i. Interior Brick Masonry (Lobby).
      ii. Limited Wood accent.
      iii. Light Orange Peel Texture GWB
      iv. Fiber-Reinforced Wall Covering (Tnemec product) (Decon, Cleanroom. Airlocks, PPE Storage, Bay Toilet)
   d. Wainscot: 5' high Porcelain Tile (Restrooms).
   e. Wainscot: 8' high Plywood with high-performance Paint finish (Apparatus Bay).
   f. Ceilings
      i. Exposed Structure (Apparatus Bay, Kitchen, Dayroom, Fitness, Elec. and Mech. Rms).
      ii. GWB (Restrooms, App. Bay Support Spaces).
      iii. 2x4 Suspended Acoustical Panel.
   g. Doors: Solid Core Wood, Hollow Metal (at Apparatus Bay), Barn Doors from hall to wardrobe lockers.
   h. Casework:
      i. Counters: Solid Surface.
      ii. Cabinets: P-lam with 3mm Edge Banding.

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PROJECT MEMO

TO:	Forest T Hooker, AIA LEED AP BD+C TCA Architecture & Planning, Inc 6211 Roosevelt Way NE Seattle, WA 98115	**DATE:**	April 18, 2023
FROM:	Brian Schend Tacoma - (253) 383-2422	**PROJECT NO.:**	2220601.10
		PROJECT NAME:	Valley Regional Fire Authority Capital Facilities Phase 1
SUBJECT:	Fire Station 31, 1101 D St NE, Auburn		

AHBL has been hired to review the feasibility and cost of several potential sites for new and expanded Valley Regional Fire Authority (VRFA) facilities. This feasibility study includes preliminary layout, estimating, and review of the requirements of the local city government.

The project site under consideration for Fire Station 31 is located at 1101 D St NE in Auburn, WA. This project is located in the City of Auburn. AHBL based the following analysis on a proposed site plan dated April 18, 2023 provided by TCA Architecture & Planning Inc.

Existing Conditions and Demolition

The site is bounded by the existing fire station to the north, D St NE to the east, a bank to the south, and a large parking lot to the west. The surrounding area is primarily commercial strip malls and some light industrial properties. Currently, the site is occupied by a garage and modular building, both owned and operated by the fire department. The site is on parcel number 7459920010, and has a total area of approximately 1.1 acres.

There has not yet been soil explorations on this site. We reviewed the Natural Resources Conservation Service (NRCS) soil survey which describes the soil in this area as Renton Silt Loam. We also reviewed soil reports for nearby sites. Shannon & Wilson prepared an Infiltration Report for Dick Scobee Elementary School, about one half mile to the east, dated September 2018. This site has alluvium soils and an infiltration rate of approximately 1.0 inch per hour, and a groundwater table approximately 8 feet below grade. However, a March 2019 soils report prepared for Sound Transit for a site one mile to the southwest found infiltration to be unsuitable due to perched groundwater. We also reviewed the City of Auburn's GIS data, which shows detention facilities nearby, but no infiltration systems. Based on this data, we assumed that infiltration is not feasible for this site.

Before construction, the contractor shall mark the clearing limits and provide inlet protection in all catch basins on and around the site. All buildings, utilities, and pavement on-site will be removed. Clearing work in the right-of-way includes demolition of sidewalk as needed to install new driveways, and trenching in pavement to install new utility connections.

Erosion and Sediment Controls

The site is roughly 2.1 acres which is over the 1 acre threshold triggering an NPDES Construction Stormwater Permit through Department of Ecology. A Stormwater Pollution Prevention Plan (SWPPP) will be required and will meet the requirements of WSDOE Stormwater Management Manual for Western Washington (SWMMWW), 2019 Edition. The contractor will have a Certified Stormwater Erosion Control Lead (CSECL). Stormwater monitoring for pH and Turbidity will be provided by the Contractors CSECL as well as maintaining the SWPPP and providing reports and record keeping.

Erosion and sediment control measures will include the following best management practices (BMPs): silt fencing, straw wattle, erosions and sediment control ponds, catch basin inlet protection, plastic covering, construction entrance, watering trucks, interceptor swales, and check dams. Additional BMPs may be used as necessary based on site conditions at the time. Disturbed soils shall be temporarily covered with plastic sheeting or straw

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mulch. For final stabilization, exposed soils not receiving surfacing shall be hydroseeded, turf or landscaping installed.

Grading

The project site is flat, with an elevation of approximately 72'. Grading work will include the removal of existing soil, and its replacement with fill materials that are adequate for supporting pavement and structures. The site will be graded to slope away from the proposed buildings into a series of catch basins in the parking lots. Due to the flat slope and the shallowness of the adjacent storm drainage system, we expect that we will need to raise the grade of the site by approximately 3 feet. This will require 5,500 CY of fill. This will also require approximately 315 LF of retaining walls where the edge of the site is adjacent to the neighboring properties. These walls will be less than four feet high. The west wall of the building will need to function as a retaining wall.

Water and Fire Sprinkler

City of Auburn GIS data shows existing 12" water mains in D St NE and through the adjacent parking lots to the south and west of the building. There is an existing 8" water main passing through the north side of the property, in an area that is proposed for parking. We expect that we will not need to construct any new water main due to how many are already present around the property.

We expect that the proposed building would include a fire sprinkler system. This would require a total of three water service lines for the building. A domestic service would provide water to sinks, toilets, and other fixtures, and would require a domestic meter. A fire service would provide water to the sprinkler system, and would require double-detector type backflow preventer and a post indicator valve. The fire department connection line would connect the sprinkler system to a fire department connection. We expect that all services would connect to the existing 12" main in D St NE. The site would also require an irrigation meter, that would also connect to the D St NE.

The City of Auburn requires all points on the building to be within 150' of a fire hydrant. There are 4 existing hydrants that provide partial coverage to the proposed building. 1 new hydrant will be required for full hydrant coverage.

Sanitary Sewer Service

The proposed site plan from TCA does not include a floor plan, but based on similar proposal, we expect that the new building will contain bathrooms, laundry, showers, kitchens, and a garage with vehicle cleaning facilities. The bathrooms, laundry, and showers, will connect to a service line and then to an existing 12" sewer main in D St NE. We expect that the kitchen waste will be required to outfall to a grease interceptor before discharging to the public sewer. We also expect that the garage and vehicle washing area will need to lead to an oil water separator before discharging to public sewer.

Stormwater Management

Stormwater management will conform to the 2019 Stormwater Management Manual for Western Washington by the Washington State Department of Ecology (DOE). The project needs to meet all ten minimum requirements described in the Manual. The soils on this site do not allow for infiltration.

The proposed site plan will include 0.50 acres of new pavement, 0.38 acres of roof area, and 0.23 acres of landscaping. Based on these areas, we anticipate a detention system with a capacity of 25,600 CF. We expect the detention system will be a detention tank system, using 2040 LF of 48" pipe, located under the two parking areas. According to City of Auburn GIS data, the downstream drainage system is very shallow, so we expect that the grade for the building and parking areas will need to be higher than existing, in order to provide flow and maintain adequate cover over the detention pipe.

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For water quality treatment, we expect to use a manufactured device. Available devices include Biopod and Modular Wetlands. Filterra devices are not feasible as the required 2.5' drop is not possible on this site. Two devices will be installed on the site, all of them upstream of the detention system. The roof drains will not connect to the treatment devices.

The paved areas will have a series of catch basins to collect drainage. Catch basins will typically be type 1 catch basins with herringbone grates. 12" CPEP pipe will be used on the site while 12" PVC is required in the public right-of-way. The proposed building will require underground pipes to connect the roof runoff to the detention system. Roof drain piping will be 6" PVC and approximately 350 LF will be required, which will be routed to the detention system. Footing drains will be approximately 350 LF of 6" perforated PVC and will discharge to the detention system.

Surfacing

The project will use asphalt paving for the north parking area and concrete paving for the fire truck parking area south of the building. The project will use concrete paving for walkways. On the surrounding roads, we expect asphalt for the roadway and concrete for the sidewalks.

We expect two different asphalt sections. A heavy-duty section will be used for D St NE, as this road needs to accommodate heavy traffic. The east parking area will use a light-duty asphalt section, as this area will mostly see passenger vehicle traffic. The fire truck parking area and fueling area will use a heavy-duty reinforced concrete section, while all other concrete will be light-duty. The exact paving sections will be determined by the geotechnical engineer in consultation with the traffic engineer.

Off-site Improvements

The City of Auburn classifies D St NE as a minor arterial. Figure 10-02 of the city's Design Manual shows an arterial street section with 61' of driving width, a curb and gutter, and a 10-foot sidewalk. Review of aerial imagery indicates that the existing roads has 44' of driving width and 8-foot sidewalks. Based on our previous experience on similar roads in the City of Auburn, we expect that we will not be required to widen the roadway pavement, but we will be required to widen the sidewalks to 10' wide.

There are no intersections or existing curb ramps affected by this project. Segments of sidewalk will need to be replaced to remove and install driveway curb cuts. The existing streets already have a storm drainage conveyance system and we don't anticipate that any improvements will be required.

bjs/

c: Bill Fierst, AHBL
Adam Braun, AHBL

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VALLEY REGIONAL FIRE AUTHORITY

1101 D STREEET NE

FS 31 SITE CONCEPT

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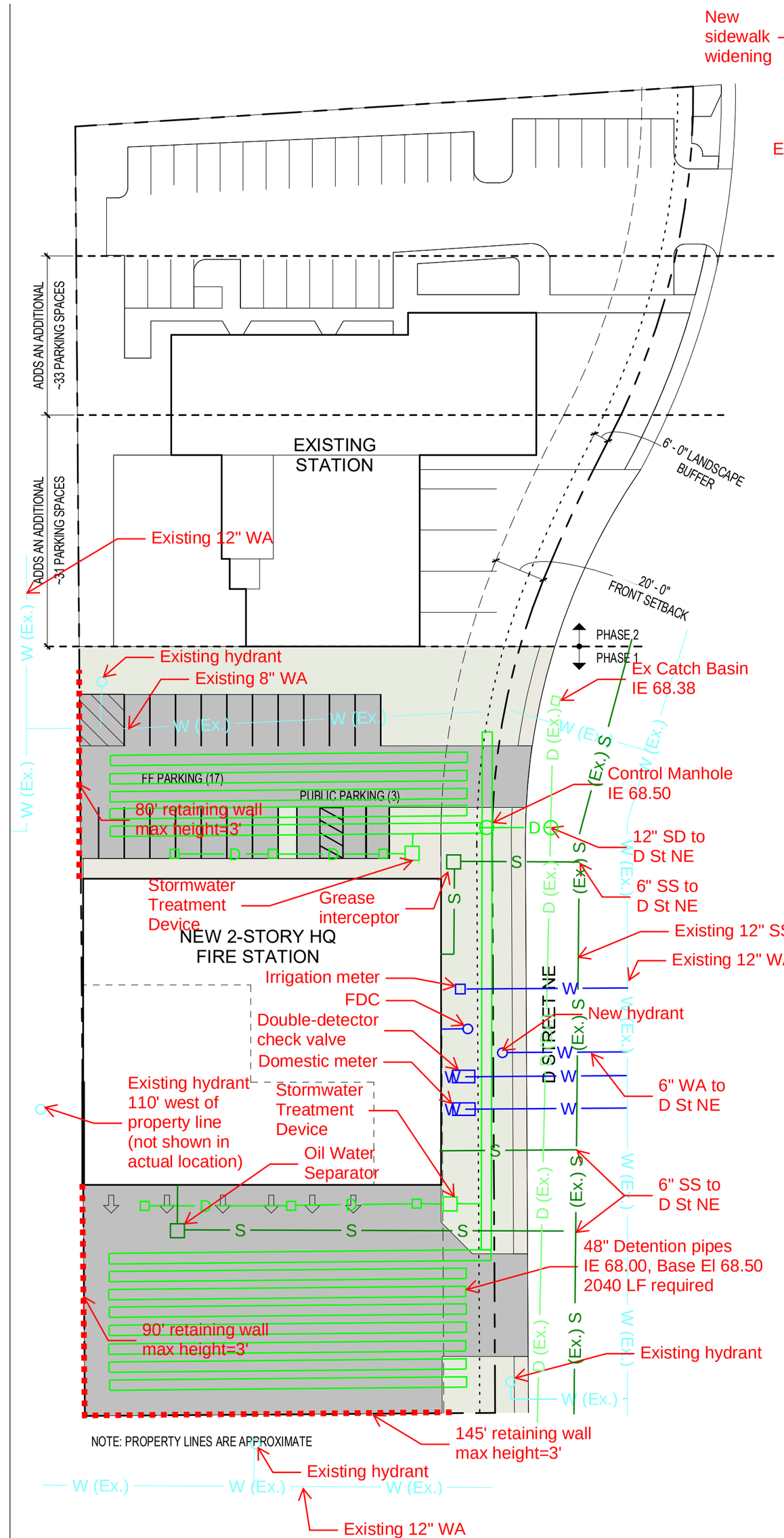

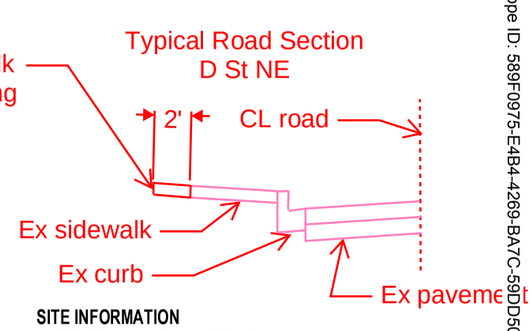

SITE INFORMATION

- ADDRESS: 1101 D STREET NE
  AUBURN, WA 98002
- PARCEL NUMBER: 7459920010
- LEGAL DESCRIPTION:
  RPM - AUBURN LESS ST PER REC# 20211228000600
- SITE AREA: 92,223 SF OR 2.12 ACRES

PLANNING

- JURISDICTION: CITY OF AUBURN
- AUBURN CITY CODE (ACC)
- ZONING: C-1 LIGHT COMMERCIAL

ZONE REQUIREMENTS (ACC TABLE 18.23.040A)

- MAXIMUM LOT COVERAGE: NONE
- MAXIMUM IMPERVIOUS AREA %: N/A
- MAX BUILDING HEIGHT: 45'-0"
- SETBACKS (ACC TABLE 18.23.040A):
  - ROW: 20'-0"
  - SIDE - STREET: 15'-0"
  - REAR: NONE
- LANDSCAPE BUFFERS (ACC TABLE 18.50.040)
  -ABUTTING STREET: 6'-0"
  -ABUTTING RESIDENTIAL PROP: 10'-0"

PARKING

- DETERMINED BY SIMILAR USES (ACC 18.52.02)
  - MEETING SPACES: 1 SPACE PER 4 SEATS BASED ON REQUIREMENTS FOR THEATER
  - BUSINESS SPACES: 2 SPACES PER 1,000 SF FOR OFFICE SPACE
  -CREW AREA: 2 SPACES PER SLEEPING ROOM

PARKING STALL AND AISLE DIMENSIONAL STANDARDS (ACC 18.52.050)

- DRIVE AISLE: 24'-0"
- STANDARD PARKING SPACE: 9'-0" X 19'-0"
- COMPACT PARKING SPACE: 8'-0" X 16'-0"

SIGNAGE (ACC 18.56.040B)

1. ACC 18.56.040 B - MAXIMUM SIGN AREA OF ALL SIGNS IS 150 SQUARE FEET PER FRONTAGE
2. ONE FREESTANDING SIGN PERMITTED PER FRONTAGE, NOT TO EXCEED TWO TOTAL. MAXIMUM HEIGHT: 22 FT; MAXIMUM AREA: 100 SF PER FACE, CALCULATED AT A RATE OF 1 SF OF SIGN AREA PER EVERY 2 LINEAL FT OF FRONTAGE; SECOND FREESTANDING SIGN SHALL NOT EXCEED 50 PERCENT OF THE AREA ALLOWED FOR A SINGLE FREESTANDING SIGN AND 150 FEET IN A STRAIGHT LINE DISTANCE MUST SEPARATE MULTIPLE POLE SIGNS.
3. ONE WALL SIGN PER FRONTAGE; MAXIMUM AREA: 100 SF, CALCULATED AT A RATE OF 1 SF OF SIGN AREA PER EVERY 1.5 LINEAL FT OF FRONTAGE; SIGNS MAY BE DIRECTLY OR INDIRECTLY ILLUMINATED.
4. ONE SUSPENDED SIGN PER ENTRANCE; MAXIMUM AREA: 6 SF PER FACE; MINIMUM CLEARANCE: 8 FT FROM SIGN TO GRADE.
5. ONE PROJECTING SIGN IN LIEU OF A PERMITTED FREESTANDING SIGN; MAXIMUM HEIGHT: HEIGHT REQUIREMENT OF THE ZONING DISTRICT; MAXIMUM AREA: 50% OF THE AREA ALLOWED FOR A SINGLE FREESTANDING SIGN.

Note:
Existing site grade is approx 72'
Proposed site grade will be approx 75'

0 40' 80'

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SIDER + BYERS
MECHANICAL + ELECTRICAL ENGINEERS

VALLEY REGIONAL FIRE AUTHORITY, HEADQUARTER STATION 31

Mechanical Systems Narrative – Pre-Design -DRAFT-

April 19, 2023

General Project Description: New 33,500 square foot, headquarter fire station. This facility includes about 20,000 square foot fire station, and about 13,500 square feet of administrative space.

Fire Protection Description: NFPA 13 compliant sprinkler system with full building coverage.

Plumbing Description: New plumbing fixtures. New heat pump water heater with storage tanks. New shop air compressor with distribution piping and outlet. Air piping to SCBA fill. Natural gas (or LPG) service to kitchen range and BBQ with solenoid valves. Turn-key truck fueling by vendor.

HVAC Description: New VRF heat pump systems with dedicated outdoor air system (ERV) in the admin, living quarters and support areas of the station, as well as all administration areas. New package rooftop heat pump for the apparatus bay. New vehicle source capture exhaust system for the apparatus bay. Type I kitchen hood with makeup air.

I. Site Work/Utilities

1. Fire service to the building.
2. Water service to the building to accommodate flush-valve toilets.
3. Sewer/septic service to the building.
4. Apparatus bay drainage oil/water separator (sewer) or holding tank (septic).
5. Natural gas (LPG) service to the building for kitchen range and BBQ.

II. Fire Protection

A. General:

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1. New NFPA 13 wet sprinkler system with dry heads where required.
2. Semi-recessed heads in ceilings. Exposed heads with guard covers.
3. Schedule 40 black steel or thinwall steel pipe. Threaded or grooved end fittings.

B. Service: A 6" fire service and post FDC.

C. A dry system will be needed to cover long overhangs and cold attic spaces.

III. Plumbing

A. Piping materials will be as follows.
1. Above grade water: Type 'L' copper.
2. Below grade water: Type 'K' copper.
3. Above grade waste: Cast iron.
4. Below grade waste: PVC plastic pipe.
5. Vent: PVC/ABS.
6. Natural gas / LPG: Schedule 40 black steel.
7. Pipe insulation: Preformed fiberglass with white laminated jacket. Molded PVC covers.

B. Plumbing Fixtures will be as follows:
1. Water Closets: Floor mount, vitreous china, open front seats, water saving dual-flush (1.6/1.1 gpf) manual flush valves. ADA compliance as required.
2. Lavatories: Countertop or wall-hung units, vitreous china, manual single handle mixing faucet. ADA compliant.
3. Showers: Single piece fiberglass stalls with single lever pressure balancing valve and adjustable 1.8 gpm Water Sense spray head. ADA compliance with grab bars, fold down seat and hand wand as required.
4. Kitchen / Break Room Sinks: 18-gauge stainless steel, double bowl unit with single lever faucet, swing spout, hose spray, garbage disposal and "insta-hot".
5. Laundry Sink: 18-gauge stainless steel, deep single bowl with single lever faucet, swing spout.
6. Janitor Service Sink: 24" x 24" molded stone floor mount with wall mount mixing faucet, pail hook, edge guards, backsplash and hose.
7. Faucets: Commercial quality, polished chrome plated, cast brass.
8. Cold Water Valve: Installed at locations for refrigerator ice makers and coffee makers.
9. Pot Filler Faucet: Installed at center line above stove.

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10. Decon Sink: Heavy duty, stainless steel scullery type with drain boards and back-splash, single bowl unit with blade handle faucet, swing spout, rotary drain valve and commercial style hand spray.
11. Eyewash: Swing down style mount on decon sink with CSA certified mixing valve meeting ANSI Z358.1 providing tempered water.
12. Water Coolers: Electric, ADA double fountain hi-lo units with bottle filler.

C. Domestic Hot Water:
   1. Domestic heat pump water heater (HPWH) located outside with two (2) 119-gallon storage tanks and a 119 gallon electric water heater finishing tank located in a water room. Exterior supply and return piping with 3" insulation, heat trace and aluminum jacket run from the water room to the HPWH.
   2. There will be a recirculating hot water piping loop and pump that ensures a short wait for hot water at fixtures.
   3. Master mixing valve to supply 120 F water from 140 F storage.
   4. Point of use mixing valves at each lavatory.

D. Plumbing accessories will be provided as follows:
   1. Laundry Box: Fire rated, with hot and cold water connections and drain.
   2. Hose bibbs (interior): Located in work areas and bays.
   3. Hose reels: Located at interior hose bibb locations in the apparatus bay.
   4. Floor drains: Cast iron body, round polished nickel bronze strainer with trap primer. Located in potential wet areas (restrooms, etc.)
   5. Gear Extractor: Hot & cold water supply with RPBA protection and trench drain indirect waste.
   6. Trench drains: Extra-heavy duty, 6" width, center lengthwise in each bay.

E. Natural gas (LPG) systems and piping will be as follows:
   1. Piping to kitchen range and BBQ. Include additional range for Break Room
   2. Normally closed solenoid valves will be provided to shut off gas to the kitchen range and barbecue automatically on station call alarm, with separate wall mounted manual resets controlled by the station alerting system.

F. Compressed air system as follows:
   1. Tank mounted 175 psi reciprocating type compressor with filters for shop air.
   2. Wall outlets, with quick connect fittings, in the shop and apparatus bay and overhead air drops with reels in the apparatus bay.

G. Elevator hoistway sump pump, with controls and force-main piping

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IV. Heating, Ventilation and Air Conditioning

A. Living Quarters AND Administration: VRFZ (variable refrigerant flow zoning) multi-zone heat pump system with individual fan coils for each zone connected to central exterior condensing units via refrigerant controller/manifolds and built-in electronic digital controls. R-410A refrigerant system.

B. Support Spaces: VRFZ (variable refrigerant flow zoning) multi-zone heat pump system with individual fan coils for each zone connected to central exterior condensing units via refrigerant controller/manifolds and built-in electronic digital controls. R-410A refrigerant system.

C. DOAS/ERV: Decoupled Dedicated Outside Air (DOAS) unit to supply outside air directly to all occupied areas of the building and recover heat from exhaust air through an Energy Recovery Ventilator (ERV). The ERV unit consists of outside air intake, MERV 13 high efficiency filters, supply fan, exhaust fan and heat exchanger. Two separate ERV units, one unit serves the living, work and administration areas, and the other unit serves the support spaces.

D. Fan Coils: Horizontal ducted units consisting of filter box, refrigerant coil and fan. Ductless wall, ceiling or floor units consisting of filters, refrigerant coil and fan.

E. Zones: Each zone will be ventilated by the ERV and served by a fan coil with a wall mounted temperature control located in the space served. Each Sleep Room will be a separate zone as will the Kitchen, Exercise, Lobby, Conference Rm and Offices, and six (6) support areas for a total of twenty (20) zones. Anticipate an additional twenty (20) zones for administration.

F. Exhaust: Provide in Restrooms, Laundry, Janitor and Exercise. Ducting to ERV for continuous operation in conjunction with outside air supply for ventilation and building pressure.

G. HVAC Control Interlock: Magnet door switches on all roll-up doors to local HVAC zone equipment, with 5-minute countdown timer, to interrupt heat and cooling when door is open.

H. Controls:
   1. VRFZ zone sensor controls with LCD display and space temperature adjustment.
   2. VRFZ central controller with touch screen interface for system operation and remote web interface.
   3. ERV remote interface with LCD display.

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4. Other equipment with standalone electronic controls.
5. Provide controls internet connectivity for remote access by District.

I. Apparatus Bays
1. Package rooftop heat pump with backup electric heat, spiral ductwork with drum louvers.
2. Ventilation: General exhaust at 1.5 CFM/ft^2 controlled manually with a wall timer or automatically activated with CO/NO2 sensors. Alarm bell warning for high CO/NO2 levels. Wall louvers with motorized dampers for intake when exhaust fan is operating.
3. Vehicle Exhaust: Plymovent source capture exhaust system on rails with nozzle attached to the apparatus.
4. HVLS ceiling fans.
5. 1-1/2” threaded pipe domestic water outlet for vehicle filling.

J. PPE Storage Room (Bunker Gear)
1. 2-speed ventilation (via ERV) with drying mode.
2. Drying cabinet by Owner used in space.
3. Heat maintains room temperature and provides passive gear drying.
4. Exhaust fan operates continuously.

K. Kitchen
1. Type I hood above range with roof mounted exhaust fan. Type 1 system include Ansul fire suppression in hood.
2. Hood makeup air with inline fan, filters and electric heat tempering.
3. Pot filler over range.
4. Exterior BBQ gas outlet.

L. Break Room Kitchen
1. Type I hood above range with roof mounted exhaust fan. Type 1 system include Ansul fire suppression in hood.
2. Hood makeup air with inline fan, filters and electric heat tempering.
3. Pot filler over range.

M. SCBA Compressor Room
1. Cooling ventilation with roof exhaust fan and intake air louver. Hard-piped breathable air intake.

N. Truck Fueling
1. Turn-key system, by vendor. District request 1,000 gallons of diesel.

Jon Shafer, P.E.

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Valley Regional Fire Authority
Fire Station #31 & HQ Admin
Electrical Narrative
Phase 1: Pre-Funding
3/22/23

Power Systems

Electrical Service

Service will be 480Y/277V, 3 phase, 4 wire sized at 2000 amps. The service will terminate in a service rated switchboard. It will originate from PSE infrastructure with primary power delivered underground to a PSE pad mount transformer located on the fire station site. Secondary service will be delivered underground to the Main Switchboard in the electrical room. Meter base will be located on the exterior of the building.

Main Switchboard will consist of a main circuit breaker and molded case group mounted circuit breakers.

480V service is selected based on anticipated electrical needs for mechanical heat pumps. Additionally, 480V power will likely be required should electrical apparatus be used in the future.

Power Distribution & Metering

Panelboards with bolt in breakers will be provided.

Panelboards will have door in door style hinged doors.

Surge protectors to be provided for all panelboards.

Distribution panel will feed a series of lighting, mechanical, and plug loads/miscellaneous panels. Metering will be provided through digital power meters in the distribution panels and will be in compliance with Washington State Energy Code. Metering will allow individual types of loads to be captured in separate categories. Vehicle charging stations and the energy produced by PV system will be separately metered as well.

Twelve total branch panelboards are anticipated.

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Branch Circuitry

Branch circuitry will be provided as required for convenience receptacles, equipment, mechanical units and kitchen appliances.

Branch circuitry will be conduit (typically EMT) and wire. EMT will be required for homeruns. MC cable will be allowed for branches from homeruns.

Receptacles not serving equipment required to be on continuously will be controlled per requirements of Washington State Energy Code. Controlled receptacles will be controlled by occupancy sensors which shut the receptacles off when a room is unoccupied.

Shore power will be provided in apparatus bay for rigs. Shore power will consist of cord drops from ceiling with 20 amp or 30 amp outlets.

Controls for apparatus bay doors to be located on driver side of rigs. A central location with controls for all bay doors will also be provided.

Emergency Power System

Service

A 500KW diesel generator with integral base fuel tank will be provided to backup the entire building for a minimum of 72 hours at full load without refueling. The generator will be connected to the diesel fueling tank on the site.

Elevator and EV charging stations (for cars) will not be on the generator. EV charging stations for apparatus will be on the generator but, at this time, no electric apparatus are anticipated.

Generator will be located in a sound attenuated, weatherproof enclosure.

System will have one automatic transfer switch. Emergency egress lighting will be handled with battery units, battery backup integral to light fixtures, or inverters to avoid a code requirement for a second transfer switch.

Kohler, Caterpillar and Onan are potential manufacturers of the generator system with Kohler being the Owner's preference given several existing facilities have Kohler generators.

Lighting

Equipment

Energy efficient LED lighting will be provided. Fixture types to be selected per ceiling conditions, room types and architectural considerations. Lamping will be LED.

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Digital switches will be provided for manual switching in all areas. Automatic control of lighting fixtures will be provided per requirements of Washington State Energy Code. Vacancy or occupancy sensors will be provided in most spaces. Spaces without occupancy sensors will be automatically controlled per a schedule maintained in the lighting control system. Exception is bunk rooms which will have manual switching but no automatic controls.

Photosensors will be provided for automatic dimming of fixtures in daylight zones. Automatic dimming will be configured for fixtures to turn completely off when daylight levels are sufficient.

Lighting controls will be interfaced to Alerting System. Alerting System will signal lighting controls to turn fixtures on in selected areas during an alarm condition. Fixtures will initially turn on at a low level and then ramp up to full brightness.

Lighting control system will be a networked distributed system. Room controllers will be provided in each room and the automatic (occupancy sensors, photosensors) and manual (digital switches) controls will connect to the room controller which in turn determines status of light fixtures. Small rooms will be equipped with digital switches with integral occupancy sensors. These rooms will not require room controllers.

Emergency egress lighting to be provided using battery backup integral to LED fixtures or emergency lighting units ("bugeyes"). Fixtures with battery backup and emergency lighting units to be located as required to achieve code lighting levels for emergency egress lighting. Inverters will be used for fixtures where integral battery backup is not an option.

LED exit signs with battery backup to be located as required by code.

Exterior lighting will generally be located on building walls or under soffits. Pole lights will be used for parking areas. All exterior fixtures will have sharp cutoff optics to reduce light pollution. Exterior fixtures will be controlled by an astronomic timeclock to be on during prescribed hours between dusk and dawn. Selected exterior fixtures will be controlled by occupancy sensors as well. These fixtures will be on at reduced output normally and then increase to full output upon detection of occupancy. All pole fixtures will have integral occupancy sensors.

Communications Systems Analysis

Telephone/Data/TV

Fiber optic, telephone and TV services will be delivered to the building underground. (3)4" conduits will be provided from locations coordinated with franchise utilities. Cabling for services will be by applicable utilities.

Services will be routed to the main communications room in the building.

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A complete raceway system for data, voice and TV cabling will be provided in project. Raceways will be 1" EMT minimum. Cables will be routed in raceways where in walls or above non-accessible ceilings. Open cabling allowed above accessible ceilings.

Data/voice cables and outlets will be Cat 6. Cables will homerun to rack mounted patch panels in comm room. Outlets will be located as required by program. Typical comm outlet at each workstation or other location will be a 2-port outlet. Outlets will be provided at selected locations for wireless access points.

TV cables will be RG6 coax with F-style connectors. Cable will homerun to wall mounted TV headend in comm room.

Fire Alarm System

Equipment

System will meet code requirements. RF based wireless monitoring will be utilized. If necessary, an antenna for the RF signal will be installed.

Smoke alarms and CO detectors will be provided for bunk rooms and outside of bunk rooms.

Addressable fire alarm system will be provided. Smoke detection to be provided for egress pathways and elevator recall. Horn/strobes and strobes to be provided throughout building for code required audibility and visibility levels.

LCD annunciator to be located at main entry.

Other Systems

Alerting

Station alerting system will be provided. It will be based on the Fast Alerting Systems Technology (FAST) platform and the installer will be Jaymarc AV. System will receive dispatch communications from local 911 dispatch system. Upon an alarm condition for station, alerting system will take the following actions:

Sound alarm via paging speakers

Distribute alarm message via paging speakers

Signal lighting controls to bring lights on in selected rooms. Lights in bunk rooms will be ramped up slowly to a prescribed output level upon receiving alerting signal.

Activate visual indicator wall lights

Traffic pre-emption as applicable

Shut down gas and electric appliances

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Alerting system will include dynamic check-in capability. Firefighters will be able to check-in daily in the alerting system to a particular bunk room. The system will then dynamically configure notifications to only alert the bunk rooms occupied by firefighters involved in the particular type of alarm. Only the applicable bunk rooms will be notified with each alarm.

Alerting system headend equipment will be rack mounted in the comm room.

Paging system speakers will be located to deliver alarms and messages throughout the building. The paging system can also be used for general announcements, messages and communications.

Doorbell system will be connected to Alerting system so that tones can be distributed throughout building over paging speakers.

Doorbell

A doorbell system will be provided with a doorbell at the main entry and possibly at other entries.

Doorbell will be tied into the paging system for distribution of tone throughout the facility.

Access Control System

Access control system will be provided with card readers at all exterior man doors. Each door will include an electric strike, door switch (for monitoring door position), card reader, and request to exit (REX) device.

CCTV System

CCTV system will be provided with cameras to view all entries. Cameras will be IP based with a Cat 6 cable run to each camera location.

Audio Visual System

AV cabling and connectors will be provided in selected rooms coordinated with monitors and projectors to be used.

PV System

Photovoltaic panels will be located on roof. Size of system to be based on code requirements and any applicable sustainable design certifications. A larger system may be considered depending on available roof space and budget.

Inverters will be located on roof or in main electrical room.

Battery storage for PV system is under consideration but not considered likely at this time. Battery storage options will be evaluated when project reaches design phase.

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Electric Vehicle Charging Stations

Level 2 charging stations will be provided in parking lot. Quantity to be determined. Minimum number to be per code requirements. Infrastructure to be provided for additional charging stations per code requirements and owner preferences.

Charging stations for electrical apparatus are not required but potentially could be in the future. Incremental cost items that will provide infrastructure for electrical apparatus charging stations will be included. These include vault sizing with spare capacity, room sizing with spare area, and additional conduits. Electrical service and generator will not be upsized significantly, however, due to uncertainty on if/when electrical apparatus will be used.

Antennas

Antennas for fire department communications will be located on the roof. Conduits will be provided from rooftop antenna locations to station office and comm room as required to support cabling needs at antennas.

Travis Fitzmaurice Wartelle Balangue Engineers Inc.
1200 Westlake Ave N, Ste 509 Seattle WA 98109
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LOGISTICS & MAINTENANCE

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Architectural Concept Narrative

Project Description

The VRFA Logistics & Maintenance Facility is planned as a 15,324 square-foot building. VRFA has not acquired property for the facility, and it is assumed it will be located in the City of Auburn. A 1.8 acre site is assumed for this study. Depending on site conditions and planning department requirements, an approximate minimum property size 1.5 acres should be considered for a single-story facility with surface parking.

The facility serves Logistics and Maintenance Garage needs. These are distinct programs and could be separated and developed on 2 sites, i.e., the Maintenance Garage and support spaces could be located on a parcel and the Logistics Warehouse and support spaces could be on another piece of property. This study assumes the programs will be collocated. The facility will accommodate an initial logistics staff of 5 fire department staff which is anticipated to grow to 7 over 5 to 15 years. The Maintenance Garage staff is expected to remain constant at 2 mechanics.

Project Understandings and Considerations:

- The study assumes a hypothetical site.
- The building is not considered an essential facility.
- Cost estimating is based on a pre-engineered metal building.
- Estimating excludes environmental remediation measures and soil improvements. A site contingency is included to mitigate risks from unforeseen conditions.
- The study assumes the site will be free of wetlands and wetland mitigation costs are excluded.
- The site is assumed to be generally flat.

Code Data and Analysis

1. Local AHJ: City of Auburn.

2. Building Codes: 2021 IBC and I-Codes, UPC as amended by state and local government, WAC 296-305, 2010 ADA Standards, 2017 ANSI-ICC A117.1.
    a. Occupancies:
        i. B, S-1, S-2.
    b. Type of Construction: V-B, Sprinklered.
    c. Allowable Area: 36,000 SF (using B or S-1 as most restrictive, excludes available frontage increases).
    d. Allowable Stories/Height: Allowable Area is based on a single-story building. Additional stories and height are allowed by IBC Chapter 5 and Zoning.
3. Energy Code: 2021 Washington State Energy Code
    a. Climate Zone: 4C.

Anticipated Bid Date: TBD
Construction Schedule: 365 days (12 months) from NTP till Substantial Completion.

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Concept Design Elements:

1. Frontage
    a. Improvements assumed -see Concept Plan, AHBL Markups and Memo.

2. Site
    a. See Concept Plan, AHBL Markups and Memo.
    b. 8” thick reinforced concrete paving at Maintenance Bay.
    c. 6’ high 8” BMU enclosure at trash and recycling.
    d. New pad-mounted backup generator next to fuel island.
    e. Fueling station with unleaded and diesel fuel (see mechanical narrative). Diesel tank plumbed to a backup generator.
    f. EV charging stations.
    g. Landscaping.
    h. Flagpole with external halyard beacon lighting.
    i. Trash and Recycling enclosure with gates.
    j. 6’ high PVC coated chain-link security fencing at the site perimeter -assume 2 person-gates.
    k. 2 cantilevered vehicle gates with operators. South with electronic access and free exit. North with free exit only.
    l. Security camera system.

3. Building Structural
    a. Pre-engineered metal building.
    b. Steel stud framing (partitions).
    c. Slab on grade.
        i. 8” reinforced concrete at Maintenance Bay
        ii. 6” reinforced concrete at Logistics Warehouse.
        iii. 4” reinforced concrete at other locations.
    d. Conventional footings.

4. Building Envelope
    a. Exterior Walls: Pacific Insulation Products R-Seal 4” R-30.
        i. Metal Siding, exposed fastener, 2 profiles, 2 colors.
    b. Roof: Pacific Insulation Products R-Seal 5” R-38.
        i. Metal Roofing.
    c. Roof accessories:
        i. Access hatch.
        ii. Fall protection.
        iii. Skylights.
    d. Windows: Fiberglass (Cascadia or similar).
    e. Doors & Frames: Storefront (fiberglass); Insulated Hollow Metal, OH Sectional Alum. Half glazed at Fitness Room.
    f. Bay Doors: 14’ x 14’ overhead sectional door high-lift, side-mounted operator.
    g. Access Control: proximity and keypad at exterior doors, IT, secured storage, and gates.

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5. Patio (off Kitchen)
    a. Covered BBQ area.
    b. Concrete paving.
    c. Landscaping.

6. Building Interior
    a. Floors: Sealed Concrete in Bays and Warehouse, Polished Concrete, Athletic Flooring (Fitness Room).
    b. Base: Rubber.
    c. Walls:
        i. Light Orange Peel Texture GWB.
    d. Wainscot: 5’ Resilient Sheet Panel (Restrooms).
    e. Wainscot: 8’ Plywood with high-performance Paint finish (hat channels at 16” o.c. at girts at exterior walls).
    f. Ceilings
        i. Exposed Structure (Warehouse, Vehicle Bay, Maintenance Bay, Fitness, Kitchen, Dayroom, Elec. and Mech. Rms).
        ii. GWB (Restrooms, Storage).
        iii. 2x4 Suspended Acoustical Panel.
    g. Doors: Hollow Metal.
    h. Casework:
        i. Counters: Solid Surface.
        ii. Cabinets: P-lam with 3mm Edge Banding.

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PROJECT MEMO

TO:	Forest T Hooker, AIA LEED AP BD+C TCA Architecture & Planning, Inc 6211 Roosevelt Way NE Seattle, WA 98115	**DATE:**	May 8, 2023
FROM:	Brian Schend Tacoma - (253) 383-2422	**PROJECT NO.:**	2220601.10
		PROJECT NAME:	Valley Regional Fire Authority Capital Facilities Phase 1
SUBJECT:	Logistics and Maintenance site		

AHBL has been hired to review the feasibility and cost of several potential sites for new and expanded Valley Regional Fire Authority (VRFA) facilities. This feasibility study includes preliminary layout, estimating, and review of the requirements of the local city government.

VRFA is evaluating a potential logistics and maintenance facility. The location of this site has not yet been determined, but we expect that it will be located in the City of Auburn. AHBL based the following analysis on a proposed site plan dated May 4, 2023 provided by TCA Architecture & Planning Inc.

Existing Conditions and Demolition

As a location has not yet been decided for this facility, the existing conditions of the eventual chosen site are unknown. We understand the project will be located within the City of Auburn. The site plan from TCA assumes a rectangular lot with a dimension of 367 feet in the east/west direction and 211 feet in the north/south direction. The site plan assumes a public street on the west side of the site, with private properties on all other sides.

We expect that this facility would be constructed in a commercial or light industrial area of the city and most likely in the Auburn Valley, as opposed to the surrounding hills. Based on the dimensions provided on the site plan, the site area would be 1.8 acres.

As a site has not yet been decided, we have no soil records to review. As a result, we will assume that this site has poor soils. This assumes that the soils are dense glacial till with shallow groundwater that do not allow for infiltration, a condition that exists in several locations in the City of Auburn.

Before construction, the contractor shall mark the clearing limits and provide inlet protection in all catch basins on and around the site. Any existing buildings, utilities, and paving on the chosen site would be demolished. We expect that some pavement and utility demolition would be required in the right-of-way to improve the public street on the west side of the site.

Erosion and Sediment Controls

The site is roughly 1.8 acres which is over the 1 acre threshold triggering an NPDES Construction Stormwater Permit through Department of Ecology. The engineer or owner will acquire a Notice of Intent (NOI) and transfer this permit to the winning bidder. A Stormwater Pollution Prevention Plan (SWPPP) will be required and will meet the requirements of WSDOE Stormwater Management Manual for Western Washington (SWMMWW), 2019 Edition. The contractor will have a Certified Stormwater Erosion Control Lead (CSECL). Stormwater monitoring for pH and Turbidity will be provided by the Contractors CSECL as well as maintaining the SWPPP and providing reports and record keeping.

Erosion and sediment control measures will include the following best management practices (BMPs): silt fencing, straw wattle, erosion and sediment control ponds, catch basin inlet protection, plastic covering, construction entrance, watering trucks, interceptor swales, and check dams. Additional BMPs may be used as necessary based on site conditions at the time. Disturbed soils shall be temporarily covered with plastic sheeting or straw mulch. For final stabilization, exposed soils not receiving surfacing shall be hydroseeded, turfed or landscaped.

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Grading

Based on the above assumption that the site would be located in a commercial or light industrial area of the valley, we are assuming that the project site is flat.

Grading work will include the removal of topsoil and unsuitable soil, and its replacement with fill materials that are adequate for supporting pavement and structures. The site will be graded to slope away from the proposed buildings into a series of catch basins in the parking lots. Due to the flat slope and the assumed shallow storm drainage system, we expect that we will need to raise the grade of the site by approximately 3 feet. This will require 8,700 CY of fill. This will also require approximately 115 LF of retaining walls where the edge of the site is adjacent to property lines. These walls will be less than four feet high.

Water and Fire Sprinkler

For this analysis, we are assuming that there is an existing 6” or 8” water main in the street west of the site. As the City of Auburn requires 12” mains for commercial properties, we are assuming that we will need to replace the water main in the street. We also expect that we will be required to construct a water main loop through the property.

We expect that the proposed building would include a fire sprinkler system. This would require a total of three water service lines for the building. A domestic service would provide water to sinks, toilets, and other fixtures, and would require a domestic meter. A fire service would provide water to the sprinkler system, and would require double-detector type backflow preventer and a post indicator valve. The fire department connection line would connect the sprinkler system to a fire department connection. We expect that all services would connect to the new water main loop on-site. The site would also require an irrigation meter, that would also connect to the water main loop.

The City of Auburn requires all points on the building to be within 150’ of a fire hydrant. 3 new hydrants will be required for full hydrant coverage.

Sanitary Sewer Service

For the purpose of this analysis, we are assuming that there is an existing sewer main of adequate depth in the public road on the west side of the site.

The proposed site plan from TCA indicates that the new building will contain bathrooms, laundry, showers, kitchens, and a garage with vehicle maintenance facilities. There will also be an outdoor fueling facility. The bathrooms, laundry, and showers, will connect to a service line and then to an existing sewer in the road to the west of the site. We expect that the kitchen waste will be required to outfall to a grease interceptor before discharging to the public sewer. We also expect that the garage, vehicle maintenance area, and fueling area, will need to lead to an oil water separator before discharging to public sewer.

Due to the long distance between the sewer service locations and the likely location of public sewer mains, we are assuming that much of the sewer serving the site will need to be 8” with manholes, which allows the sewer to have a flatter slope.

Stormwater Management

Stormwater management will conform to the 2019 Stormwater Management Manual for Western Washington by the Washington State Department of Ecology (DOE). The project needs to meet all ten minimum requirements described in the Manual. We have assumed that the soils will not permit infiltration and that the site has shallow groundwater.

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The proposed site plan will include 0.9 acres of new pavement, 0.4 acres of roof area, and 0.5 acres of landscaping. Based on these areas, we anticipate a detention system with a capacity of 32,700 CF. We expect the detention system will be a detention tank system, using 2600 LF of 48" pipe, located under the parking area. Since a project site is not yet determined, we are assuming that the downstream drainage system is shallow, and as a result, we expect that the grade for the building and parking areas will need to be higher than existing, in order to provide positive slope and maintain adequate cover over the detention pipe.

For water quality treatment, we expect to use a manufactured device. Available devices include Biopod and Modular Wetlands. Filterra devices are not feasible as the required 2.5' drop is not possible on this site. Two devices will be installed on the site, upstream of the detention system. We expect that an additional treatment device will be required for the off-site improvements.

The paved areas will have a series of catch basins to collect drainage. Catch basins will typically be type 1 catch basins with herringbone grates. 12" CPEP pipe will be used on the site while 12" PVC is required in the public right-of-way. The proposed building will require underground pipes to connect the roof runoff to the detention system. Roof drain piping will be 6" PVC piping and approximately 400 LF will be required. Footing drains will be approximately 550 LF of 6" perforated PVC and will discharge to the detention system.

Surfacing

The project will use asphalt paving for the parking. The project will use concrete paving for walkways. The fueling and trash collection areas will also use concrete paving. On the surrounding roads, we expect asphalt for the roadway and concrete for the sidewalks.

We expect two different asphalt sections. A heavy-duty section will be used for off-site roadway, as this road needs to regularly accommodate large trucks. The parking area will use a light-duty asphalt section, as these areas will mostly see passenger vehicle traffic. The east portion of the parking area, including the fueling area, will use a heavy-duty reinforced concrete section, while all other concrete will be light-duty. The exact paving sections will be determined by the geotechnical engineer in consultation with the traffic engineer.

Off-site Improvements

As a project site has not yet been determine, the state of the off-site road is unknown. For the purpose of this analysis, we will assume that the road is 20-feet wide with no curbs, sidewalks, or shoulders. We will assume that the road is a minor arterial.

Figure 10-02 of the city's Design Manual shows a minor arterial street section with 61' of driving width, a curb and gutter, and a 10-foot sidewalk. As a result, we expect that we would need to widen the road's pavement section by 20 feet, and then construct a curb and gutter and 10-foot sidewalks. Since the site plan concept is not near an intersection, we will assume that no curb ramps will be required.

The street improvements will require a new storm drainage conveyance system and treatment device. We expect that the runoff would be directed into the on-site detention system.

bjs/

c: Bill Fierst, AHBL
[Name - Company]

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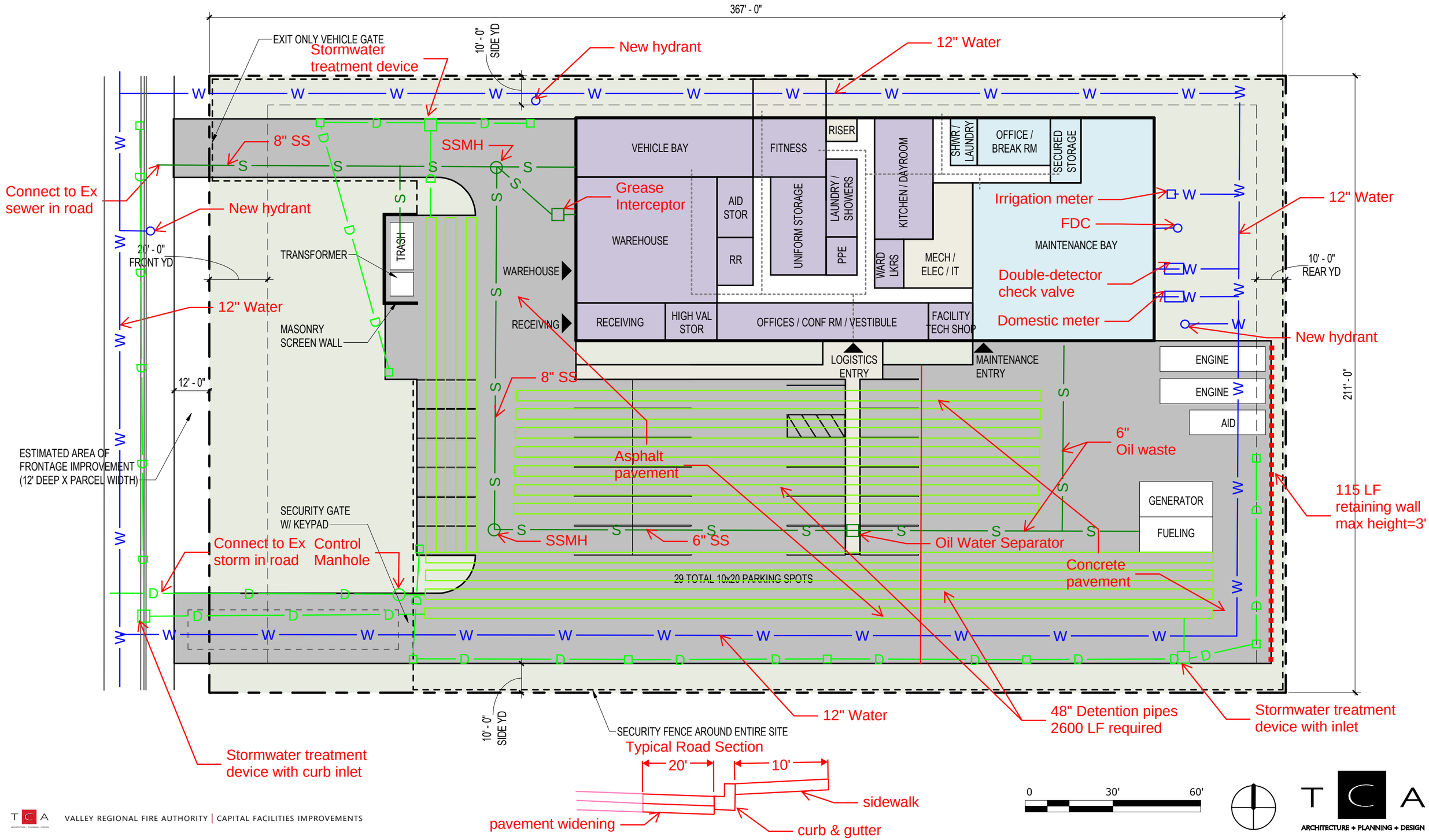
VALLEY REGIONAL FIRE AUTHORITY

LOGISTICS/MAINTENANCE



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VALLEY REGIONAL FIRE AUTHORITY, LOGISTICS / MAINTENANCE FACILITY

Mechanical Systems Narrative – Pre-Design – DRAFT-

May 5, 2023

General Project Description: New, 13,500 square-foot, stand-alone vehicle maintenance and logistics building. The maintenance areas include maintenance bays, storage room, office, shower and break rooms. The logistics area of the building includes a bay for truck storage, central stores areas, offices, fitness, kitchen, dayroom, shower rooms, and laundry.

I. Site Work/Utilities

A. We assume that the site utility water pressure is sufficient for standard plumbing and fire protection requirements.
B. We assume that a new 6” fire service will be provided.
C. We assume that a new 3” domestic water service will be provided.
D. We assume that building waste will discharge by gravity to a new sanitary sewer service.
E. We assume a new oil/water separator will be provided for waste discharge lines from the bay areas.
F. We assume that roof drainage will be by exterior downspouts.
G. We assume that this will be a mostly-electric building, as fossil fuel usage for space heating and domestic hot water are being banned by the 2021 WA ST Energy Code. There will be natural gas (LPG) for the kitchen range and BBQ.
H. Power: We assume that 208 or 480 volt, three phase power will be available.

II. Fire Protection

A. General:
   1. New NFPA 13 wet sprinkler system with dry heads where required.
   2. Semi-recessed heads in ceilings. Exposed heads with guard covers.
   3. Schedule 40 black steel or thinwall steel pipe. Threaded or grooved end fittings.

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B. Service: A 6” fire service and post FDC.

C. A dry system is not anticipated but would be required for long overhangs or cold attic spaces.

III. Plumbing

A. Piping materials will be as follows.
1. Above grade water: Type ‘L’ copper.
2. Below grade water: Type ‘K’ copper.
3. Above grade waste: Cast iron.
4. Below grade waste: PVC plastic pipe.
5. Vent: PVC/ABS.
6. Above grade storm: N/A
7. Below grade storm: N/A
8. Natural gas / LPG: Schedule 40 black steel.
9. Compressed air: Schedule 40 black steel.
10. Pipe insulation: Preformed fiberglass with white laminated jacket. Molded PVC covers.

B. Plumbing Fixtures will be as follows:
1. Water Closets: Wall mount, vitreous china, open front seats, water saving dual-flush (1.6/1.1 gpf) manual flush valves. ADA compliance as required.
2. Lavatories: Countertop or wall-hung units, vitreous china, manual single handle mixing faucet. ADA compliant.
3. Showers: Single piece fiberglass stalls with single lever pressure balancing valve and adjustable water saving 1.8 gpm spray head. ADA compliance with grab bars, fold down seat and hand wand as required.
4. Kitchen Sinks: 18 gauge stainless steel, double bowl unit with single lever faucet, swing spout, hose spray, garbage disposal and “insta-hot”.
5. Janitor Service Sink: 24” x 24” molded stone floor mount with wall mount mixing faucet, pail hook, edge guards, backsplash and hose.
6. Eyewash: Wall mount with CSA certified mixing valve meeting ANSI Z358.1 providing tempered water.
7. Emergency Shower / Eyewash: Combination shower and eye/face wash, corrosion resistant coating with thermostatic mixing valve.
8. Cold Water Valve: Installed at locations for refrigerator ice makers and coffee makers.
9. Faucets: Commercial quality, polished chrome plated and cast brass.
10. Bottle Filler: Electric, standalone in Fitness.

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1. Domestic Hot Water: Two electric water heaters, 100 gallon storage each, with 24kW max allowed capacity for building. (2021 WA ST Energy Code max). Recirculating hot water loop and pump that ensures a short wait for hot water at fixtures. Master mixing valve to supply 120 F water from 140 F storage. Point of use mixing valves at each lavatory.

C. Plumbing accessories will be provided as follows:
   1. RPBA (back-flow prevention) on new incoming domestic water line.
   2. Hose bibbs (interior): Located in work areas and maintenance bay, include six.
   3. Hose reels: Located at interior hose bibb locations in the maintenance bays, six.
   4. Freeze-proof hose bibbs: Spaced along the exterior of the building with wheel handles.
   5. Floor drains: Cast iron body, round polished nickel bronze strainer with trap primer. Located in potential wet areas (restrooms, etc.)
   6. Trench drains: Located at the maintenance bay entrances, at each roll-up door. Maintenance bay drains will run through an oil/water separator before discharging to the sanitary sewer.

D. Natural gas (LPG) systems and piping will be as follows:
   1. Piping to kitchen range and BBQ.
   2. Normally closed solenoid valves will be provided to shut off gas to the kitchen range and barbecue automatically on station call alarm, with separate wall mounted manual resets controlled by the station alerting system.

E. Compressed air system as follows.
   1. Permanently mounted tank. 175psi, 10HP reciprocating type compressors with filters and dryer. Compressed air service piping throughout. Provide service to: Six outlets, Six reels and Four fluid pump connections. Wall outlets with quick connect fittings in the shop and maintenance bay perimeters. Overhead air drops to the lube reels.

F. Lube system as follows.
   1. Lube piping, reels and system components to be provided by owner's selected vendor.

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IV. Heating, Ventilation and Air Conditioning

A. Maintenance and Truck Storage Bays
   1. Heating only: Minimum space temperature of 55 F. Natural gas for IR tube heaters or unit heaters will not be an option (2021 Code), maintenance and storage bays will be heated by one of the following options:
      1. Baseline Heating: Package rooftop heat pump with backup electric heat, spiral ductwork with drum louvers.
      2. Add Alternate (In addition to baseline): In-floor heat. Hot water, in-floor tubing, fed by heat-pump/reverse-cycle chiller with pumps, buffer tank, manifolds, circulation and controls.
   2. Ventilation: General exhaust at 1.5 CFM/ft^2 controlled manually with a wall timer or automatically activated with CO/NO2 sensors. Alarm bell warning for high CO/NO2 levels. Wall louvers with motorized dampers for intake when exhaust fan is operating.
   3. Vehicle Exhaust: Fixed position source capture exhaust systems, by Plymovent.
   4. Destratification ceiling fans, Air Pear style.
   5. HVAC Control Interlock: Magnet door switches on all exterior roll-up doors interlocked to local HVAC zone equipment, with 5-minute countdown timer, to interrupt heat and cooling when door is open.

B. Maintenance Shop and Storage Areas:
   1. Lube Storage: Room is assumed to be H-occupancy, with separate exhaust system.
   2. Mechanical Room: Room to contain shop air compressor. Ventilation air for heat removal by roof exhaust fan and roof air intake penthouse.
   3. Electrical will address the NEC 511 Repair Garage requirements, and a 4-air change system is not required. To be coordinated with Electrical.

C. Logistics Offices / Common Areas, and Maintenance Office Area:
   1. VRFZ (variable refrigerant flow zoning) multi-zone heat pump system with individual fan coils for each zone connected to central exterior condensing units via refrigerant controller/manifolds and built-in electronic digital controls. R-410A refrigerant system.
   2. DOAS/ERV: Decoupled Dedicated Outside Air (DOAS) unit to supply outside air directly to all occupied areas being served and recover heat from exhaust air through an Energy Recovery Ventilator (ERV). The ERV unit consists of outside air intake, MERV 13 high efficiency filters, supply fan, exhaust fan and heat exchanger. We expect two separate ERV units, one unit serves the Logistics-side common areas and office, and the other unit serves the maintenance office areas. All spaces adjacent to

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maintenance/storage bays shall be positively pressurized relative to the bays.

3. Fan Coils: Horizontal ducted units consisting of filter box, refrigerant coil and fan. Ductless wall, ceiling or floor units consisting of filters, refrigerant coil and fan.
4. Zones: Each zone will be ventilated by the ERV and served by a fan coil with a wall mounted temperature control located in the space served. On the Logistics side, the Kitchen, Dayroom, Fitness, Offices, Conference Room, and IT will each have its own zone. On the Maintenance side, Break Room and each office will each have its own zone. We estimate a total of 12 zones.
5. Exhaust: Provide in Restrooms and Fitness. Ducting to ERV for continuous operation in conjunction with outside air supply for ventilation and building pressure.
6. Fitness: HVLS ceiling fan.
7. Kitchen
   a. Type I hood above range with roof mounted exhaust fan. Type 1 system include Ansul fire suppression in hood.
   b. Hood makeup air with inline fan, filters and electric heat tempering.
   c. Pot filler over range.
   d. Exterior BBQ gas outlet.

D. Central Stores Areas and Back-of-House Areas:
   1. Heating/Ventilation: Package rooftop heat pump with backup electric heat, outside air for ventilation, spiral ductwork with drum louvers or ceiling diffusers for areas with ceilings. We anticipate one zone.

E. Controls:
   1. Central DDC Controls for entire building, as required by the 2021 WA ST Energy code.
   2. VRFZ zone sensor controls with LCD display and space temperature adjustment.
   3. VRFZ central controller with touch screen interface for system operation and remote web interface.
   4. ERV manufacturer’s digital controls.
   5. Other equipment with standalone electronic controls.
   6. Provide controls internet connectivity for remote access by District.

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F. Truck Fueling
   1. Turn-key system, by vendor. District requests 1,000 gallons of both gasoline and diesel.

Jon Shafer, P.E.

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Valley Regional Fire Authority
Logistics & Garage
Electrical Narrative
Phase 1: Pre-Funding
3/22/23

Power Systems

Electrical Service

Service will be 480Y/277V, 3 phase, 4 wire sized at 1000 amps. The service will terminate in a service rated distribution panel. It will originate from PSE infrastructure with primary power delivered underground to a PSE pad mount transformer located on the fire station site. Secondary service will be delivered underground to the building via a CT cabinet located on the exterior and from there to the Main Distribution Panel in the electrical room. Meter base will be located adjacent to the CT cabinet.

Main Distribution Panel will consist of a main circuit breaker and molded case group mounted circuit breakers.

480V service is selected based on anticipated electrical needs for mechanical heat pumps. Additionally, 480V power will likely be required should electrical apparatus be used in the future.

Power Distribution

Panelboards with bolt in breakers will be provided.

Panelboards will have door in door style hinged doors.

Surge protectors to be provided for all panelboards.

Eight total branch panelboards are anticipated.

Branch Circuitry

Branch circuitry will be provided as required for convenience receptacles, equipment, mechanical units and kitchen appliances.

Branch circuitry will be conduit (typically EMT) and wire. EMT will be required for homeruns. MC cable will be allowed for branches from homeruns.

Receptacles not serving equipment required to be on continuously will be controlled per requirements of Washington State Energy Code. Controlled receptacles will be

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controlled by occupancy sensors which shut the receptacles off when a room is unoccupied.

Shore power will be provided in apparatus bay for rigs. Shore power will consist of cord drops from ceiling with 20 amp or 30 amp outlets.

Controls for apparatus bay doors to be located on driver side of rigs. A central location with controls for all bay doors will also be provided.

Emergency Power System

Service

A 350KW diesel generator with integral base fuel tank will be provided to backup the entire building for a minimum of 72 hours at full load without refueling. The generator will be connected to the diesel fueling tank on the site.

Elevator and EV charging stations (for cars) will not be on the generator. EV charging stations for apparatus will be on the generator but, at this time, no electric apparatus are anticipated.

Generator will be located in a sound attenuated, weatherproof enclosure.

System will have one automatic transfer switch. Emergency egress lighting will be handled with battery units, battery backup integral to light fixtures, or inverters to avoid a code requirement for a second transfer switch.

Kohler, Caterpillar and Onan are potential manufacturers of the generator system with Kohler being the Owner's preference given several existing facilities have Kohler generators.

Lighting

Equipment

Energy efficient LED lighting will be provided. Fixture types to be selected per ceiling conditions, room types and architectural considerations. Lamping will be LED.

Digital switches will be provided for manual switching in all areas. Automatic control of lighting fixtures will be provided per requirements of Washington State Energy Code. Vacancy or occupancy sensors will be provided in most spaces. Spaces without occupancy sensors will be automatically controlled per a schedule maintained in the lighting control system. Exception is bunk rooms which will have manual switching but no automatic controls.

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Photosensors will be provided for automatic dimming of fixtures in daylight zones. Automatic dimming will be configured for fixtures to turn completely off when daylight levels are sufficient.

Lighting controls will be interfaced to Alerting System. Alerting System will signal lighting controls to turn fixtures on in selected areas during an alarm condition. Fixtures will initially turn on at a low level and then ramp up to full brightness.

Lighting control system will be a networked distributed system. Room controllers will be provided in each room and the automatic (occupancy sensors, photosensors) and manual (digital switches) controls will connect to the room controller which in turn determines status of light fixtures. Small rooms will be equipped with digital switches with integral occupancy sensors. These rooms will not require room controllers.

Emergency egress lighting to be provided using battery backup integral to LED fixtures or emergency lighting units ("bugeyes"). Fixtures with battery backup and emergency lighting units to be located as required to achieve code lighting levels for emergency egress lighting. Inverters will be used for fixtures where integral battery backup is not an option.

LED exit signs with battery backup to be located as required by code.

Exterior lighting will generally be located on building walls or under soffits. Pole lights will be used for parking areas. All exterior fixtures will have sharp cutoff optics to reduce light pollution. Exterior fixtures will be controlled by an astronomic timeclock to be on during prescribed hours between dusk and dawn. Selected exterior fixtures will be controlled by occupancy sensors as well. These fixtures will be on at reduced output normally and then increase to full output upon detection of occupancy. All pole fixtures will have integral occupancy sensors.

Communications Systems Analysis

Telephone/Data/TV

Fiber optic, telephone and TV services will be delivered to the building underground. (3)4" conduits will be provided from locations coordinated with franchise utilities. Cabling for services will be by applicable utilities.

Services will be routed to the main communications room in the building.

A complete raceway system for data, voice and TV cabling will be provided in project. Raceways will be 1" EMT minimum. Cables will be routed in raceways where in walls or above non-accessible ceilings. Open cabling allowed above accessible ceilings.

Data/voice cables and outlets will be Cat 6. Cables will homerun to rack mounted patch panels in comm room. Outlets will be located as required by program. Typical comm

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outlet at each workstation or other location will be a 2-port outlet. Outlets will be provided at selected locations for wireless access points.

TV cables will be RG6 coax with F-style connectors. Cable will homerun to wall mounted TV headend in comm room.

Fire Alarm System

Equipment

System will meet code requirements. RF based wireless monitoring will be utilized. If necessary, an antenna for the RF signal will be installed.

Smoke alarms and CO detectors will be provided for bunk rooms and outside of bunk rooms.

Addressable fire alarm system will be provided. Smoke detection to be provided for egress pathways and elevator recall. Horn/strobes and strobes to be provided throughout building for code required audibility and visibility levels.

LCD annunciator to be located at main entry.

Other Systems

Alerting

Station alerting system will be provided. It will be based on the Fast Alerting Systems Technology (FAST) platform and the installer will be Jaymarc AV. System will receive dispatch communications from local 911 dispatch system. Upon an alarm condition for station, alerting system will take the following actions:

Sound alarm via paging speakers

Distribute alarm message via paging speakers

Signal lighting controls to bring lights on in selected rooms. Lights in bunk rooms will be ramped up slowly to a prescribed output level upon receiving alerting signal.

Activate visual indicator wall lights

Traffic pre-emption as applicable

Shut down gas and electric appliances

Alerting system will include dynamic check-in capability. Firefighters will be able to check-in daily in the alerting system to a particular bunk room. The system will then dynamically configure notifications to only alert the bunk rooms occupied by firefighters involved in the particular type of alarm. Only the applicable bunk rooms will be notified with each alarm.

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Alerting system headend equipment will be rack mounted in the comm room.

Paging system speakers will be located to deliver alarms and messages throughout the building. The paging system can also be used for general announcements, messages and communications.

Doorbell system will be connected to Alerting system so that tones can be distributed throughout building over paging speakers.

Doorbell

A doorbell system will be provided with a doorbell at the main entry and possibly at other entries.

Doorbell will be tied into the paging system for distribution of tone throughout the facility.

Access Control System

Access control system will be provided with card readers at all exterior man doors. Each door will include an electric strike, door switch (for monitoring door position), card reader, and request to exit (REX) device.

CCTV System

CCTV system will be provided with cameras to view all entries. Cameras will be IP based with a Cat 6 cable run to each camera location.

Audio Visual System

AV cabling and connectors will be provided in selected rooms coordinated with monitors and projectors to be used.

PV System

Photovoltaic panels will be located on roof. Size of system to be based on code requirements and any applicable sustainable design certifications. A larger system may be considered depending on available roof space and budget.

Inverters will be located on roof or in main electrical room.

Battery storage for PV system is under consideration but not considered likely at this time. Battery storage options will be evaluated when project reaches design phase.

Electric Vehicle Charging Stations

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Level 2 charging stations will be provided in parking lot. Quantity to be determined. Minimum number to be per code requirements. Infrastructure to be provided for additional charging stations per code requirements and owner preferences.

Charging stations for electrical apparatus are not required but potentially could be in the future. Incremental cost items that will provide infrastructure for electrical apparatus charging stations will be included. These include vault sizing with spare capacity, room sizing with spare area, and additional conduits. Electrical service and generator will not be upsized significantly, however, due to uncertainty on if/when electrical apparatus will be used.

Antennas

Antennas for fire department communications will be located on the roof. Conduits will be provided from rooftop antenna locations to station office and comm room as required to support cabling needs at antennas.

Travis Fitzmaurice Wartelle Balangue Engineers Inc.
1200 Westlake Ave N, Ste 509 Seattle WA 98109
p. 206.285.7228
f. 206.413.5007

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DETAILED COST ESTIMATES

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FIRE STATION 36

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Construction Cost Summary

ROEN ASSOCIATES

Owner: **Valley Regional Fire Authority**

Project: **Bond Measure - Fire Stations 36, 38, 31 & L+M**

May 31, 2023

ESTIMATED COSTS SUMMARY - FIRE STATION 36

Item	Description	QTY	UOM	$ / UOM	Cost
1	Fire Station 36	13,971	BGSF	$564.45	$7,885,898
2	Sitework (Onsite & ROW)	75,450	GSF	$48.34	$3,647,543
3	General Conditions & Support Services	12	MO	$65,000	$780,000
Total Estimated Construction Cost (Today's Dollars)					**$12,313,441**
4	Escalation to Midpoint - See Project Cost Summary				TBD
Total Construction Cost (Escalated)					**See Project Cost Summary**

COMMENTS:

Design, Bid, Build delivery method is assumed

Assumed construction schedule duration is 12 months

See Project Cost Summary for Construction Start and Escalation

ROW electrical work is assumed to be owner paid and by utility provider. ROW electrical work is EXCLUDED

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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500 Union St #927
Seattle, WA 98101

Value Regional Fire Authority
Fire Station 36
Conceptual Estimate

Project Owner:	**Valley Regional Fire Authority**	Architect:	TCA
Project Name:	**Bond Measure - Fire Stations 36, 38, 31 & L+M**	Project Duration:	See Summary
Project Location:	Auburn, WA	Building GSF:	13,971
Project Start Date:	See Project Cost Summary	Site GSF:	See Detailed Est.
Estimate Date:	May 31, 2023		

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	Foundations	13,971	BGSF	$25.04	$349,798
A20	Basement Construction	13,971	BGSF	$0.00	$0
B10	Superstructure	13,971	BGSF	$66.68	$931,518
B20	Exterior Enclosure	13,971	BGSF	$73.32	$1,024,344
B30	Roofing	13,971	BGSF	$34.59	$483,200
C10	Interior Construction	13,971	BGSF	$31.50	$440,100
C20	Stairs	13,971	BGSF	$0.00	$0
C30	Interior Finishes	13,971	BGSF	$27.50	$384,203
D10	Conveying Systems	13,971	BGSF	$0.00	$0
D20	Plumbing	13,971	BGSF	$29.12	$406,905
D30	HVAC	13,971	BGSF	$65.80	$919,232
D40	Fire Protection	13,971	BGSF	$6.00	$83,826
D50	Electrical	13,971	BGSF	$83.78	$1,170,442
E10	Equipment	13,971	BGSF	$9.10	$127,186
E20	Casework & Furnishings	13,971	BGSF	$6.29	$87,942
F10	Special Construction	13,971	BGSF	$0.00	$0
F20	Selective Demolition	13,971	BGSF	$0.00	$0
Building Construction Subtotal					**$6,408,694**
	Design Contingency			15.00%	$961,304
	Subtotal				$7,369,998
	Contractor Mark Up (Overhead, Profit, Insurance, Bond, B&O Tax)			7.00%	$515,900
	Subtotal				$7,885,898
	Escalation to Mid-Point (See Summary)				$0
BUILDING GRAND TOTAL		13,971	BGSF	$564.45	**$7,885,898**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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Value Regional Fire Authority
Fire Station 36
Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	**FOUNDATIONS**				
	Foundations				
	Footings & Stem Walls (inc reinforcing, excavation, backfill and footing drains)	13,971	gsf	$ 12.00	$167,652
	Slab-on-Grade				
	4" Slab on Grade (inc reinforcing, base course and vapor barrier)	9,278	sf	$ 11.00	$102,058
	8" App. Bay Slab on Grade (inc reinforcing, base course, vapor barrier and concrete work for trench drains)	4,693	sf	$ 16.00	$75,088
	Misc. Concrete				
	Elevator Pits - None				
	Housekeeping Pads	250	sf	$ 20.00	$5,000
	SUBTOTAL FOUNDATIONS	**13,971**	**BGSF**	**$25.04**	**$349,798**
A20	**BASEMENT CONSTRUCTION**				
	SUBTOTAL BASEMENT CONSTRUCTION	**13,971**	**BGSF**	**$0.00**	**$0**
B10	**SUPERSTRUCTURE**				
	Structural Steel				
	Floor & Roof Structure, Beams & Columns				
	Structural Framing w/ BRB Lateral System (16 psf Allowance @ App. Bay)	75,088	lbs	$ 3.50	$262,808
	Structural Framing w/ BRB Lateral System (13 psf Allowance for Floor)	120,614	lbs	$ 3.50	$422,149
	Metal Deck				
	Acoustical Roof Decking @ App Bay	4,693	sf	$ 16.00	$75,088
	Roof Decking	9,278	sf	$ 9.00	$83,502
	Miscellaneous Metals				
	Allowance for TBD	13,971	gsf	$ 1.00	$13,971
	Public Entry Canopy Framing	500	sf	$ 30.00	$15,000
	Courtyard Canopy Framing	900	sf	$ 30.00	$27,000
	Mechanical Screen Framing	800	sf	$ 40.00	$32,000
	Fireproofing				
	Structural Steel Fireproofing - Not Required				
	Firestopping - See Interior Partitions				
	SUBTOTAL SUPERSTRUCTURE	**13,971**	**BGSF**	**$66.68**	**$931,518**

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Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
B20	**EXTERIOR ENCLOSURE**				
	Exterior Wall Construction (75% of Enclosure)				
	Exterior Wall Assembly (GWB - Finish 1 Side, vapor barrier, metal studs 6", R-19 batt insulation, sheathing, 2" rigid insulation, WRB)	7,420	sf	$ 35.00	$259,691
	Cladding Allowance - Mixture of Brick Veneer, & Exposed Fastener Metal Siding	7,420	sf	$ 30.00	$222,593
	Architectural Detailing - Allow for Articulation, Awnings, Fins	7,420	sf	$ 5.00	$37,099
	Mechanical Screen - Metal Siding	800	sf	$ 20.00	$16,000
	Exterior Soffits & Canopies (Includes Framing				
	Canopy Soffits - Open to Structure, Painted	1,400	sf	$ 3.00	$4,200
	Exterior Windows (25% of Enclosure)				
	Fiberglass Windows w/ Flashings	2,473	sf	$ 120.00	$296,790
	Exterior Doors				
	Storefront Entry Doors, Hardware, per leaf	4	ea	$ 7,500.00	$30,000
	Ext. HM Dr, HM Frame, Hardware, per leaf	4	ea	$ 3,500.00	$14,000
	Push Button ADA Auto Operators (per entrance)	1	ea	$ 5,000.00	$5,000
	OH Doors				
	Hi-speed Coiling Doors (Hormann or similar) w/ fire accessories	3	ea	$ 35,000.00	$105,000
	Glazed Sectional @ Exercise	1	ea	$ 10,000.00	$10,000
	Exterior Paint & Sealants				
	Exterior - Control Joints, Caulking and Joint Sealants	13,971	gsf	$ 1.00	$13,971
	Building Graphics				
	Allowance for Building Signage	1	ls	$ 10,000.00	$10,000
	SUBTOTAL EXTERIOR ENCLOSURE	**13,971**	**BGSF**	**$73.32**	**$1,024,344**
B30	**ROOFING**				
	Roof Coverings				
	Membrane Roofing System (Sarnafil PVC) w/ Rigid Insulation	13,971	sf	$ 24.00	$335,304
	Metal Roofing @ Canopies	1,400	sf	$ 30.00	$42,000
	Flashing and Sheet Metal				
	Copings, Scuppers, Gutters, Downspouts, & Miscellaneous Roof Flashing / Rough Carpentry	15%	on	$377,304	$56,596
	Skylights				
	Allowance	200	sf	$ 100.00	$20,000
	Roof Accessories				
	Walk Pads - Allowance	600	sf	$ 8.00	$4,800
	Fall Protection Anchors - Allowance	20	ea	$ 750.00	$15,000
	Access Ladders	2	ea	$ 3,500.00	$7,000
	Roof Hatches	1	ea	$ 2,500.00	$2,500
	SUBTOTAL ROOFING	**13,971**	**BGSF**	**$34.59**	**$483,200**

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Value Regional Fire Authority
Fire Station 36
Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
C10	**INTERIOR CONSTRUCTION**				
	Partitions				
	GWB Partitions (GWB - Finish 2 Sides, metal studs, sound batts)	11,662	sf	$ 17.00	$198,254
	Premium for STC & Fire Rated Partitions & Assemblies	20%	on	$ 198,254	$39,651
	Interior Glazing				
	Int. Storefront & HM Relites (% Allowance on Partitions)	5%	on	$ 237,905	$11,895
	Interior Doors, Frames, Hardware				
	HM / SCW Dr, HM Frame, Hardware, Complete - per leaf	34	ea	$ 3,600	$122,400
	Premium for Electronic HW, STC, & Fire Ratings	20%	on	$ 122,400	$24,480
	Fittings / Specialties				
	Toilet & Janitorial Accessories - Allowance	13,971	gsf	$ 1.50	$20,957
	Visual Display Specialties - Allowance				
	Marker and Tack Boards	1	ls	$ 5,000	$5,000
	Signage (Code and Wayfinding)	13,971	gsf	$ 0.75	$10,478
	Misc. Specialties Allowance (FECs, Corner Guards, etc...)	13,971	gsf	$ 0.50	$6,986
	SUBTOTAL INTERIOR CONSTRUCTION	**13,971**	**BGSF**	**$31.50**	**$440,100**
C20	**STAIRS**				
	Stair Construction - Not in Scope				
	SUBTOTAL STAIRS	**13,971**	**BGSF**	**$0.00**	**$0**
C30	**INTERIOR FINISHES**				
	Wall Finishes				
	Paint to Walls, Doors, Frames and Miscellaneous	13,971	gsf	$ 5.00	$69,855
	Other Wall Finishes @ Fire Program (Restroom Wall Tile, Fiber Reinforced Wall Coating in Decontamination, Corridor Wainscots, Acoustical Panels, Manufactured Wall Panels in App Bay, Etc…)	13,971	gsf	$ 7.50	$104,783
	Floor & Base Finishes				
	Floor Finish Allowance (Mixture of Resilient, Polished Concrete, Sealed Concrete)	13,971	gsf	$ 8.00	$111,768
	Ceiling Finishes				
	Ceiling Finish Allowance (Mixture of ACT, GWB and Painted Open Structure)	13,971	gsf	$ 7.00	$97,797
	SUBTOTAL INTERIOR FINISHES	**13,971**	**BGSF**	**$27.50**	**$384,203**
D10	**CONVEYING SYSTEMS**				
	SUBTOTAL CONVEYING SYSTEMS	**13,971**	**BGSF**	**$0.00**	**$0**
D20	**Plumbing**				
	Plumbing				

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Plumbing Fixtures	13,971	gsf	$ 11.12	$155,347
	Domestic Water Distribution	13,971	gsf	$ 7.60	$106,207
	Sanitary Waste	13,971	gsf	$ 6.84	$95,619
	Rain Water Drainage	13,971	gsf	$ 1.38	$19,263
	Other Plumbing Systems - Allowance	13,971	gsf	$ 2.18	$30,469
	SUBTOTAL PLUMBING	**13,971**	**BGSF**	**$29.12**	**$406,905**
D30	**HVAC**				
	HVAC				
	VRFZ Direct Expansion Systems	13,971	gsf	$ 12.06	$168,429
	Air Distribution Systems	13,971	gsf	$ 31.14	$435,104
	Exhaust Ventilation Systems, Incl. Source Capture Exhaust, and (1) Type 1 Kitchen Hood.	13,971	gsf	$ 9.95	$138,978
	Controls and Instrumentation	13,971	gsf	$ 9.25	$129,232
	Testing and Balancing	13,971	gsf	$ 1.25	$17,435
	Third Party Commissioning	13,971	gsf	$ 0.31	$4,359
	Other HVAC Systems and Components	13,971	gsf	$ 1.84	$25,695
	SUBTOTAL HVAC	**13,971**	**BGSF**	**$65.80**	**$919,232**
D40	**FIRE PROTECTION**				
	Fire Protection				
	Sprinkler System	13,971	gsf	$ 6.00	$83,826
	SUBTOTAL FIRE PROTECTION	**13,971**	**BGSF**	**$6.00**	**$83,826**
D50	**ELECTRICAL**				
	Electrical				
	Distribution	13,971	gsf	$ 5.37	$75,074
	Feeders	13,971	gsf	$ 4.70	$65,632
	Generator & Transfer Equipment	1	ls	$ 175,000	$175,000
	Grounding System	13,971	gsf	$ 0.95	$13,312
	Mechanical Equipment and Branch	13,971	gsf	$ 6.55	$91,542
	Power Devices and Branch, EMT concealed	13,971	gsf	$ 7.93	$110,732
	Lighting Fixture Cost (Allowance $7.50 per foot) LED	13,971	gsf	$ 7.50	$104,783
	Lighting and Branch, EMT installation concealed	13,971	gsf	$ 5.08	$70,952
	Lighting Control	13,971	gsf	$ 2.28	$31,793
	Fire Alarm, EMT concealed	13,971	gsf	$ 2.95	$41,220
	LV System Rough-In (Tele/Data) (Incl. Cable Trays)	13,971	gsf	$ 1.83	$25,610
	LV System Install	13,971	gsf	$ 5.43	$75,847
	CCTV System Rough-In	13,971	gsf	$ 0.86	$12,000
	CCTV System Install	13,971	gsf	$ 4.83	$67,517
	Access Control Rough-In	13,971	gsf	$ 0.95	$13,244

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Value Regional Fire Authority
Fire Station 36
Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Access Control System	13,971	gsf	$ 3.90	$54,464
	Security System	13,971	gsf	$ 0.72	$10,000
	DAS (800 MHz) system	13,971	gsf	$ 3.31	$46,220
	A/V System	13,971	gsf	$ 2.86	$40,000
	A/V Rough-in	13,971	gsf	$ 0.75	$10,500
	FAST (Fast Alerting System)	13,971	gsf	$ 2.51	$35,000
	SUBTOTAL ELECTRICAL	**13,971**	**BGSF**	**$83.78**	**$1,170,442**
E10	**EQUIPMENT**				
	Storage Equipment				
	Gear Lockers	32	ea	$ 1,100.00	$35,200
	Misc. Fixed Shelving, Etc…	13,971	gsf	$ 0.50	$6,986
	Residential Equipment				
	Kitchen Appliances	1	ls	$ 40,000.00	$40,000
	Commercial Equipment				
	Washer / Extractor & Turnout Gear Dryer	1	ls	$ 45,000.00	$45,000
	SUBTOTAL EQUIPMENT	**13,971**	**BGSF**	**$9.10**	**$127,186**
E20	**CASEWORK & FURNISHINGS**				
	Fixed Millwork / Casework				
	Kitchen Casework & Solid Surface Counters	1	ls	$ 30,000.00	$30,000
	Misc. TBD Allowance	13,971	gsf	$ 2.00	$27,942
	Window Treatment				
	Allowance	1	ls	$ 30,000.00	$30,000
	Moveable Furnishings				
	EXCLUDED			$ -	$0
	SUBTOTAL FURNISHINGS	**13,971**	**BGSF**	**$6.29**	**$87,942**
F10	**SPECIAL CONSTRUCTION**				
	Special Construction - Not in Scope				
	SUBTOTAL SPECIAL CONSTRUCTION	**13,971**	**BGSF**	**$0.00**	**$0**
F20	**SELECTIVE BUILDING DEMOLITION**				
	Building Structural Demolition				
	None				
	Hazardous Components Abatement				
	None				
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	**13,971**	**BGSF**	**$0.00**	**$0**

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Value Regional Fire Authority
Fire Station 36
Conceptual Estimate

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**13,971**	**BGSF**	**$0.00**	**$0**

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Value Regional Fire Authority
Fire Station 36 - Sitework
Conceptual Estimate

Project Owner:	**Valley Regional Fire Authority**	Architect:	TCA
Project Name:	**Bond Measure - Fire Stations 36, 38, 31 & L+M**	Project Duration:	See Summary
Project Location:	Auburn, WA	Building GSF:	See Detailed Est.
Start Date:	See Project Cost Summary	Site GSF:	75,450
Estimate Date:	May 31, 2023		

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	Site Preparation	75,450	sga	$12.09	$912,057
G20	Site Improvements	75,450	sga	$12.49	$942,060
G30	Site Civil / Mech Utilities	75,450	sga	$8.61	$649,315
G40	Site Electrical Utilities	75,450	sga	$5.13	$387,000
G50	Other Site Construction	75,450	sga	$0.98	$73,845
	Sitework Subtotal				**$2,964,277**
	Design Contingency			15.00%	$444,642
	Subtotal				$3,408,918
	Contractor Mark Up (Overhead, Profit, Insurance, Bond, B&O Tax)			7.00%	$238,624
	Subtotal				$3,647,543
	Escalation to Mid-Point (See Summary)			0.00%	$0
	SITEWORK TOTAL	75,450	SGA	$48.34	**$3,647,543**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	**SITE PREPARATON**				
	General Sitework Requirements				
	Mobilization	1	ls	75,000.00	$75,000
	Site Layout & Potholing	1	ls	15,000.00	$15,000
	Traffic Control (for entire project)	4	weeks	6,500	$26,000
	Whole Building Demolition				
	None			-	$0
	Site Improvements Demolition & Relocation				
	Demo Paving				
	Remove Paving for Utility Connections in 30th St NE	1,250	sf	2.00	$2,500
	Saw Cut Asphalt Paving	500	lf	4.00	$2,000
	Misc. Site Demo / Clearing	1	ls	2,500.00	$2,500
	Site Earthwork				
	Temporary Construction Fencing	1,360	lf	10.00	$13,600
	TESC Erosion Control & Dewatering (Area Allowance)	75,450	sga	0.60	$45,270
	Excavation				
	Stripping & Haul Off (6")	1,397	cy	30.00	$41,917
	Imported Fill (Raise Grade by 2' per AHBL narrative)	12,575	cy	50.00	$628,750
	Grading	75,450	sga	0.65	$49,043
	Building Pad Prep	13,971	sf	$ 0.75	$10,478
	Foundation Earthwork				
	Footing Excavation and Backfill	In Building Section A10			
	Footing Drains with Gravel	In Building Section A10			
	Contaminated Soil Remediation				
	Excluded			-	$0
	SUBTOTAL SITE PREPARATON	**75,450**	**SGA**	**$12.09**	**$912,057**
G20	**SITE IMPROVEMENTS**				
	Asphalt Paving (Base Courses Included)				
	Street Patching (New Utilities)	1,250	sf	15.00	$18,750
	Parking Area - Light Duty	8,410	sf	4.50	$37,845
	Concrete Site Work (Base Courses Included)				
	ROW Sidewalk Widening (incl. patching of existing for new utilities)	3,600	sf	9.00	$32,400
	Apparatus Front Apron (8" Reinforced)	13,302	sf	15.00	$199,530
	Public Entry (site walks)	510	sf	8.00	$4,080
	Courtyard (decorative paving)	900	sf	12.00	$10,800
	Generator & Fueling Pad (Raised)	355	sf	20.00	$7,100
	Curbs, Vertical CIP	960	lf	30.00	$28,800
	Curb Ramps	4	ea	500.00	$2,000
	Pavement Markings/Site Signage				
	Wheel Stops	18	ea	150.00	$2,700
	Striping - ADA Stalls with Signage	2	ea	950.00	$1,900
	Striping - Standard Stalls	16	ea	125.00	$2,000
	Striping - Arrows	7	ea	200.00	$1,400

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Site Signage	2	ea	5,000.00	$10,000
	Tactile Warning Strips	370	sf	30.00	$11,100
	Site Development				
	Site Furnishings and Amenities (flag pole, seat walls, bike racks, bollards, benches, monument sign) - Allowance	75,450	sga	0.65	$49,043
	Fencing and Gates				
	Ornamental Security Metal Fencing - 6'	660	lf	250.00	$165,000
	Man Gate, Security (w/ electronic access)	2	ea	3,000	$6,000
	Automated Vehicular Gate, Security (w/ electronic access)	1	ea	30,000	$30,000
	Trash Enclosure Chain-link Swing Gates	2	ea	2,500	$5,000
	Masonry Site Enclosure Walls				
	Trash Enclosure, 8'	400	sf	45.00	$18,000
	Generator & Fueling, 10'	550	sf	45.00	$24,750
	Courtyard Screen Wall, 10'	320	sf	45.00	$14,400
	Generator & Fueling Canopy	400	sf	85.00	$34,000
	Landscaping/Irrigation				
	Area Allowance (Mixture of Irrigated Planters, Irrigated Lawn, and Non-irrigated Natural Plantings)	34,402	sf	6.00	$206,412
	Trees - Allowance (20' o.c. in 30th & 1st Street landscape buffer)	32	ea	600.00	$19,050
	SUBTOTAL SITE IMPROVEMENTS	**75,450**	**SGA**	**$12.49**	**$942,060**
G30	**SITE CIVIL / MECHANICAL UTILITIES**				
	Water Service				
	Tie-in at Existing (includes gate valve)	4	ea	$ 3,000	$12,000
	Water Meter, Double Check, PRV (in vault)	1	ea	$ 25,000	$25,000
	FDC - Fire Department Connection	1	ea	$ 2,750	$2,750
	PIV - Post Indicator Valve	1	ea	$ 2,500	$2,500
	Water/Fire Line, 12" Ductile Iron (incl. trench, bedding and backfill)	465	lf	$ 110.00	$51,150
	Water/Fire Line, 8" Ductile Iron (incl. trench, bedding and backfill)	100	lf	$ 95.00	$9,500
	Hydrant Assembly	2	ea	$ 5,000	$10,000
	Sanitary Sewer Systems				
	Tie-in at Existing	2	ea	$ 1,000	$2,000
	Sewer Line (includes trench, bedding and backfill)	225	lf	$ 45.00	$10,125
	Cleanouts	4	ea	$ 900.00	$3,600
	Grease Interceptor	1	ea	$ 15,000.00	$15,000
	Oil / Water Separator	1	ea	$ 10,000.00	$10,000
	Storm Drainage				
	Tie-in at Existing	2	ea	$ 1,000	$2,000
	Footing Drains - Included w/ Building Estimate			$ -	$0
	Storm Drain Lines, 12" (includes trench, bedding and backfill)	460	lf	$ 50.00	$23,000
	Catch Basin	12	ea	$ 2,500.00	$30,000
	Storm Drainage Manhole	2	ea	$ 4,000.00	$8,000
	Underground Stormwater Infiltration Chambers (11,500 sf @ 2.5' deep)	28,750	cf	$ 15.00	$431,250
	Water Quality System - None Called For				$0

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Value Regional Fire Authority
Fire Station 36 - Sitework
Conceptual Estimate

ROEN ASSOCIATES

No.	***DETAILED ESTIMATE*** Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Gas:				
	Natural Gas Trench and Backfill (Gas Line by Utility Purveyor)	60	lf	$ 24.00	$1,440
	SUBTOTAL SITE CIVIL / MECHANICAL UTILITIES	**75,450**	**SGA**	**$8.61**	**$649,315**
G40	**SITE ELECTRICAL UTILITIES**				
	Electrical and Telecom Utilities, Site Lighting				
	Electrical Utility	1	ls	$ 25,000.00	$25,000
	Tele/Data Utility	1	ls	$ 22,500.00	$22,500
	Site Lighting LED (Branch and Pole Bases)	1	ls	$ 70,000.00	$70,000
	Site Power	1	ls	$ 7,500.00	$7,500
	Car Chargers (double head)	1	ea	$ 12,000.00	$12,000
	Street Signalization	1	ls	$ 250,000	$250,000
	Generator - Included w/ Building Costs				$0
	SUBTOTAL SITE ELECTRICAL UTILITIES	**75,450**	**SGA**	**$5.13**	**$387,000**
G50	**OTHER SITE CONSTRUCTION**				
	Fuel Distribution				
	Fueling Station (1,000 gallon diesel)	1	ls	$ 73,845.00	$73,845
	SUBTOTAL OTHER SITE CONSTRUCTION	**75,450**	**SGA**	**$0.98**	**$73,845**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**75,450**	**SGA**	**$0.00**	**$0**

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FIRE STATION 38

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Construction Cost Summary

ROEN ASSOCIATES

Owner: **Valley Regional Fire Authority**

Project: **Bond Measure - Fire Stations 36, 38, 31 & L+M**

May 31, 2023

ESTIMATED COSTS SUMMARY - FIRE STATION 38

1	Fire Station 38	13,971	BGSF	$608.06	$8,495,213
2	Sitework (Onsite)	44,925	GSF	$80.37	$3,610,541
3	Sitework (ROW)	23,215	GSF	$85.37	$1,981,909
4	General Conditions & Support Services	14	MO	$65,000	$910,000
Total Estimated Construction Cost (Today's Dollars)					**$14,997,663**
5	Escalation to Midpoint - See Project Cost Summary				TBD
Fire Station 38 - Total Construction Cost (Escalated)					**See Project Cost Summary**

COMMENTS:

Design, Bid, Build delivery method is assumed

Assumed construction schedule duration is 14 months

See Project Cost Summary for Construction Start and Escalation

ROW electrical work is assumed to be owner paid and by utility provider. ROW electrical work is EXCLUDED

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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500 Union St #927
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Value Regional Fire Authority
Fire Station 38
Conceptual Estimate

Project Owner:	**Valley Regional Fire Authority**	Architect:	TCA
Project Name:	**Bond Measure - Fire Stations 36, 38, 31 & L+M**	Project Duration:	See Summary
Project Location:	Pacific, WA	Building GSF:	13,971
Project Start Date:	See Project Cost Summary	Site GSF:	See Detailed Est.
Estimate Date:	May 31, 2023		

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	Foundations	13,971	BGSF	$57.86	$808,382
A20	Basement Construction	13,971	BGSF	$0.00	$0
B10	Superstructure	13,971	BGSF	$66.64	$931,081
B20	Exterior Enclosure	13,971	BGSF	$75.25	$1,051,330
B30	Roofing	13,971	BGSF	$34.51	$482,080
C10	Interior Construction	13,971	BGSF	$31.95	$446,433
C20	Stairs	13,971	BGSF	$0.00	$0
C30	Interior Finishes	13,971	BGSF	$27.50	$384,203
D10	Conveying Systems	13,971	BGSF	$0.00	$0
D20	Plumbing	13,971	BGSF	$29.12	$406,905
D30	HVAC	13,971	BGSF	$66.14	$924,063
D40	Fire Protection	13,971	BGSF	$6.00	$83,826
D50	Electrical	13,971	BGSF	$83.78	$1,170,442
E10	Equipment	13,971	BGSF	$9.10	$127,186
E20	Casework & Furnishings	13,971	BGSF	$6.29	$87,942
F10	Special Construction	13,971	BGSF	$0.00	$0
F20	Selective Demolition	13,971	BGSF	$0.00	$0
Building Construction Subtotal					**$6,903,871**
	Design Contingency			15.00%	$1,035,581
	Subtotal				$7,939,451
	Contractor Mark Up (Overhead, Profit, Insurance, Bond, B&O Tax)			7.00%	$555,762
	Subtotal				$8,495,213
	Escalation to Mid-Point (See Summary)				$0
BUILDING GRAND TOTAL		13,971	BGSF	$608.06	**$8,495,213**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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Value Regional Fire Authority
Fire Station 38
Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	**FOUNDATIONS**				
	Foundations				
	Grade Beam and Pile Cap Foundation System & Stem Walls (inc reinforcing)	13,971	gsf	$ 20.00	$279,420
	Deep Foundations				
	Pile System Allowance (50' deep)	13,971	gsf	$ 25.00	$349,275
	Slab-on-Grade				
	4" Slab on Grade (inc reinforcing, base course and vapor barrier)	9,303	sf	$ 11.00	$102,333
	8" App. Bay Slab on Grade (inc reinforcing, base course, vapor barrier and concrete work for trench drains)	4,668	sf	$ 15.50	$72,354
	Misc. Concrete				
	Elevator Pits - None				
	Housekeeping Pads	250	sf	$ 20.00	$5,000
	SUBTOTAL FOUNDATIONS	**13,971**	**BGSF**	**$57.86**	**$808,382**
A20	**BASEMENT CONSTRUCTION**				
	Basement Construction - Not in Scope				
	SUBTOTAL BASEMENT CONSTRUCTION	**13,971**	**BGSF**	**$0.00**	**$0**
B10	**SUPERSTRUCTURE**				
	Structural Steel				
	Floor & Roof Structure, Beams & Columns				
	Structural Framing w/ BRB Lateral System (16 psf Allowance @ App. Bay)	74,688	lbs	$ 3.50	$261,408
	Structural Framing w/ BRB Lateral System (13 psf Allowance, Low Roof Area)	120,939	lbs	$ 3.50	$423,287
	Metal Deck				
	Acoustical Roof Decking @ App Bay	4,668	sf	$ 16.00	$74,688
	Roof Decking	9,303	sf	$ 9.00	$83,727
	Miscellaneous Metals				
	Allowance for TBD	13,971	gsf	$ 1.00	$13,971
	Public Entry Canopy Framing	500	sf	$ 30.00	$15,000
	Courtyard Canopy Framing	900	sf	$ 30.00	$27,000
	Mechanical Screen - Allowance	800	sf	$ 40.00	$32,000
	Fireproofing				
	Structural Steel Fireproofing - Not Required			$ -	$0
	Firestopping - See Interior Partitions				
	SUBTOTAL SUPERSTRUCTURE	**13,971**	**BGSF**	**$66.64**	**$931,081**

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Value Regional Fire Authority
Fire Station 38
Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
C10	**INTERIOR CONSTRUCTION**				
	Partitions				
	GWB Partition (GWB - Finish 2 Sides, metal studs 6", sound batts)	11,850	sf	$ 17.00	$201,450
	Premium for STC & Fire Rated Partitions & Assemblies	20%	on	$ 201,450	$40,290
	Interior Glazing				
	Int. Storefront & HM Relites (% Allowance on Partitions)	5%	on	$201,450	$10,073
	Interior Doors, Frames, Hardware				
	HM / SCW Dr, HM Frame, Hardware, Complete - per leaf	35	ea	$ 3,600.00	$126,000
	Premium for Electronic HW, STC, & Fire Ratings	20%	on	$ 126,000	$25,200
	Fittings / Specialties				
	Toilet & Janitorial Accessories - Allowance	13,971	gsf	$ 1.50	$20,957
	Visual Display Specialties - Allowance				
	Marker and Tack Boards	1	ls	$ 5,000.00	$5,000
	Signage (Code and Wayfinding)	13,971	gsf	$ 0.75	$10,478
	Misc. Specialties Allowance (FECs, Corner Guards, etc...)	13,971	gsf	$ 0.50	$6,986
	SUBTOTAL INTERIOR CONSTRUCTION	**13,971**	**BGSF**	**$31.95**	**$446,433**
C20	**STAIRS**				
	Stair Construction - Not in Scope				
	SUBTOTAL STAIRS	**13,971**	**BGSF**	**$0.00**	**$0**
C30	**INTERIOR FINISHES**				
	Wall Finishes				
	Paint to Walls, Doors, Frames and Miscellaneous	13,971	gsf	$ 5.00	$69,855
	Other Wall Finishes @ Fire Program (Restroom Wall Tile, Fiber Reinforced Wall Coating in Decontamination, Corridor Wainscots, Acoustical Panels, Manufactured Wall Panels in App Bay, Etc…)	13,971	gsf	$ 7.50	$104,783
	Floor & Base Finishes				
	Floor Finish Allowance (Mixture of Resilient, Polished Concrete, Sealed Concrete)	13,971	gsf	$ 8.00	$111,768
	Ceiling Finishes				
	Ceiling Finish Allowance (Mixture of ACT, GWB and Painted Open Structure)	13,971	gsf	$ 7.00	$97,797
	SUBTOTAL INTERIOR FINISHES	**13,971**	**BGSF**	**$27.50**	**$384,203**

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Value Regional Fire Authority
Fire Station 38
Conceptual Estimate

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DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
D40	**FIRE PROTECTION**				
	Fire Protection				
	Sprinkler System	13,971	gsf	$ 6.00	$83,826
	SUBTOTAL FIRE PROTECTION	**13,971**	**BGSF**	**$6.00**	**$83,826**
D50	**ELECTRICAL**				
	Electrical				
	Distribution	13,971	gsf	$ 5.37	$75,074
	Feeders	13,971	gsf	$ 4.70	$65,632
	Generator & Transfer Equipment	1	ls	$ 175,000	$175,000
	Grounding System	13,971	gsf	$ 0.95	$13,312
	Mechanical Equipment and Branch	13,971	gsf	$ 6.55	$91,542
	Power Devices and Branch, EMT concealed	13,971	gsf	$ 7.93	$110,732
	Lighting Fixture Cost (Allowance $7.50 per foot) LED	13,971	gsf	$ 7.50	$104,783
	Lighting and Branch, EMT installation concealed	13,971	gsf	$ 5.08	$70,952
	Lighting Control	13,971	gsf	$ 2.28	$31,793
	Fire Alarm, EMT concealed	13,971	gsf	$ 2.95	$41,220
	LV System Rough-In (Tele/Data) (Incl. Cable Trays)	13,971	gsf	$ 1.83	$25,610
	LV System Install	13,971	gsf	$ 5.43	$75,847
	CCTV System Rough-In	13,971	gsf	$ 0.86	$12,000
	CCTV System Install	13,971	gsf	$ 4.83	$67,517
	Access Control Rough-In	13,971	gsf	$ 0.95	$13,244
	Access Control System	13,971	gsf	$ 3.90	$54,464
	Security System	13,971	gsf	$ 0.72	$10,000
	DAS (800 MHz) system	13,971	gsf	$ 3.31	$46,220
	A/V System	13,971	gsf	$ 2.86	$40,000
	A/V Rough-in	13,971	gsf	$ 0.75	$10,500
	FAST (Fast Alerting System)	13,971	gsf	$ 2.51	$35,000
	SUBTOTAL ELECTRICAL	**13,971**	**BGSF**	**$83.78**	**$1,170,442**

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Value Regional Fire Authority
Fire Station 38
Conceptual Estimate

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
E10	**EQUIPMENT**				
	Storage Equipment				
	Gear Lockers	32	ea	$ 1,100.00	$35,200
	Misc. Fixed Shelving, Etc…	13,971	gsf	$ 0.50	$6,986
	Residential Equipment				
	Kitchen Appliances	1	ls	$ 40,000.00	$40,000
	Commercial Equipment				
	Washer / Extractor & Turnout Gear Dryer	1	ls	$ 45,000.00	$45,000
	SUBTOTAL EQUIPMENT	**13,971**	**BGSF**	**$9.10**	**$127,186**

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Value Regional Fire Authority
Fire Station 38
Conceptual Estimate

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DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
E20	**CASEWORK & FURNISHINGS**				
	Fixed Millwork / Casework				
	Kitchen Casework & Solid Surface Counters	1	ls	$ 30,000.00	$30,000
	Misc. TBD Allowance	13,971	gsf	$ 2.00	$27,942
	Window Treatment				
	Allowance	1	ls	$ 30,000.00	$30,000
	Moveable Furnishings				
	EXCLUDED			$ -	$0
	SUBTOTAL FURNISHINGS	**13,971**	**BGSF**	**$6.29**	**$87,942**
F10	**SPECIAL CONSTRUCTION**				
	Special Construction - Not in Scope				
	SUBTOTAL SPECIAL CONSTRUCTION	**13,971**	**BGSF**	**$0.00**	**$0**
F20	**SELECTIVE BUILDING DEMOLITION**				
	Selective Building Demolition - Not in Scope				
	None				
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	**13,971**	**BGSF**	**$0.00**	**$0**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**13,971**	**BGSF**	**$0.00**	**$0**

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Roen Associates
500 Union St #927
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Value Regional Fire Authority
Fire Station 38 - Sitework
Conceptual Estimate

Project Owner:	**Valley Regional Fire Authority**	Architect:	TCA
Project Name:	**Bond Measure - Fire Stations 36, 38, 31 & L+M**	Project Duration:	See Summary
Project Location:	Pacific, WA	Building GSF:	See Detailed Est.
Start Date:	See Project Cost Summary	Site GSF (inside wetland buffer):	44,925
Estimate Date:	May 31, 2023		

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	Site Preparation	44,925	sga	$14.06	$631,787
G20	Site Improvements	44,925	sga	$29.32	$1,317,246
G30	Site Civil / Mech Utilities	44,925	sga	$14.51	$652,070
G40	Site Electrical Utilities	44,925	sga	$3.05	$137,000
G50	Other Site Construction	44,925	sga	$1.64	$73,845
	Sitework Subtotal				**$2,811,948**
	Design Contingency			20.00%	$562,390
	Subtotal				$3,374,337
	Contractor Mark Up (Overhead, Profit, Insurance, Bond, B&O Tax)			7.00%	$236,204
	Subtotal				$3,610,541
	Escalation to Mid-Point (See Summary)			0.00%	$0
	SITEWORK TOTAL	44,925	SGA	$80.37	**$3,610,541**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	**SITE PREPARATON**				
	General Sitework Requirements				
	Mobilization	1	ls	75,000.00	$75,000
	Site Layout & Potholing	1	ls	15,000.00	$15,000
	Traffic Control (for entire project)	4	weeks	6,500	$26,000
	Whole Building Demolition				
	Existing Single Family Home	1,670	gsf	10.00	$16,700
	Existing Storage Shed	690	gsf	10.00	$6,900
	Hazardous Material Abatement - Allowance (no survey)	2,360	gsf	5.00	$11,800
	Site Improvements Demolition & Relocation				
	Demo Paving				
	Remove Onsite Asphalt Paving	1,780	sf	1.00	$1,780
	Misc. Site Clearing (Trees, Existing Site items)	44,925	sga	0.25	$11,231
	Site Earthwork				
	Temporary Construction Fencing - Allowance	1,035	lf	10.00	$10,350
	TESC Erosion Control & Dewatering (Area Allowance)	44,925	sga	1.50	$67,388
	Excavation				
	Stripping & Haul Off (6")	832	cy	30.00	$24,958
	Imported Fill (Allowance per AHBL narrative)	6,500	cy	50.00	$325,000
	Grading	44,925	sga	0.65	$29,201
	Building Pad Prep	13,971	sf	$ 0.75	$10,478
	Foundation Earthwork				
	Footing Excavation and Backfill	In Building Section A10			
	Footing Drains with Gravel	In Building Section A10			
	Contaminated Soil Remediation				
	Excluded			-	$0
	SUBTOTAL SITE PREPARATON	**44,925**	**SGA**	**$14.06**	**$631,787**
G20	**SITE IMPROVEMENTS**				
	Asphalt Paving (Base Courses Included)				
	Parking Area - Light Duty	7,228	sf	4.50	$32,526
	Concrete Site Work (Base Courses Included)				
	Apparatus Front Apron (8" Reinforced)	9,300	sf	15.00	$139,500
	Concrete Site Walks	1,024	sf	8.00	$8,192
	Courtyard (decorative paving)	315	sf	12.00	$3,780
	Generator & Fueling Pad (Raised)	355	sf	20.00	$7,100
	Curbs, Vertical CIP	740	lf	25.00	$18,500
	Pavement Markings/Site Signage				
	Wheel Stops	18	ea	150.00	$2,700
	Striping - ADA Stalls with Signage	2	ea	950.00	$1,900
	Striping - Standard Stalls	16	ea	125.00	$2,000
	Striping - Arrows	7	ea	200.00	$1,400
	Site Signage	2	ea	5,000.00	$10,000
	Tactile Warning Strips	400	sf	30.00	$12,000

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Roen Associates
500 Union St #927
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Value Regional Fire Authority
Fire Station 38 - Sitework
Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Site Development				
	Structural Steel Bridge Over Wetland - (Steel Piles, Structural Slab on Metal Deck, Trench Drains, and Vehicle Railings)	2,445	sf	275.00	$672,375
	Structural Steel Walk Way Over Wetland - See ROW Estimate			-	$0
	Site Furnishings and Amenities (flag pole, seat walls, bike racks, bollards, benches, monument sign) - Allowance	44,925	gsf	0.65	$29,201
	Retaining Walls w/ Footings (Allowance per Narrative)	480	sf	95.00	$45,600
	Fencing and Gates				
	Ornamental Security Metal Fencing - 6'	460	lf	250.00	$115,000
	Man Gate, Security (w/ electronic access)	2	ea	3,000	$6,000
	Automated Vehicular Gate, Security (w/ electronic access)	1	ea	30,000	$30,000
	Trash Enclosure Chain-link Swing Gates	2	ea	2,500	$5,000
	Masonry Site Enclosure Walls				
	Trash Enclosure, 8'	400	sf	45.00	$18,000
	Generator & Fueling, 10'	550	sf	45.00	$24,750
	Courtyard Screen Wall, 10'	160	sf	45.00	$7,200
	Generator & Fueling Canopy	400	sf	85.00	$34,000
	Landscaping/Irrigation				
	Area Allowance (Mixture of Irrigated Planters, Irrigated Lawn, and Non-irrigated Natural Plantings)	13,087	sf	6.00	$78,522
	Trees - Allowance (20' o.c. in 30th & 1st Street landscape buffer)	20	ea	600.00	$12,000
	SUBTOTAL SITE IMPROVEMENTS	**44,925**	**SGA**	**$29.32**	**$1,317,246**
G30	**SITE CIVIL / MECHANICAL UTILITIES**				
	Water Service				
	Water/Fire Line, 8" Ductile Iron (includes trench, bedding and backfill)	144	lf	$ 95.00	$13,680
	Water Meter in Vault	1	ea	$ 8,000.00	$8,000
	Irrigation Meter	1	ea	1,500.00	$1,500
	Double Check Valve (in vault)	1	ea	$ 12,000.00	$12,000
	FDC - Fire Department Connection	1	ea	$ 2,750.00	$2,750
	PIV - Post Indicator Valve	1	ea	$ 2,500.00	$2,500
	Hydrant Assembly	2	ea	$ 5,000.00	$10,000
	Sanitary Sewer Systems				
	Side Sewer, 6" PVC (includes trench, bedding and backfill)	224	lf	$ 45.00	$10,080
	Cleanouts	2	ea	$ 900.00	$1,800
	Catch Basin to Oil Separator	1	ea	$ 3,500.00	$3,500
	Grease Interceptor	1	ea	$ 15,000.00	$15,000
	Oil / Water Separator	1	ea	$ 10,000.00	$10,000

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Roen Associates
500 Union St #927
Seattle, WA 98101

Value Regional Fire Authority
Fire Station 38 - Sitework
Conceptual Estimate

ROEN ASSOCIATES

DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Storm Drainage				
	Drain Line, 12" PVC (includes trench, bedding and backfill)	110	lf	$ 45.00	$4,950
	Drain Line, 12" CPEP (includes trench, bedding and backfill)	186	lf	$ 45.00	$8,370
	Cleanouts	2	ea	$ 500.00	$1,000
	Catch Basin Type 1	1	ea	$ 2,500.00	$2,500
	Storm Water Treatment Device	4	ea	$ 35,000.00	$140,000
	Control Storm Drainage Manhole w Flow Splitter	1	ea	$ 7,000.00	$7,000
	Underground Detention Pipe, 48" (includes mass ex. and backfill)	2,200	lf	$ 180.00	$396,000
	Gas:				
	Natural Gas Trench and Backfill (Gas Line by Utility Purveyor)	60	lf	$ 24.00	$1,440
	SUBTOTAL SITE CIVIL / MECHANICAL UTILITIES	**44,925**	**SGA**	**$14.51**	**$652,070**
G40	**SITE ELECTRICAL UTILITIES**				
	Electrical and Telecom Utilities, Site Lighting				
	Electrical Utility	1	ls	$ 25,000.00	$25,000
	Tele/Data Utility	1	ls	$ 22,500.00	$22,500
	Site Lighting LED (Branch and Pole Bases)	1	ls	$ 70,000.00	$70,000
	Site Power	1	ls	$ 7,500.00	$7,500
	Car Chargers (double head)	1	ea	$ 12,000.00	$12,000
	Generator - Included w/ Building Costs				$0
	SUBTOTAL SITE ELECTRICAL UTILITIES	**44,925**	**SGA**	**$3.05**	**$137,000**
G50	**OTHER SITE CONSTRUCTION**				
	Fueling Station				
	Fueling Station (1,000 gallon diesel)	1	ls	$ 73,845.00	$73,845
	SUBTOTAL OTHER SITE CONSTRUCTION	**44,925**	**SGA**	**$1.64**	**$73,845**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**44,925**	**SGA**	**$0.00**	**$0**

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Roen Associates
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Value Regional Fire Authority
Fire Station 38 - ROW Sitework
Conceptual Estimate

Project Owner:	**Valley Regional Fire Authority**	Architect:	TCA
Project Name:	**Bond Measure - Fire Stations 36, 38, 31 & L+M**	Project Duration:	See Summary
Project Location:	Pacific, WA	Building GSF:	See Detailed Est.
Start Date:	See Project Cost Summary	Site GSF:	23,215
Estimate Date:	May 31, 2023		

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	Site Preparation	23,215	sga	$9.06	$210,410
G20	Site Improvements	23,215	sga	$43.42	$1,007,953
G30	Site Civil / Mech Utilities	23,215	sga	$3.24	$75,180
G40	Site Electrical Utilities	23,215	sga	$10.77	$250,000
G50	Other Site Construction	23,215	sga	$0.00	$0
Sitework Subtotal					**$1,543,543**
	Design Contingency			20.00%	$308,709
	Subtotal				$1,852,251
	Contractor Mark Up (Overhead, Profit, Insurance, Bond, B&O Tax)			7.00%	$129,658
	Subtotal				$1,981,909
	Escalation to Mid-Point (See Summary)			0.00%	$0
SITEWORK TOTAL		23,215	SGA	$85.37	**$1,981,909**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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Fire Station 38 - ROW Sitework
Conceptual Estimate

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	**SITE PREPARATON**				
	General Sitework Requirements				
	Mobilization	1	ls	40,000.00	$40,000
	Site Layout & Potholing	1	ls	15,000.00	$15,000
	Traffic Control (for entire project)	6	weeks	6,500	$39,000
	Site Improvements Demolition & Relocation				
	Demo Paving				
	Remove ROW Asphalt Paving	8,685	sf	1.50	$13,028
	Saw Cut Asphalt Paving	1,445	lf	4.00	$5,780
	Remove Curbs	645	lf	5.00	$3,225
	Demo Utilities				
	Existing Utilities, Catch Basins, and Misc. Pipe Connections - Allowance	1	ls	5,000.00	$5,000
	Misc. Site Clearing	23,215	sga	0.25	$5,804
	Site Earthwork				
	TESC Erosion Control & Dewatering (Area Allowance)	23,215	sga	0.60	$13,929
	Excavation				
	Misc Cut / Fill & Grading for ROW Work	23,215	sga	3.00	$69,645
	Contaminated Soil Remediation				
	Excluded			-	$0
	SUBTOTAL SITE PREPARATON	**23,215**	**SGA**	**$9.06**	**$210,410**
G20	**SITE IMPROVEMENTS**				
	Asphalt Paving (Base Courses Included)				
	Street Paving (5th Ave W & Tacoma Blvd. N. Patch Back)	8,685	sf	15.00	$130,275
	Concrete Site Work (Base Courses Included)				
	City Sidewalk at Street	2,345	sf	9.50	$22,278
	Concrete Driveway Entries over 6" crushed rock	2	ea	3,500.00	$7,000
	Curb and Gutter	885	lf	35.00	$30,975
	Curb Ramps	7	ea	500.00	$3,500
	Pavement Markings/ROW				
	Cross Walk Striping	1	ea	3,850.00	$3,850
	Site Development				
	Structural Steel Walk Way Over Wetland - (Steel Piles, Steel Deck with Grating, and Rails)	4,237	sf	175.00	$741,475
	Landscaping/Irrigation				
	ROW Landscaping Allowance	5,000	sf	10.00	$50,000
	Trees - Allowance (20' o.c. in Tacoma Blvd and 5th Ave NW landscape buffer)	31	ea	600.00	$18,600
	SUBTOTAL SITE IMPROVEMENTS	**23,215**	**SGA**	**$43.42**	**$1,007,953**

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Value Regional Fire Authority
Fire Station 38 - ROW Sitework
Conceptual Estimate

ROEN ASSOCIATES

No.	*DETAILED ESTIMATE* Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G30	**SITE CIVIL / MECHANICAL UTILITIES**				
	Water Service				
	Tie-in at Existing (includes gate valve)	2	ea	$ 3,000.00	$6,000
	Water/Fire Line, 8" Ductile Iron (includes trench, bedding and backfill)	430	lf	$ 110.00	$47,300
	Sanitary Sewer Systems				
	Tie-in at Existing	3	ea	$ 500.00	$1,500
	Sewer Line, 6" PVC (includes trench, bedding and backfill)	45	lf	$ 60.00	$2,700
	Catch Basin Type 1	4	ea	$ 2,500.00	$10,000
	Catch Basin Type 2	2	ea	$ 3,000.00	$6,000
	Gas:				
	Natural Gas Trench and Backfill (Gas Line by Utility Purveyor)	70	lf	24.00	$1,680
	SUBTOTAL SITE CIVIL / MECHANICAL UTILITIES	**23,215**	**SGA**	**$3.24**	**$75,180**
G40	**SITE ELECTRICAL UTILITIES**				
	Electrical and Telecom Utilities, Site Lighting				
	Street Signalization	1	ls	$ 250,000	$250,000
	ROW Street Lights & Power - By Utility Provider, Owner Paid			$ -	$0
	SUBTOTAL SITE ELECTRICAL UTILITIES	**23,215**	**SGA**	**$10.77**	**$250,000**
G50	**OTHER SITE CONSTRUCTION**				
	Other Site Construction				
	See Fire Station 38 Site Work				
	SUBTOTAL OTHER SITE CONSTRUCTION	**23,215**	**SGA**	**$0.00**	**$0**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**23,215**	**SGA**	**$0.00**	**$0**

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FIRE STATION 31

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Construction Cost Summary

Owner: **Valley Regional Fire Authority**

Project: **Bond Measure - Fire Stations 36, 38, 31 & L+M**

May 31, 2023

ESTIMATED COSTS SUMMARY - HQ STATION 31

Item	Description	QTY	UOM	$ / UOM	Cost
1	HQ Station 31	33,376	BGSF	$531.54	$17,740,754
2	Sitework Phase 1	52,191	SGA	$57.01	$2,975,322
3	Sitework Phase 2	48,623	SGA	$47.50	$2,309,414
4	General Conditions & Support Services	20	MO	$75,000	$1,500,000
Total Estimated Construction Cost (Today's Dollars)					**$24,525,490**
5	Escalation to Midpoint - See Project Cost Summary				TBD
Total Construction Cost (Escalated)					**See Project Cost Summary**

COMMENTS:

Design, Bid, Build delivery method is assumed

Assumed project duration is 20 months. 16 months for HQ Station 31 & Sitework Phase 1 construction. 4 months for Owner Moving & Sitework Phase 2 construction

See Project Cost Summary for Construction Start and Escalation

ROW electrical work is assumed to be owner paid and by utility provider. ROW electrical work is EXCLUDED

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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500 Union St #927
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Value Regional Fire Authority
HQ Station 31
Conceptual Estimate

ROEN ASSOCIATES

Project Owner:	**Valley Regional Fire Authority**	Architect:	TCA
Project Name:	**Bond Measure - Fire Stations 36, 38, 31 & L+M**	Project Duration:	See Summary
Project Location:	Auburn, WA	Building GSF:	33,376
Project Start Date:	See Project Cost Summary	Site GSF:	See Detailed Est.
Estimate Date:	May 31, 2023		

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	Foundations	33,376	BGSF	$20.35	$679,046
A20	Basement Construction	33,376	BGSF	$0.00	$0
B10	Superstructure	33,376	BGSF	$73.13	$2,440,814
B20	Exterior Enclosure	33,376	BGSF	$57.54	$1,920,482
B30	Roofing	33,376	BGSF	$17.22	$574,589
C10	Interior Construction	33,376	BGSF	$45.99	$1,534,870
C20	Stairs	33,376	BGSF	$4.94	$165,000
C30	Interior Finishes	33,376	BGSF	$28.28	$943,926
D10	Conveying Systems	33,376	BGSF	$3.90	$130,000
D20	Plumbing	33,376	BGSF	$18.55	$619,218
D30	HVAC	33,376	BGSF	$65.11	$2,173,238
D40	Fire Protection	33,376	BGSF	$6.00	$200,256
D50	Electrical	33,376	BGSF	$80.97	$2,702,338
E10	Equipment	33,376	BGSF	$4.85	$161,988
E20	Casework & Furnishings	33,376	BGSF	$5.15	$171,752
F10	Special Construction	33,376	BGSF	$0.00	$0
F20	Selective Demolition	33,376	BGSF	$0.00	$0
Building Construction Subtotal					**$14,417,516**
	Design Contingency			15.00%	$2,162,627
	Subtotal				$16,580,144
	Contractor Mark Up (Overhead, Profit, Insurance, Bond, B&O Tax)			7.00%	$1,160,610
	Subtotal				$17,740,754
	Escalation to Mid-Point (See Summary)				$0
BUILDING GRAND TOTAL		33,376	BGSF	$531.54	**$17,740,754**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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HQ Station 31
Conceptual Estimate

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	**FOUNDATIONS**				
	Foundations				
	Footings & Stem Walls (inc reinforcing)	33,376	gsf	$ 13.00	$433,888
	Slab-on-Grade				
	4" Slab on Grade (inc reinforcing, base course and vapor barrier)	9,668	sf	$ 11.00	$106,348
	8" App. Bay Slab on Grade (inc reinforcing, base course, vapor barrier and concrete work for trench drains)	7,020	sf	$ 15.50	$108,810
	Misc. Concrete				
	Elevator Pits (including sump and waterproofing)	1	ls	$ 25,000	$25,000
	Housekeeping Pads	250	sf	$ 20.00	$5,000
	SUBTOTAL FOUNDATIONS	**33,376**	**BGSF**	**$20.35**	**$679,046**
A20	**BASEMENT CONSTRUCTION**				
	Basement Construction - Not in Scope				
	SUBTOTAL BASEMENT CONSTRUCTION	**33,376**	**BGSF**	**$0.00**	**$0**
B10	**SUPERSTRUCTURE**				
	Structural Steel				
	Floor & Roof Structure, Beams & Columns				
	Structural Framing w/ BRB Lateral System (18 psf Allowance @ Floor Framing)	297,000	lbs	$ 3.50	$1,039,500
	Structural Framing w/ BRB Lateral System (13 psf Allowance @ Roof Framing)	214,500	lbs	$ 3.50	$750,750
	Metal Deck				
	Floor Decking	9,668	sf	$ 11.00	$106,348
	Acoustical Floor Decking @ App. Bay	7,020	sf	$ 17.00	$119,340
	Roof Decking	16,688	sf	$ 9.00	$150,192
	Miscellaneous Metals				
	Allowance	33,376	gsf	$ 1.00	$33,376
	Building Canopies - Allowance	1,000	sf	$ 30.00	$30,000
	Mechanical Screen - Allowance	1,200	sf	$ 40.00	$48,000
	Fireproofing				
	Intumescent Paint @ App. Bay	7,020	sf	$ 15.00	$105,300
	Spray Applied Structural Steel Fireproofing @ Floor Deck not in App. Bay	9,668	sf	$ 6.00	$58,008
	Firestopping - See Interior Partitions				
	SUBTOTAL SUPERSTRUCTURE	**33,376**	**BGSF**	**$73.13**	**$2,440,814**

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Conceptual Estimate

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
B20	**EXTERIOR ENCLOSURE**				
	Exterior Wall Construction (70% of Enclosure)				
	Exterior Wall Assembly (GWB - Finish 1 Side, vapor barrier, metal studs 6", R-19 batt insulation, sheathing, 2" rigid insulation, WRB)	12,758	sf	$ 37.50	$478,433
	Cladding Allowance - Mixture of Brick Veneer, & Exposed Fastener Metal Siding	12,758	sf	$ 30.00	$382,746
	Architectural Detailing - Allow for Articulation, Awnings, Fins	12,758	sf	$ 5.00	$63,791
	Mechanical Screen - Metal Siding	1,200	sf	$ 20.00	$24,000
	Exterior Soffits & Canopies (Includes Framing				
	Canopy Soffits - Open to Structure, Painted	1,000	sf	$ 3.00	$3,000
	Exterior Windows (30% of Enclosure)				
	Fiberglass Windows w/ Flashings	5,468	sf	$ 120.00	$656,136
	Exterior Doors				
	Storefront Entry Doors, Hardware, per leaf	4	ea	$ 7,500.00	$30,000
	Ext. HM Dr, HM Frame, Hardware, per leaf	4	ea	$ 3,500.00	$14,000
	Push Button ADA Auto Operators (per entrance)	1	ea	$ 5,000.00	$5,000
	OH Doors				
	Hi-speed Coiling Doors (Hormann or similar) w/ fire accessories	6	ea	$ 35,000.00	$210,000
	Glazed Sectional @ Exercise	1	ea	$ 10,000.00	$10,000
	Exterior Paint & Sealants				
	Exterior - Control Joints, Caulking and Joint Sealants	33,376	gsf	$ 1.00	$33,376
	Building Graphics				
	Allowance for Building Signage	1	ls	$ 10,000.00	$10,000
	SUBTOTAL EXTERIOR ENCLOSURE	**33,376**	**BGSF**	**$57.54**	**$1,920,482**
B30	**ROOFING**				
	Roof Coverings				
	Membrane Roofing System (Sarnafil PVC) w/ Rigid Insulation	16,688	sf	$ 24.00	$400,512
	Metal Roofing @ Canopies	1,000	sf	$ 30.00	$30,000
	Flashing and Sheet Metal				
	Copings, Scuppers, Gutters, Downspouts, & Miscellaneous Roof Flashing / Rough Carpentry	15%	on	$430,512	$64,577
	Skylights				
	Allowance	500	sf	$ 100.00	$50,000
	Roof Accessories				
	Walk Pads - Allowance	500	sf	$ 8.00	$4,000
	Fall Protection Anchors - Allowance	26	ea	$ 750.00	$19,500
	Access Ladders	1	ea	$ 3,500.00	$3,500
	Roof Hatches	1	ea	$ 2,500.00	$2,500
	SUBTOTAL ROOFING	**33,376**	**BGSF**	**$17.22**	**$574,589**

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Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
C10	**INTERIOR CONSTRUCTION**				
	Partitions				
	Interior GWB Partitions & Assemblies - (Allowance based on 2 sf of partition per gsf building area, minus the App. Bay)	52,712	sf	$ 17.00	$896,104
	Premium for STC & Fire Rated Partitions & Assemblies	10%	on	$896,104	$89,610
	Interior Glazing				
	Int. Storefront & HM Relites (% Allowance on Partitions)	10%	on	$985,714	$98,571
	Interior Doors, Frames, Hardware				
	Fire Station Doors, Frames and HW - (Allowance based on 1 door per 250 gsf building area. App bay not included in area)	39	ea	3,000.00	$117,000
	Admin Doors, Frames and HW - (Allowance based on 1 door per 380 gsf building area)	44	ea	3,000.00	$132,000
	Premium for Electronic HW, STC, & Fire Ratings	20%	on	$ 249,000	$49,800
	Fittings / Specialties				
	Toilet & Janitorial Accessories - Allowance	33,376	gsf	$ 1.50	$50,064
	Visual Display Specialties - Allowance				
	Marker and Tack Boards	1	ls	$ 20,000.00	$20,000
	Signage (Code and Wayfinding)	33,376	gsf	$ 0.75	$25,032
	Fire Pole w/ Safety Enclosure	2	ea	$ 20,000.00	$40,000
	Misc. Specialties Allowance (FECs, Corner Guards, etc...)	33,376	gsf	$ 0.50	$16,688
	SUBTOTAL INTERIOR CONSTRUCTION	**33,376**	**BGSF**	**$45.99**	**$1,534,870**
C20	**STAIRS**				
	Stair Construction (includes concrete, finishes and guard/hand rails)				
	Pre-Engineered Metal Egress Stair, per floor to floor flight w/ landing (24' to second floor)	1.5	ea	$ 35,000.00	$52,500
	Feature Stair, per floor to floor flight w/ landing (24' to second floor)	1.5	ea	$ 75,000.00	$112,500
	SUBTOTAL STAIRS	**33,376**	**BGSF**	**$4.94**	**$165,000**
C30	**INTERIOR FINISHES**				
	Wall Finishes				
	Paint to Walls, Doors, Frames and Miscellaneous	33,376	gsf	$ 5.00	$166,880
	Other Wall Finishes @ Fire Program (Restroom Wall Tile, Fiber Reinforced Wall Coating in Decontamination, Corridor Wainscots, Acoustical Panels, Manufactured Wall Panels in App Bay, Etc…)	16,688	gsf	$ 7.50	$125,160
	Other Wall Finishes @ Admin Program (Restroom Wall Tile, Acoustical Panels, Feature Wall, Etc…)	16,688	gsf	$ 6.00	$100,128
	Floor & Base Finishes				
	Floor Finish Allowance (Mixture of Carpet, Resilient, Polished Concrete, Sealed Concrete)	33,376	gsf	$ 8.00	$267,008

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Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Ceiling Finishes				
	Fire Program Ceiling Finish Allowance (Mixture of ACT, GWB and Painted Open Structure)	16,750	gsf	$ 7.00	$117,250
	Admin Program Ceiling Finish Allowance (Mixture of ACT and GWB)	16,750	gsf	$ 10.00	$167,500
	SUBTOTAL INTERIOR FINISHES	**33,376**	**BGSF**	**$28.28**	**$943,926**
D10	**CONVEYING SYSTEMS**				
	Elevators & Lifts - Not in Scope				
	Hydraulic Elevator, 2 Stops	1	ea	$ 130,000	$130,000
	SUBTOTAL CONVEYING SYSTEMS	**33,376**	**BGSF**	**$3.90**	**$130,000**
D20	**PLUMBING**				
	Plumbing				
	Plumbing Fixtures	33,376	gsf	$ 7.42	$247,781
	Domestic Water Distribution	33,376	gsf	$ 4.65	$155,309
	Sanitary Waste	33,376	gsf	$ 3.74	$124,824
	Rain Water Drainage	33,376	gsf	$ 1.38	$46,188
	Other Plumbing Systems - Allowance	33,376	gsf	$ 1.35	$45,116
	SUBTOTAL PLUMBING	**33,376**	**BGSF**	**$18.55**	**$619,218**
D30	**HVAC**				
	HVAC				
	VRFZ Direct Expansion Systems	33,376	gsf	$ 16.68	$556,721
	Air Distribution Systems	33,376	gsf	$ 28.98	$967,138
	Exhaust Ventilation Systems, Incl. Source Capture Exhaust, and (1) Type 1 Kitchen Hood.	33,376	gsf	$ 7.12	$237,503
	Controls and Instrumentation	33,376	gsf	$ 9.28	$309,875
	Testing and Balancing	33,376	gsf	$ 1.24	$41,425
	Third Party Commissioning	33,376	gsf	$ 0.31	$10,356
	Other HVAC Systems and Components	33,376	gsf	$ 1.50	$50,220
	SUBTOTAL HVAC	**33,376**	**BGSF**	**$65.11**	**$2,173,238**
D40	**FIRE PROTECTION**				
	Fire Protection				
	Sprinkler System	33,376	gsf	$ 6.00	$200,256
	SUBTOTAL FIRE PROTECTION	**33,376**	**BGSF**	**$6.00**	**$200,256**

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
D50	**ELECTRICAL**				
	Electrical				
	Distribution	33,376	gsf	$ 5.95	$198,566
	Feeders	33,376	gsf	$ 4.87	$162,458
	Generator & Transfer Equipment	1	ls	$ 275,000	$275,000
	Grounding System	33,376	gsf	$ 1.19	$39,859
	Mechanical Equipment and Branch	33,376	gsf	$ 6.79	$226,745
	Power Devices and Branch, EMT concealed	33,376	gsf	$ 8.41	$280,644
	Lighting Fixture Cost (Allowance $7.50 per foot) LED	33,376	gsf	$ 7.50	$250,320
	Lighting and Branch, EMT installation concealed	33,376	gsf	$ 5.41	$180,557
	Lighting Control	33,376	gsf	$ 2.52	$84,007
	Fire Alarm, EMT concealed	33,376	gsf	$ 2.73	$91,200
	LV System Rough-in (Tele/Data)	33,376	gsf	$ 2.07	$69,236
	LV System Install	33,376	gsf	$ 5.67	$189,251
	CCTV System Rough-In	33,376	gsf	$ 0.97	$32,309
	CCTV System Install	33,376	gsf	$ 5.07	$169,351
	Access Control Rough-In	33,376	gsf	$ 1.19	$39,694
	Access Control System (2 doors)	33,376	gsf	$ 4.14	$138,168
	Security System	33,376	gsf	$ 0.60	$20,000
	DAS (800 MHz) system	33,376	gsf	$ 3.55	$118,473
	A/V System	33,376	gsf	$ 1.65	$55,000
	A/V Rough-in	33,376	gsf	$ 0.49	$16,500
	FAST (Fast Alerting System)	33,376	gsf	$ 1.95	$65,000
	SUBTOTAL ELECTRICAL	**33,376**	**BGSF**	**$80.97**	**$2,702,338**
E10	**EQUIPMENT**				
	Storage Equipment				
	Gear Lockers	48	ea	$ 1,100.00	$52,800
	Misc. Fixed Shelving, Etc…	33,376	gsf	$ 0.50	$16,688
	Residential Equipment				
	Kitchen Appliances	1	ls	$ 40,000.00	$40,000
	Admin Breakroom Appliances	1	ls	$ 7,500.00	$7,500
	Commercial Equipment				
	Washer / Extractor & Turnout Gear Dryer	1	ls	$ 45,000.00	$45,000
	SUBTOTAL EQUIPMENT	**33,376**	**BGSF**	**$4.85**	**$161,988**
E20	**CASEWORK & FURNISHINGS**				
	Fixed Millwork / Casework				
	Kitchen Casework & Solid Surface Counters	1	ls	$ 30,000.00	$30,000
	Admin Reception	1	ls	$ 15,000.00	$15,000
	Misc. TBD Allowance	33,376	gsf	$ 2.00	$66,752

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Value Regional Fire Authority
HQ Station 31
Conceptual Estimate

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Window Treatment				
	Allowance	1	ls	$ 60,000.00	$60,000
	Moveable Furnishings				
	EXCLUDED			$ -	$0
	SUBTOTAL FURNISHINGS	**33,376**	**BGSF**	**$5.15**	**$171,752**
F10	**SPECIAL CONSTRUCTION**				
	Special Construction - Not in Scope				
	SUBTOTAL SPECIAL CONSTRUCTION	**33,376**	**BGSF**	**$0.00**	**$0**
F20	**SELECTIVE BUILDING DEMOLITION**				
	Building Structural Demolition				
	None				
	Hazardous Components Abatement				
	None				
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	**33,376**	**BGSF**	**$0.00**	**$0**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**33,376**	**BGSF**	**$0.00**	**$0**

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Seattle, WA 98101

Value Regional Fire Authority
HQ Station 31 - Sitework Phase 1
Conceptual Estimate

Project Owner:	**Valley Regional Fire Authority**	Architect:	TCA
Project Name:	**Bond Measure - Fire Stations 36, 38, 31 & L+M**	Project Duration:	See Summary
Project Location:	Auburn, WA	Building GSF:	See Detailed Est.
Start Date:	See Project Cost Summary	Site GSF: Phase 1	52,191
Estimate Date:	May 31, 2023		

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	Site Preparation	52,191	sga	$12.14	$633,367
G20	Site Improvements	52,191	sga	$12.54	$654,536
G30	Site Civil / Mech Utilities	52,191	sga	$11.22	$585,385
G40	Site Electrical Utilities	52,191	sga	$7.61	$397,000
G50	Other Site Construction	52,191	sga	$2.83	$147,690
Sitework Subtotal					**$2,417,978**
	Design Contingency			15.00%	$362,697
	Subtotal				$2,780,675
	Contractor Mark Up (Overhead, Profit, Insurance, Bond, B&O Tax)			7.00%	$194,647
	Subtotal				$2,975,322
	Escalation to Mid-Point (See Summary)			0.00%	$0
SITEWORK TOTAL		52,191	SGA	$57.01	**$2,975,322**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	**SITE PREPARATON**				
	General Sitework Requirements				
	Mobilization	1	ls	60,000.00	$60,000
	Site Layout & Potholing	1	ls	15,000.00	$15,000
	Traffic Control (for entire project)	4	weeks	6,500	$26,000
	Whole Building Demolition				
	Existing Building	6,000	sf	10.00	$60,000
	Modular Building - Moved by Owner			-	$0
	Hazardous Components Abatement				
	Existing Building	6,000	sf	3.50	$21,000
	Site Improvements Demolition & Relocation				
	Demo Existing Asphalt	30,000	sf	1.00	$30,000
	Demo Existing Sidewalks	380	sf	2.50	$950
	Sawcut Existing Sidewalks	1	ls	3,000.00	$3,000
	Misc. Site Demo / Clearing	52,191	sga	0.50	$26,096
	Site Earthwork				
	Temporary Construction Fencing	960	lf	10.00	$9,600
	TESC Erosion Control & Dewatering (Area Allowance)	52,191	sga	0.60	$31,315
	Excavation				
	Stripping & Haul Off (6")	967	cy	30.00	$28,995
	Imported Fill (Allowance per AHBL narrative)	5,500	cy	50.00	$275,000
	Grading	52,191	sga	0.65	$33,924
	Building Pad Prep	16,650	sf	$ 0.75	$12,488
	Foundation Earthwork				
	Footing Excavation and Backfill	In Building Section A10			
	Footing Drains with Gravel	In Building Section A10			
	Contaminated Soil Remediation				
	Excluded			-	$0
	SUBTOTAL SITE PREPARATON	**52,191**	**SGA**	**$12.14**	**$633,367**
G20	**SITE IMPROVEMENTS**				
	Asphalt Paving (Base Courses Included)				
	Parking (Light Duty Asphalt)	8,925	sf	5.00	$44,625
	Concrete Site Work (Base Courses Included)				
	ROW Sidewalk Widening (incl. patching of existing for new utilities)	472	sf	10.00	$4,720
	Doweling to Existing Concrete Sidewalk	236	ea	50.00	$11,800
	Apparatus Front Apron (8" Reinforced)	13,825	sf	15.00	$207,375
	Concrete Site Walks	1,506	sf	8.00	$12,048
	Courtyard (decorative paving)	500	sf	12.00	$6,000
	Generator & Fueling Pad (Raised)	355	sf	20.00	$7,100
	Curbs, Vertical CIP	500	lf	25.00	$12,500
	Pavement Markings/Site Signage				
	Wheel Stops	20	ea	150.00	$3,000
	Striping - ADA Stalls with Signage	2	ea	950.00	$1,900

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Striping - Standard Stalls	20	ea	125.00	$2,500
	Striping - Arrows	6	ea	200.00	$1,200
	Site Signage	2	ea	5,000.00	$10,000
	Tactile Warning Strips	500	sf	30.00	$15,000
	Site Development				
	Site Furnishings and Amenities (flag pole, seat walls, bike racks, bollards, benches, monument sign) - Allowance	52,191	gsf	0.65	$33,924
	Fencing and Gates				
	Ornamental Security Metal Fencing - 6'	230	lf	250.00	$57,500
	Man Gate, Security (w/ electronic access)	2	ea	3,000	$6,000
	Automated Vehicular Gate, Security (w/ electronic access)	1	ea	20,000	$20,000
	Trash Enclosure Chain-link Swing Gates				
	Masonry Site Enclosure Walls				
	Trash Enclosure, 8'	400	sf	45.00	$18,000
	Generator & Fueling, 10'	550	sf	45.00	$24,750
	Courtyard Screen Wall, 10'	250	sf	45.00	$11,250
	Generator & Fueling Canopy	400	sf	85.00	$34,000
	Landscaping/Irrigation				
	Area Allowance (Mixture of Irrigated Planters, Irrigated Lawn, and Non-irrigated Natural Plantings)	16,704	sf	6.00	$100,224
	Trees - Allowance (20' o.c. in 30th & 1st Street landscape buffer)	15	ea	600.00	$9,120
	SUBTOTAL SITE IMPROVEMENTS	**52,191**	**SGA**	**$12.54**	**$654,536**
G30	**SITE CIVIL / MECHANICAL UTILITIES**				
	Water Service				
	Water/Fire Line, 6" - 8" Ductile Iron (includes trench, bedding and backfill)	250	lf	$ 95.00	$23,750
	Water Meter in Vault	1	ea	$ 10,000.00	$10,000
	Irrigation Meter	1	ea	1,500.00	$1,500
	Double Check Valve (in vault)	1	ea	$ 15,000.00	$15,000
	FDC - Fire Department Connection	1	ea	$ 2,750.00	$2,750
	Hydrant Assembly	1	ea	$ 5,000.00	$5,000
	Tie-in at Existing (includes gate valve)	4	ea	$ 3,000	$12,000
	Sanitary Sewer Systems				
	Side Sewer, 6" PVC (includes trench, bedding and backfill)	318	lf	$ 45.00	$14,310
	Tie-in at Existing	3	ea	$ 1,000	$3,000
	Cleanouts	4	ea	$ 900.00	$3,600
	Catch Basin to Oil Separator	1	ea	$ 3,500.00	$3,500
	Grease Interceptor	1	ea	$ 15,000.00	$15,000
	Oil / Water Separator	1	ea	$ 10,000.00	$10,000
	Storm Drainage				
	Tie-in at Existing	1	ea	$ 1,500.00	$1,500
	Drain Line, 12" PVC / CPEP (includes trench, bedding and backfill)	263	lf	$ 45.00	$11,835
	Cleanouts	8	ea	$ 500.00	$4,000
	Catch Basin Type 1	1	ea	$ 3,000.00	$3,000

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Value Regional Fire Authority
HQ Station 31 - Sitework Phase 1
Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Storm Water Treatment Device	2	ea	$ 35,000.00	$70,000
	Control Storm Drainage Manhole w Flow Splitter	1	ea	$ 7,000.00	$7,000
	Underground Detention Pipe, 48" (includes mass ex. and backfill)	2,040	lf	$ 180.00	$367,200
	Gas:				
	Natural Gas Trench and Backfill (Gas Line by Utility Purveyor)	60	lf	$ 24.00	$1,440
	SUBTOTAL SITE CIVIL / MECHANICAL UTILITIES	**52,191**	**SGA**	**$11.22**	**$585,385**
G40	**SITE ELECTRICAL UTILITIES**				
	Electrical and Telecom Utilities, Site Lighting				
	Electrical Utility	1	ls	$ 35,000.00	$35,000
	Tele/Data Utility	1	ls	$ 22,500.00	$22,500
	Site Lighting LED (Branch and Pole Bases)	1	ls	$ 70,000.00	$70,000
	Site Power	1	ls	$ 7,500.00	$7,500
	Car Chargers (double head)	1	ea	$ 12,000.00	$12,000
	Street Signalization	1	ls	$ 250,000	$250,000
	Site Cameras (Install) - Incl. with CCTV in Building				$0
	SUBTOTAL SITE ELECTRICAL UTILITIES	**52,191**	**SGA**	**$7.61**	**$397,000**
G50	**OTHER SITE CONSTRUCTION**				
	Fuel Distribution				
	Fueling Station (1,000 gallon diesel)	1	ls	$ 73,845.00	$73,845
	Fueling Station (1,000 gallon gas)	1	ls	$ 73,845.00	$73,845
	SUBTOTAL OTHER SITE CONSTRUCTION	**52,191**	**SGA**	**$2.83**	**$147,690**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**52,191**	**SGA**	**$0.00**	**$0**

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Value Regional Fire Authority
HQ Station 31 - Sitework Phase 2
Conceptual Estimate

Project Owner:	**Valley Regional Fire Authority**	Architect:	TCA
Project Name:	**Bond Measure - Fire Stations 36, 38, 31 & L+M**	Project Duration:	See Summary
Project Location:	Auburn, WA	Building GSF:	See Detailed Est.
Start Date:	See Project Cost Summary	Site GSF: Phase 1	48,623
Estimate Date:	May 31, 2023		

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	Site Preparation	48,623	sga	$17.30	$841,225
G20	Site Improvements	48,623	sga	$8.29	$403,200
G30	Site Civil / Mech Utilities	48,623	sga	$10.89	$529,450
G40	Site Electrical Utilities	48,623	sga	$2.12	$102,935
G50	Other Site Construction	48,623	sga	$0.00	$0
Sitework Subtotal					**$1,876,810**
	Design Contingency			15.00%	$281,521
	Subtotal				$2,158,331
	Contractor Mark Up (Overhead, Profit, Insurance, Bond, B&O Tax)			7.00%	$151,083
	Subtotal				$2,309,414
	Escalation to Mid-Point (See Summary)			0.00%	$0
SITEWORK TOTAL		48,623	SGA	$47.50	**$2,309,414**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	**SITE PREPARATON**				
	General Sitework Requirements				
	Mobilization	1	ls	50,000.00	$50,000
	Site Layout & Potholing	1	ls	15,000.00	$15,000
	Traffic Control (for entire project)	3	weeks	6,500	$19,500
	Whole Building Demolition				
	Existing FS 31 Station	16,000	sf	10.00	$160,000
	Hazardous Components Abatement				
	Existing FS 31 Station	16,000	sf	3.50	$56,000
	Site Improvements Demolition & Relocation				
	Demo Existing Light and Heavy Duty Asphalt	17,278	sf	1.50	$25,917
	Demo Existing Sidewalks	3,010	sf	2.50	$7,525
	Sawcut Existing Sidewalks	1	ls	3,000.00	$3,000
	Misc. Site Demo / Clearing	1	ls	2,500.00	$2,500
	Site Earthwork				
	Temporary Construction Fencing	880	lf	10.00	$8,800
	TESC Erosion Control & Dewatering (Area Allowance)	48,623	sga	0.60	$29,174
	Excavation				
	Stripping & Haul Off (6")	900	cy	30.00	$27,013
	Imported Fill (Raise Grade by 2' per AHBL narrative)	8,104	cy	50.00	$405,192
	Grading	48,623	sga	0.65	$31,605
	Foundation Earthwork				
	Footing Excavation and Backfill	In Building Section A10			
	Footing Drains with Gravel	In Building Section A10			
	Contaminated Soil Remediation				
	Excluded			-	$0
	SUBTOTAL SITE PREPARATON	**48,623**	**SGA**	**$17.30**	**$841,225**
G20	**SITE IMPROVEMENTS**				
	Site Improvements				
	Parking (Light Duty Asphalt), Sidewalks, Pavement Markings, Signage, Site Furnishings, Amenities, Landscape and Irrigation	26,880	sf	15.00	$403,200
	SUBTOTAL SITE IMPROVEMENTS	**48,623**	**SGA**	**$8.29**	**$403,200**
G30	**SITE CIVIL / MECHANICAL UTILITIES**				
	Water Service				
	Water/Fire Line, 6" - 8" Ductile Iron (includes trench, bedding and backfill) - Allowance	1	ls	$ 20,000.00	$20,000
	FDC - Fire Department Connection	1	ea	$ 2,750.00	$2,750
	Hydrant Assembly - Allowance	3	ea	5,000.00	$15,000
	Tie-in at Existing (includes gate valve)	2	ea	$ 3,000	$6,000
	Sanitary Sewer Systems				
	None				$0

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Value Regional Fire Authority
HQ Station 31 - Sitework Phase 2
Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Storm Drainage				
	SD Tie In To Existing - Allowance	1	ea	$ 1,500.00	$1,500
	Drain Line, 12" PVC / CPEP (includes trench, bedding and backfill) - Allowance	1	ls	$ 12,000.00	$12,000
	Cleanouts - Allowance	8	ea	$ 500.00	$4,000
	Catch Basin Type 1 - Allowance	8	ea	$ 3,000.00	$24,000
	Storm Water Treatment Device	2	ea	$ 35,000.00	$70,000
	Control Storm Drainage Manhole w Flow Splitter	1	ea	$ 7,000.00	$7,000
	Underground Detention Pipe, 48" (includes mass ex. and backfill) - Allowance	2,040	lf	$ 180.00	$367,200
	SUBTOTAL SITE CIVIL / MECHANICAL UTILITIES	**48,623**	**SGA**	**$10.89**	**$529,450**
G40	**SITE ELECTRICAL UTILITIES**				
	Electrical and Telecom Utilities, Site Lighting				
	Site Lighting LED (Branch and Pole Bases)	48,623	sga	$ 1.50	$72,935
	Car Chargers	2	ea	$ 15,000.00	$30,000
	Traffic Controls - None				$0
	Site Cameras (Install) - Incl. with CCTV in Building				$0
	Generator - Included w/ Building Costs				$0
	SUBTOTAL SITE ELECTRICAL UTILITIES	**48,623**	**SGA**	**$2.12**	**$102,935**
G50	**OTHER SITE CONSTRUCTION**				
	Other Site Construction				
	None				$0
	SUBTOTAL OTHER SITE CONSTRUCTION	**48,623**	**SGA**	**$0.00**	**$0**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**48,623**	**SGA**	**$0.00**	**$0**

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LOGISTICS & MAINTENANCE

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

Construction Cost Summary

Owner: **Valley Regional Fire Authority**

Project: **Bond Measure - Fire Stations 36, 38, 31 & L+M**

May 31, 2023

ESTIMATED COSTS SUMMARY - Logistics and Maintenance

Item	Description	QTY	UOM	$ / UOM	Cost
1	Logistics & Maintenance Bldg	15,324	BGSF	$371.55	$5,693,664
2	Sitework (Onsite & ROW)	85,500	SGA	$46.91	$4,011,062
3	General Conditions & Support Services	12	MO	$50,000	$600,000
Total Estimated Construction Cost (Today's Dollars)					**$10,304,726**
4	Escalation to Midpoint - See Project Cost Summary				TBD
Total Construction Cost (Escalated)					**See Project Cost Summary**

COMMENTS:

Design, Bid, Build delivery method is assumed

Assumed construction schedule duration is 12 months

See Project Cost Summary for Construction Start and Escalation

ROW electrical work is assumed to be owner paid and by utility provider. ROW electrical work is EXCLUDED

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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Value Regional Fire Authority
Logistics and Maintenance
Conceptual Estimate

ROEN ASSOCIATES

Project Owner:	**Valley Regional Fire Authority**	Architect:	TCA
Project Name:	**Bond Measure - Fire Stations 36, 38, 31 & L+M**	Project Duration:	See Summary
Project Location:	Auburn, WA	Building GSF:	15,324
Project Start Date:	See Project Cost Summary	Site GSF:	See Detailed Est.
Estimate Date:	May 31, 2023		

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	Foundations	15,324	BGSF	$23.49	$359,944
A20	Basement Construction	15,324	BGSF	$0.00	$0
B10	Superstructure	15,324	BGSF	$1.00	$15,324
B20	Exterior Enclosure	15,324	BGSF	$17.61	$269,862
B30	Roofing	15,324	BGSF	$0.85	$13,000
C10	Interior Construction	15,324	BGSF	$28.46	$436,177
C20	Stairs	15,324	BGSF	$0.00	$0
C30	Interior Finishes	15,324	BGSF	$17.00	$260,508
D10	Conveying Systems	15,324	BGSF	$0.00	$0
D20	Plumbing	15,324	BGSF	$20.00	$306,480
D30	HVAC	15,324	BGSF	$50.00	$766,200
D40	Fire Protection	15,324	BGSF	$5.00	$76,620
D50	Electrical	15,324	BGSF	$56.42	$864,580
E10	Equipment	15,324	BGSF	$4.89	$75,000
E20	Casework & Furnishings	15,324	BGSF	$3.94	$60,324
F10	Special Construction	15,324	BGSF	$80.00	$1,225,920
F20	Selective Demolition	15,324	BGSF	$0.00	$0
Building Construction Subtotal					**$4,729,939**
	Design Contingency			12.50%	$591,242
	Subtotal				$5,321,181
	Contractor Mark Up (Overhead, Profit, Insurance, Bond, B&O Tax)			7.00%	$372,483
	Subtotal				$5,693,664
	Escalation to Mid-Point (See Summary)				$0
BUILDING GRAND TOTAL		15,324	BGSF	$371.55	**$5,693,664**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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Value Regional Fire Authority
Logistics and Maintenance
Conceptual Estimate

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
A10	**FOUNDATIONS**				
	Foundations				
	Footings & Stem Walls (inc reinforcing, excavation, backfill and footing drains)	15,324	gsf	$ 10.00	$153,240
	Slab-on-Grade				
	4" Slab on Grade (inc reinforcing, base course and vapor barrier)	7,864	sf	$ 11.00	$86,504
	6" Warehouse Slab on Grade (inc reinforcing, base course, vapor barrier and concrete work for trench drains)	2,080	sf	$ 14.00	$29,120
	8" Maint. & Vehicle Bay Slab on Grade (inc reinforcing, base course, vapor barrier and concrete work for trench drains)	5,380	sf	$ 16.00	$86,080
	Misc. Concrete				
	Elevator Pits - None				
	Lube Pit - None			$ -	$0
	Housekeeping Pads	250	sf	$ 20.00	$5,000
	SUBTOTAL FOUNDATIONS	**15,324**	**BGSF**	**$23.49**	**$359,944**
A20	**BASEMENT CONSTRUCTION**				
	SUBTOTAL BASEMENT CONSTRUCTION	**15,324**	**BGSF**	**$0.00**	**$0**
B10	**SUPERSTRUCTURE**				
	Structural Steel				
	See Pre-Engineered Metal Building Pricing w/ F10			$ -	$0
	Miscellaneous Metals				
	Allowance for TBD	15,324	gsf	$ 1.00	$15,324
	Fireproofing				
	Structural Steel Fireproofing - Not Required				
	Firestopping - See Interior Partitions				
	SUBTOTAL SUPERSTRUCTURE	**15,324**	**BGSF**	**$1.00**	**$15,324**
B20	**EXTERIOR ENCLOSURE**				
	Exterior Wall Construction				
	See Pre-Engineered Metal Building Pricing w/ F10			$ -	$0
	Exterior Windows (15% of Enclosure)				
	Fiberglass Windows w/ Flashings	1,485	sf	$ 120.00	$178,200
	Exterior Doors				
	Storefront Entry Doors, Hardware, per leaf	2	ea	$ 7,500.00	$15,000
	Ext. HM Dr, HM Frame, Hardware, per leaf	4	ea	$ 3,500.00	$14,000
	Push Button ADA Auto Operators - Not Required			$ -	$0

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Roen Associates
500 Union St #927
Seattle, WA 98101

Value Regional Fire Authority
Logistics and Maintenance
Conceptual Estimate

ROEN ASSOCIATES

No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	OH Doors				
	Overhead Sectional, High Lift, Side Mounted Operator, 14'x14'	4	ea	$ 10,000.00	$40,000
	Glazed Sectional @ Exercise	1	ea	$ 10,000.00	$10,000
	Exterior Paint & Sealants				
	Exterior - Control Joints, Caulking and Joint Sealants	15,324	gsf	$ 0.50	$7,662
	Building Graphics				
	Allowance for Building Signage	1	ls	$ 5,000.00	$5,000
	SUBTOTAL EXTERIOR ENCLOSURE	**15,324**	**BGSF**	**$17.61**	**$269,862**
B30	**ROOFING**				
	Roof Coverings				
	See Pre-Engineered Metal Building Pricing w/ F10			$ -	$0
	Skylights				
	Allowance	100	sf	$ 100.00	$10,000
	Roof Accessories				
	Misc. Allowance	1	ls	$ 3,000.00	$3,000
	SUBTOTAL ROOFING	**15,324**	**BGSF**	**$0.85**	**$13,000**
C10	**INTERIOR CONSTRUCTION**				
	Partitions				
	GWB Partitions (GWB - Finish 2 Sides, metal studs, sound batts)	11,640	sf	$ 17.00	$197,880
	Premium for STC & Fire Rated Partitions & Assemblies	20%	on	$ 197,880	$39,576
	Interior Glazing				
	Int. Storefront & HM Relites (% Allowance on Partitions)	5%	on	$ 237,456	$11,873
	Interior Doors, Frames, Hardware				
	HM / SCW Dr, HM Frame, Hardware, Complete - per leaf	35	ea	$ 3,600	$126,000
	Premium for Electronic HW, STC, & Fire Ratings	20%	on	$ 126,000	$25,200
	Fittings / Specialties				
	Toilet & Janitorial Accessories - Allowance	15,324	gsf	$ 1.00	$15,324
	Visual Display Specialties - Allowance				
	Marker and Tack Boards	1	ls	$ 5,000	$5,000
	Signage (Code and Wayfinding)	15,324	gsf	$ 0.50	$7,662
	Misc. Specialties Allowance (FECs, Corner Guards, etc...)	15,324	gsf	$ 0.50	$7,662
	SUBTOTAL INTERIOR CONSTRUCTION	**15,324**	**BGSF**	**$28.46**	**$436,177**
C20	**STAIRS**				
	Stair Construction - Not in Scope				
	SUBTOTAL STAIRS	**15,324**	**BGSF**	**$0.00**	**$0**

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DETAILED ESTIMATE					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
C30	**INTERIOR FINISHES**				
	Wall Finishes				
	Paint to Walls, Doors, Frames and Miscellaneous	15,324	gsf	$ 3.00	$45,972
	Other Wall Finishes (Restroom Wall Tile, Corridor Wainscots, Acoustical Panels, Plywood Panels in Bays, Etc…)	15,324	gsf	$ 5.00	$76,620
	Floor & Base Finishes				
	Floor Finish Allowance (Mixture of Resilient, Polished Concrete, Sealed Concrete)	15,324	gsf	$ 5.00	$76,620
	Ceiling Finishes				
	Ceiling Finish Allowance (Mixture of ACT, GWB and Painted Open Structure)	15,324	gsf	$ 4.00	$61,296
	SUBTOTAL INTERIOR FINISHES	**15,324**	**BGSF**	**$17.00**	**$260,508**
D10	**CONVEYING SYSTEMS**				
	SUBTOTAL CONVEYING SYSTEMS	**15,324**	**BGSF**	**$0.00**	**$0**
D20	**Plumbing**				
	Plumbing				
	Plumbing Fixtures, Sanitary Waste, Domestic Water	15,324	gsf	$ 20.00	$306,480
	SUBTOTAL PLUMBING	**15,324**	**BGSF**	**$20.00**	**$306,480**
D30	**HVAC**				
	HVAC				
	System Complete	15,324	gsf	$ 50.00	$766,200
	SUBTOTAL HVAC	**15,324**	**BGSF**	**$50.00**	**$766,200**
D40	**FIRE PROTECTION**				
	Fire Protection				
	Sprinkler System	15,324	gsf	$ 5.00	$76,620
	SUBTOTAL FIRE PROTECTION	**15,324**	**BGSF**	**$5.00**	**$76,620**
D50	**ELECTRICAL**				
	Electrical				
	System Complete	15,324	gsf	$ 45.00	$689,580
	Generator & Transfer Equipment	1	ls	$ 175,000	$175,000
	SUBTOTAL ELECTRICAL	**15,324**	**BGSF**	**$56.42**	**$864,580**

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E10	**EQUIPMENT**				
	Vehicle Service Equipment				
	Contractor Install of Owner Furnished Equipment - Allowance	1	ls	$ 50,000.00	$50,000
	Residential Equipment				
	Kitchen, Break & Laundry Appliances	1	ls	$ 25,000.00	$25,000
	SUBTOTAL EQUIPMENT	**15,324**	**BGSF**	**$4.89**	**$75,000**
E20	**CASEWORK & FURNISHINGS**				
	Fixed Millwork / Casework				
	Kitchen Casework & Solid Surface Counters	1	ls	$ 30,000.00	$30,000
	Misc. TBD Allowance	15,324	gsf	$ 1.00	$15,324
	Window Treatment				
	Allowance	1	ls	$ 15,000.00	$15,000
	Moveable Furnishings				
	EXCLUDED			$ -	$0
	SUBTOTAL FURNISHINGS	**15,324**	**BGSF**	**$3.94**	**$60,324**
F10	**SPECIAL CONSTRUCTION**				
	Pre-Engineered Metal Building				
	18' Eave Height, Standard Category II Facility w/ Rigid Envelope Insulation (R-Seal or Similar)	15,324	gsf	$ 80.00	$1,225,920
	SUBTOTAL SPECIAL CONSTRUCTION	**15,324**	**BGSF**	**$80.00**	**$1,225,920**
F20	**SELECTIVE BUILDING DEMOLITION**				
	Building Structural Demolition				
	None				
	Hazardous Components Abatement				
	None				
	SUBTOTAL SELECTIVE BUILDING DEMOLITION	**15,324**	**BGSF**	**$0.00**	**$0**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**15,324**	**BGSF**	**$0.00**	**$0**

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Roen Associates
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Seattle, WA 98101

Value Regional Fire Authority
Logistics and Maintenance - Sitework
Conceptual Estimate

Project Owner:	**Valley Regional Fire Authority**	Architect:	TCA
Project Name:	**Bond Measure - Fire Stations 36, 38, 31 & L+M**	Project Duration:	See Summary
Project Location:	Auburn, WA	Building GSF:	See Detailed Est.
Start Date:	See Project Cost Summary	Site GSF:	85,500
Estimate Date:	May 31, 2023		

ESTIMATE SUMMARY					
No.	Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	Site Preparation	85,500	sga	$10.47	$895,035
G20	Site Improvements	85,500	sga	$11.96	$1,022,215
G30	Site Civil / Mech Utilities	85,500	sga	$10.64	$909,940
G40	Site Electrical Utilities	85,500	sga	$1.74	$149,000
G50	Other Site Construction	85,500	sga	$1.73	$147,690
Sitework Subtotal					**$3,123,880**
	Design Contingency			20.00%	$624,776
	Subtotal				$3,748,656
	Contractor Mark Up (Overhead, Profit, Insurance, Bond, B&O Tax)			7.00%	$262,406
	Subtotal				$4,011,062
	Escalation to Mid-Point (See Summary)			0.00%	$0
SITEWORK TOTAL		85,500	SGA	$46.91	**$4,011,062**

Estimate excludes soft costs such as design fees, permits, testing / inspections, construction change order contingencies, loose fixtures / furnishings, utility fees and sales tax.

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
G10	**SITE PREPARATON**				
	General Sitework Requirements				
	Mobilization	1	ls	75,000.00	$75,000
	Site Layout & Potholing	1	ls	15,000.00	$15,000
	Traffic Control (for entire project)	4	weeks	6,500	$26,000
	Whole Building Demolition				
	Allowance for Demolition of Existing Light Commercial Building	5,000	gsf	10.00	$50,000
	Hazardous Material Abatement - Allowance	5,000	gsf	5.00	$25,000
	Site Improvements Demolition & Relocation				
	Misc. Site Clearing (Trees, Existing Site items)	85,500	sga	0.25	$21,375
	Site Earthwork				
	Temporary Construction Fencing - Allowance	1,230	lf	10.00	$12,300
	TESC Erosion Control & Dewatering (Area Allowance)	85,500	sga	1.50	$128,250
	Excavation				
	Stripping & Haul Off (6")	1,583	cy	30.00	$47,500
	Imported Fill (Allowance per AHBL narrative)	8,700	cy	50.00	$435,000
	Grading	85,500	sga	0.65	$55,575
	Building Pad Prep	5,380	sf	$ 0.75	$4,035
	Foundation Earthwork				
	Footing Excavation and Backfill	In Building Section A10			
	Footing Drains with Gravel	In Building Section A10			
	Contaminated Soil Remediation				
	Excluded			-	$0
	SUBTOTAL SITE PREPARATON	**85,500**	**SGA**	**$10.47**	**$895,035**
G20	**SITE IMPROVEMENTS**				
	Asphalt Paving (Base Courses Included)				
	Street Pavement Widening	4,230	sf	15.00	$63,450
	Drive Ailes & Parking	27,250	sf	4.50	$122,625
	Concrete Site Work (Base Courses Included)				
	ROW Sidewalk Widening (incl. patching of existing for new utilities)	2,015	sf	9.00	$18,135
	Maint. Bay Front Apron (8" Reinforced)	11,200	sf	15.00	$168,000
	Courtyard (decorative paving)	500	sf	12.00	$6,000
	Concrete Site Walks	1,000	sf	8.00	$8,000
	Generator & Fueling Pad (Raised)	355	sf	20.00	$7,100
	Curb & Gutter CIP	215	lf	35.00	$7,525
	Curbs, Vertical CIP	1,240	lf	25.00	$31,000
	Curb Ramps	4	ea	500.00	$2,000
	Pavement Markings/Site Signage				
	Wheel Stops	12	ea	150.00	$1,800
	Striping - ADA Stalls with Signage	1	ea	950.00	$950
	Striping - Standard Stalls	28	ea	125.00	$3,500
	Striping - Arrows	7	ea	200.00	$1,400
	Site Signage	2	ea	5,000.00	$10,000

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No.	DETAILED ESTIMATE Description	Quantity	Unit of Measure	Unit Cost	Total Estimated Cost
	Tactile Warning Strips	250	sf	30.00	$7,500
	Site Development				
	Site Furnishings and Amenities (flag pole, seat walls, bike racks, bollards, benches, monument sign) - Allowance	85,500	gsf	0.65	$55,575
	Retaining Walls w/ Footings (Allowance per Narrative)	345	sf	95.00	$32,775
	Fencing and Gates				
	Chainlink Security Fencing, PVC Coated - 6'	1,175	lf	175.00	$205,625
	Man Gate, Security (w/ electronic access)	2	ea	3,000	$6,000
	Automated Vehicular Gate, Security (w/ electronic access)	1	ea	30,000	$30,000
	Automated Vehicular Gate, Security (exit only)	1	ea	25,000	$25,000
	Trash Enclosure Chain-link Swing Gates	2	ea	2,500	$5,000
	Masonry Site Enclosure Walls				
	Trash Enclosure, 8'	400	sf	45.00	$18,000
	Generator & Fueling, 10'	550	sf	45.00	$24,750
	Generator & Fueling Canopy	400	sf	85.00	$34,000
	Landscaping/Irrigation				
	Area Allowance (Mixture of Irrigated Planters, Irrigated Lawn, and Non-irrigated Natural Plantings)	23,981	sf	5.00	$119,905
	Trees - Allowance (20' o.c. in Street landscape buffer)	11	ea	600.00	$6,600
	SUBTOTAL SITE IMPROVEMENTS	**85,500**	**SGA**	**$11.96**	**$1,022,215**
G30	**SITE CIVIL / MECHANICAL UTILITIES**				
	Water Service				
	Tie-in at Existing (includes gate valve)	2	ea	$ 3,000	$6,000
	Water Meter, Double Check, PRV (in vault)	1	ea	$ 25,000	$25,000
	FDC - Fire Department Connection	1	ea	$ 2,750	$2,750
	PIV - Post Indicator Valve	1	ea	$ 2,500	$2,500
	Water/Fire Line, 12" Ductile Iron (incl. trench, bedding and backfill)	1,290	lf	$ 110.00	$141,900
	Hydrant Assembly	3	ea	$ 5,000	$15,000
	Sanitary Sewer Systems				
	Tie-in at Existing	1	ea	$ 1,000	$1,000
	Sewer Line (includes trench, bedding and backfill)	590	lf	$ 45.00	$26,550
	Sanitary Sewer Manhole	2	ea	$ 4,000.00	$8,000
	Cleanouts	4	ea	$ 900.00	$3,600
	Grease Interceptor	1	ea	$ 15,000.00	$15,000
	Oil / Water Separator	1	ea	$ 10,000.00	$10,000
	Storm Drainage				
	Tie-in at Existing	1	ea	$ 1,500.00	$1,500
	Drain Line, 12" PVC / CPEP (includes trench, bedding and backfill)	860	lf	$ 45.00	$38,700
	Cleanouts	8	ea	$ 500.00	$4,000
	Catch Basins	9	ea	$ 3,000.00	$27,000
	Storm Water Treatment Device w/ Curb Inlet	3	ea	$ 35,000.00	$105,000
	Control Storm Drainage Manhole w Flow Splitter	1	ea	$ 7,000.00	$7,000
	Underground Detention Pipe, 48" (includes mass ex. and backfill)	2,600	lf	$ 180.00	$468,000

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	Gas:				
	Natural Gas Trench and Backfill (Gas Line by Utility Purveyor)	60	lf	$ 24.00	$1,440
	SUBTOTAL SITE CIVIL / MECHANICAL UTILITIES	**85,500**	**SGA**	**$10.64**	**$909,940**
G40	**SITE ELECTRICAL UTILITIES**				
	Electrical and Telecom Utilities, Site Lighting				
	Electrical Utility	1	ls	$ 25,000.00	$25,000
	Tele/Data Utility	1	ls	$ 22,500.00	$22,500
	Site Lighting LED (Branch and Pole Bases)	1	ls	$ 70,000.00	$70,000
	Site Power	1	ls	$ 7,500.00	$7,500
	Car Chargers (double head)	2	ea	$ 12,000.00	$24,000
	Street Signalization - None			$ -	$0
	Generator - Included w/ Building Costs			$ -	$0
	SUBTOTAL SITE ELECTRICAL UTILITIES	**85,500**	**SGA**	**$1.74**	**$149,000**
G50	**OTHER SITE CONSTRUCTION**				
	Fuel Distribution				
	Fueling Station (1,000 gallon diesel)	1	ls	$ 73,845.00	$73,845
	Fueling Station (1,000 gallon gas)	1	ls	$ 73,845.00	$73,845
	SUBTOTAL OTHER SITE CONSTRUCTION	**85,500**	**SGA**	**$1.73**	**$147,690**
Z10	**GENERAL REQUIREMENTS**				
	General Conditions				
	See Summary				
	SUBTOTAL GENERAL REQUIREMENTS	**85,500**	**SGA**	**$0.00**	**$0**

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VISIONING WORKSHOP

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MEETING NOTES

VISIONING WORKSHOP

Project: VRFA Capital Facilities Improvements Phase 1
Date: 11.17.22 1-4:30pm

ATTENDEES

VRFA
Tim Day
Blake Laidlaw
Robin Irvine
Tyler Eliason
John Monsebroten
Jesse Mitchell
Jim Smith
Ryan Simpson
Stefanie Harper

TCA
Brian Harris
Forest Hooker

DISCUSSION ITEMS

1. Today's Purpose
    a. Example of Visioning Workshop Documentation
2. VRFA Big Picture
    a. Mission
    We serve the whole community. The VRFA saves lives and protects property through reliable emergency services, preparedness, and prevention.
    b. Core Values
        - Vision: *Creating the safest community to live, work and visit.* -risk reduction, prepared, efficient response
        - Health & Safety: Healthy-In / Healthy-Out
        - Resilience (post-event and life of facility)
            - Available
            - Operational
            - Aesthetics
        - Physical and emotional health
3. Questions
    a. What is the definition of Success for these Projects?
        - Healthy firefighters
        - Well-trained firefighters
        - Serve internal & external customers
        - Balance wants & needs
        - Fiscally responsible

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- Adapts to future
- Size matters -don't miss needs
- Scope project so it's sellable (to the public) and forthright.

b. How should the headlines read? Should there be headlines?
   - A Deliberative Thoughtful Process
   - Bond Measure Passes!
   - New Statement Coming Soon
   - Match vision statement
   - Retooled to support
   - State of the Art Facilities Coming Soon to Support Community

c. How can facility design attract talent and aid in retention?
   - Brand new cool shiny station
   - Ability to train at station
     - Tools provided to support firefighter training
   - Commitment to keep firefighters safe
   - (enhance) Perception
   - Graham HQ antique at lobby noted
   - Natural light, high ceilings, clearly organized, enough space to operate!
   - Sharp edges (clean) versus warmth
   - Room to breathe and work
   - Flexibility
   - Recognition of history, e.g., photos
   - Pride in community & work

d. What is the image or message these facilities should project to the community?
   - Facilities should reflect community
   - Staff needs "area to get away"
   - Balance security "CPTED" & openess
   - Signage consistency, logo? Tried at 32/33/34

e. What is the goal for community connectivity?
   i. Neighborhood Stations
      - History of community
      - Not the biggest building in the neighborhood
      - Signage as common denominator
   ii. Headquarters
      - Different than neighborhood stations
      - Institutional
      - Beacon of respite
      - Community health-focused
      - Balance security with accessibility
   iii. Support Services
   iv. Training
      - Pared with station locations

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4. Guiding Principles for Future Facilities

a. Effective Operations

Admin

- Separate space for public interaction
- Individual spaces to mitigate work & phone noises

- Breakrooms & kitchenettes
- Conference rooms
- Offices & common spaces for collaboration

- Access to other departments & day staff positions
- Open offices but allow for privacy
- Availability to all members
- Room to work & storage room

- Ease of access for public and workers
- Individual spaces that allow for collaboration within same workgroup but separation from noise

Logistics

- Access for vehicles deliveries
- Warehouse and office space

Station Operations

- Efficiency in flow/movement, daily activities
- SCBA compressor
- Exterior training ability

- Training area
- Spatial location
- Storage: gear, apparatus, etc.
- Comfortability
- Workspace capabilities
- Decon
- Efficiency of movement
- Technology

- Place for training
- Adequate space rigs/tools/storage
- Place for fitness
- Durable materials for work and training
- Space to do daily rig checks + weekly rig checks
- Turnout locations Room/Office to Bay

- Daily work area apparatus bay relation
- Work area elbow room
- Effective flow path (with building layout)
- Proper workspace (size, location)

- HQ General Bay (possibly drive-through) for:
  - Deliveries
  - Car seat checks
  - Other temporary use
  - Weather-controlled activities
- Drive through bays
- Storage
  - PIO/PIEO
  - Training Supplies
  - EMS
  - Gear w/ drying capability

- Smart HVAC, lighting, access
- Huddle Spaces
- Communication - central messaging
- Doors – safe and easy exit
- Low maintenance
- Logical (layout and proximities)

- Common areas near bays
- Four-fold bay doors
- Drive around bays
- Bunk rooms close to Bay

- All spaces easy to clean/maintain

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b. Health and Wellness

Admin

- Natural light
- Break/sitting room/outside sitting area
- Remote work ability

- Training space
- Restful space breakroom

Station Operations

- HVAC
- Ergonomic work desks & chairs
- SCBA filling
- Natural light & artificial light that complements the natural

- Decon Spaces for Gear, SCBA, Person, place for putting on/taking off & storing work boots
- Apparatus fill capability inside the bay
- Gear washer & dryer
- Workout room
- Quiet/isolate room, mental health
- Non cardiac causing tones - ability to customize?

- Lighting
- Sauna
- Bathroom fans
- Human Decon & health wellness facilities
- Air filtration
- Quiet spaces

- Relaxing dimmable lighting
- Gear washing/drying equipment
- Functional gym space
- Firefighter decon/recovery/detox area
- Station air filtration systems
- Vehicle exhaust management
- Equipment decon area
- Dirty side/clean side separation
- Decon areas
- Exterior relaxing area
- Easy to clean/decon in/out

- Alerting, just your rig (segregated), gradual light
- Extractor
- Decon -light & heavy
- Sleep -blackout, sound attenuation, traffic (in & out)

- Interior -finishes color/lighting
- Outdoor -private spots
- Training space
- Restful space day room
- Cleaning areas for backboards…tools
- Decon…PPE + personnel

- Decon facilities & shower, toilet
- Turnout gear storage
- Hot, warm, cold zones
- Well-proportioned exercise facilities
- Natural Light

c. Future Ready/Future Proof

Admin

- Space!!! Office, storage, conference room, board of governance room
- Technology
- Staffing in future

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Future Ready/Future Proof continued

Station Operations

- How do we foresee future use - specialties, FMO location, training?
- Upgradeable -examples: lighting, IT
- Built in such a way that growth will not inhibit access and exiting
- Ability to add space (bay, office, sleeping quarters) for growth

- Space
- EV
- Open architecture
- Pathways for future wiring
- Easily replaceable materials

- Growth of response apparatus/crew size
- Application of new/improved IT/Tech

- Infrastructure -power, water (protection + residence); Expandability
- Solar heating or power
- Construction Type II, III, or IV?
- Built-in access to infrastructure...chases/drains

- Solar power
- Fuel/Def Capable
- EV Chargers
- "Plumbed" for E-fleet
- Built to remodel

d. Resiliency

Admin

- Policy & procedures manual
- Technology

Logistics

- Long-term storage -emergency supplies.

Station Operations

- Proper (proven) building materials for our region
- Earthquake resilient
- Operate through weather - Generator, grade of property to keep snow /water from interior

- VHF antennas

- Drains & design of frequently cleaned areas, i.e., bathrooms
- Side-action doors -less maintenance, less damage to rigs
- Location of emergency supplies storage, i.e., at 32 it's upstairs - not so good.
- Roof material or layout...
- Access to infrastructure fixed/passive/or more used spaces...

- Modern generators
- Built to code
- Easy to maintain

- Generator and line conditioning

- Multipower sources (grid, generator, solar)
- Durable materials

- Construction materials -type & quality

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e. Security and Safety

Admin

- Admin: Public access

Logisitics

- secure parking
- secure 24/7

Station Operations

- Exterior cameras
- Secure access to building
- Secure parking

- Audible closing/lock doors at dispatch
- Emergency phone (911) in public area?
- Secure front office/public space
- Prox./Pin access controls
- Site security cameras
- Secure parking

- Secure parking
- Good external/perimeter lighting
- Balance between openness & privacy
- Usable, private outdoor space

- Secure parking

- Secured employee parking
- Secured areas for public but does not allow into general FF spaces
- Lockable sleep rooms
- Lockable bathrooms

- Parking with sufficient room
- Fences & gates
- Exterior cameras
- Parking garage i.e., 31/HQ combo station
- Space to maneuver rigs on site…
- Joint EOC/DOL space with AHJ's
- Separation of public to work area
- Secured buildings

f. Aesthetics

Admin

- Lights – bright front
- Open flow work area
- Same logo & station number (font) on each station
- Warm welcoming home feeling
- Area for photos & awards

- Wood & steel accent

Station Operations

- Forward facing statement
- Natural light
- Color palette
- Backlit logo/station no.
- Community appropriate design

- Modern design
- Easy to maintain landscape
- Steel, glass, brick, rainscreen
- Station: durable materials
- 9/11 art
- Backlit logo/number
- HQ: commercial "official" look

- Inviting lighting (inside & out)
- Modern combined with old school fire station look
- Brick
- Obvious public entrance/parking
- Clean lines
- Aesthetically functional
- Stand up to time

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Aesthetics continued

- Match / support neighborhood

- Natural light
- Outdoor gathering area that is out of public eye
- Separate spaces, ex. day room from kitchen or offices spaces
- Adjustable dimmable lighting especially bedrooms and dayrooms

- Station 36 update park? west of station ff theme
- Colorize concrete floor
- Wood tones
- Insulation in overhead to dampen sounds of above… (acoustics)
- Images of service history… Before and after… (station documentation)
- Color palettes and dimmable lighting
- Common logo/station no. (font) all stations
- Station model (in lobby)
- Branding -same sign

- Place for antique hose cart (note: story about traveling across country)

g. Sustainability

Admin

- Windows & HVAC most up to date technology
- Solar panels
- Ability to redesign space

Station Operations

- No grass / easy landscape maintenance
- Solar
- LEED = policy discussion
- Durable exterior materials

- LEED Certified

- Infrared heaters
- Auto off lights…
- Infiltrate (storm systems)
- Apparatus test area for pumps

- Durable finishes in & out

- Solar
- Tinted windows

h. Other

Station Operations

- Personal storage not in sleeping rooms

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5. Existing Facilities
    a. What's Working?
        - Locker Alcove separate from sleeping (but not enough storage)
        - Floor Drains at FS 32
        - EMS Storage where located by or off of Bay
        - Fueling at each station
        - Drive through versus back-in (debated)
        - Security
            - Parking
            - Entry
        - Alerting -proprietary system, Jaymarc
        - Admin
            - Working together
            - Access to BC's is nice
            - Incidental conversations
    b. What's Unique to VRFA?
    c. What's Not Working?
        - Acoustics
        - Shower count
        - Air filtration
        - Logistics -temp sensitive equipment
        - 33 & 34 work area too far from bay -affects turn out time
        - Landscaping at parking (firefighters back-in)
        - Apparatus washing inside of bay
        - Privacy
        - HVAC work but are noisy
        - No centralized system notifications for HVAC
        - Admin
            - Storage
            - Space
            - Security (at locked front door)
6. Lessons Learned -past projects

    Not discussed
7. Design Team Insight
    a. Station Daily Narrative
    b. *A day in the life of a VRFA firefighter*
    c. Call Spectrum/Types
    d. Design Team Ride-Alongs
8. Risks -*Discuss at future meeting*
    a. Budget
    b. Schedule
    c. Quality

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   d. Political/Community
9. Tools -*Discuss at future meeting*
   a. Tracking Decisions
   b. Software/Platforms
      i. Storage
      ii. Review
      iii. BIM
      iv. Facilities Use
10. Open Discussion

NEXT STEPS

Station Tours 12.20
Phase 1 Schedule
Questionnaires
Interviews

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FACILITY TOURS

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

ARCHITECTURE + PLANNING + DESIGN

MEETING MINUTES

Notes by: Forest Hooker, TCA **Date**: 12.20.22

Purpose: Station Tours **Project**: VRFA Capital Facilities Improvements Phase 1

Attendees:	**Company | Organization**:
Blake Laidlaw (FF)	VRFA
Robin Irvine (FM)	VRFA
Tyler Eliason (FF)	VRFA
John Monsebroten (DFM)	VRFA
Meghan Louden (FF)	VRFA
Forest Hooker	TCA Architecture | Planning
Brian Harris	TCA Architecture | Planning

Distribution:
Representatives attending the meeting shall be qualified and authorized to act on behalf of the entity that each represents. To the best of our knowledge, this is an accurate summary of all parties' discussions, decisions, and representations during the meeting. Notifications of exceptions to this summary are to be submitted in writing within seven days of receipt. Failure to notify shall be deemed an endorsement of the accuracy of these minutes.

ITEM	TOPICS | DESCRIPTION
1.0	**Shoreline 63**
	Chief Matt Cowan explained the project was a 3.5 year process. Started in 2017 and finished in August of 2022 worked with a $11.6 Budget.
	Comments from Station Staff: • Hard surfaces and open space planning make for a loud space. • Would like a door between FF Work Area and the Dayroom. • Noted Type 1 Kitchen Requirement. • Struggled with polished concrete floor quality during construction. • Concrete at second floor (conc/metal deck) cracked. • High speed coiling doors are fast and reliable. • Four-fold side acting doors had installation issues, but are problem free now.

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	Comments from VRFA Group: • Like Washer/Dryer in the Decon Room. • Integrated Training is good. • Bay Ceiling Height allows for engine cabs to be tipped (demonstrated during the tour). • Like storage systems -transparent bins.
2.0	**Northshore 51 (Shoreline FD)**
	Comments from TCA and Shoreline FD: • Discussed facility was originally built as a Headquarters for Northshore FD. It is now part of Shoreline FD who have repurposed some admin spaces.
	Comments from VRFA Group: • Like the unisex restrooms organized around the open lavatory area. • Like the kitchen layout. • Like the BBQ covered deck. • Like the closed dayroom with doors to the kitchen and corridor. • Like the overall layout, flow, and compartmentalization of spaces.
3.0	**Bothell 45**
	Comments from Station Staff: • Black rubber flooring is very hard to keep clean. • Loud station, sleeping rooms are adjacent to the highway.
4.0	**Bothell 42**
	Station structure and finishes are similar to Bothell 45
	Comments from VRFA Group: • Like occupancy indicators at sleeping room and restroom door privacy locks.
5.0	**Kirkland 24**
	Comments from Deputy Chief Bill Hoover and Station Staff: • Acoustics and privacy and work well. • Transparency in the work areas is good. • Good Decon sequencing: exterior access, adjacency to app bay toilet and PPE storage room. • Bay turnout path of travel allows for the driver to get eyes on both sides and back of the apparatus. • Wardrobe alcoves at sleeping rooms with barn doors for privacy work well. • Firefighter commented the station lacks a person-door for front apron access from the bay (TCA noted: foregoing this door was a KFD security-based design decision). • Consider training use when laying out dayrooms
	Comments from VRFA Group: • Like kitchen and private courtyard. • Like integrated training and approach to future training center at north end of site. • Like wardrobe alcoves at sleeping rooms

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6.0	**Tukwila 52**
	Comments from Station Staff: • Stations 52 and 51 were built for the City of Tukwila and are now part of Puget Sound Regional Fire Authority. • The design process made it difficult for fire department ideas and concerns to be heard and addressed which has resulted in design issues the fire staff are unhappy with. • 52 was conceived of as an "upside-down station" with sleeping rooms at the first level and admin and living spaces at the second. • Large training room is multipurpose -serving different groups. • Design failed to capture prominent views. • Windows seem prison-like. • Steel stud framing was used without blocking for attaching items to walls. This has led to shelving falling off of storage room walls. • Wolf Range oven takes 30 minutes to preheat.
	Comments from VRFA Group • Like high and low work surfaces in the FF Workroom • Security between uses seems weak. Once past the front door all areas are accessible.
7.0	**Tukwila 51**
	Station structure and finishes are similar to Tukwila 52
	Comments from Station Staff: • Coffee bar location is odd. • Like Dayroom recliners.

THE NEXT MEETING WILL BE HELD ON: TBD
Location:
Attachments: Photos, Plans
CC:

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TCA

WEST PIERCE FIRE & RESCUE

Capital Facilities Plan

04 April 2023

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+ Site Map

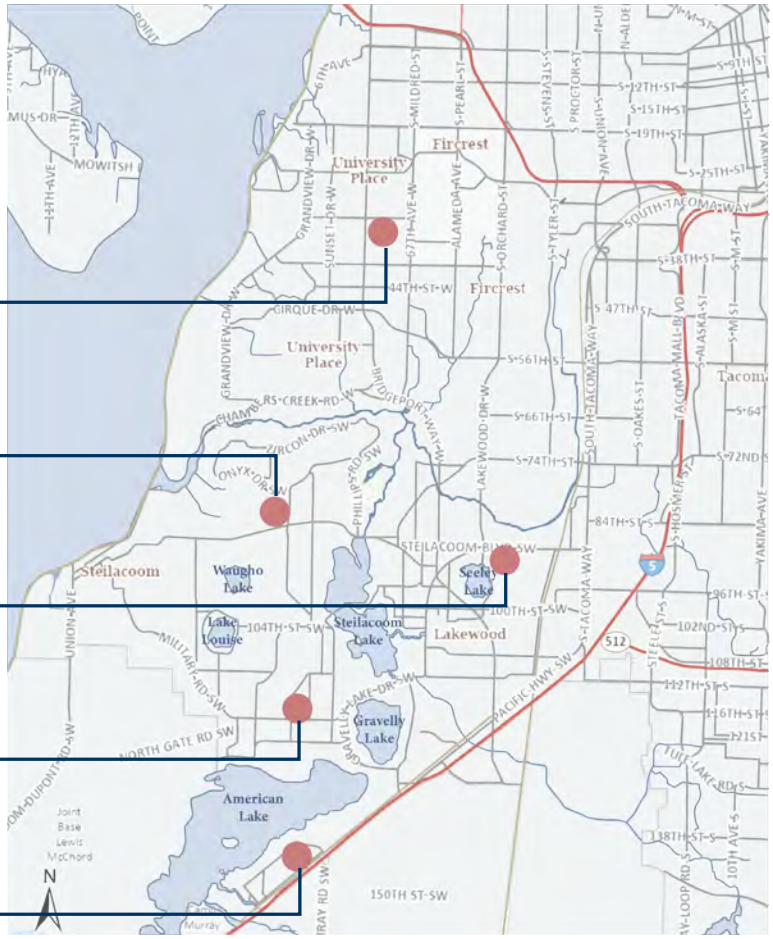
FIRE STATION 31

FIRE STATION 24

FIRE STATION 21

FIRE STATION 22

FIRE STATION 23



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+ Budget + Timeline

	BASE BID	ABOVE BASE	SITE	CONSTRUCTION COST	NT COST 60.75%	PROJECT COST	PROPOSED CONSTRUCTION COST
FIRE STATION 24 SITE							
FS 24 Addition	$1,703,977			$1,703,977	$1,035,166	$2,739,143	Spring 2027 - 10-12 mos
FS 24 Renovation	$1,566,896			$1,566,896	$951,889	$2,518,785	Spring 2027 - 10-12 mos
Logistics	$12,781,700			$12,781,700	$7,764,883	$20,546,583	Spring 2026 - 12 mos
Logistics mezzanine	$13,030,015			$13,030,015	$7,915,734	$20,945,749	Spring 2026 - 12 mos
Photovoltaics		$232,145		$232,145	$141,028	$373,173	
Radiant Heat		$326,500		$326,500	$198,349	$524,849	
Wash Bay		$444,040		$444,040	$269,754	$713,794	
FS 24/Logistics Site			$1,472,667	$1,472,667	$894,645	$2,367,312	Spring 2026
Vehicle Canopy	$932,075		$1,460,775	$2,392,850	$1,453,656	$3,846,506	June, 2024 - 3-4 mos
			Base	**$19,918,090**	$12,100,240	**$32,018,330**	
			w/ All Alts	**$21,169,090**	$13,895,388	**$35,064,478**	
FIRE STATION 21 SITE							
Training Classroom Tier 1	$2,258,635			$2,258,635	$1,372,121	$3,630,756	Spring 2025 - 12-mos
Training Classroom Tier 2	$2,258,635	$797,745		$3,056,380	$1,856,751	$4,913,131	Spring 2025 - 12-mos
Training Classroom Tier 3	$2,258,635	$2,079,365		$4,338,000	$2,635,335	$6,973,335	Spring 2025 - 18-mos
2-story Tower	$1,446,534			$1,446,534	$878,769	$2,325,303	Spring 2025 - 12-mos
2-story Tower alt	$1,446,534	$327,785		$1,774,319	$1,077,899	$2,852,218	Spring 2025 - 12-mos
5-story Tower	$2,588,929			$2,588,929	$1,572,774	$4,161,703	Spring 2025 - 12-mos
Kitchen gas prop	$330,000			$330,000	$200,475	$530,475	
Kitchen Flash-over prop	$46,200			$46,200	$28,067	$74,267	
Sofa or Bed prop	$330,000			$330,000	$200,475	$530,475	
Hallway flash-over	$46,200			$46,200	$28,067	$74,267	
Lining	$33,000			$33,000	$20,048	$53,048	
FS 21 Site (Training)			$1,710,231	$1,710,231	$1,038,965	$2,749,196	Spring 2025
FS 21 Site (Parking)			$735,058	$735,058	$446,548	$1,181,606	Spring 2025
			Base	**$8,739,387**	$5,309,178	**$14,048,565**	
			w/ All Alts	**$11,931,937**	$6,771,521	**$18,703,458**	
RESTROOM RENOS							
FS 22 Restroom	$295,500			$295,500	$179,516	$475,016	September, 2024
FS 23 Restroom	$230,000			$230,000	$139,725	$369,725	September, 2024
FS 31 Restroom	$382,550			$382,550	$232,399	$614,949	September, 2024
			Base Const.	**$29,565,527**	**Base Total:**	**$47,526,585**	
			w/ All Alts.	**$34,009,077**	**w/All Alts.**	**$55,227,627**	

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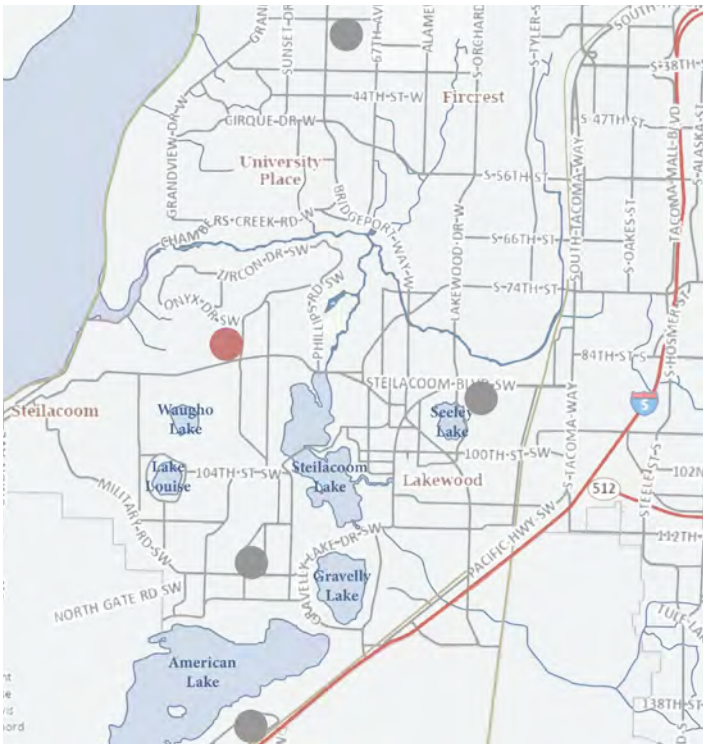
+ Fire Station 24

Station Remodel & Addition

NARRATIVE

The Fire Station 24 renovation and addition is intended to bring this 1979 station up to contemporary safety and operational standards. Planned updates include adding approximately 1500 square feet to the north side of the existing apparatus bay. This addition will house the cleaning, decontamination, EMS Storage, and PPE storage areas, all designed to meet current safety standards. Another 300 SF addition to accommodate two trainee dormitories is planned for the northern end of the dormitory wing. Further safety upgrades include a new fire sprinkler system throughout the building. Additionally, a Tier 1 seismic analysis performed by CPL determined that the existing Fire Station 24 does not meet necessary seismic performance standards. To rectify this, shear walls will be added to the bay.

To improve crew operations, much of the current crew living area will be reconfigured to house an updated kitchen and dayroom, updated unisex shower rooms, a crew work area, and a private office. The physical training room will be enlarged and relocated to the far side of the apparatus bay, adjacent to the PPE Storage.



AT A GLANCE

ADDRESS	8310 87TH AVE SW, LAKEWOOD, WA 98498
YEAR BUILT	1979
CURRENT SIZE	5,820 SF
FUTURE SIZE	7,670 SF (1,850 SF ADDITION)
STORIES	1
STAFF ASSIGNED	5 FULL TIME, 2 TRAINEES
APPARATUS BAYS	2

24 ADDITION BASE BID	
Construction Cost	$3,270,873
Construction Start	Spring 2027
Construction Duration	10-12 mos.

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+ Fire Station 24 Programming

	STAFFING		MOVE IN		
Staffing Per Apparatus			**QUANT**	**STAFF**	
	Engine (34 ft)		1	**4**	
	Medic/Aid (approx. 25 ft)		1	**3**	
Total Staff				**7**	

			MOVE IN		
1.00	**PUBLIC AREA**	Unit SF	Quant.	Net SF	Notes
1.01	Lobby/Waiting Area	70	1	70	Lobby to support visitors, access to restroom. Secured access.
	Subtotal			**70**	**Zone grossing factor:** **1.25**
	w/ Circulation			**88**	

			MOVE IN		
3.00	**CREW OFFICE AREA**	Unit SF	Quant.	Net SF	Notes
3.01	Captain Office	75	1	75	Accommodates computer desk
3.06	FF Work Area / Radio Room	50	6	300	Consider number of work stations, radio storage, map wall, etc. 50 SF/ff. Move-in: 6 workstations
	Subtotal			**375**	**Zone grossing factor:** **1.25**
	w/ Circulation			**469**	

			MOVE IN		
4.00	**CREW LIVING AREA**	Unit SF	Quant.	Net SF	Notes
4.02	Kitchen/Dining	425	1	425	Commercial Kitchen; (21 min) Food Lockers and (3) Shift Pantries. (3) Shift Refrigerators. Open concept layout. Desire to incorporate natural light and outdoor area w/ access to BBQ
4.04	Dayroom	425	1	425	Rehabilitation area, (7) recliners, open concept.
4.05	Exercise Room	400	1	400	Includes Cardio & Weight room - size to accommodate 4-6 working out simultaneously. 1.5x size existing w/ same equip. as exist.
4.06	Toilet/Shower rooms	96	2	192	Redo of old shower space north of dayroom- 02/06/23 Eliminate the "Men's" room adjacent to the kitchen. Turn the "Women's" room into two, separate unisex facilities. Provide showers
4.07	Sleep Room	120	2	240	(2) new sleep rooms to support trainees. Internal personal lockers to match existing station style.
4.09	Custodial Room	64	1	64	Storage for paper goods, cleaning supplies, etc.
4.10	Laundry	80	1	80	Internal laundry room for PT clothes & uniforms.
	Subtotal			**1,826**	**Zone grossing factor:** **1.25**
	w/ Circulation			**2,283**	

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+ Fire Station 24 Programming (CONT.)

5.00	APPARATUS SUPPORT AREAS	Unit SF	MOVE IN Quant.	Net SF	Notes
5.02	Extractor, Turnout Gear Dryer, Hang-Up	100	1	100	Extractor, Turnout Gear Dryer and Hang up area.
5.03	Decon/Eyewash/Shower	120	1	120	Combined with Decon, including gross shower capabilities
5.04	Custodial Room	0	1	0	Combined with Decon
				0	
	Decontamination Subtotal			**220**	
5.06	BLS Storage & Supply	80	0	0	See EMS
5.07	Turnout Gear/PPE Storage	285	1	285	Turnout Gear Storage Gear Lockers = max of 7 employees x 3 shifts + 5 spares = 26
5.08	Bay Toilet Room	65	1	65	Unisex, ADA accessible restroom.
5.11	Apparatus Wash Alcove	32	0	0	Alcove to store brushes, soap, hose, etc. for washing apparatus
5.14	BLS Storage	100	1	100	BLS supply closet to be accessed off app bay
5.15	General Storage	150	1	150	General storage
	Subtotal			**820**	**Zone grossing factor:** **1.15**
	w/ Circulation			**943**	

8.00	SYSTEMS	Unit SF	MOVE IN Quant.	Net SF	Notes
8.04	Fire Sprinkler Riser Alcove	35	1	35	Room, accessible from ext. of building
	Subtotal			**35**	
	FIRE STATION NET SF			**3,126**	
	FIRE STATION W/ CIRCULATION			**3,817**	
	FIRE STATION GROSSING FACTOR			1.13	
	FIRE STATION GROSS SQUARE FEET			**4,313**	

9.00	SITE AMENITIES			Net SF	Notes
9.01	Visitor Parking			4	Include (1) EV Charging combine station with Accessible space.- At least four spaced - not all visitor. Two and two with room to expand.
9.02	Accessible Parking			1	Van Accessible, Near entry TBD based on total parking((provide EV Charging)- as required
9.03	Firefighter Parking			17	Secure parking (2) x firefighter staffing to allow for shift change + 3 command SUV. Crew parking located as close as possible to the apparatus bay. Include EV charging stalls.
	Total Fire Station Parking Exterior			**22**	

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+ Fire Station 24 Estimate Summary

WEST PIERCE FIRE & RESCUE
FIRE STATION 24 ADDITION, RENOVATION & LOGISTICS
LAKEWOOD, WA
CONCEPT ESTIMATE
STATION ADDITION

GROSS FLOOR AREA: 1,856 SF
DATE: March 29, 2023

RC COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		$ 88,436	$ 47.65
A1010	Standard Foundation	$ 52,859	$ 28.48	
A1020	Special Foundation	$ -	$ -	
A1030	Slab on grade	$ 35,577	$ 19.17	
A20	BASEMENT WALL CONSTRUCTION		$ -	$ -
A2010	Basement Excavation	$ -	$ -	
A2020	Basement Wall Construction	$ -	$ -	
B10	SUPERSTRUCTURE		$ 69,594	$ 37.50
B1010	Floor & Roof Construction	$ 69,594	$ 37.50	
B20	EXTERIOR ENCLOSURE		$ 144,758	$ 77.99
B2010	Exterior Walls	$ 108,198	$ 58.30	
B2020	Exterior Windows	$ 7,710	$ 4.15	
B2030	Exterior Doors	$ 28,850	$ 15.54	
B30	ROOFING		$ 80,284	$ 43.26
B3010	Roofing	$ 80,284	$ 43.26	
C10	INTERIOR CONSTRUCTION		$ 80,206	$ 43.21
C1010	Partitions	$ 46,296	$ 24.94	
C1020	Interior Doors	$ 24,650	$ 13.28	
C1030	Fittings and Specialties	$ 9,260	$ 4.99	
C20	STAIRS		$ -	$ -
C2010	Stair Construction	$ -	$ -	
C30	INTERIOR FINISHES		$ 65,690	$ 35.39
C3010	Wall Finishes	$ 24,781	$ 13.35	
C3020	Floor Finishes	$ 20,870	$ 11.24	
C3030	Ceiling Finishes	$ 20,039	$ 10.80	
D10	CONVEYING		$ -	$ -
D1010	Elevators & Lifts	$ -	$ -	
D20	PLUMBING		$ 90,000	$ 48.49
D2010	Plumbing	$ 90,000	$ 48.49	
D30	HVAC		$ 150,000	$ 80.82
D3010	HVAC	$ 150,000	$ 80.82	
D40	FIRE PROTECTION		$ 42,500	$ 22.90
D4010	Sprinkler System	$ 42,500	$ 22.90	
D50	ELECTRICAL		$ 121,788	$ 65.62
D5000	Electrical	$ 121,788	$ 65.62	
E10	EQUIPMENT		$ 59,300	$ 31.95
E1010	Equipment	$ 59,300	$ 31.95	
E20	FIXED FURNISHINGS		$ 15,950	$ 8.59
E2010	Fixed Furnishings	$ 15,950	$ 8.59	
F10	SPECIAL CONSTRUCTION		$ -	$ -
F1010	Special Structure	$ -		
F1020	Special Construction	$ -		
F20	SELECTIVE BUILDING DEMOLITION		$ 4,970	$ 2.68
F2010	Building Elements Demolition	$ 4,970		
Z10	GENERAL RQUIREMENTS		$ 240,000	$ 129.31
Z1010	General requirements	$ 240,000		
	Sub-Total Direct Cost		**$ 1,253,475**	**$ 675.36**
	Estimating / Design Contingency 10.00%		$ 125,348	$ 67.54
	Sub-Total		**$ 1,378,823**	**$ 742.90**
	General Contractor's OH&P 7.50%		$ 103,412	$ 55.72
	Sub-Total		**$ 1,482,234**	**$ 798.62**
	Escalation to March 2026 14.96%		$ 221,742	$ 119.47
	TOTAL CONSTRUCTION COST		**$ 1,703,977**	**$ 918.09**

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+ Fire Station 24 Estimate Summary (CONT.)

WEST PIERCE FIRE & RESCUE
FIRE STATION 24 ADDITION, RENOVATION & LOGISTICS
LAKEWOOD, WA
CONCEPT ESTIMATE
STATION RENOVATION

GROSS FLOOR AREA: 1,813 SF
DATE: March 29, 2023

RC COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		$ 21,370	$ 11.79
A1010	Standard Foundation	$ 9,495	$ 5.24	
A1020	Special Foundation	$ -	$ -	
A1030	Slab on grade	$ 11,875	$ 6.55	
A20	BASEMENT WALL CONSTRUCTION		$ -	$ -
A2010	Basement Excavation	$ -	$ -	
A2020	Basement Wall Construction	$ -	$ -	
B10	SUPERSTRUCTURE		$ 40,953	$ 22.59
B1010	Floor & Roof Construction	$ 40,953	$ 22.59	
B20	EXTERIOR ENCLOSURE		$ 9,000	$ 4.96
B2010	Exterior Walls	$ 9,000	$ 4.96	
B2020	Exterior Windows	$ -	$ -	
B2030	Exterior Doors	$ -	$ -	
B30	ROOFING		$ 99,207	$ 54.72
B3010	Roofing	$ 99,207	$ 54.72	
C10	INTERIOR CONSTRUCTION		$ 104,237	$ 57.49
C1010	Partitions	$ 80,221	$ 44.25	
C1020	Interior Doors	$ 18,250	$ 10.07	
C1030	Fittings and Specialties	$ 5,766	$ 3.18	
C20	STAIRS		$ -	$ -
C2010	Stair Construction	$ -	$ -	
C30	INTERIOR FINISHES		$ 62,397	$ 34.42
C3010	Wall Finishes	$ 16,553	$ 9.13	
C3020	Floor Finishes	$ 21,148	$ 11.66	
C3030	Ceiling Finishes	$ 24,696	$ 13.62	
D10	CONVEYING		$ -	$ -
D1010	Elevators & Lifts	$ -	$ -	
D20	PLUMBING		$ 120,000	$ 66.19
D2010	Plumbing	$ 120,000	$ 66.19	
D30	HVAC		$ 150,000	$ 82.74
D3010	HVAC	$ 150,000	$ 82.74	
D40	FIRE PROTECTION		$ 42,500	$ 23.44
D4010	Sprinkler System	$ 42,500	$ 23.44	
D50	ELECTRICAL		$ 121,788	$ 67.17
D5000	Electrical	$ 121,788	$ 67.17	
E10	EQUIPMENT		$ 15,100	$ 8.33
E1010	Equipment	$ 15,100	$ 8.33	
E20	FIXED FURNISHINGS		$ 75,575	$ 41.69
E2010	Fixed Furnishings	$ 75,575	$ 41.69	
F10	SPECIAL CONSTRUCTION		$ -	$ -
F1010	Special Structure	$ -		
F1020	Special Construction	$ -		
F20	SELECTIVE BUILDING DEMOLITION		$ 50,510	$ 27.86
F2010	Building Elements Demolition	$ 50,510		
Z10	GENERAL RQUIREMENTS		$ 240,000	$ 132.38
Z1010	General requirements	$ 240,000		
	Sub-Total Direct Cost		**$ 1,152,636**	**$ 635.76**
	Estimating / Design Contingency 10.00%		$ 115,264	$ 63.58
	Sub-Total		**$ 1,267,900**	**$ 699.34**
	General Contractor's OH&P 7.50%		$ 95,093	$ 52.45
	Sub-Total		**$ 1,362,993**	**$ 751.79**
	Escalation to March 2026 14.96%		$ 203,904	$ 112.47
	TOTAL CONSTRUCTION COST		**$ 1,566,896**	**$ 864.26**

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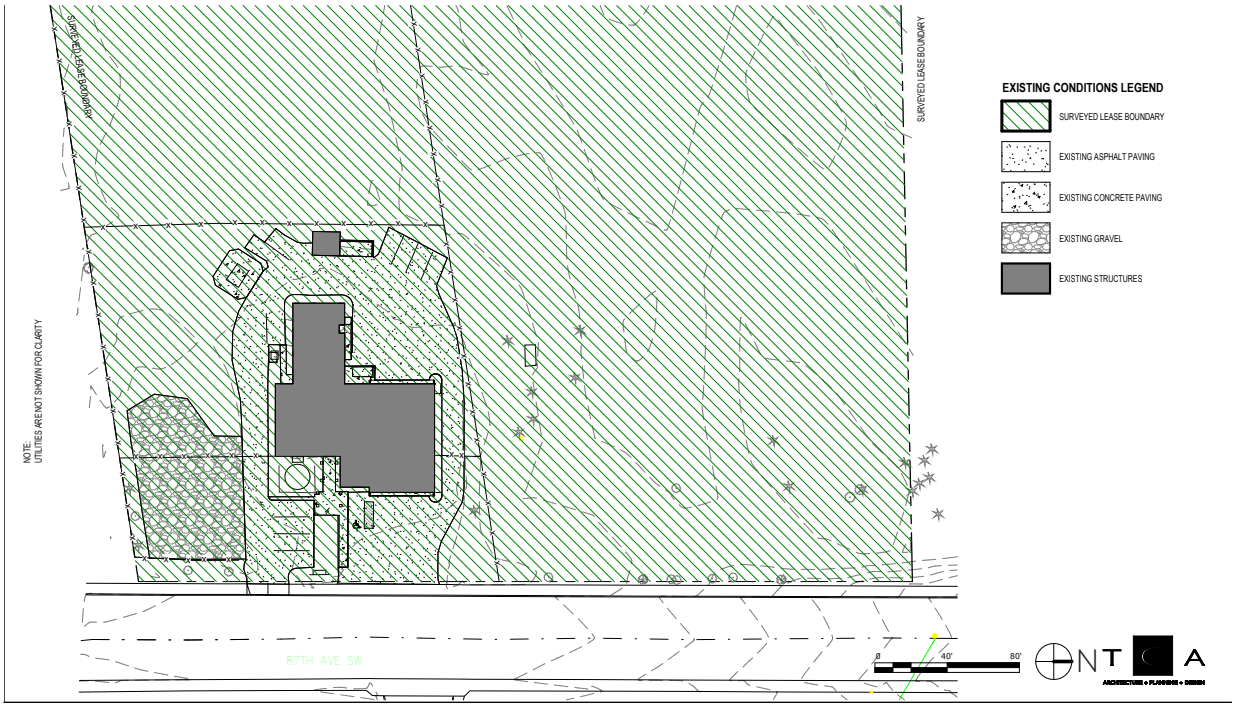
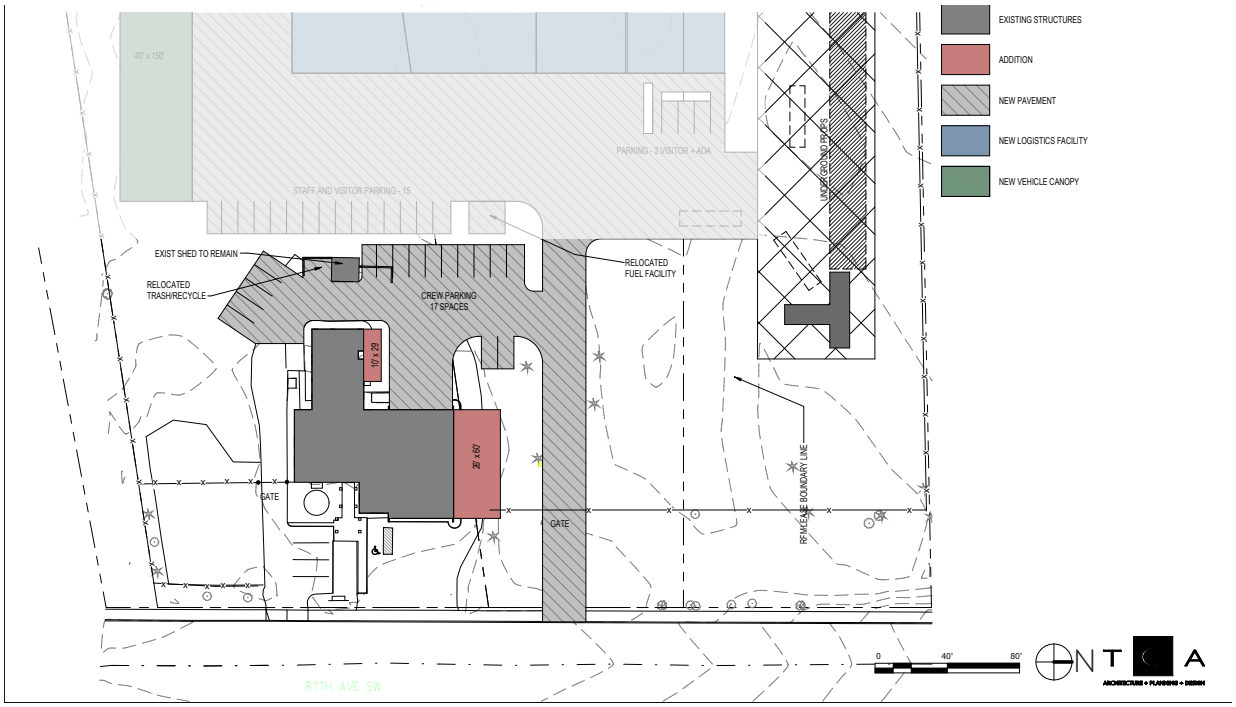
+ Fire Station 24 Site Plans

Existing Site Plan



Proposed Site Plan



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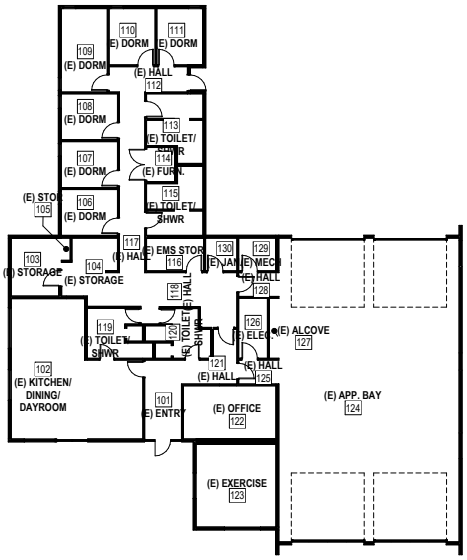
+ Fire Station 24 Floor Plans

Existing Floor Plan



Proposed Floor Plan

0 8' 16' 32'
1/16" = 1'

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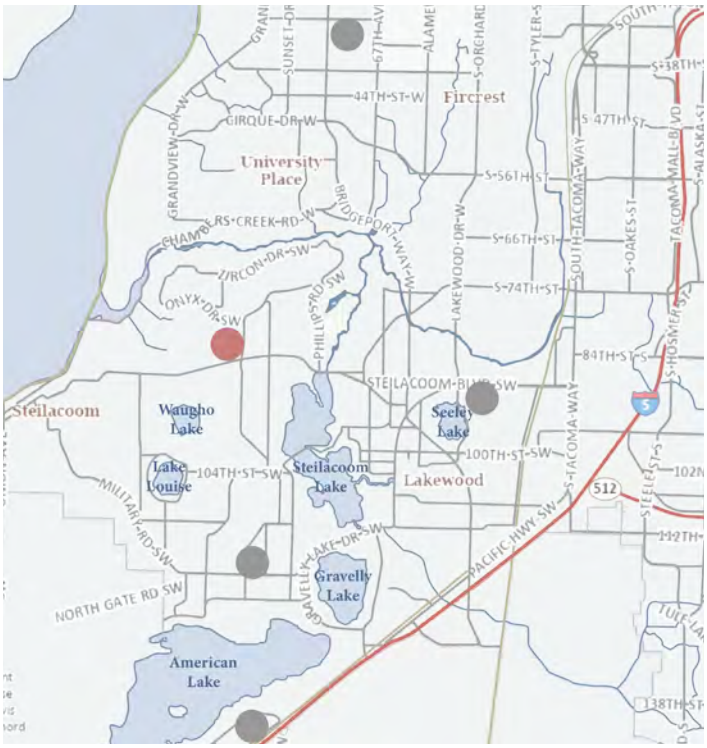
+ Logistics Facility

NARRATIVE

The new proposed Logistics and Maintenance Facility on the western half of the Fire Station 24 property will accommodate Fleet Maintenance, Facilities, Central Stores, and Purchasing. Each division has its own dedicated area within the facility to appropriately serve the needs of staff. The facility also houses a shared common space, including a dayroom, kitchen, and physical training area.

The proposed Logistics facility will be a high-bay and approximately 33,000 SF, with six maintenance bays and adjacent support structures. A simple pre-engineered metal structural system will be used to minimize cost while maintaining the open space necessary for the maintenance bays. An alternate proposal involves lifting some of the tool storage spaces onto an optional mezzanine level.

Site features will include an exterior pump test pit, exterior vehicle storage canopies, potential trench rescue, extrication area, and miscellaneous other props.



AT A GLANCE

ADDRESS	8310 87TH AVE SW, LAKEWOOD, WA 98498
YEAR BUILT	TBD
CURRENT SIZE	N/A
FUTURE SIZE	33,000 SF
STORIES	1 + MEZZANINE
STAFF ASSIGNED	10 FULL TIME
APPARATUS BAYS	6

BASE BID	
Cost	$14,254,367
Construction Start	Spring 2026
Construction Duration	12 mos.

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+ Logistics Facility Programming

1.00	COMMON AREA	Unit SF	MOVE IN Quant.	Net SF	Notes
1.01	Toilet/Shower Room	120	2	240	Single-use toilet, sink, shower, locker room type spaces (or move into fleet area)
1.02	Locker room/nook	100	3	300	(12) total lockers, divided by division.
1.03	PT room	400	1	400	Physical training room to be shared by all divisions, locate in Common area
1.04	Breakroom	1400	1	1400	Centrally located. Dayroom, kitchen, dining for all (3) Divisions. 35x40 (station 31 +/- 30x40)
	Subtotal			**2,340**	**Zone grossing factor: 1.25**
	w/ Circulation			**2,925**	

2.00	FLEET	Unit SF	MOVE IN Quant.	Net SF	Notes
2.01	Main Apparatus Bay (22x107 approx.)	2354	2	4708	double-deep bays will fit two rigs engine and ladder and are drive-thru. These should have as many in-ground lifts as can be budgeted for. Minimum (2) per bay. includes tool storage - provide over head beam trolley hoist continuous over both bays
2.02	Auxiliary Medic Bay (22x42)	924	2	1848	14' wide doors with 8' at either end and 8' in between each w/ lifts
2.03	Auxiliary Engine Bay (22x50)	1100	2	2200	14' wide doors with 8' at either end and 8' in between each w/ lifts
2.04	Shop/tool cart	50	5	250	Mobile bench/tool storage. In front of Main App Bay work area (added space for 5th toolbox) (nose to nose (tool box in middle preferred) space for mobile tool box between nose to nose parking)
	Subtotal			**9,006**	**Zone grossing factor: 1.15**
	w/ Circulation			**10,357**	
2.05	Rear Work Bench Area	300	1	300	Along Rear Wall
2.07	Welding/Machine/Metal Shop	1300	1	1300	Adjacent to Aux Engine Bay - welding hood/venting
2.08	Wash Station	40	1	40	Includes industrial sinks and eye-wash station 5x8 (in shop or in bays, immediately outside of shop)
	Subtotal			**1,640**	**Zone grossing factor: 1.15**
	w/ Circulation			**1,886**	
2.09	Tool Room/Storage	200	1	200	
2.10	Parts Storage	1600	1	1600	Warehouse Area: merger of previous Loft and Floor Storage and Parts Room 20x80
2.11	Tire Storage	200	1	200	at other location on site if needed on - tire storage along a wall inside (or outside, if enclosed)
	Subtotal			**2,000**	**Zone grossing factor: 1.15**
	w/ Circulation			**2,300**	
2.12	Manager's Office	120	1	120	Single office with one desk and work station, filing cabinets, etc. 10x12
2.13	Work stations	225	1	225	Crew-room set up with multiple smaller computer workstations 15x15 - (3) work stations min.
2.14	Central Meeting Space	300	1	300	Printer, table, resource center, filing cabinets15x20
2.16	Shop Floor Office	80	1	80	Accessible from Shop floor - Now emphasizing office functions, not storage 8x10
2.17	Locker & File cabinet Storage Room IT	48	1	48	Separate space for IT support equipment 8x6
2.18	Library / File Room	120	1	120	Increased size for Library and Files - separated from IT needs10x12
2.19	Handwash/eyewash Alcove	30	0	0	in shop or in bays, outside of shop - see 2.08
2.20	Mechanical Support Room	240	1	240	Pressure washer (in wash bay if provided), compressor, fluids & pump systems for ceiling mount distribution (Screw-type air compressor should be a min. of 50 cfm, 100 gal storage capacity with air dryer system)

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+ Logistics Facility Programming (CONT.)

2.21	Wash bay	1080	1	1080	covered with oil / water separator to comply with DOE -could use one auxiliary bay 20x54
2.22	Vented paint area	300	1	300	paint area for parts, not intended for vehicles- paint storage, -1 hr. enclosure
2.25	Toilet/Shower Room	90	2	180	- See common area- possibly separate from common area and distribute in fleet area for convenience
2.25	Pump Test Pit		1	0	Outside, stand alone item. 30,000 gal capacity cistern with all necessary components.
2.26	Fuel/ oil, and waste oil storage area	300	1	300	central location to supply fill hoses - compressed air
	Subtotal			**2,993**	**Zone grossing factor:** **1.25**
	w/ Circulation			**3,741**	
	Fleet Subtotal				
	w/ Circulation			**18,284**	

				MOVE IN	
3.00	**FACILITIES**	Unit SF	Quant.	Net SF	Notes
4.01	Vehicle Storage	960	1	960	maintenance vehicle storage. (2) 12x80 -Increase Rig Storage from (3) to (4) stored inside: (2) always have tools stored on them & (2) when loaded for next day's job. (end to end current concept)
4.02	Tool Storage	815	1	815	Combine square footage of all tool storage and increase by 12.5%
4.03	Equip/Furniture Storage	761	1	761	Combine square footage of all equipment & furniture storage and increase by 12.5%
4.04	Plumbing/Lights/Electronics/& Project Components Storag	363	1	363	Increase Plumbing / lights / electronics / & project components by 12.5%
4.05	Files/Plans/Document Storage	101	1	101	Increase Files / Plans / Document Storage by 12.5%
4.06	Paint & Paint supply Storage	143	1	143	Increase Paint & paint supply storage by 12.5% - 1-hr wall probable
4.07	Unoccupied Floor Space	324	1	324	Remains necessary for moving vehicles around, loading & unloading 18x18
4.08	Toilet/Shower Room	144	2	288	Single-use toilet, sink, shower, locker room type spaces (could be included in common area
4.09	Manager's Office	120	1	120	Single office with one desk and work station, filing cabinets, etc. - 10x12
4.10	Shared tech Office	225	1	225	shared tech office for 3 people. Crew-room set up with multiple smaller computer workstations 15x15
	Subtotal			**4,100**	**Zone grossing factor:** **1.25**
	w/ Circulation			**5,125**	

				MOVE IN	
4.00	**CENTRAL STORES**	Unit SF	Quant.	Net SF	Notes
4.01	Central Storage	2542.8	1	2542.8	Consolidates all storage listed below and adds 30% based on manager's request +/- 50.5x50.5
4.01a		1250	0	0	Main shelves and workspace for JIT ordering*50x25
4.01b		192	0	0	Uniform Storage*12x16
4.01c		54	0	0	Storage of overflow EMS supplies 3x18
4.01d		280	0	0	Storage of overflow EMS supplies
4.01e		60	0	0	Tyvek Suits
4.01f		120	2	240	Bunker gear storage 10x12
4.02	Private Office	120	1	120	Computer, desk, printer, etc. of a more usual size
4.03	Workstations	50	1	50	Touch-down work station.
4.04	Toilet/Shower Room	180	1	180	Single-use toilet, sink, shower, locker room type spaces (could be included in common area) needs to be in a clean area
	Subtotal			**3,133**	**Zone grossing factor:** **1.25**
	w/ Circulation			**3,916**	

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+ Logistics Facility Programming (CONT.)

				MOVE IN	
8.00	**SYSTEMS**	Unit SF	Quant.	Net SF	Notes
8.01	IT/Server	100	1	100	Verify IT needs for the building
8.02	Electrical Room	150	1	150	
8.03	Mechanical Room	250	1	250	Size depends on building mech requirements - Consider in floor radiant heat and downdraft floor exhaust extraction
8.04	Fire Sprinkler Riser Alcove	50	1	50	Verify room or alcove
	Subtotal			**550**	
	FACILITY NET SF			**25,762**	
	FACILITY W/ CIRCULATION			**30,250**	
	FACILITY GROSSING FACTOR			1.11	
	FACILITY GROSS SQUARE FEET			**33,578**	

9.00	**SITE AMENITIES**			Net SF	Notes
9.01	Staff Parking			12	Confirm desired number of stalls, include EV Charging
9.02	Accessible Parking			1	Confirm if desired (as required)
9.03	Firefighter Parking			5	Included in Station 24 addition planning--see previous sheet (Separate from Logistics area 01/27/23) 5 visitor parking
	Total Logistics Parking Exterior			**18**	
9.04	Vehicle canopy (40' x 150')			X	Outdoor storage of vehicles/apparatus. Verify functional requirements - storage for reserve vehicles. Sized for spare engines, front to back storage of multiple smaller vehicles. (15) 10x40 spaces. Maybe 11x40. possibly enclose back for additional screening.
9.06	Solid waste storage / recycling enclosure			X	

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+ Logistics Facility Estimate Summary

WEST PIERCE FIRE & RESCUE
FIRE STATION 24 ADDITION, RENOVATION & LOGISTICS
LAKEWOOD, WA
CONCEPT ESTIMATE
LOGISTICS FACILITY

GROSS FLOOR AREA: 27,510 SF
DATE: March 29, 2023

RC COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		$ 1,045,554	$ 38.01
A1010	Standard Foundation	$ 631,135	$ 22.94	
A1020	Special Foundation	$ -	$ -	
A1030	Slab on grade	$ 414,419	$ 15.06	
A20	BASEMENT WALL CONSTRUCTION		$ -	$ -
A2010	Basement Excavation	$ -	$ -	
A2020	Basement Wall Construction	$ -	$ -	
B10	SUPERSTRUCTURE		$ 339,885	$ 12.35
B1010	Floor & Roof Construction	$ 339,885	$ 12.35	
B20	EXTERIOR ENCLOSURE		$ 548,800	$ 19.95
B2010	Exterior Walls	$ -	$ -	
B2020	Exterior Windows	$ 246,000	$ 8.94	
B2030	Exterior Doors	$ 302,800	$ 11.01	
B30	ROOFING		$ -	$ -
B3010	Roofing	$ -	$ -	
C10	INTERIOR CONSTRUCTION		$ 661,662	$ 24.05
C1010	Partitions	$ 484,024	$ 17.59	
C1020	Interior Doors	$ 124,750	$ 4.53	
C1030	Fittings and Specialties	$ 52,888	$ 1.92	
C20	STAIRS		$ 17,500	$ 0.64
C2010	Stair Construction	$ 17,500	$ 0.64	
C30	INTERIOR FINISHES		$ 589,705	$ 21.44
C3010	Wall Finishes	$ 130,522	$ 4.74	
C3020	Floor Finishes	$ 262,781	$ 9.55	
C3030	Ceiling Finishes	$ 196,403	$ 7.14	
D10	CONVEYING		$ -	$ -
D1010	Elevators & Lifts	$ -	$ -	
D20	PLUMBING		$ 500,000	$ 18.18
D2010	Plumbing	$ 500,000	$ 18.18	
D30	HVAC		$ 1,750,000	$ 63.61
D3010	HVAC	$ 1,750,000	$ 63.61	
D40	FIRE PROTECTION		$ 200,000	$ 7.27
D4010	Sprinkler System	$ 200,000	$ 7.27	
D50	ELECTRICAL		$ 1,197,600	$ 43.53
D5000	Electrical	$ 1,197,600	$ 43.53	
E10	EQUIPMENT		$ 599,900	$ 21.81
E1010	Equipment	$ 599,900	$ 21.81	
E20	FIXED FURNISHINGS		$ 29,200	$ 1.06
E2010	Fixed Furnishings	$ 29,200	$ 1.06	
F10	SPECIAL CONSTRUCTION		$ 2,021,985	$ 73.50
F1010	Special Structure	$ 2,021,985		
F1020	Special Construction	$ -		
F20	SELECTIVE BUILDING DEMOLITION		$ -	$ -
F2010	Building Elements Demolition	$ -		
Z10	GENERAL RQUIREMENTS		$ 480,000	$ 17.45
Z1010	General requirements	$ 480,000		
	Sub-Total Direct Cost		**$ 9,981,790**	**$ 362.84**
	Estimating / Design Contingency 10.00%		$ 998,179	$ 36.28
	Sub-Total		**$ 10,979,969**	
	General Contractor's OH&P 7.50%		$ 823,498	$ 29.93
	Sub-Total		**$ 11,803,467**	
	Escalation to March 2025 10.39%		$ 1,226,548	$ 44.59
	TOTAL CONSTRUCTION COST		**$ 13,030,015**	**$ 473.65**

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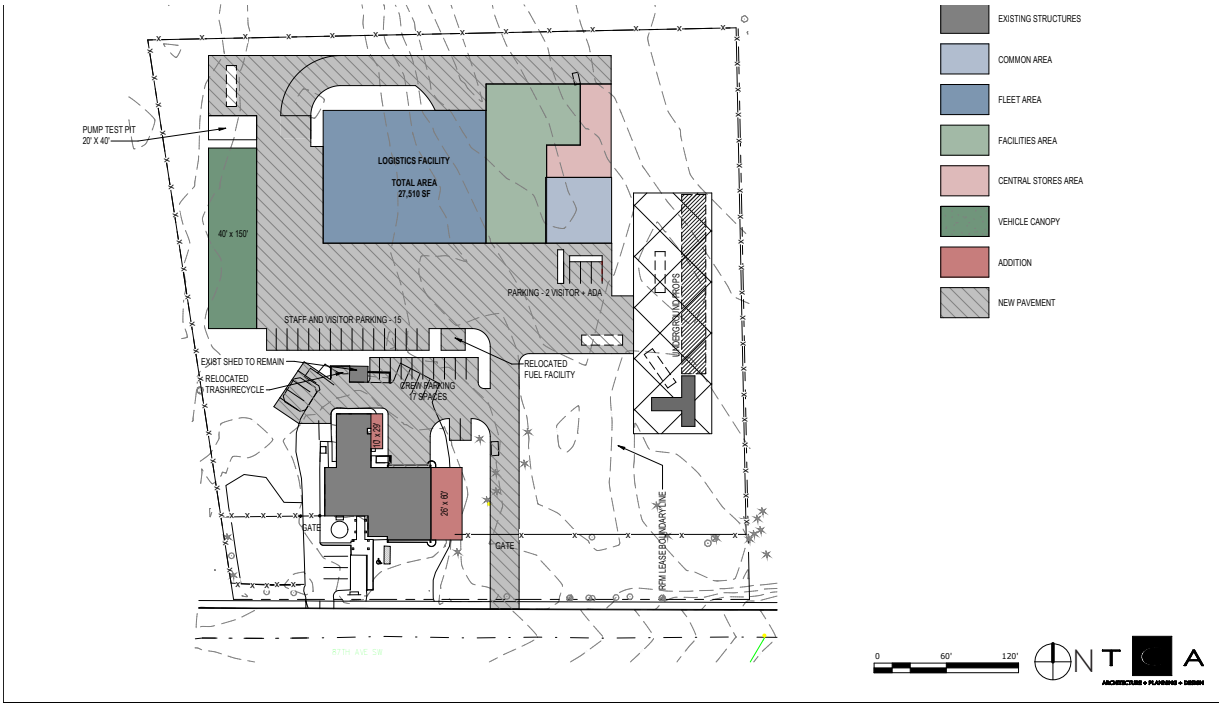
+ Logistics Facility Site Plans

Existing Site Plan

Proposed Site Plan



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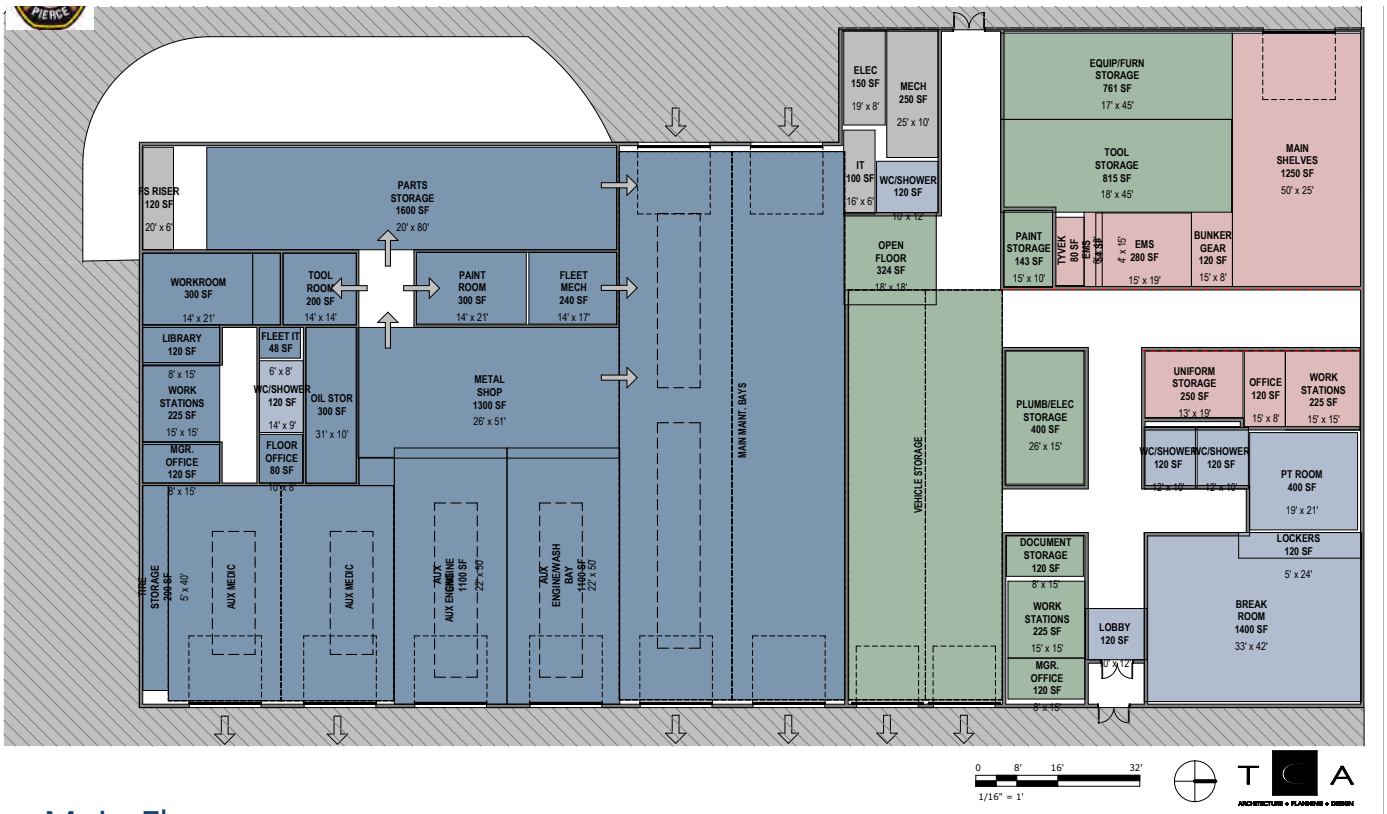
+ Logistics Facility Floor Plans

Floor Plan - Option A



Main Floor

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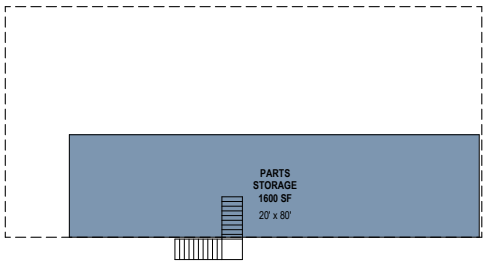
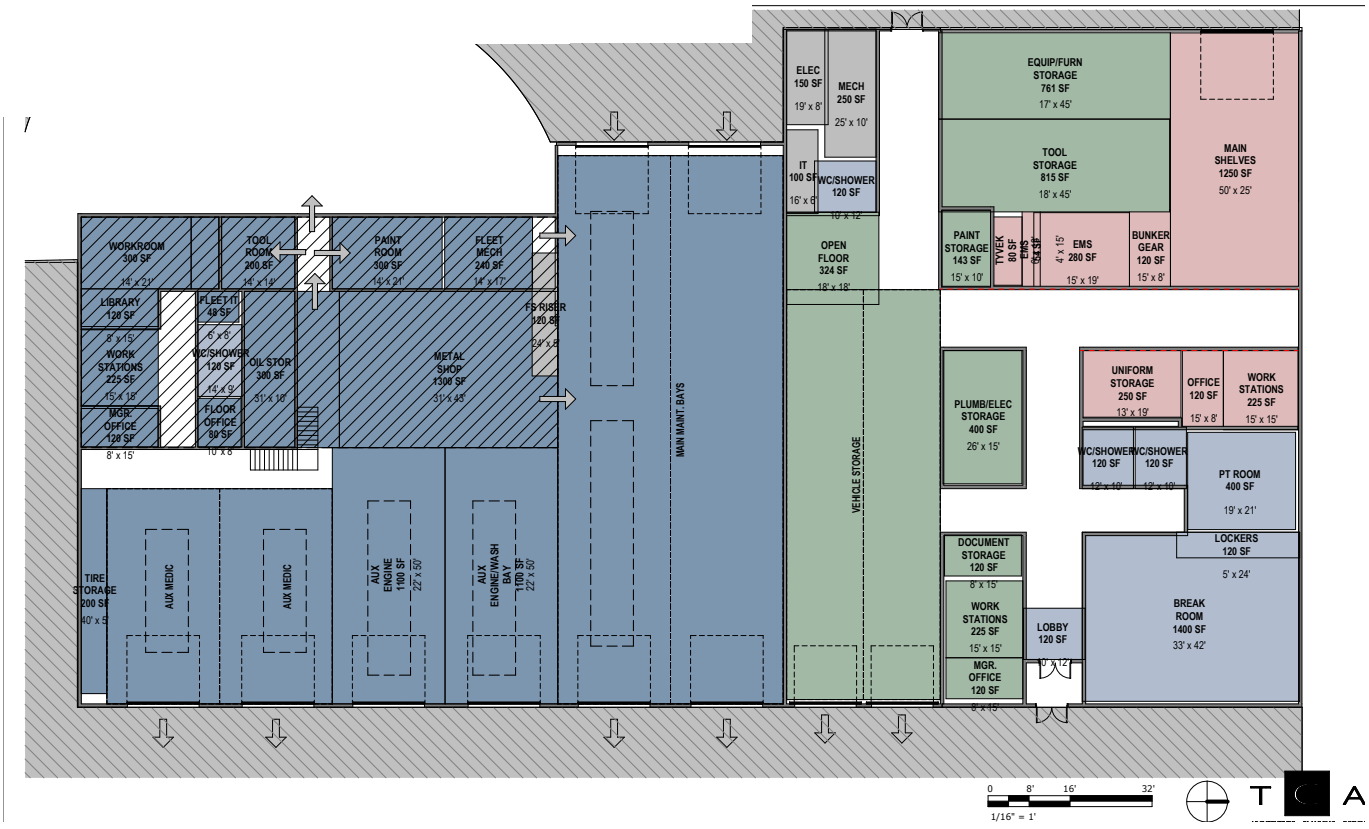
+ Logistics Facility Floor Plans

Floor Plan - Option B



Mezzanine



Main Floor

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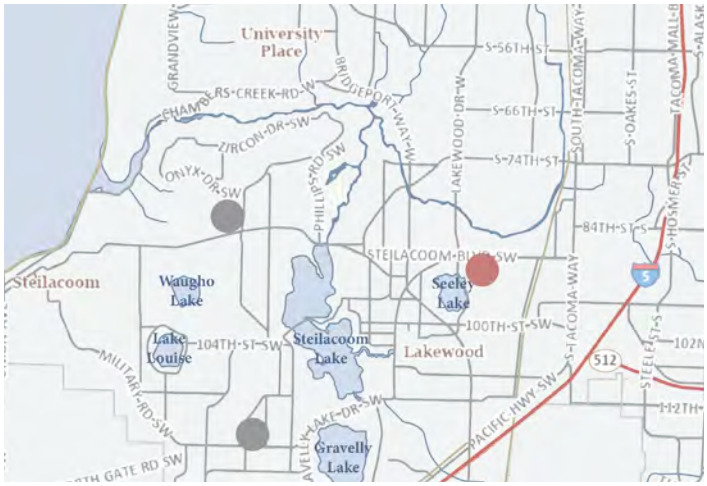
+ Fire Station 21 New Training Facilities

NARRATIVE

The proposed upgrades at Fire Station 21 include the demolition of the old training tower and construction of one or more new training towers. One training tower is designed to feature gas-fired props in a two-story structure with attic space. The second potential tower would be up to five stories tall with a warehouse space.

Another part of the upgrades would include the construction of a new "dirty classroom" training facility, in which trainees can practice in situ with the apparatus. TCA has prepared three possible configurations for this training classroom facility, which range in size and complexity of functional ability. Please see the programming pages for more detail.



AT A GLANCE

ADDRESS	5000 STEILACOOM BLVD SW, LAKEWOOD, WA 98499
YEAR BUILT	TBD
CURRENT SIZE	N/A
FUTURE SIZE	3,670+ SF
STORIES	1 + POSSIBLE MEZZANINE
STAFF ASSIGNED	X FULL TIME, X TRAINEES
APPARATUS BAYS	1+

BUDGET + TIMELINE

	CLASSROOM TIER 1	CLASSROOM TIER 2	CLASSROOM TIER 3	2-STORY TOWER	2-STORY TOWER ALT	5-STORY TOWER
Base Construction Cost	$2,258,635	$2,258,635	$2,258,635	$2,231,934	$2,231,934	$2,588,929
With Alternate		$797,745	$2,079,365		$327,785	
With Site	$1,710,231	$1,710,231	$1,710,231			
Total Construction Cost	**$3,968,866**	**$4,766,611**	**$7,155,984**	**$2,409,637**	**$2,663,294**	**$2,588,929**
Construction Start	Spring 2025	Spring 2025	Spring 2025	Spring 2025	Spring 2025	Spring 2025
Construction Duration	12 mos.	12 mos.	18 mos.	12 mos.	12 mos.	12 mos.

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+ Fire Station 21 Programming

		BASELINE TIER 1			TIER 2		TIER 3		
1.00	**TRAINING AREA**	Unit SF	Quant.	Net SF	Quant.	Net SF	Quant	Net SF	Notes
1.01	Dirty Classroom/ Apparatus bay	1200	2	2,400	2	2,400	2	2,400	Dirty training space w/ (2-3) apparatus bay (20x60), double height + space (20' clear), access to outside. Store apparatus, pull out to make classroom. Sized to include Ladder/not tiller. Consider exhaust reqs. Out of environment- minimal concept. electrical drops for parked apparatus. Heated. (Tier 2 storage mezzanine) - provide oil/water
1.02	Clean Classroom	0	0	0	0	0	1	1,500	max at training tables- 35-40, clean area for an academy
1.03	Clean Classroom Storage	0	0	0	0	0	1	150	storage for training equipment- table + chair storage
1.04	Counter w/ sink	0	0	0	0	0	1	40	Confirm if desired
1.05	Offices	0	0	0	2	96	6	264	will verify print copy computers, overlook drill ground, observation deck. Academy- 4 consistent instruct- coordinator, lead, main instructors- (4) max plus 2 touch down space. Potentially on second floor
1.06	Break Room / Kitchenette	30	1	30	1	30	1	500	A space to eat/ self contained- shared space primarily for (27) recruits. Tier 1 and 2 - coffee bar in bay. Tier 3 full break room - 1 -2 ref- one store, 2 micros, cupboards, potentially ice machine + bottle fill
1.07	Dirty Restroom w/ shower	96	1	96	2	192	2	192	Individual facilities 96 SF standard. At least one ADA. Confirm quantity desired.
1.08	Shower or Locker Room	200	0	0	1	200	1	200	(4) 12 sf changing room, rows of lockers, unisex, 1 room. Tier 1 lockers on wall, changing in shower room
1.09	Cleaning Area	40	1	40	1	40	1	75	Sink/cleaning area, apparatus wash alcove, boot wash tier 3
1.10	Turnout Gear/PPE Storage	120	0	0	1	120	1	120	(30) gear racks on bay walls, 20" w 20" d 72" h w/ top shelf - 60' of wall
1.11	Hose Alcove	0	0	0	0	0	1	32	perhaps 8'-0"- 3 tier
1.12	Training Storage	0	0	200	1	200	1	300	Tool storage, nozzles, store props in basement of tower- two story roll-up door- hand jack/ forklift :)- ladder storage- 24'-0" - 200- 300 SF? Special ops and Hazmat storage- move to 24- foam here- training
1.13	Custodial Room	0	0	0	0	0	1	50	If desired
1.14	stair	0	0	0	1	200	1	200	stair for mezzanine
	Subtotal			**2,766**		**3,478**		**6,023**	**Zone grossing factor tier 1 and 2: 1.15**
	w/ Circulation			**3,181**		**4,000**		**7,529**	**Zone grossing factor tier 3: 1.25**

		BASELINE TIER 1			TIER 2		TIER 3		
8.00	**SYSTEMS**	Unit SF	Quant.	Net SF	Quant.	Net SF	Quant	Net SF	Notes
8.01	Electrical Room	100	1	100	1	100	1	100	include IT space. one vertical rack probably sufficient
8.02	Mechanical Room	100	1	100	1	100	1	100	Size depends on building mech requirements
8.03	Fire Sprinkler Riser Alcove	50	1	50	1	50	1	50	room or alcove
	Subtotal			**250**		**250**		**250**	
	FACILITY NET SF			**3,016**		**3,728**		**6,273**	
	FACILITY W/ CIRCULATION			**3,431**		**4,250**		**7,779**	
	FACILITY GROSSING FACTOR			1.07		1.07		1.07	
	FACILITY GROSS SQUARE FEET			**3,671**		**4,547**		**8,323**	

9.00	**SITE AMENITIES**			Net SF			RFP		Notes
9.01	Visitor Parking			0					Included in main parking
9.02	Accessible Parking			0					Included in main parking
9.03	Staff Parking			0		3		**3**	
9.04	Trainee Parking			0					Included in main parking
	Total Facility Parking Exterior			0		**3**		**3**	
9.05	Outdoor Maintenance Equipment Storage	150	0	0	1	150	1	150	if desired. Confirm with WPFR - Plan to stor in prop building for tier 1
	PROPS								
9.06	Burn Building- vendor?			X		X		**X**	natural gas props?, search and rescue, multiple configurations- poss. incorp into tower - sealed bubble. Good access to drill area - go with prefabricated tower if less expensive
9.07	Training Tower-Vendor? (WHP, Fire Facility for SF)			X		X		X	4-story, stairwell, interior center hallway + exterior balcony - go with prefabiracted tower if less expensive
9.08	Extrication Pad- move to 24			X					Vehicle and heavy rescue, easy clean up. Water separator now for extrication area- south end center- locate at Logistics site
9.09	Confined Space- Move to 24			X					below grade. Move to logistics site

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+ Fire Station 21 Estimate Summary

WEST PIERCE FIRE & RESCUE
FIRE STATION 21 TRAINING FACILITY
LAKEWOOD, WA
CONCEPT ESTIMATE
TIER 1

GROSS FLOOR AREA: 3,671 SF
DATE: March 27, 2023

RC COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		$ 169,074	$ 46.06
A1010	Standard Foundation	$ 110,300	$ 30.05	
A1020	Special Foundation	$ -	$ -	
A1030	Slab on grade	$ 58,774	$ 16.01	
A20	BASEMENT WALL CONSTRUCTION		$ -	$ -
A2010	Basement Excavation	$ -	$ -	
A2020	Basement Wall Construction	$ -	$ -	
B10	SUPERSTRUCTURE		$ -	$ -
B1010	Floor & Roof Construction	$ -	$ -	
B20	EXTERIOR ENCLOSURE		$ 83,850	$ 22.84
B2010	Exterior Walls	$ -	$ -	
B2020	Exterior Windows	$ 20,500	$ 5.58	
B2030	Exterior Doors	$ 63,350	$ 17.26	
B30	ROOFING		$ -	$ -
B3010	Roofing	$ -	$ -	
C10	INTERIOR CONSTRUCTION		$ 60,306	$ 16.43
C1010	Partitions	$ 39,253	$ 10.69	
C1020	Interior Doors	$ 15,900	$ 4.33	
C1030	Fittings and Specialties	$ 5,153	$ 1.40	
C20	STAIRS		$ -	$ -
C2010	Stair Construction	$ -	$ -	
C30	INTERIOR FINISHES		$ 108,375	$ 29.52
C3010	Wall Finishes	$ 60,919	$ 16.59	
C3020	Floor Finishes	$ 35,016	$ 9.54	
C3030	Ceiling Finishes	$ 12,441	$ 3.39	
D10	CONVEYING		$ -	$ -
D1010	Elevators & Lifts	$ -	$ -	
D20	PLUMBING		$ 135,000	$ 36.77
D2010	Plumbing	$ 135,000	$ 36.77	
D30	HVAC		$ 245,000	$ 66.74
D3010	HVAC	$ 245,000	$ 66.74	
D40	FIRE PROTECTION		$ 35,000	$ 9.53
D4010	Sprinkler System	$ 35,000	$ 9.53	
D50	ELECTRICAL		$ 261,975	$ 71.36
D5000	Electrical	$ 261,975	$ 71.36	
E10	EQUIPMENT		$ 38,000	$ 10.35
E1010	Equipment	$ 38,000	$ 10.35	
E20	FIXED FURNISHINGS		$ 4,500	$ 1.23
E2010	Fixed Furnishings	$ 4,500	$ 1.23	
F10	SPECIAL CONSTRUCTION		$ 269,819	$ 73.50
F1010	Special Structure	$ 269,819		
F1020	Special Construction	$ -		
F20	SELECTIVE BUILDING DEMOLITION		$ -	$ -
F2010	Selective Building Demolition	$ -		
Z10	GENERAL RQUIREMENTS		$ 300,000	$ 81.72
Z1010	General requirements	$ 300,000		
	Sub-Total Direct Cost		**$ 1,710,899**	**$ 466.06**
	Estimating / Design Contingency 10.00%		$ 171,090	$ 46.61
	Sub-Total		**$ 1,881,989**	**$ 512.66**
	General Contractor's OH&P 7.50%		$ 141,149	$ 38.45
	Sub-Total		**$ 2,023,138**	**$ 551.11**
	Escalation to June 2025 11.64%		$ 235,497	$ 64.15
	TOTAL CONSTRUCTION COST		**$ 2,258,635**	**$ 615.26**

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+ Fire Station 21 Estimate Summary (CONT.)

WEST PIERCE FIRE & RESCUE
FIRE STATION 21 TRAINING FACILITY
LAKEWOOD, WA
CONCEPT ESTIMATE
TIER 2

GROSS FLOOR AREA: 4,547 SF
DATE: March 27, 2023

RC COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		$ 189,953	$ 41.78
A1010	Standard Foundation	$ 118,600	$ 26.08	
A1020	Special Foundation	$ -	$ -	
A1030	Slab on grade	$ 71,353	$ 15.69	
A20	BASEMENT WALL CONSTRUCTION		$ -	$ -
A2010	Basement Excavation	$ -	$ -	
A2020	Basement Wall Construction	$ -	$ -	
B10	SUPERSTRUCTURE		$ 85,600	$ 18.83
B1010	Floor & Roof Construction	$ 85,600	$ 18.83	
B20	EXTERIOR ENCLOSURE		$ 120,600	$ 26.52
B2010	Exterior Walls	$ -	$ -	
B2020	Exterior Windows	$ 53,300	$ 11.72	
B2030	Exterior Doors	$ 67,300	$ 14.80	
B30	ROOFING		$ -	$ -
B3010	Roofing	$ -	$ -	
C10	INTERIOR CONSTRUCTION		$ 110,776	$ 24.36
C1010	Partitions	$ 71,579	$ 15.74	
C1020	Interior Doors	$ 29,150	$ 6.41	
C1030	Fittings and Specialties	$ 10,047	$ 2.21	
C20	STAIRS		$ 17,500	$ 3.85
C2010	Stair Construction	$ 17,500	$ 3.85	
C30	INTERIOR FINISHES		$ 149,328	$ 32.84
C3010	Wall Finishes	$ 78,455	$ 17.25	
C3020	Floor Finishes	$ 46,532	$ 10.23	
C3030	Ceiling Finishes	$ 24,342	$ 5.35	
D10	CONVEYING		$ -	$ -
D1010	Elevators & Lifts	$ -	$ -	
D20	PLUMBING		$ 220,000	$ 48.38
D2010	Plumbing	$ 220,000	$ 48.38	
D30	HVAC		$ 305,000	$ 67.08
D3010	HVAC	$ 305,000	$ 67.08	
D40	FIRE PROTECTION		$ 40,000	$ 8.80
D4010	Sprinkler System	$ 40,000	$ 8.80	
D50	ELECTRICAL		$ 361,325	$ 79.46
D5000	Electrical	$ 361,325	$ 79.46	
E10	EQUIPMENT		$ 39,000	$ 8.58
E1010	Equipment	$ 39,000	$ 8.58	
E20	FIXED FURNISHINGS		$ 12,750	$ 2.80
E2010	Fixed Furnishings	$ 12,750	$ 2.80	
F10	SPECIAL CONSTRUCTION		$ 334,205	$ 73.50
F1010	Special Structure	$ 334,205		
F1020	Special Construction	$ -		
F20	SELECTIVE BUILDING DEMOLITION		$ -	$ -
F2010	Selective Building Demolition	$ -		
Z10	GENERAL RQUIREMENTS		$ 330,000	$ 72.58
Z1010	General requirements	$ 330,000		
	Sub-Total Direct Cost		**$ 2,316,037**	**$ 509.35**
	Estimating / Design Contingency 10.00%		$ 231,604	$ 50.94
	Sub-Total		**$ 2,547,640**	**$ 560.29**
	General Contractor's OH&P 7.50%		$ 191,073	$ 42.02
	Sub-Total		**$ 2,738,713**	**$ 602.31**
	Escalation to June 2025 11.64%		$ 318,792	$ 70.11
	TOTAL CONSTRUCTION COST		**$ 3,057,505**	**$ 672.42**

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+ Fire Station 21 Estimate Summary (CONT.)

WEST PIERCE FIRE & RESCUE
FIRE STATION 21 TRAINING FACILITY
LAKEWOOD, WA
CONCEPT ESTIMATE
TIER 3

GROSS FLOOR AREA: 8,323 SF
DATE: March 27, 2023

RC COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		$ 285,622	$ 34.32
A1010	Standard Foundation	$ 161,300	$ 19.38	
A1020	Special Foundation	$ -	$ -	
A1030	Slab on grade	$ 124,322	$ 14.94	
A20	BASEMENT WALL CONSTRUCTION		$ -	$ -
A2010	Basement Excavation	$ -	$ -	
A2020	Basement Wall Construction	$ -	$ -	
B10	SUPERSTRUCTURE		$ 85,600	$ 10.28
B1010	Floor & Roof Construction	$ 85,600	$ 10.28	
B20	EXTERIOR ENCLOSURE		$ 157,850	$ 18.97
B2010	Exterior Walls	$ -	$ -	
B2020	Exterior Windows	$ 98,400	$ 11.82	
B2030	Exterior Doors	$ 59,450	$ 7.14	
B30	ROOFING		$ -	$ -
B3010	Roofing	$ -	$ -	
C10	INTERIOR CONSTRUCTION		$ 191,193	$ 22.97
C1010	Partitions	$ 132,970	$ 15.98	
C1020	Interior Doors	$ 42,400	$ 5.09	
C1030	Fittings and Specialties	$ 15,823	$ 1.90	
C20	STAIRS		$ 17,500	$ 2.10
C2010	Stair Construction	$ 17,500	$ 2.10	
C30	INTERIOR FINISHES		$ 266,997	$ 32.08
C3010	Wall Finishes	$ 118,521	$ 14.24	
C3020	Floor Finishes	$ 79,988	$ 9.61	
C3030	Ceiling Finishes	$ 68,488	$ 8.23	
D10	CONVEYING		$ -	$ -
D1010	Elevators & Lifts	$ -	$ -	
D20	PLUMBING		$ 235,000	$ 28.24
D2010	Plumbing	$ 235,000	$ 28.24	
D30	HVAC		$ 465,000	$ 55.87
D3010	HVAC	$ 465,000	$ 55.87	
D40	FIRE PROTECTION		$ 60,000	$ 7.21
D4010	Sprinkler System	$ 60,000	$ 7.21	
D50	ELECTRICAL		$ 499,500	$ 60.01
D5000	Electrical	$ 499,500	$ 60.01	
E10	EQUIPMENT		$ 51,800	$ 6.22
E1010	Equipment	$ 51,800	$ 6.22	
E20	FIXED FURNISHINGS		$ 29,050	$ 3.49
E2010	Fixed Furnishings	$ 29,050	$ 3.49	
F10	SPECIAL CONSTRUCTION		$ 611,741	$ 73.50
F1010	Special Structure	$ 611,741		
F1020	Special Construction	$ -		
F20	SELECTIVE BUILDING DEMOLITION		$ -	$ -
F2010	Selective Building Demolition	$ -		
Z10	GENERAL RQUIREMENTS		$ 330,000	$ 39.65
Z1010	General requirements	$ 330,000		
	Sub-Total Direct Cost		**$ 3,286,853**	**$ 394.91**
	Estimating / Design Contingency 10.00%		$ 328,685	$ 39.49
	Sub-Total		**$ 3,615,538**	**$ 434.40**
	General Contractor's OH&P 7.50%		$ 271,165	$ 32.58
	Sub-Total		**$ 3,886,703**	**$ 466.98**
	Escalation to June 2025 11.64%		$ 452,420	$ 54.36
	TOTAL CONSTRUCTION COST		**$ 4,339,123**	**$ 521.34**

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+ Fire Station 21 Estimate Summary (CONT.)

WEST PIERCE FIRE & RESCUE
FIRE STATION 21 TRAINING FACILITY
LAKEWOOD, WA
CONCEPT ESTIMATE
COMMERCIAL BURN BLDG

GROSS FLOOR AREA:
DATE: March 27, 2023

RC COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		$ 95,100	
A1010	Standard Foundation	$ 67,100		
A1020	Special Foundation	$ -		
A1030	Slab on grade	$ 28,000		
A20	BASEMENT WALL CONSTRUCTION		$ -	
A2010	Basement Excavation	$ -		
A2020	Basement Wall Construction	$ -		
B10	SUPERSTRUCTURE		$ 54,600	
B1010	Floor & Roof Construction	$ 54,600		
B20	EXTERIOR ENCLOSURE		$ 485,000	
B2010	Exterior Walls	$ 485,000		
B2020	Exterior Windows	$ -		
B2030	Exterior Doors	$ -		
B30	ROOFING		$ 15,000	
B3010	Roofing	$ 15,000		
C10	INTERIOR CONSTRUCTION		$ -	
C1010	Partitions	$ -		
C1020	Interior Doors	$ -		
C1030	Fittings and Specialties	$ -		
C20	STAIRS		$ -	
C2010	Stair Construction	$ -		
C30	INTERIOR FINISHES		$ -	
C3010	Wall Finishes	$ -		
C3020	Floor Finishes	$ -		
C3030	Ceiling Finishes	$ -		
D10	CONVEYING		$ -	
D1010	Elevators & Lifts	$ -		
D20	PLUMBING		$ 95,000	
D2010	Plumbing	$ 95,000		
D30	HVAC		$ 95,000	
D3010	HVAC	$ 95,000		
D40	FIRE PROTECTION		$ 18,000	
D4010	Sprinkler System	$ 18,000		
D50	ELECTRICAL		$ -	
D5000	Electrical	$ -		
E10	EQUIPMENT		$ -	
E1010	Equipment	$ -		
E20	FIXED FURNISHINGS		$ -	
E2010	Fixed Furnishings	$ -		
F10	SPECIAL CONSTRUCTION		$ 859,172	
F1010	Special Structure	$ 859,172		
F1020	Special Construction	$ -		
F20	SELECTIVE BUILDING DEMOLITION		$ -	
F2010	Selective Building Demolition	$ -		
Z10	GENERAL RQUIREMENTS		$ 180,000	
Z1010	General requirements	$ 180,000		
	Sub-Total Direct Cost		**$ 1,896,872**	
	Estimating / Design Contingency 10.00%		$ 189,687	
	Sub-Total		**$ 2,086,559**	
	General Contractor's OH&P 7.50%		$ 156,492	
	Sub-Total		**$ 2,243,051**	
	Escalation to June 2026 15.42%		$ 345,878	
	TOTAL CONSTRUCTION COST		**$ 2,588,929**	

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+ Fire Station 21 Estimate Summary (CONT.)

WEST PIERCE FIRE & RESCUE
FIRE STATION 21 TRAINING FACILITY
LAKEWOOD, WA
CONCEPT ESTIMATE
RESIDENTIAL BURN BUILDING OPTION 1

GROSS FLOOR AREA:
DATE: March 27, 2023

RC COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		$ 66,769	
A1010	Standard Foundation	$ 44,685		
A1020	Special Foundation	$ -		
A1030	Slab on grade	$ 22,084		
A20	BASEMENT WALL CONSTRUCTION		$ -	
A2010	Basement Excavation	$ -		
A2020	Basement Wall Construction	$ -		
B10	SUPERSTRUCTURE		$ 42,420	
B1010	Floor & Roof Construction	$ 42,420		
B20	EXTERIOR ENCLOSURE		$ 200,000	
B2010	Exterior Walls	$ 200,000		
B2020	Exterior Windows	$ -		
B2030	Exterior Doors	$ -		
B30	ROOFING		$ 15,000	
B3010	Roofing	$ 15,000		
C10	INTERIOR CONSTRUCTION		$ -	
C1010	Partitions	$ -		
C1020	Interior Doors	$ -		
C1030	Fittings and Specialties	$ -		
C20	STAIRS		$ -	
C2010	Stair Construction	$ -		
C30	INTERIOR FINISHES		$ -	
C3010	Wall Finishes	$ -		
C3020	Floor Finishes	$ -		
C3030	Ceiling Finishes	$ -		
D10	CONVEYING		$ -	
D1010	Elevators & Lifts	$ -		
D20	PLUMBING		$ 95,000	
D2010	Plumbing	$ 95,000		
D30	HVAC		$ 95,000	
D3010	HVAC	$ 95,000		
D40	FIRE PROTECTION		$ 18,000	
D4010	Sprinkler System	$ 18,000		
D50	ELECTRICAL		$ -	
D5000	Electrical	$ -		
E10	EQUIPMENT		$ 595,000	
E1010	Equipment	$ 595,000		
E20	FIXED FURNISHINGS		$ -	
E2010	Fixed Furnishings	$ -		
F10	SPECIAL CONSTRUCTION		$ 388,118	
F1010	Special Structure	$ 388,118		
F1020	Special Construction	$ -		
F20	SELECTIVE BUILDING DEMOLITION		$ -	
F2010	Selective Building Demolition	$ -		
Z10	GENERAL RQUIREMENTS		$ 120,000	
Z1010	General requirements	$ 120,000		
	Sub-Total Direct Cost		**$ 1,635,307**	
	Estimating / Design Contingency 10.00%		$ 163,531	
	Sub-Total		**$ 1,798,837**	
	General Contractor's OH&P 7.50%		$ 134,913	
	Sub-Total		**$ 1,933,750**	
	Escalation to June 2026 15.42%		$ 298,184	
	TOTAL CONSTRUCTION COST		**$ 2,231,934**	

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+ Fire Station 21 Estimate Summary (CONT.)

WEST PIERCE FIRE & RESCUE
FIRE STATION 21 TRAINING FACILITY
LAKEWOOD, WA
CONCEPT ESTIMATE
RESIDENTIAL BURN BUILDING OPTION 2

GROSS FLOOR AREA:
DATE: March 27, 2023

RC COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		$ 73,359	
A1010	Standard Foundation	$ 52,775		
A1020	Special Foundation	$ -		
A1030	Slab on grade	$ 20,584		
A20	BASEMENT WALL CONSTRUCTION		$ 64,025	
A2010	Basement Excavation	$ 18,025		
A2020	Basement Wall Construction	$ 46,000		
B10	SUPERSTRUCTURE		$ 42,420	
B1010	Floor & Roof Construction	$ 42,420		
B20	EXTERIOR ENCLOSURE		$ 200,000	
B2010	Exterior Walls	$ 200,000		
B2020	Exterior Windows	$ -		
B2030	Exterior Doors	$ -		
B30	ROOFING		$ -	
B3010	Roofing	$ -		
C10	INTERIOR CONSTRUCTION		$ -	
C1010	Partitions	$ -		
C1020	Interior Doors	$ -		
C1030	Fittings and Specialties	$ -		
C20	STAIRS		$ -	
C2010	Stair Construction	$ -		
C30	INTERIOR FINISHES		$ -	
C3010	Wall Finishes	$ -		
C3020	Floor Finishes	$ -		
C3030	Ceiling Finishes	$ -		
D10	CONVEYING		$ -	
D1010	Elevators & Lifts	$ -		
D20	PLUMBING		$ 95,000	
D2010	Plumbing	$ 95,000		
D30	HVAC		$ 95,000	
D3010	HVAC	$ 95,000		
D40	FIRE PROTECTION		$ 18,000	
D4010	Sprinkler System	$ 18,000		
D50	ELECTRICAL		$ -	
D5000	Electrical	$ -		
E10	EQUIPMENT		$ 595,000	
E1010	Equipment	$ 595,000		
E20	FIXED FURNISHINGS		$ 512,666	
E2010	Fixed Furnishings	$ 512,666		
F10	SPECIAL CONSTRUCTION		$ -	
F1010	Special Structure	$ -		
F1020	Special Construction	$ -		
F20	SELECTIVE BUILDING DEMOLITION		$ -	
F2010	Selective Building Demolition	$ -		
Z10	GENERAL RQUIREMENTS		$ 180,000	
Z1010	General requirements	$ 180,000		
	Sub-Total Direct Cost		**$ 1,875,470**	
	Estimating / Design Contingency 10.00%		$ 187,547	
	Sub-Total		**$ 2,063,016**	
	General Contractor's OH&P 7.50%		$ 154,726	
	Sub-Total		**$ 2,217,743**	
	Escalation to June 2026 15.42%		$ 341,976	
	TOTAL CONSTRUCTION COST		**$ 2,559,719**	

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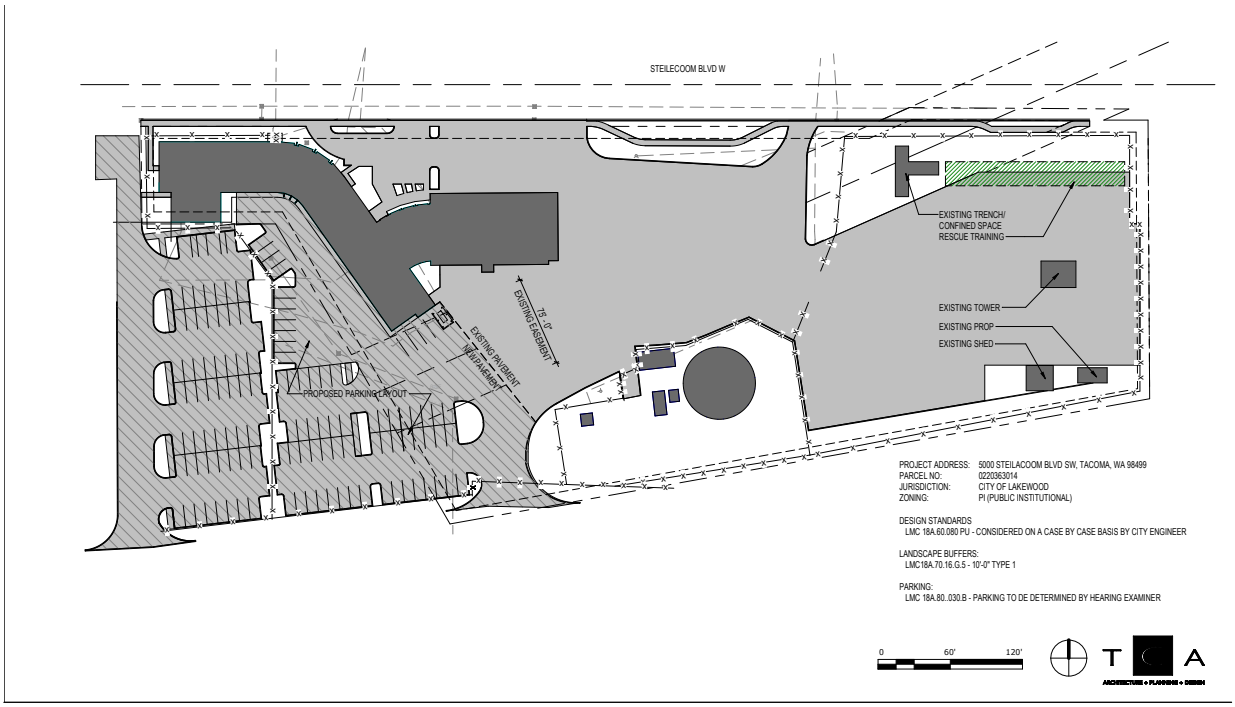
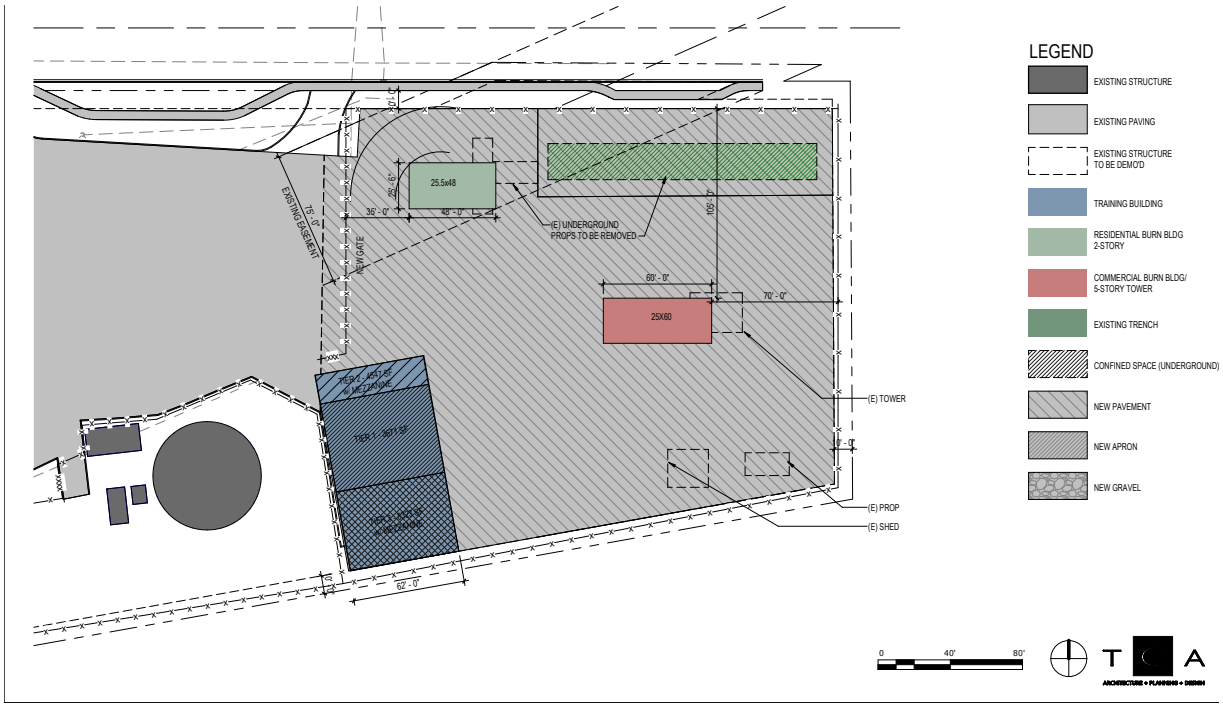
+ Fire Station 21 Site Plans

Existing Site Plan



Proposed Site Plan



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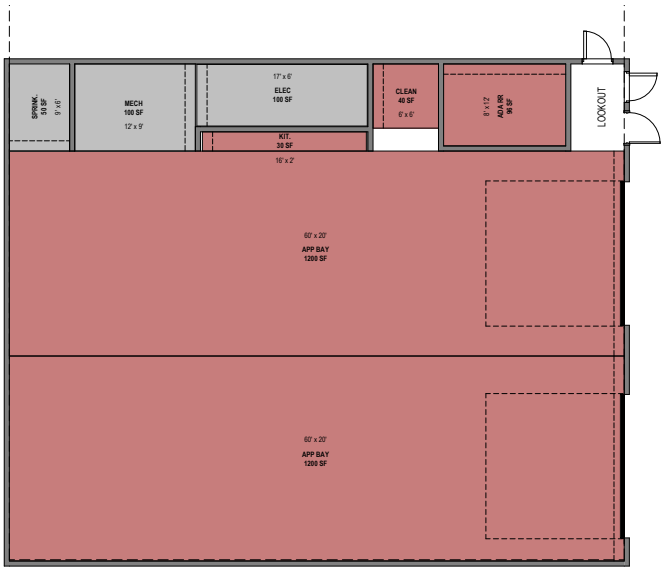
+ Fire Station 21 Floor Plans

Training Classroom - Tier 1



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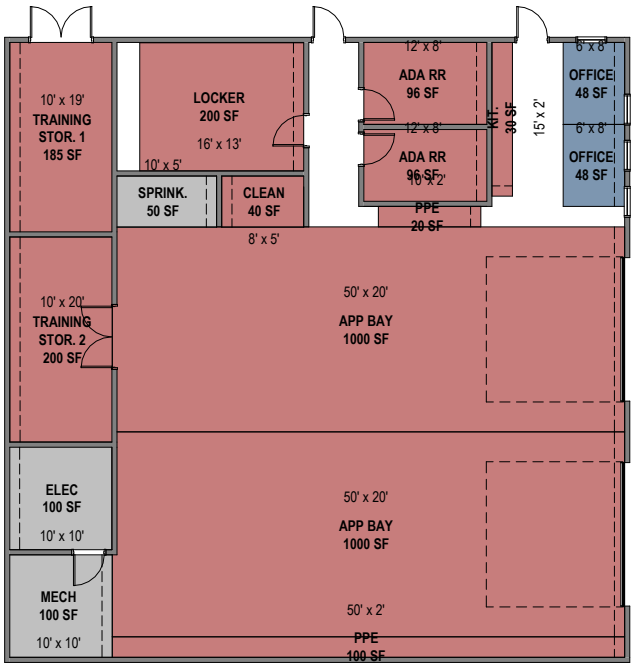
+ Fire Station 21 Floor Plans

Training Classroom - Tier 2



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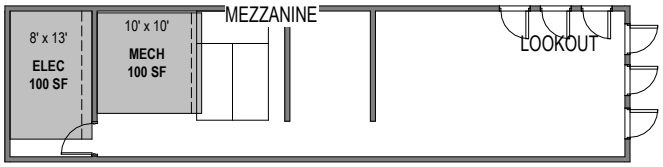
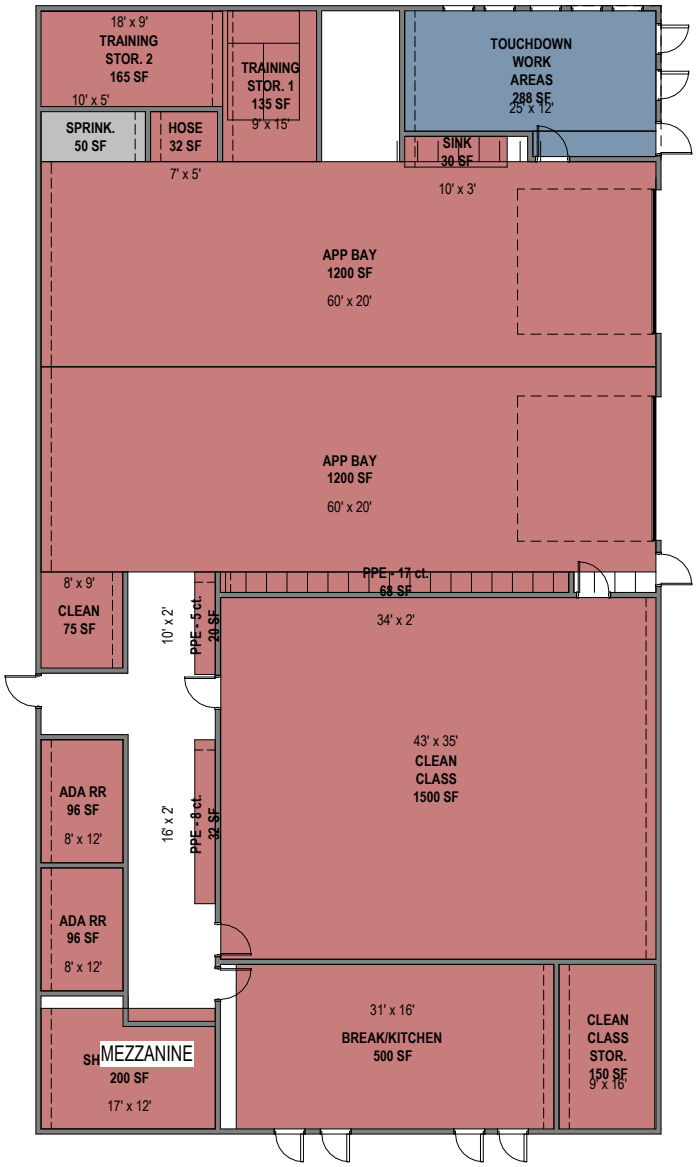
+ Fire Station 21 Floor Plans

Training Classroom - Tier 3



Mezzanine



Main Floor

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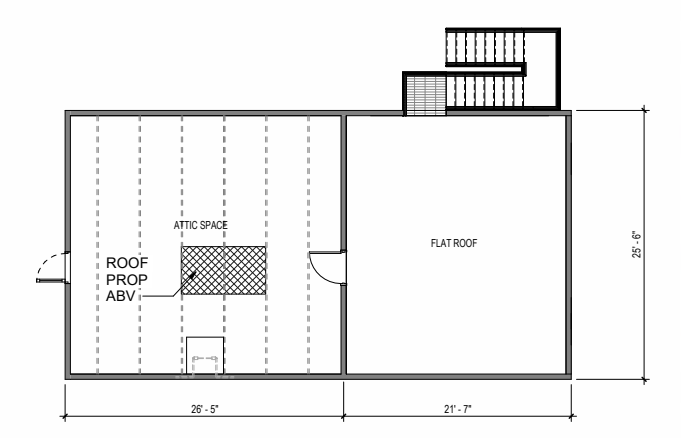
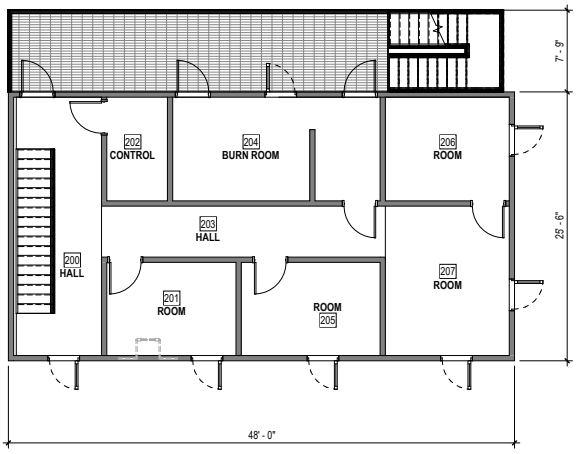
+ Fire Station 21 Floor Plans

Residential Training Tower - Option 1

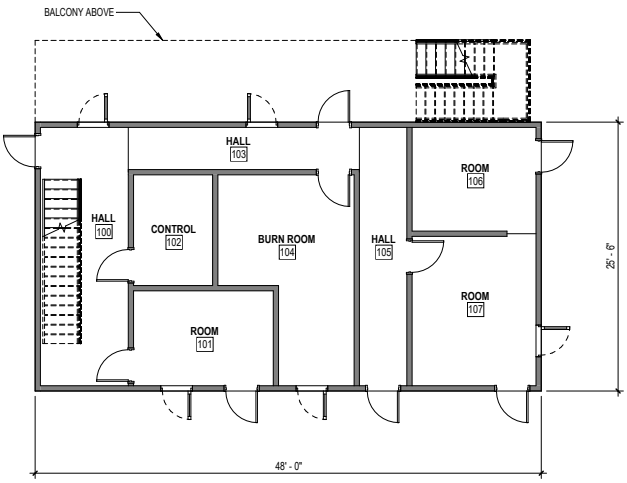
Roof



Level 2



Level 1



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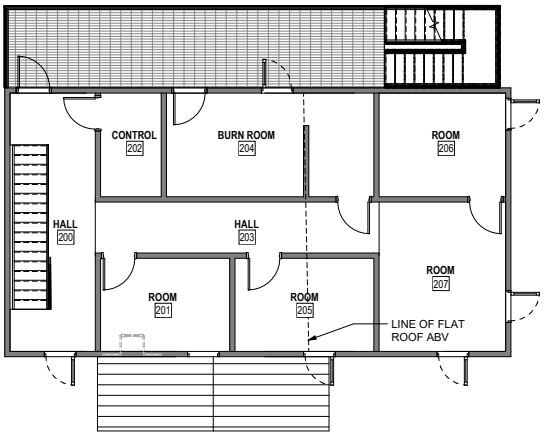
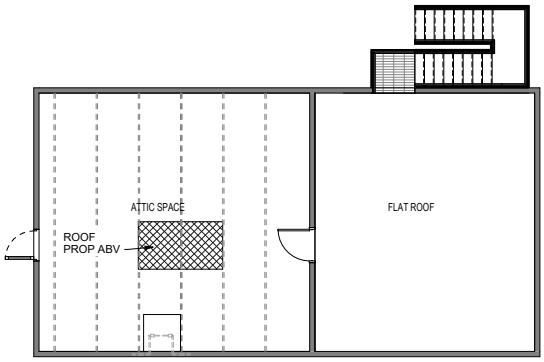
+ Fire Station 21 Floor Plans

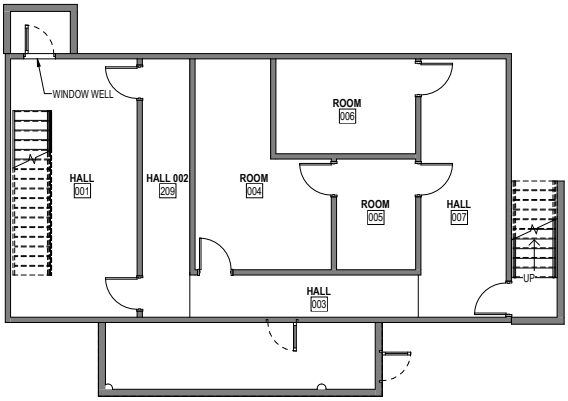
Residential Training Tower - Option 2



Level 2



Roof



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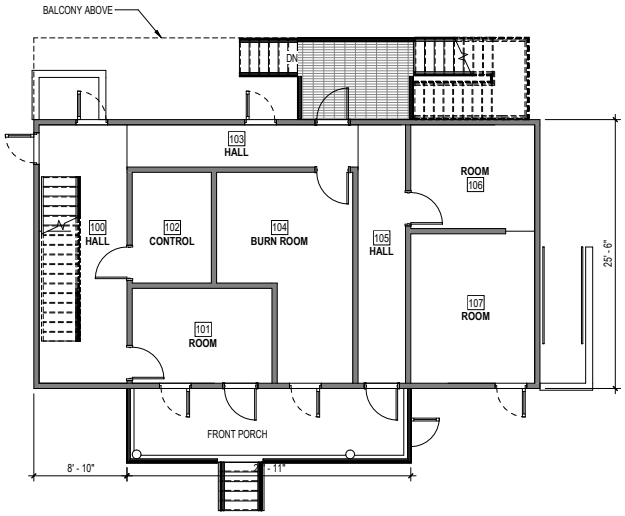

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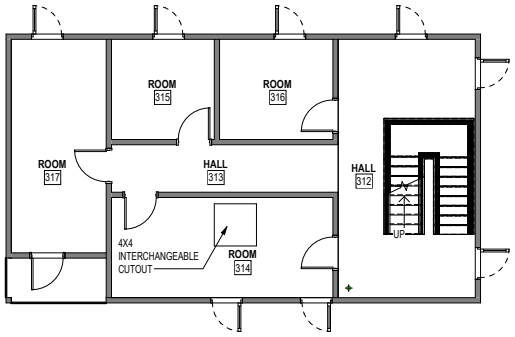
+ Fire Station 21 Floor Plans

Commercial Training Tower



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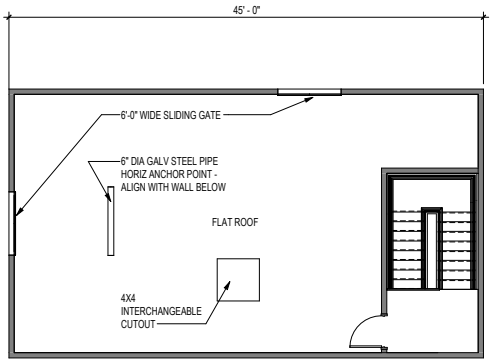

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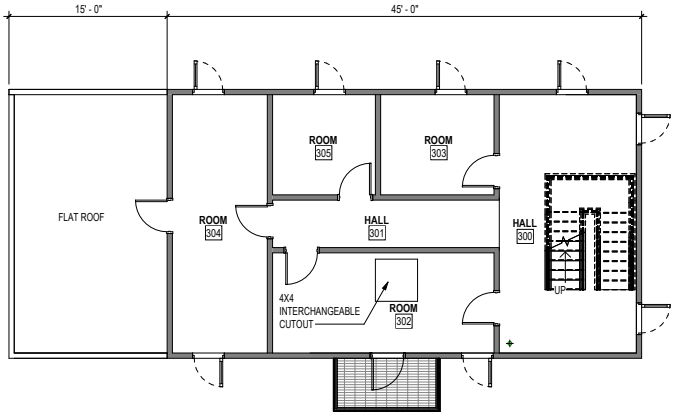

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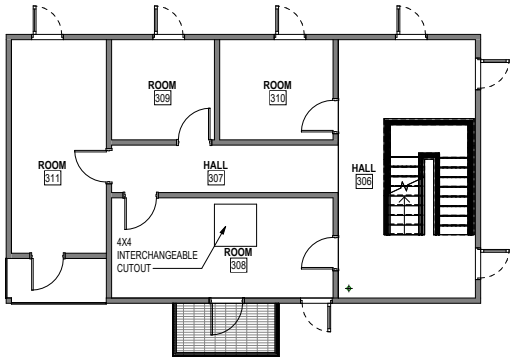

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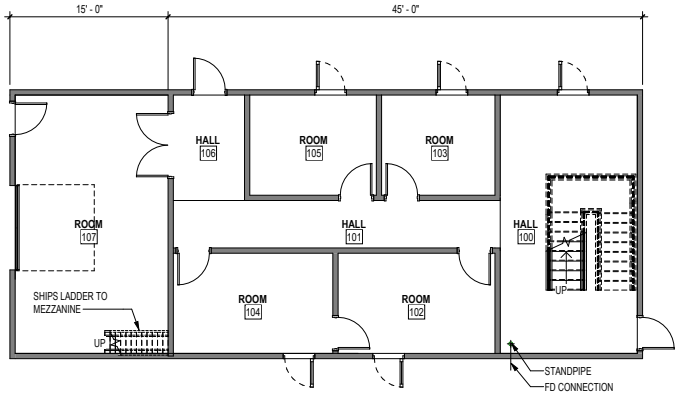

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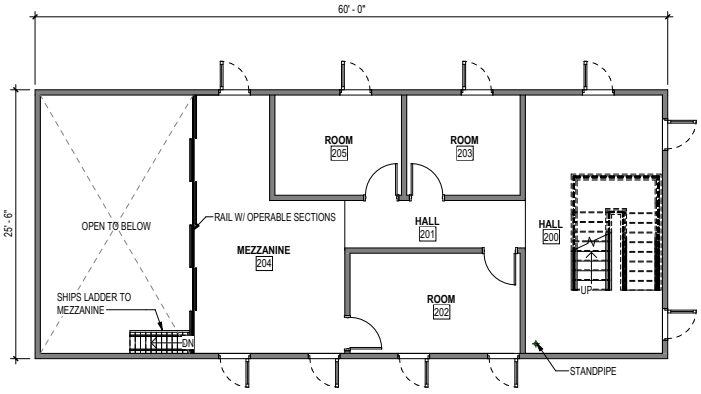

Level 2

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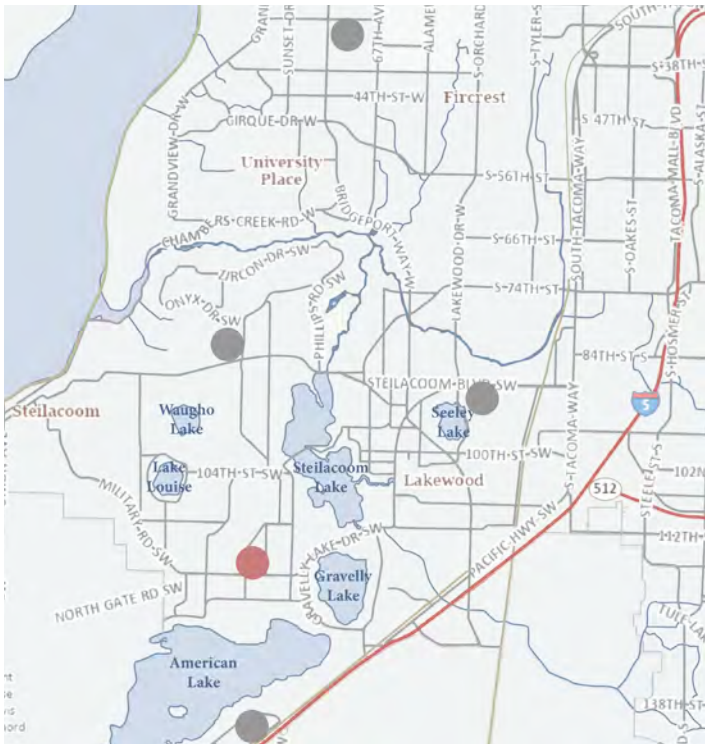
+ Fire Station 22

Shower & Restoom Renovation

(Trainees)

NARRATIVE

This proposed project includes the renovation of the existing 1994 restroom and shower facilities to better fit current station function and performance. The proposal involves demolishing the existing communal Men's restroom/shower room and replacing it with three single-occupant restrooms and shower rooms. Two of these new restrooms would be universally accessible. The budget for this project includes temporary restroom/ Shower trailer allowances as required.



AT A GLANCE

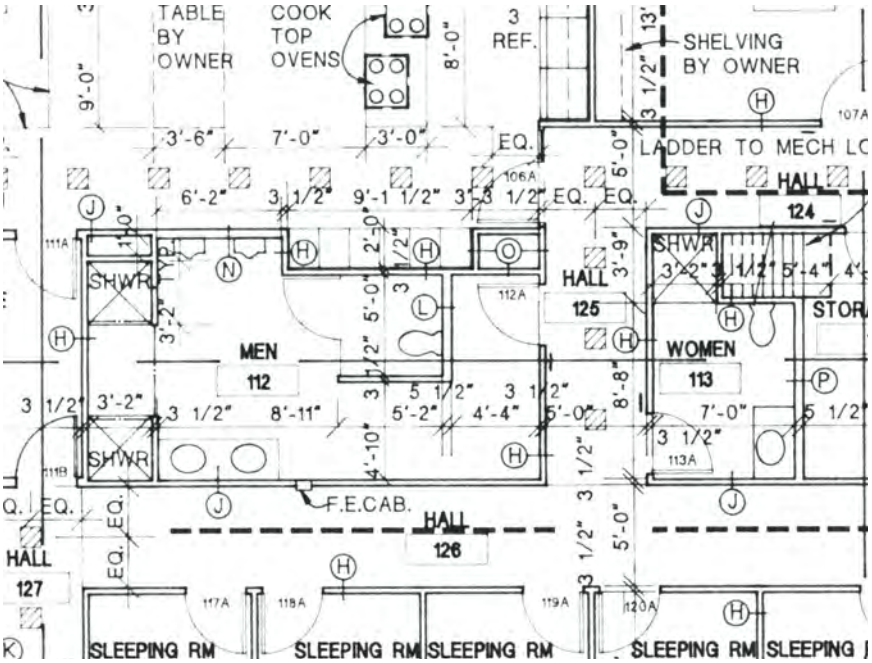
ADDRESS	8517 WASHINGTON BLVD SW LAKEWOOD, WA 98498
YEAR BUILT	1994
CURRENT SIZE	8,950 SF
FUTURE SIZE	8,950 SF
STORIES	1
STAFF ASSIGNED	X FULL TIME, X TRAINEES
APPARATUS BAYS	3

BASE BID	
Cost	$262,580
Construction Start	Fall 2025
Construction Duration	4-6 mos.

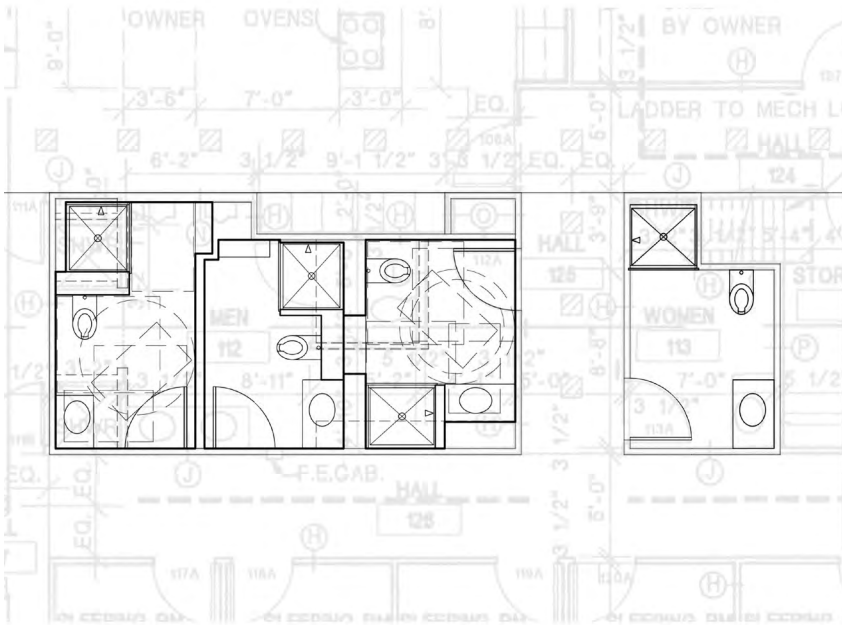
Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

+ Fire Station 22 Floor Plans

Existing Floor Plan



Proposed Floor Plan



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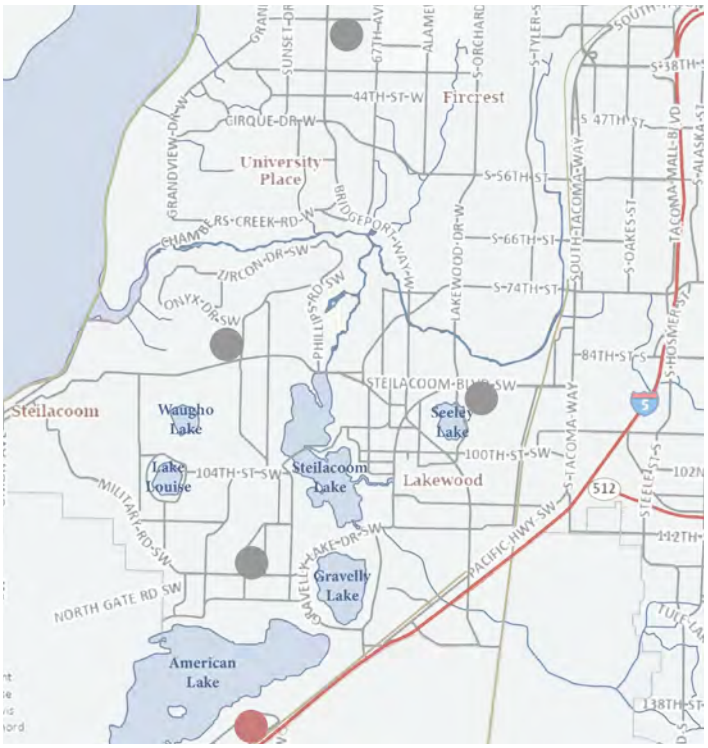
+ Fire Station 23

Shower & Restoom Renovation

(Trainees)

NARRATIVE

This proposed project includes the renovation of the existing 2004 restroom and shower facilities to better fit current station function and performance. The proposal involves demolishing two existing communal restroom/shower rooms and replacing them with three single-occupant restrooms and shower rooms. At least one of these new restrooms would be universally accessible. The budget for this project includes temporary restroom/ Shower trailer allowances as required.



AT A GLANCE

ADDRESS	14505 GRANT AVENUE SW LAKEWOOD, WA 98498
YEAR BUILT	2004
CURRENT SIZE	6,526 SF
FUTURE SIZE	6,526 SF
STORIES	1
STAFF ASSIGNED	X FULL TIME, X TRAINEES
APPARATUS BAYS	2

BASE BID	
Cost	$211,118
Construction Start	Fall 2025
Construction Duration	4-6 mos.

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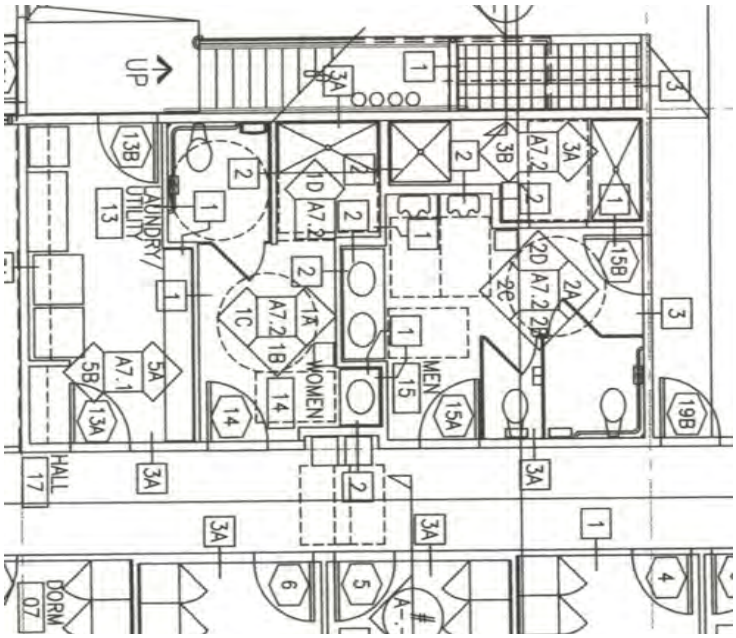
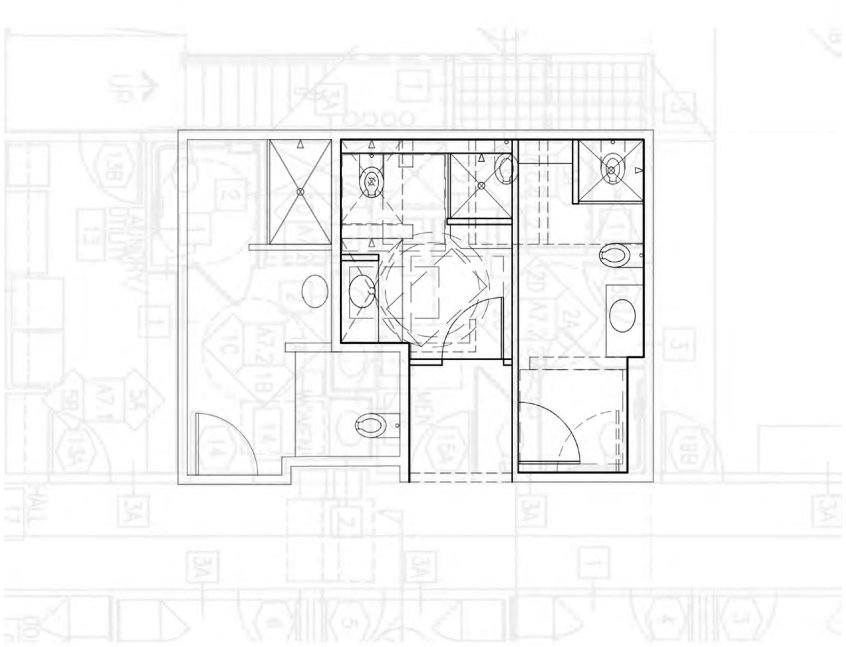
+ Fire Station 23 Floor Plans

Existing Floor Plan



Proposed Floor Plan



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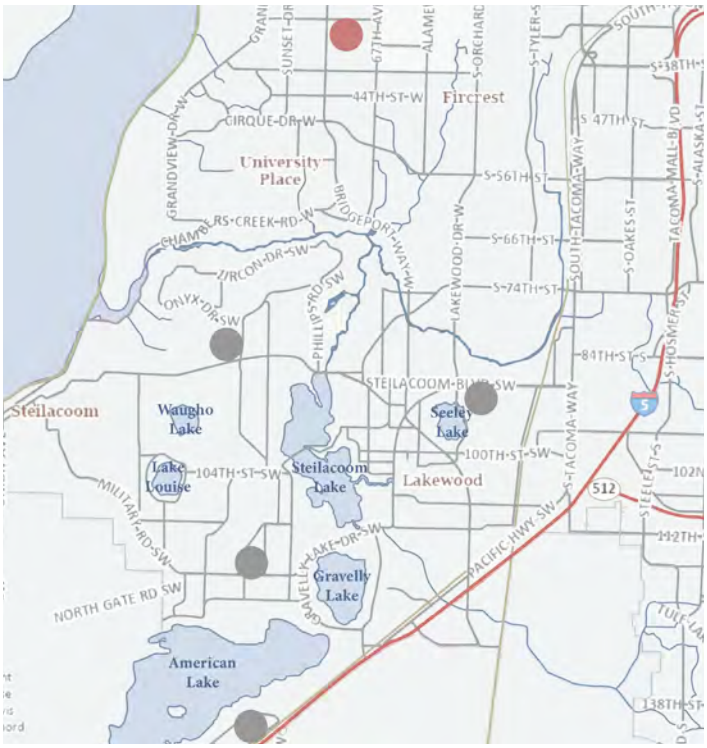
+ Fire Station 31

Shower & Restoom Renovation

(Trainees)

NARRATIVE

This proposed project includes the renovation of the existing 2009 restroom and shower facilities to better fit current station function and performance. The proposal involves demolishing the existing communal Men's restroom/shower room--which currently housed four showers--and replacing it with five single-occupant restrooms and shower rooms. Two of these new restrooms would be universally accessible. The budget for this project includes temporary restroom/Shower trailer allowances as required.



AT A GLANCE

ADDRESS	3631 DREXLER DRIVE, UNIVERSITY PLACE, WA 98466
YEAR BUILT	2009
CURRENT SIZE	24,210 SF
FUTURE SIZE	24,210 SF
STORIES	2
STAFF ASSIGNED	X FULL TIME, X TRAINEES
APPARATUS BAYS	3?

BASE BID	
Cost	$359,433
Construction Start	Fall 2025
Construction Duration	4-6 mos.

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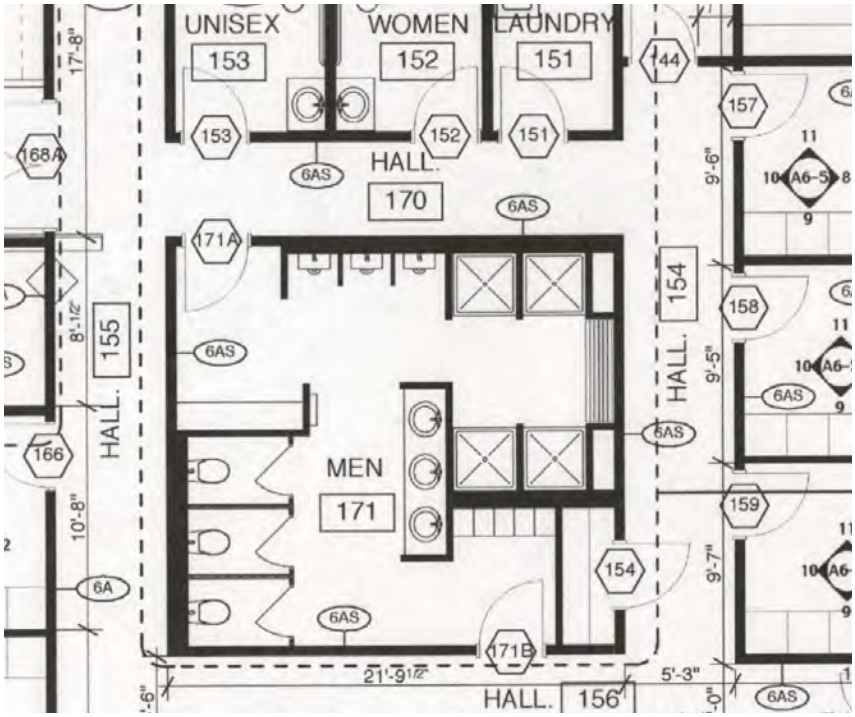
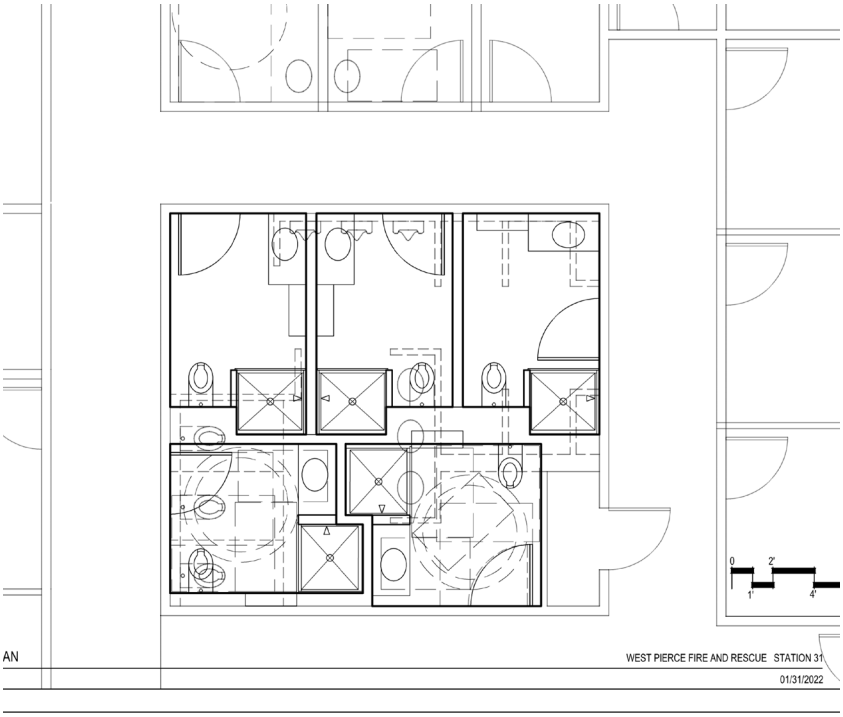
+ Fire Station 31 Floor Plans

Existing Floor Plan



Proposed Floor Plan



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SOUTH COUNTY FIRE

CAPITAL FACILITIES PLAN

April 2, 2026

6211 Roosevelt Way NE, Seattle, WA
tca-inc.com

Docusign Envelope ID: 589F0975-E4B4-4269-BA7C-59DD50E6152E

March 25, 2026

South County Fire
12425 Meridian Ave South
Everett, WA 98208

SUBJECT: South County Fire Capital Facilities Plan

TCA Architecture + Planning is pleased to present the consolidated South County Fire (SCF) Capital Facilities Plan. This document is the result of a multi-year effort of forecasting projected capital facility needs based on the demand for service relative to risks, incidents, traffic, and other identified variables to protect the SCF Fire service area.

The plan considers optimized facility placement and associated capital facility costs relative to maintaining viable existing facilities, facility upgrades, facility replacements, coverage of current service gaps, support facility needs, and apparatus purchases to support new gap fire stations and support facilities.

This effort included extensive board, departmental leadership and staff discussions, outreach to municipalities, and independent modeling and analysis to develop a holistic and integrated capital facility plan. From this multi-year effort, a projection of capital resources and cost needed to support and provide emergency services to a dynamically changing and growing region is identified.

Respectfully Submitted,

Brian Harris, AIA, LEED AP

Principal, TCA Architecture Planning

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN

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  - N-3 Single Story Drive-through
  - N-3 Single Story Non Drive-through

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EXECUTIVE SUMMARY

The Capital Facilities Plan for South County Fire (SCF) consists of a three-phased planning process which provides documentation of current service demands and facility conditions, projections of future facility needs based on a changing community, and identified expenditures to renovate, replace, and add facilities into the current network of stations and support buildings to appropriately serve the community. Following the identification of facility needs and associated cost to meet those demands, a financing strategy is to be identified based on the implementation and prioritization of identified needs. This plan is intended to provide an overall living guide to effectively address the region's emergency response needs resulting from projected growth, changing demographics, and identified risks into the projected future. This document remains a working plan, with some references and source materials dating back to the original Phase 1 Capital Facilities Plan completed in 2016 and the Phase 2 supplemental report completed in 2021.

PHASE 1 EVALUATION OF CURRENT SITUATION

To recapitulate, the Phase 1 effort provides a description of the organization, baseline fiscal conditions, and a six-year revenue projection based on the current policies of SCF at the time of the study. It further defines what to protect relative to service boundaries, population, demographics, hazards, critical infrastructure and analyzed historic incidents based on actual and modeled responses. The inventory includes an analysis of existing capital facilities, facility staffing, apparatus, programmatic elements within each facility, and the physical condition of each station from a code, engineering, architectural, and turnout perspective. The baseline information and regional growth forecasted in the Phase 1 effort establishes criteria to effectively model and understand the gap between the current situation and the future need.

PHASE 2 FORECASTING FUTURE NEEDS

The Phase 2 effort, projects population and demographic forecasts analyzed against the baseline situation and future demand for service relative to risks, incidents, traffic, zoning, land use projections, and other identified variables. Coverage predictions associated with staffing and deployment, facility sizing, and the optimal placement of facilities and resources relative to viable upgrade/renovations and/or replacement of existing facilities are then identified on a facility-by-facility basis within the context of the dynamic relationship of all facilities serving the entire coverage area.

The planned quality of these stations is based on similar facilities constructed in local urbanized communities. Funding is identified as a Phase 3 activity.

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As an important discussion point, it was determined that improved facilities should be future-ready to adapt to changing technologies, systems, and service demands where such changes can viably be forecasted. Once the project team established present-day pricing for capital costs, a prioritized implementation timeline based on a hierarchy of need, ongoing deployment considerations, and land availability was established and vetted with SCF staff. Costs are broken out by existing SCF facilities which require renovations and/or seismic upgrades, new service gap stations, and new and renovated support facilities. New site purchases will be required for at least five facilities, four if Facilities/Shop/Vehicle Maintenance and Logistics/warehouse are combined, over the plan's build-out duration. While the specific identification of these sites is not part of this study, targeted areas for station placement have been identified. Based on the explosive growth in this region, this study recommends that land purchases for facilities occur early in the implementation timeline so facilities can be located in targeted response areas without extraordinary site acquisition costs in the future. Not taking this action upfront has historically burdened like capital facility planning efforts in our region. It is anticipated that current land acquisition costs would have a $22M order of magnitude in today's dollars.

Overall breakdown of anticipated escalated capital costs excluding land, staffing, and apparatus is as follows: (see appendix C pages 45 for detailed project timelines and escalation factors).

"Existing" Replacement Stations

	Land Year	Replacement	Facil Type	Lnd/Tmp
Station 13	Const Yr 2032	$24,960,622	2 bay +	Tmp 2
Station 14	Const Yr 2031	$23,863,621	2 bay +	Tmp 1
Station 20	Constr 2030	$22,768,246	2 bay +	Tmp 2
Station 22	Const Yr 2025	$17,645,309	2 bay +	Lnd-done
Station 23	Const Yr 2029	$21,411,509	2 bay +	Tmp 1
Station 76	Const Yr 2033	$25,950,000	2 bay +	Lnd Need

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"Existing" Station Renovations & Seismic Upgrades

		Renovations/Seismic		
Station 11	Constr Yr 2033	$15,981,666	E-5 bay	Tmp
Station 15	Constr Yr 2034	$6,511,076	E-6 bay	
Station 17	Const YR 2035	$906,625	E-3 bay	
Station 19	Const YR 2034	$2,075,194	E-2 bay	

"New" Service Gap Stations

		New/Gap		
Manor	Constr Yr 2030	$21,881,301	2 bay +	
AMP	Constr Yr 2034	$26,602,805	2 bay +	
Heights	Constr Yr 2035	$35,406,582	4 bay	Lnd Need
Cascadian	Constr Yr 2036	$30,498,100	2 bay +	Lnd Need

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"New And Renovated" Support Facilities

	Land	Support		
HQ	Constr Yr 2029	$15,654,292	N/A	
Training Classroom Bldg	Constr Yr 2030	$12,647,102	N/A	
Misc Allowance- TT& ASB	Constr Yr 2030	$1,298,063	N/A	
Fac/Shops/Veh Maint	Constr Yr 2031	$29,560,688	N/A	Lnd Need
Logistics/Warehouse	Constr Yr 2031	$32,345,855	N/A	Lnd Combined w/ Fac/Shop

Projects	$ 367,968,656
Manage Reserve	$ 4,368,000
Land	$ 22,000,000
Energy Effiency Contingency (e.g. LEED)	$ 6,300,000
CM/ PM/ Prg Mgmt/Asset Mgmt	$ 8,100,000
Apparatus	$ 10,385,000
GRAND TOTAL	$ 419,121,656

PHASE 3 CAPITAL FACILITIES FINANCING

Following the adoption of the Phase 2 Capital Facilities Plan, supported by the Citygate Associates Inc., Standard of Cover Report, considerations/actions includes a review strategies, prioritization of projects, and near-term land purchases. It is anticipated that community outreach, as deemed necessary, will be required to support funding.

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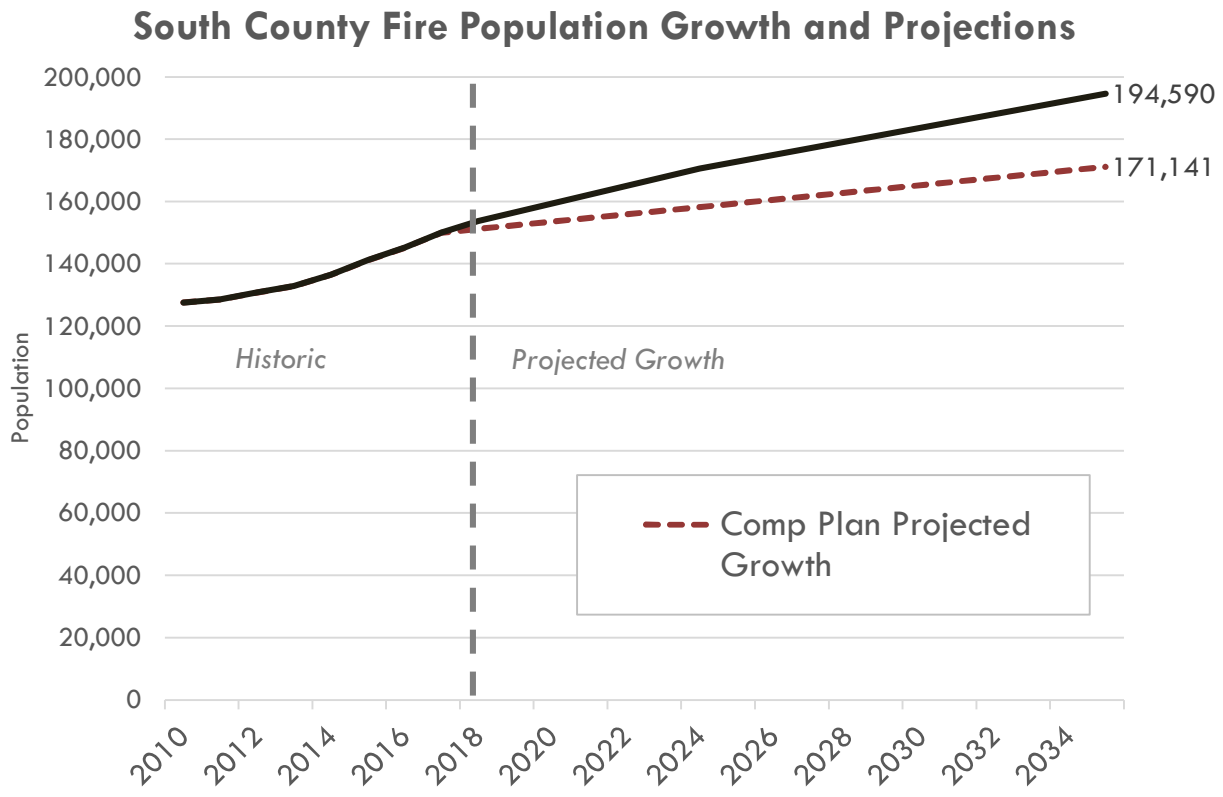
FORECASTING FUTURE NEED

Building on the baseline demographic and environmental context developed in the Phase 1 CFP, section 4, "What There is to Protect", TCA and Berk Associates worked with Snohomish County to validate initial population and employment forecasts based on Snohomish County Comprehensive Plan targets initially identified in the Phase 1 report.

It was found that population growth in unincorporated Snohomish County was much more rapid than projected in the 2015 County Comp Plan analysis. These trends have a direct influence on service demand. Exhibits in this section include data presented in the original Phase 1 Capital Facilities Plan completed in 2016 and the Phase 2 supplemental report completed in 2021. See Appendix for updates.

Exhibit A

Sources: Snohomish County, 2015; BERK, 2018



Population growth projections were additionally identified by service area jurisdiction, and updated to provide a graphic representation of current and projected growth by city.

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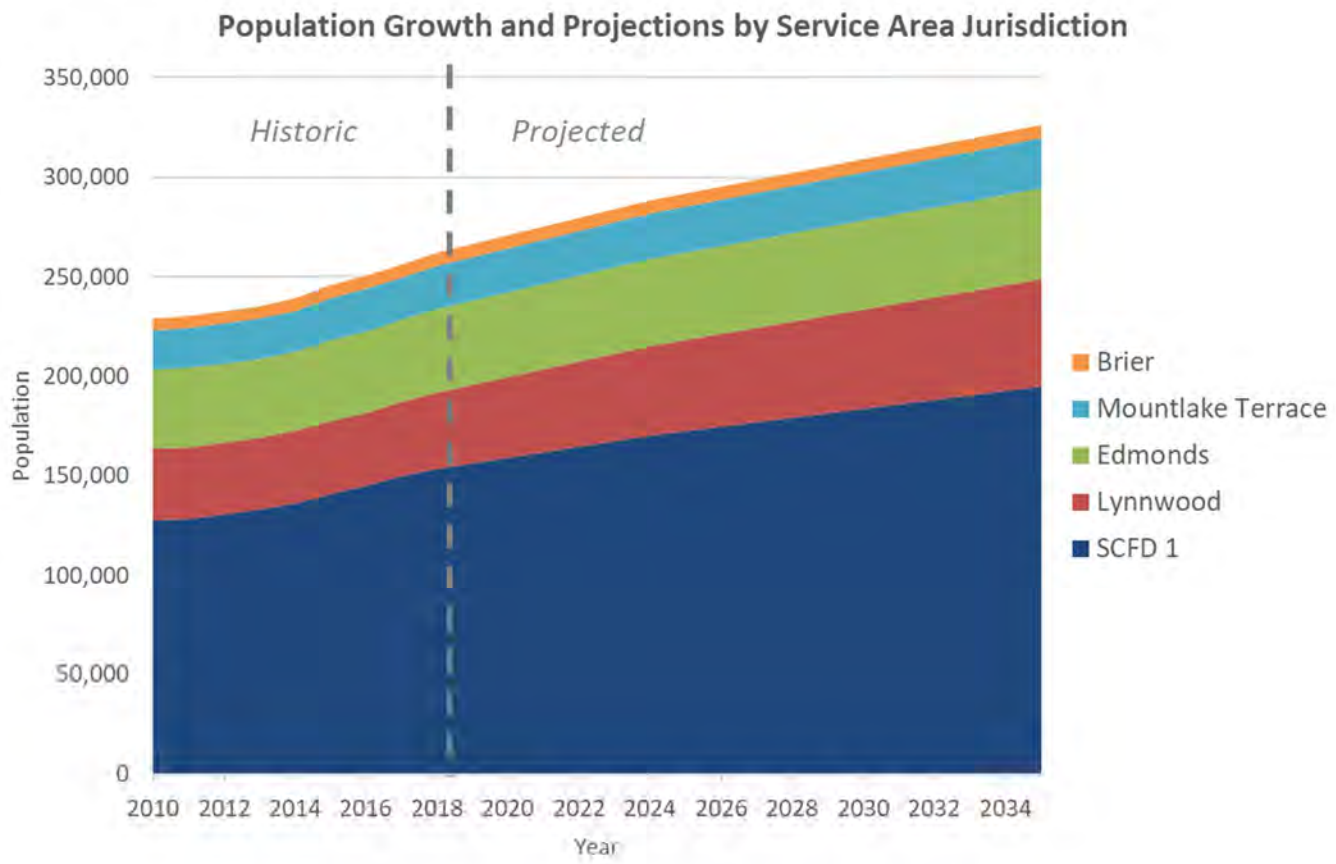
Exhibit B

Sources: Snohomish County, 2015; BERK, 2018



Of particular interest are the emerging concentrated growth areas along the Interstate 5 corridor radiating out from areas such as the City of Lynnwood Northline Village Urban Hub, the Mountlake Terrace Transit Center, the Mountlake Terrace Town Center, and other future Sound Transit Link Light Rail improvements. Population change is also focused along Highway 99, which will be further supported by anticipated rapid transit bus line extensions.

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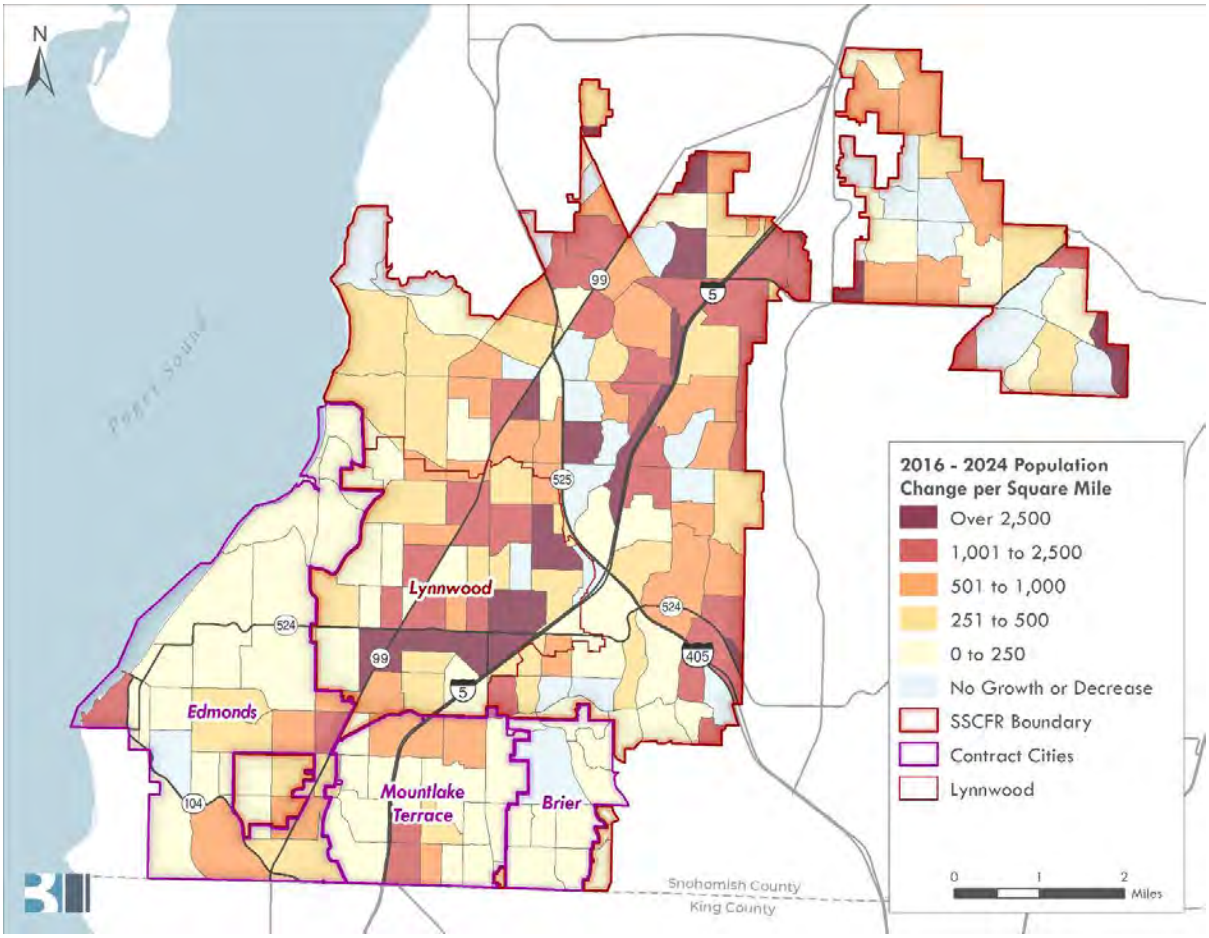
Exhibit C **2016-2024 Population Growth Per Square Mile**



In the analysis of Historical and projected Population by Age Range in Snohomish County, Berk Consulting found that the fastest-growing population segment is +65. Between 2019-2030, this segment is expected to grow by over 50%. When looking at the overall call load, an assumption can be made that elderly residents are more likely to have increased EMS incidents than younger ones.

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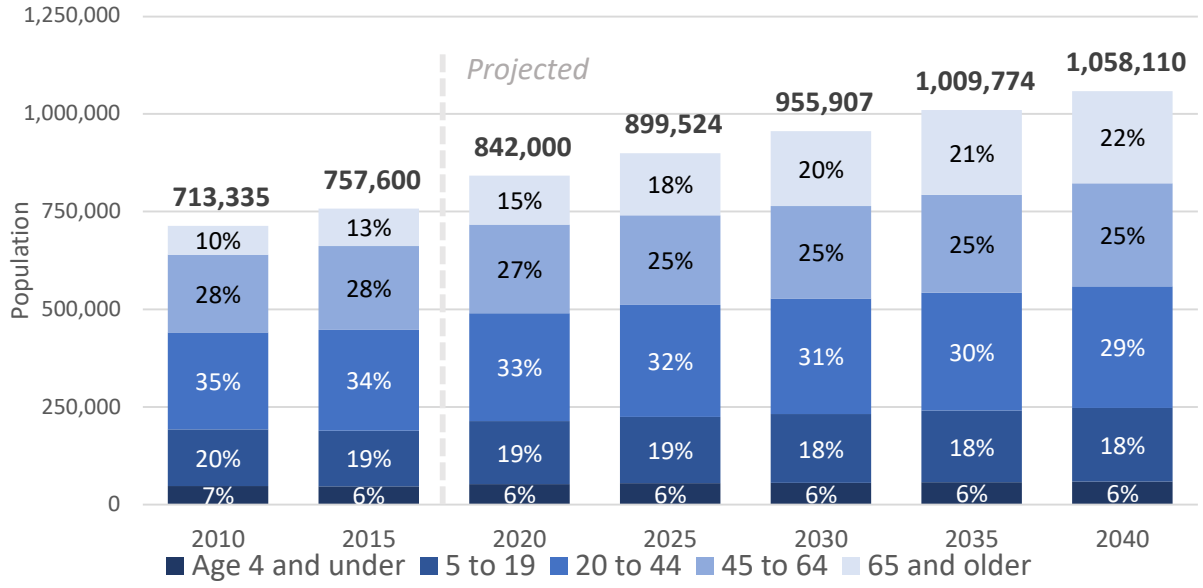
Exhibit D **Age 65+ Snohomish County Population Increasing Fast**

Sources: WA Office of Financial Management, 2017; BERK Consulting, 2019



In anticipation of these growth areas, both County and City Planners have concentrated vertical growth and increased services along these transit corridors and urban hubs.

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Exhibit E **Maximum Allowable Building Heights**

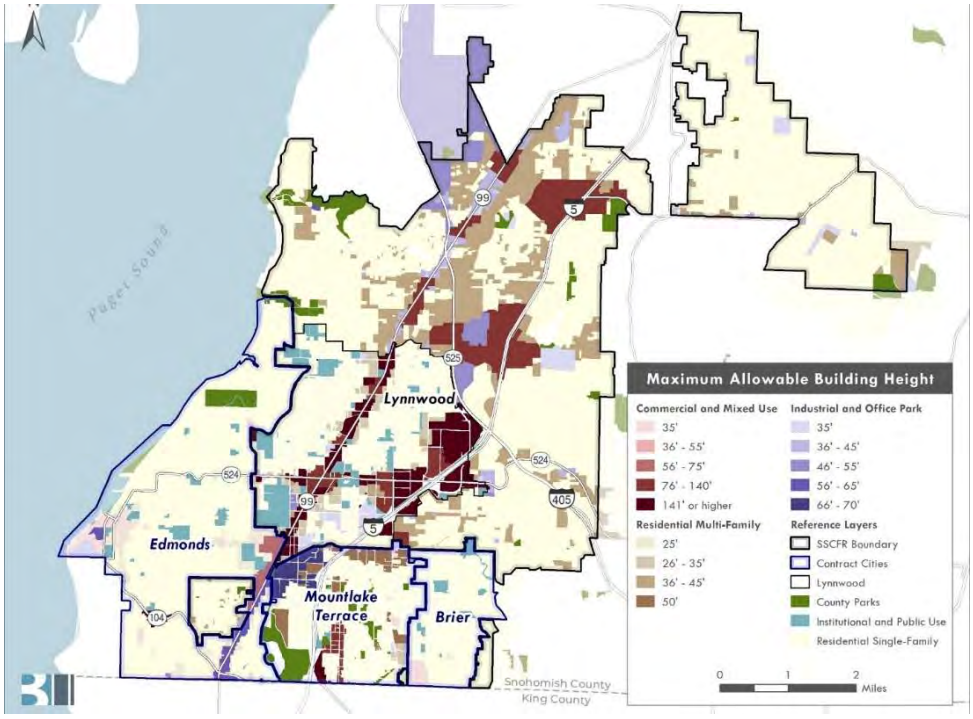
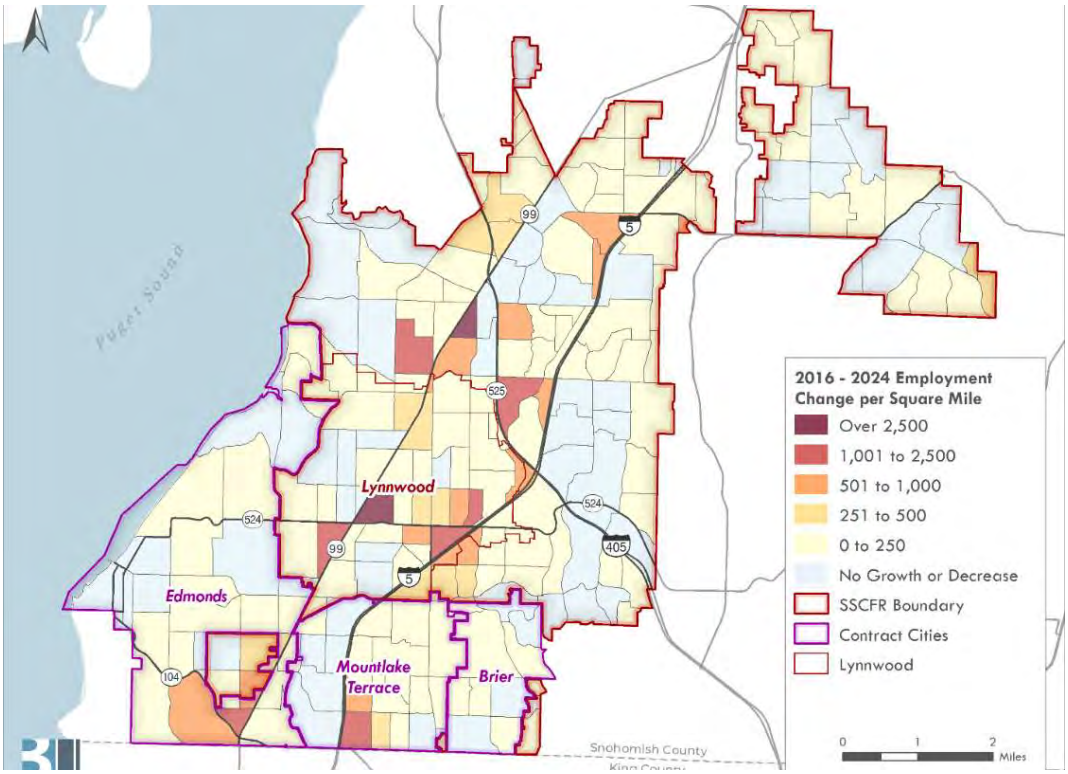


Exhibit F **2016-2024 Projected Employment Growth**



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Incident forecasting by jurisdiction was developed based on the following assumptions:

- 2018 incidents by zone were validated and used as a baseline for forecasting
- Assumptions were made that incidents per capita would remain a constant
- Incidents were adjusted to reflect the anticipated impacts of an aging population on BLS incident frequency

Note: Additional uses of incident forecasts from this report include:

- Cost of Service Projections generated by Berk Consulting
- Shared data with Citygate Partners for Standard of Cover Study

For a baseline reference, the following is a time-of-day service gap dynamic. These maps show four drive time models and service gap dynamics throughout the day.

Exhibit G **Service Gap Dynamic- Time- 0400 Hours**

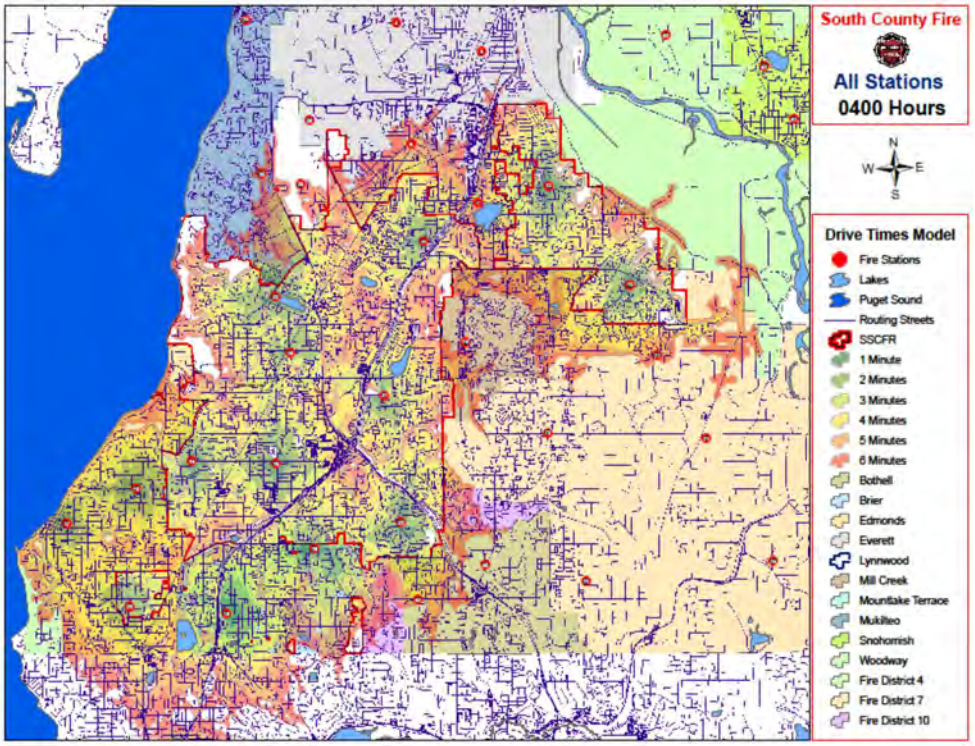

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Exhibit H **2018 Service Gap Dynamic- Time- 0800 Hours**

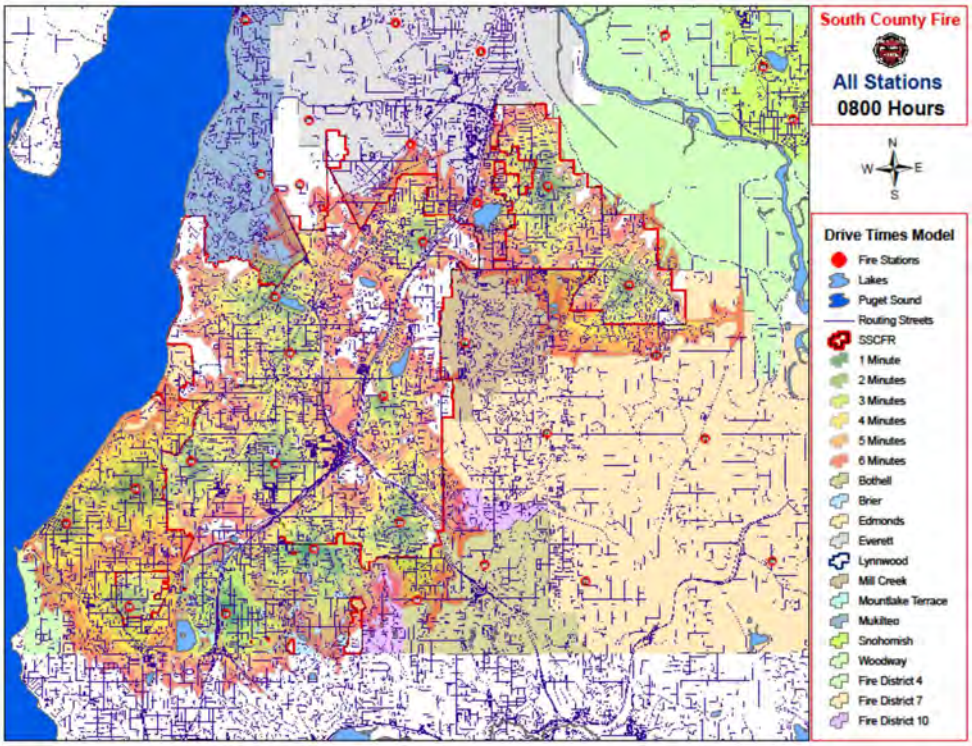

Exhibit I **2018 Service Gap Dynamic- Time- 1600 Hours**

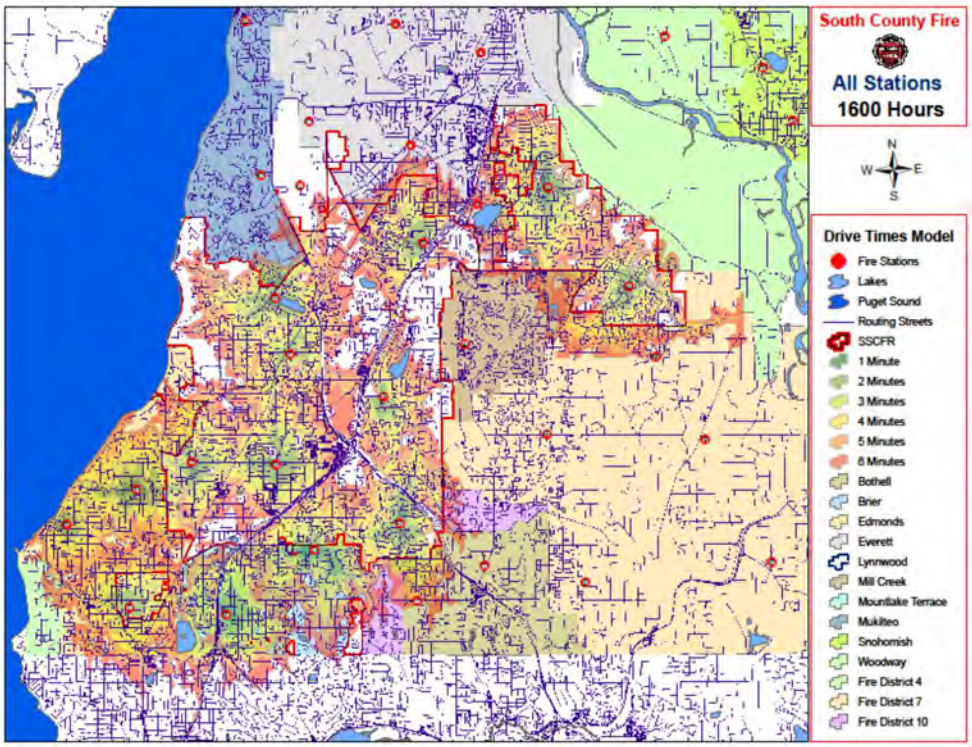

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Exhibit J **2018 Service Gap Dynamic- Time- 2400 Hours**

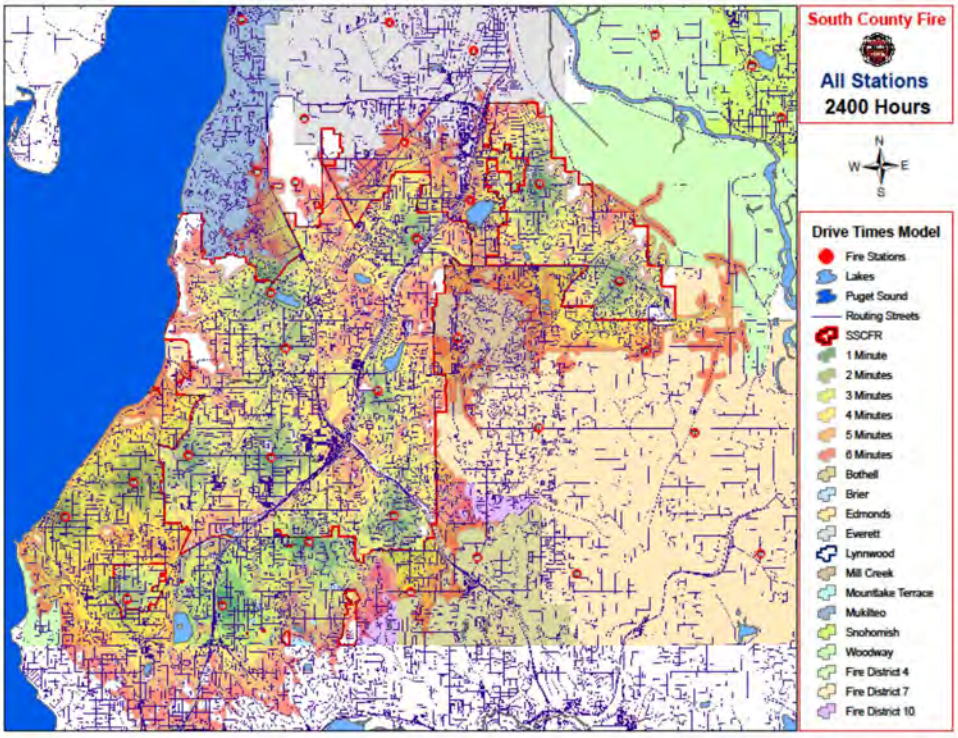

Exhibit K **Forecasted First Due Travel With Existing Stations**

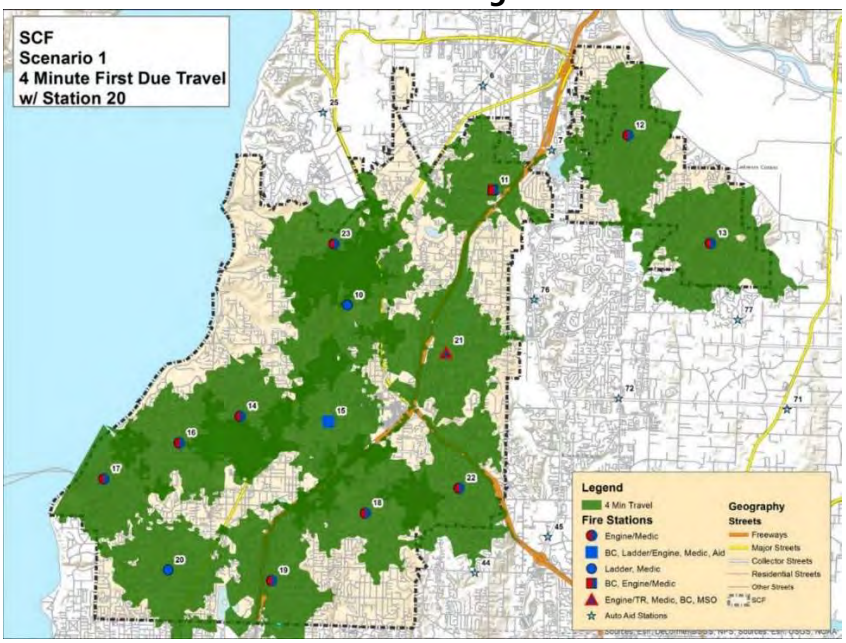

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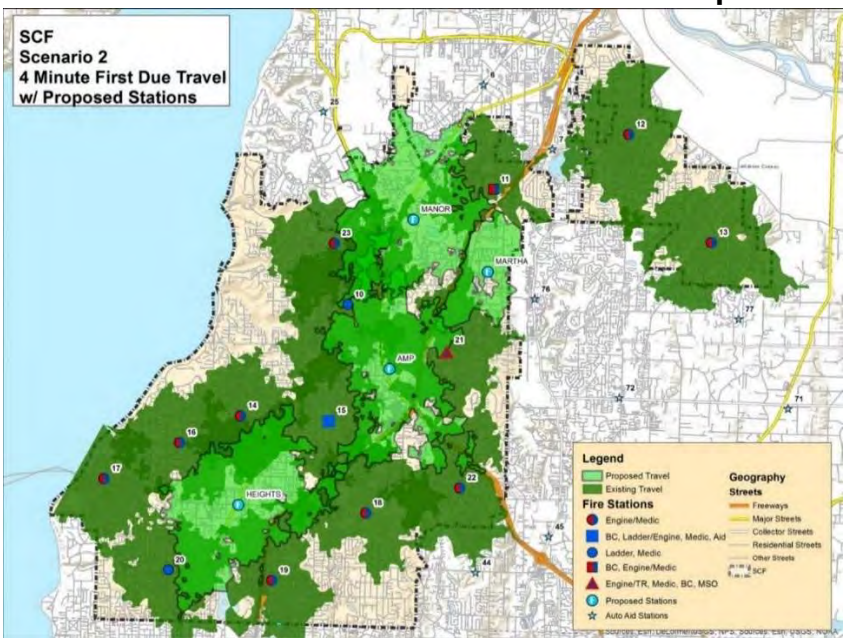
Exhibit L **Forecasted First Due Travel With 4 Additional Service Gap Stations**



CONCLUSION/ IMPLICATIONS OF FINDINGS

While it is challenging to predict the exact future service demand, as discussed in the Phase 1 Report, historical trends and forecasts indicate that the number of incidents within the service area will continue to grow at a rapid pace. This, coupled with increasing response times due to congestion, will place additional stress on emergency response services. Drawing upon neighborhood-level census data, land use forecasts, and a projection of the number of residents who will be entering the 65+ age range in years to come, total incidents and their distribution in the defined service area have led to the following conclusions:

- It was found that traffic challenges continue to increase as the population increases, especially along the I-5 corridor, urban hubs, and primary arterials. As a result, established standards and driving times in specific areas are not being met and are becoming increasingly greater depending on the time of day. These findings are further validated by the project team data analysis and are consistent with SCF data mapping.

- Based on the past and ongoing population growth, density, and allowable vertical height limits (taller buildings further increasing response times), stresses on coverage will continue.

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- Due to the aging population and increasing density, there is no indication that EMS call demand will shift, nor will there be losses in this projected trend.

- No trends of disinvestment resulting in population shifts were discovered by the project team - just more call demand is expected based on the findings of this study.

- Identified service gaps between this study's analysis and the Citygate Standard of Cover Analysis are generally consistent with one another. This report, however, further prioritizes four identified gaps identified "Heights", near 21558 SR 99 Edmonds, "Alderwood Mall Parkway", near172nd Street SW/Alderwood Mall Parkway, Lynnwood, "Manor" 2224 Manor Way, Lynnwood, and "Cascadian" (Martha) near 200 146th St SE, Lynnwood, with buildout timelines as identified on pages 38-39 of this study.

- In areas of lower projected density and building heights, addressing increased EMS risk gaps with less costly interim solutions could be possible. This is only an interim approach based on revenues available for facilities and the speed at which additional density occurs. These areas include the Heights service gap and the Cascadian (Martha) service gap, where a Medic at Swedish Edmonds and Swedish Mill Creek or other locations could be implemented by the RFA as a transitional approach to a new station.

  * See also "Standards of Coverage Analysis" Prepared by City Gate Associates dated December 11, 2018

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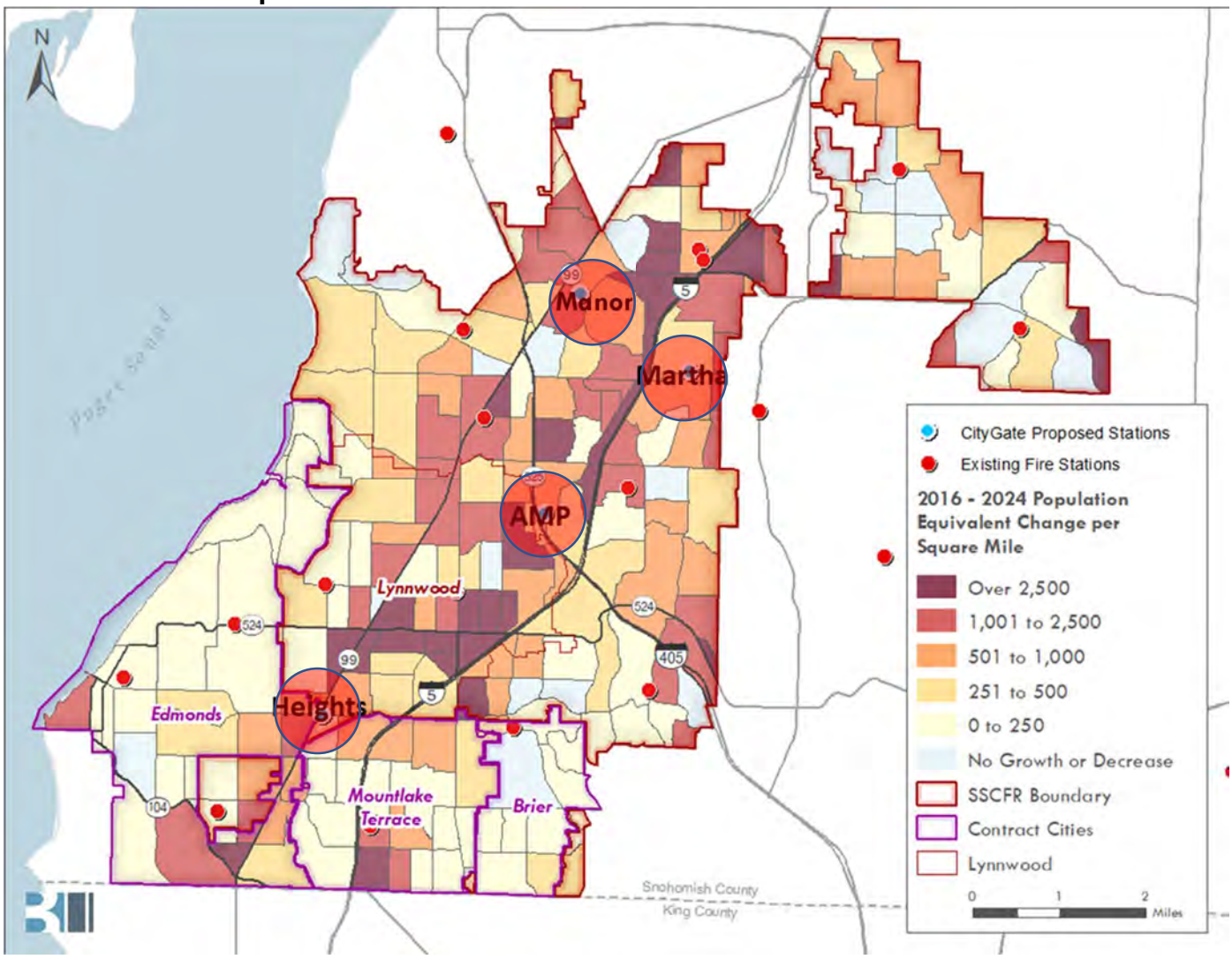
Exhibit M **Service Gap Station Locations**



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STATIONS AND SUPPORT FACILITIES

EXISTING FACILITIES

Where Phase 1 of the CFP documents the baseline physical conditions of all existing facilities, including but not limited to: seismic conditions, ability to support operations, general facility conditions, apparatus placement, and sleeping room counts, Phase 2 of the CFP, coupled with a review of the Citygate study, validates that the existing facilities are appropriately located if appropriate resource adjustments are housed in each specific station to ensure there would be no gaps. The intent of this systematic process is to ensure that the RFA does not waste any future capital expenditure by inadvertently upgrading or replacing a facility that may not be in an appropriate location given the projected population and development trends. From the Phase 2 analysis, it finds that all existing facilities are in appropriate locations despite their baseline building condition, and new stations could effectively be located in gap areas to meet current and future demands.

Based on this validation process:

- Existing stations 13,14, 20, 22, 23 and 76 -replacement recommended
- Existing stations 11,15,17 and 19 -renovation recommended
- Existing support facilities, HQ -renovation recommended at a minimum

*See Appendix A for the Phase 1 Assessment Summary Matrix- All Facilities

While there are alternative approaches for cost savings such as managed deterioration, or maintaining facilities in an as-is condition, minimizing expenditures pushes the problem down the road at an increased cost due to yearly compounding cost escalation at a historical rate of 5% per year and may may have an impact on the health and welfare of the responders within antiquated Stations. Additionally, this does not satisfy catching up on deferred maintenance projects and improving safety and functionality to meet current and future demands. As identified in the incident forecasting by jurisdiction, even when the current system of stations is upgraded to meet current facility standards, this does not influence service gaps that remain.

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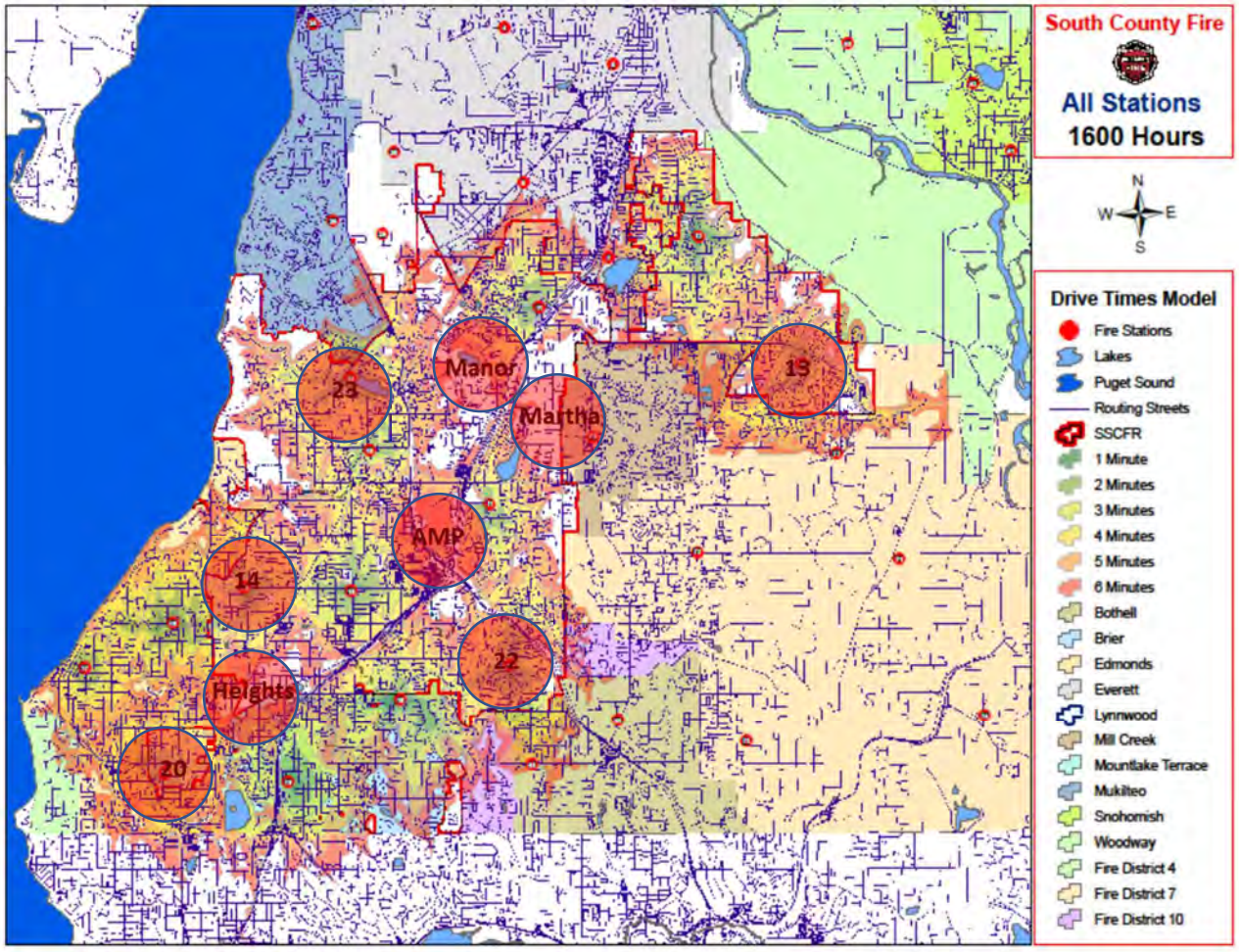
Exhibit N **Existing Replacement Stations Plus Service Gap Stations**



Moving beyond the identified facilities that have simply outlived their useful life, stations 13, 14, 20, 22, 23 and 76, identified renovation, replacement, and service gap station sizing started with current and projected resources needed within each target response area. Apparatus deployment and associated staffing, operational space demands based on industry best practice, and lessons gained from the existing stations informed the program/space sizing of both the living and support areas. A key consideration in developing the building space needs or "program" is also influenced by a shift in station planning philosophies. Land costs, station costs, and general urbanization now require these facilities to be more compact and efficient than the previous suburban station model found in the county. A significant amount of reserve apparatus are being stored in costly bay areas, excessive land was purchased to allow for large single-story facilities, and community space in every station with large, costly parking lots to support these spaces is no longer determined cost-effective for every facility. Increased durability, the long-term reduction in operations and maintenance costs, enhanced energy efficiency, and increased civic presence are now considered by the RFA and project team to be more appropriate moving to the future.

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STATION SIZING AND SPACE CRITERIA ASSUMPTIONS

When planning for replacement and new service gap stations, many considerations are captured in the overall space needs, which inform station sizing and cost. While these strategies and finer details will be developed during a future design process, the space conversations, sizing, and cost estimates for the new and improved facilities reflect the following best practices associated with space allocation in the future facility costs.

TURNOUT EFFICIENCY

- To better serve the community, the rapid deployment of resources is paramount. Based on the findings of Phase 1 of the CFP, future projects should continue to consider the technical, behavioral, and physical factors associated with turnout times identified in Appendix D of the Phase 1 effort. Space planning for future stations identified in this report is sized to be smaller and more efficient. Special attention to necessary operational sequences and space adjacencies experienced during a typical day should continue to be paramount. The fewer footsteps needed from call receipt to wheels rolling will better support improved daytime and nighttime turnout.

HEALTH AND WELLNESS

- In the planning process, continued attention to firefighter health and wellness is a critical consideration. The most valuable resources are personnel. Continuing with the mindset of "Healthy-in, Heathy-Out" as it relates to the career of a firefighter, planning around physical and mental wellness criteria is vital. In the sizing of future and renovated facilities, integrated alerting systems, sleeping room configurations with external locker alcoves, and sleeping room sound isolation with room-specific tones have all been incorporated into the budgets. Additionally, areas for post-call rehabilitation, isolated cleaning and decontamination areas, tracking of source contaminates, source capture exhaust systems, hand and boot wash areas, areas for physical training with visual connections for safety, etc., have all been considered.

EQUITY

- As the workforce continues to diversify, gender neutrality considerations will provide the most flexible facilities to support all employees. In the station sizing, individual sleeping rooms, sleeping areas disconnected from offices, and individual toilet shower rooms have been incorporated into the program.

FUTURE READINESS

- Significant research and discussions were held with the project team and RFA which focused on what the future holds relative to operations and future station planning and sizing. It was determined that while the fire service industry can forecast certain aspects of emerging fire station planning trends and future operations, the limits of plausibility and actual expected future can range significantly. One can reasonably expect to plan for smart building systems and information technology, increased use of sensors, active displays, increased electrification of tools and apparatus, advanced tools for decontamination and cleaning, more hand-held devices, robotics, and

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unmanned aerial vehicles. Considering the daily use of drone technology is relevant, larger scale flying apparatus, while quite plausible someday, is too speculative for this reports planning horizon. To ensure future-readiness planned facilities consider, universal bays which can accommodate changing lengths of apparatus, flexible post and beam structural systems that allow for walls locations to be flexible and change, the ability for mechanical systems and information technologies to be reconfigured, and energy and water technologies to be incorporated to respond to changing demands are considered in the facility planning and pricing.

QUALITY AND STANDARDIZATION

- As part of the estimating component of this report, the level of quality systems-mechanical, electrical, structural, in addition to materials and finishes have been determined based on like facilities being constructed by other departments in the urbanizing areas in our region. Appropriate system costs have been included in the detailed estimates and are established to ensure long-term durability, maintenance reduction, and a lower long-term cost of ownership.

DENSITY IMPACTS

- As urbanization occurs, station planning/design decisions reflect the place in which they are located. When land becomes less available for new stations, land costs increase, back-in bays vs. drive-through become more prevalent, two-story facilities become more common due to site limitations, and exterior finishes must be designed for more future for increased wear and tear. Additional influences considered include increased security, more transparency into public areas, and achieving a higher level of sustainability. Energy Efficiency Contingency (e.g. LEED certification) has been included for cost modeling purposes in the pricing of the replacement and new gap stations and support facilities.

REPLACEMENT AND GAP STATIONS

As the team developed alternative station sizing based on potential resource demands, a series of "proto-type" station sizes were reviewed by the RFA and project team.

CONSIDERED STATION ACCOMODATIONS - APPARATUS AND STAFFING

EMS Station	(1) Bay	A	(2) slpg rooms
Neighborhood 1	(2) Bays	E (L)+(R)E or A	(6) slpg rooms
Neighborhood 2	(3) Bays	A+E or L+(R)E, A or L	(8) slpg rooms
Neighborhood 3	(4) Bays	A+E or L +E or L+(R)E, A or L	(11) slpg rooms

* See appendix B for a complete list of generic station accommodations

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Recommended Station Accommodations- Apparatus And Staffing

Based on discussions with SCF staff related to the dynamic deployment of service over time, it was determined that replacement and service gap facilities should be distilled into two station sizes, as selected from the (4) sizing categories, to allow for optimized staffing and apparatus flexibility within the facility:

Neighborhood 1 (N1)	(2) Bays+	E or Ladder +(R)E or A, (6) slpg rooms
Neighborhood 3 (N-3)	(4) Bays	A+E or L +E or L+(R)E, A or L, (11) slpg rooms

REPLACEMENT AND NEW SERVICE GAP STATIONS

STATION 13	(N1)	(2) Bays+	Replacement
STATION 14	(N1)	(2) Bays+	Replacement
STATION 20	(N1)	(2) Bays+	Replacement
STATION 22	(N1)	(2) Bays+	Replacement
STATION 23	(N1)	(2) Bays+	Replacement
STATION 76	(N1)	(2) Bays+	Replacement
MANOR	(N1)	(2) Bays+	Service Gap
AMP	(N1)	(2) Bays+	Service Gap
HEIGHTS	(N3)	(4) Bays	Service Gap
CASCADIAN	(N1)	(2) Bays+	Service Gap

STATION SIZING

Preferred Station Sizing Standard - Apparatus and Staffing

To accommodate the operational needs for each recommended facility type (N-1 & N-3), a detailed space summary developed by the project team in conjunction with SCF staff supports the key space criteria assumptions identified. The following is a rolled-up area summary. See appendix B for a complete space breakdown. Add-on features in the N-3 station sizing include a public meeting/training room, an aid room, and an SCBA compressor and fill station.

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PROTOTYPE SPACE SUMMARY		STATION TYPE			
		NEIGH 1 (2 BAYS / 2 STORY)	NEIGH 1 (ADD-Ons / 2 STORY)	NEIGH 3 (4 BAYS / 2 STORY)	NEIGH 3 (ADD-ONs)
1.000	**PUBLIC AREA**				
	Subtotal	**170**	**1107**	**357**	**950**
2.000	**ADMIN AREA**				
	Subtotal	**150**	**0**	**480**	**0**
3.000	**CREW OFFICE AREA**				
	Subtotal	**350**	**0**	**450**	**0**
4.000	**CREW LIVING AREA**				
	Subtotal	**2,215**	**0**	**3,540**	**0**
5.000	**APPARATUS SUPPORT AREA**				
	Subtotal	**4,063**	**0**	**6,149**	**120**
6.000	**SYSTEMS**				
	Subtotal	**1615**	**0**	**1715**	**0**
	Subtotal NSF	8,563	1107	12,691	1070
	Grossing Factor	1.31	1.31	1.28	1.28
	Total Gross SF	**11,218**	1450	**16,244**	1370
	Total Gross SF W/ 3% Contingency	**11,554**	**1494**	**16,569**	**1397**
	Rounded	**13,100**		**18,000**	

Station Renovations

Based on the facilities evaluation and studies that emerged from the Phase 1 Report, Appendix C, the project team developed a condition report and action items for pricing. This report sets the foundation for the cost estimating for renovation work to address deferred maintenance and station upgrades to address seismic and safety standards and programmatic issues to modernize these facilities.

RENOVATIONS

STATION 11	(EXISTING)	(5) Bays	Renovation/Seismic upgrade
STATION 15	(EXISTING)	(6) Bays	Renovation/Seismic upgrade
STATION 17	(EXISTING)	(3) Bays	Renovation/Seismic upgrade
STATION 19	(EXISTING)	(2) Bays	Renovation/Seismic upgrade

SUPPORT FACILITIES

Supplementing the fire stations that serve the community, existing support facilities were reviewed as part of phase 1 of the project. Those included the Administrative Headquarters, Apparatus Building, Training Classroom Building, and Training tower, all located at the Administrative Headquarters site. Due to departmental growth resulting from an expanded service area and mission critical operational demands, this plan recommends the development and addition of a Facilities/Shop/Vehicle Maintenance Facility, a Logistics/Warehouse Facility, an enhancement of training components, and the development of a Training Classroom Building. Collectively, these facilities provide a complete behind the scenes system for keeping the operational side effectively trained, supplied, serviced and running.

The following is a summary of needs that have been priced as part of this report:

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1.00 FACILITIES, SHOP, VEHICLE MAINTENANCE		CFP Need Qty	SF each	Total SF
Entry				
1.01 Vestibule		1	64	64
1.02 Waiting & Service		1	120	120
	Subtotal Net			184
	w/ Circulation			**230**
Office				
1.11 Supervisors Office		1	180	180
1.12 Office		2	150	300
1.13 Tech/Mechanic Workstations		6	36	216
1.14 Supply Storage		1	100	100
1.15 Conference Room		1	200	200
	Subtotal Staff			
	Subtotal Net			996
	w/ Circulation			**1,245**

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1.00	FACILITIES, SHOP, VEHICLE MAINTENANCE (CONT'D)	Qty	SF each	Total SF
1.11	Breakroom	1	400	400
1.12	Lockers	1	175	175
1.13	Fitness	1	500	500
1.14	Laundry	1	80	80
1.15	Unisex RR	2	60	120
1.16	Shwr	2	60	120
1.17	Custodial	1	75	75
	Subtotal Net			1,470
	w/ Circulation			**1,838**
Bays				
1.21	Maint Bays			
	Maint Bays	9	1,100	9,900
	Maint Bays	1	1,760	1,760
	Maint Bays- preventative	1	1,760	1,760
1.22	Parts Storage	1	300	300
1.23	Welding/Machining Area	1	250	250
1.24	Tire Storage	1	300	300
1.25	Tool Room	1	250	250
1.26	Workbench/Shop (in bay and alcove)	1	150	150
1.27	Woodshop	1	700	700
1.28	Lube System	1	300	300
1.29	Cleaning/Decon/Eyewash "Light"	1	200	200
1.30	Battery Charging	1	30	30
1.31	Mezzanine Storage	1	1,000	1,000
1.32	Mezzanine Stair	1	200	200
	Subtotal Net			17,100
	w/ Circulation			**19,665**
Systems				
1.41	Electrical	1	240	240
1.41	Mechanical	1	250	250
1.41	IT	1	120	120
1.41	Riser	1	100	100
	Subtotal Net			710
	w/ Circulation			**817**

TOTAL	Qty	SF	Total SF
Facility Net			20,460
Facility Net w/ Circulation			23,794
Facility Grossing Factor			1,904
Total Facility Gross			**25,698**
Total Canopy Gross (10) 20x50 stalls			**10,000**

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2.00 LOGISTICS/ WAREHOUSE		Qty	SF	Total SF
Entry				
2.01 Vestibule		1	64	64
2.02 Waiting & Service		1	120	120
	Subtotal Net			184
	w/ Circulation			**230**
Office				
2.11 Supervisors Office		1	180	180
2.12 Office		1	150	150
2.13 Work Stations (inventory management)		3	64	192
2.14 Office Supply Storage		1	100	100
2.15 Conference Room		1	200	200
	Subtotal Staff			
	Subtotal Net			822
	w/ Circulation			**1,028**
Support				
2.11 Breakroom		1	200	200
2.12 Lockers		1	100	100
2.13 Fitness		1	300	300
2.14 Laundry		1	70	70
2.15 Unisex RR		2	60	120
2.15 Shwr		2	60	120
2.16 Custodial		1	100	100
	Subtotal Net			1,010
	w/ Circulation			**1,263**

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2.00 LOGISTICS/ WAREHOUSE (CONT'D)		Qty	SF	Total SF
2.21	Warehouse- Conditioned	1	10,000	10,000
	Special Project Area	1	1,800	1,500
2.22	Warehouse- tempered	1	10,000	10,000
	Uniform Storage			
	PPE Storage			
	Fire Suppression Equipment			
	Custodial and Office supplies			
	Facility Parts Inventory			
	Maintenance Parts Inventory			
	Pre-staging			
	Receiving Area			
	Forklifts (3)			
	Subtotal Net			21,500
	w/ Circulation			**25,800**
2.31	Electrical	1	240	240
2.32	Mechanical	1	250	250
2.33	IT	1	100	100
2.34	Riser	1	100	100
	Subtotal Net			690
	w/ Circulation			**794**

TOTAL	Qty	SF	Total SF
Facility Net			23,200
Facility Net w/ Circulation			27,856
Facility Grossing Factor			2,228
Total Facility Gross			**30,084**

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3.00 TRAINING CLASSROOM BUILDING		Qty	SF	Total SF
Entry				
3.01 Vestibule		1	64	64
3.02 Lobby for Classroom Access & RR Foyer		1	300	300
	Subtotal Net			364
	w/ Circulation			**455**
Office				
3.11 Office		1	180	180
3.12 Office		7	150	1,050
3.13 Workstation with Run Card Area				0
3.14 Office Work Area		1	100	100
3.15 Office Supply Storage		1	50	50
	Staff			
	Subtotal Net			1,380
	w/ Circulation			**1,725**
Support				
3.21 Unisex RR- Classroom and Staff		6	60	360
3.22 Custodial		1	50	50
3.23 Classroom w/ operable partition		1	2,400	2,400
3.24 Classroom Storage for split configuration		1	240	240
3.25 AV		1	60	60
3.26 Admin Fitness		1	1,000	1,000
3.27 Admin Fitness Showers		6	90	540
3.28 Admin Locker Facilities		1	750	750
3.29 Bottle Storage/Air Room				0
3.30 SCBA Compressor Room				0
3.31 SCBA/MSA Storage				0
3.32 General Training Storage				0
3.33 Turnout Storage				0
3.34 Decon/Cleaning Light				0
	Subtotal Net			5,400
	w/ Circulation			**6,750**
Bays				
3.41 Apparatus Storage				0
	Subtotal Net			0
	w/ Circulation			**0**

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3.00 TRAINING CLASSROOM BUILDING (CONT'D)	Qty	SF	Total SF
Systems			
3.51 Electrical	1	120	120
3.52 Mechanical	1	150	150
3.53 IT	1	100	100
3.54 Riser	1	100	100
Subtotal Net			470
w/ Circulation			**541**

TOTAL	Qty	SF	Total SF
Facility Net			7,614
Facility Net w/ Circulation			9,471
Facility Grossing Factor			758
Total Facility Gross			**10,228**

4.00 MISCELLANEOUS SITE STRUCTURES & AMENITIES

Training Tower Renovation Cost Allowance ($500,000)
Apparatus Support Building Renovation Cost Allowance

5.00 HQ FIRST FLOOR AND BASEMENT RENOVATION

Training Rooms
Meeting Rooms
Offices
Work Stations
Work/Copy Room
Restrooms
Storage

Basement
SF Cost Allowance for complete heavy interior renovation **18,458**
1st Floor
SF Cost Allowance for complete light interior renovation **18,458**

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SITE SIZING

For both replacement and new service gap stations, where existing sites are too small to accommodate a new replacement station or no site currently exists, the project team developed anticipated site size assumptions for pricing assumptions. See appendix B for general site test-to-fit assumptions for generic site sizes. The land purchase of each replacement site and service gap station, as identified below, is included in the overall projected cost. The construction dollars to construct each station on the site have also been included.

NEW SITES			
STATION 76	(N1)	Replacement	~3.0M purchase cost
HEIGHTS -VV	(N3)	Service Gap	~6.0M purchase cost
CASCADIAN	(N1)	Service Gap	~3.0M purchase cost
LOGISTICS/WAREHOUSE		Support	~10.0M purchase cost-combined

* Rough Order of magnitude land costs provided by New Ventures. The potential surplus of the existing Station 22 station or Lincoln/Fender property has not been considered in the overall cost within this report.

Site Purchase Considerations

- **Know a site's constraints.**
  What can be built on a site is governed by many factors, including land-use and building codes, easements, utility availability, transportation department requirements, and environmental and geological hazards. Determine and understand a given site's constraints and encumbrances early in the evaluation process.

- **Test prospective sites.**
  To evaluate a site, determining the anticipated maximum building footprint for the station and other site improvement needs is necessary to determine whether a piece of property can be feasibly developed for a new station. "Test-to-fit" studies will eliminate unviable sites and identify sites that warrant further due diligence.

- **Evaluate multiple sites.**
  Look at multiple sites and keep options open. A process that moves from the macro to the micro-level will cull the list of candidate sites and is an efficient use of due diligence dollars. Once a shortlist has been established, dollars can be invested in more costly evaluations such as testing soils' suitability and investigating environmental considerations. If a potential site is not shortlisted, document the reasons why, if the condemnation of an alternate site becomes necessary.

- **Use an evaluation matrix.**
  A weighted evaluation matrix is a useful tool in identifying the right site if multiple sites are being considered. The matrix involves listing and scoring the key qualities of prospective sites. The totaling of scores demonstrates a site's comparative suitability and strengths based on departmental and community priorities.

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- **Assess acquisition options.**
  Beyond acquiring land available on the open market or negotiating a sale with a private owner, government entities have additional acquisition options, including condemnation (by eminent domain), or it may be that local government land is available for use. All options should be evaluated during the due-diligence process, and specific consideration should be given to the option of exercising condemnation, e.g., fully understanding the political dimension.

- **Understand the neighborhood.**
  "The only thing harder than moving a fire station out of a neighborhood is to build a fire station in a neighborhood" is a fire service truism. Evaluate the community concerns of a prospective site's neighborhood. Community outreach efforts are well worth the effort, and demonstrating the fire service's goodwill may positively impact the community's receptiveness.

- **Do not underestimate the time, effort, and costs.**
  Acquiring a site can be a lengthy and complex process. Build contingencies into schedules and budgets to manage any protracted effort. Consider early land purchases as part of the CFP effort. In urbanizing areas, land is in high demand. What is available today will not be available for the same cost in the years ahead or maybe built out for its highest and best use in the future.

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COST ESTIMATING

METHODOLOGY

RC Cost Group provided independent estimates of probable costs and budgeting services for Phase 2 of the South County Fire Capital Plan which has been subsequently updated in the Capital Facilities Plan dated March 25, 2026. The RC Cost Group staff have decades of experience estimating Fire Facilities in this region and have provided estimates for well over one hundred like facilities*. To explain the methodology behind the estimating process used in RC Cost Groups work for this plan, the following criteria were used by RC Cost Group in preparation of all estimates.

- Existing facility renovation pricing has been prepared using the Phase 1 Facility inventories, improvement assessment, recommendations, and site study photos prepared by the TCAs' team of consultants.
- Discussions/review sessions with SCF maintenance staff to verify deferred maintenance projects and renovation.
- Station Sizing and Space Criteria Assumptions narratives and space sizing Appendix B defines key operational aspects based on management and staff input
- Renovation and new facility pricing have been prepared using adjusted cost models with specific detailed quantities included as needed in each renovation.
- Systems and finishes modeled per like regional facilities, current bid evaluations, and supplier outreach from recently renovated and newly constructed fire facilities in this region.
- RC Cost Group budgeted defined items on a cost per square foot basis and specific detailed quantities when available.
- Utility allowances have been included for the removal/rerouting of specific utilities involved.
- Site construction costs and demolition work/building removals are square foot figures based on actual site locations and/or unit cost allowances.

*Like facilities include stations recently designed and/or constructed facilities within Shoreline, Kirkland, Tukwila, Bothell, Issaquah, Kent, Renton, Puyallup.

All estimates are produced using a UniFormat system which groups all costs by building system, as seen on individual summary pages. This allows for the evaluation of the budget in all areas of the building. The make-up of each individual building estimate includes a summary of construction costs, followed by an elemental breakdown of all costs. The estimate framework includes the following:

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ESTIMATE BREAKDOWN

Construction Hard Costs Include:

Gross floor area X Cost per SF of building =Building cost
Sitework is an isolated cost since each site may have separate site influences
New facilities- a contingency has been included in the estimate for energy efficiency and sustainable features (e.g. LEED certification)

Project Development/Soft Costs Include:

Architect/Engineering
Owner Consultants (survey/Geotech/Hazardous)
Permits
Construction Contingency
Builders Risk Policy
Washington State Sales Tax
Furnishings and Equipment
Technology
Jurisdictional/Utility Co Fees
Staff Planning/Moving
Project/Bid/Market/Code Change Contingency
Energy Efficiency Contingency (e.g. LEED)*
Construction and Asset Management*

*See below for detailed description.
**See clarifications and assumptions appendix C.
***Staffing, on-going maintenance and operating costs are currently not part of the overall cost.

ENERGY EFFICIENCY CONTINGENCY

As part of the estimating process, a contingency for energy efficiency has been incorporated into the budgeting for all new facilities. The contingency could cover the cost of LEED (Leadership in Energy and Environmental Design) or a similar program that promotes healthier working environments and reduces operational costs. LEED, for example, is a framework for designing, constructing and maintaining facilities that incorporates and documents energy efficiency, water efficiency, storm system measures, and building materiality that. As projects move forward, this may become a mandate from municipalities, or a core departmental or community value, with economic payback that could be applied to the design and construction of new facilities to support the community and responders.

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CONSTRUCTION AND ASSET MANAGEMENT

Given the scale and complexity of the capital facilities plan it was determined that an outside professional management firm should be included in the capital facilities implementation effort for the duration of the project instead of attempting to manage the projects internally within the RFA.

Capital Facility Plan Management and implementation efforts for this role include but are not limited to:

- Program monitoring and reporting throughout the duration of the implementation plan.
  - Progress (overall schedule)
  - Program spending (overall budget)
  - Change Management
  - Construction Change Order Reviews
- Property and site investigation due diligence
- Construction contracting expertise
- Scheduling and monitoring
- Budget management and cost control
- Developing and maintaining risk registers
- Change management monitoring for program, scope, schedule and budget

Construction role elements:

- Manage schedule and sequencing to finish on time.
- Control budget, review costs, and recommend payments.
- Administer contracts and negotiate/approve changes.
- Monitor quality and compliance with plans and codes.
- Lead project communication, meetings, and reporting.
- Resolve field issues and document to reduce owner risk.
- Coordinate systems testing, commissioning, and training.
- Assist in the delivery of complete closeout: punch list, as-builts, manuals, warranties.
- Support warranty period and post-occupancy performance issues.

Asset management

Given the breadth of facilities, costs have been additionally identified to support the development of an asset management plan. Such plans often include:

- Comprehensive facilities asset and inventory development
- Preventive and predictive maintenance planning
- Life-cycle cost management establishment
- O&M budgeting

The Total Project budget includes Construction Hard Costs + Project Development/Soft Costs

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ADDITIONAL COSTS

Land Acquisition

The Capital Facilities Plan identifies six stations needing replacement (13,14, 22, 23, 20, 76) in addition to four new gap stations (Manor, AMP, Heights, Cascadian).

Replacement stations are generally in optimal response locations and can be rebuilt on their current sites, however station 76 will need a new site located in an improved target response for optimal coverage based on annexation areas.

Gap station sites have been obtained for Manor and AMP however additional sites will need to be acquired for the Heights and Cascadian stations. While a potential site has been identified for the Cascadian station, further study and evaluation of the targeted site needs to occur.
Since two new support facilities identified as the facilities/shop/vehicle maintenance and the logistics/warehouse have no site, it would be ideal to co-locate these facilities on a single site for operational efficiency.

Apparatus

As new gap Facilities and Support Facilities are constructed and come online, the acquisition of Apparatus and Industrial Vehicles will be necessary to support the staff working out of these facilities. The following captures both apparatus and equipment that has been identified and priced as part of the planning effort.

NEW GAP STATIONS

MANOR STATION	Engine, Ambulance
ALDERWOOD MALL PARKWAY STATION	Engine, Ambulance
HEIGHTS STATION	Engine, Ladder, Ambulance, Battalion
CASCADIAN	Engine, Ambulance

NEW SUPPORT FACILITIES

FACILITIES/SHOP/VEHICLE MAINT	Mobile Fleet Repair Vehicle, Forklift, Van
LOGISTICS/WAREHOUSE	Forklift, Order Picker, Van

Manage Reserve

This reserve provides a financial contingency to address uncertainties such as supply chain disruptions, unfavorable bidding conditions, and unforeseen cost increases. It establishes a controlled buffer that can be strategically allocated to mitigate financial risk throughout the Capital Facilities Plan.

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PROJECT TIMING AND COST ESCALATION

Estimating for this Capital Facilities Plan is based on current market conditions in today's dollars. Actual project budgets, however, are based on actual construction start. To establish a CFP budget, TCA worked with SCF staff to determine project priorities and start dates based on project risk, overall deployment strategy, and timing of need based on regional growth. A compounded project cost escalation matrix has been developed based on recommended construction start dates.

- Bringing existing high-risk stations recommended for replacement up to current standards is a priority (see Phase 1 findings). Stations have been prioritized as follows: 22, 23, 20, 14 & 13. All have outlived their useful service life.

- Service Gap stations that provide infill support are identified as lower risk. While incrementally filling these gaps to provide coverage is important to meet SCF's standard of cover, a high-risk station going out of service poses a much greater risk to overall coverage. The service gap stations have been prioritized as follows: "Manor Station"-more immediate need due to current population density service impacts, "Alderwood Parkway Station", "Heights Station", "Cascadian Station".

- While support facilities could be considered lower risk to active response, moving the maintenance and logistics facility and supporting functions to the beginning of the capital improvement project could alleviate the current lack of bay space and service area and provide flexibility to operations during the entirety of the capital improvement project. Currently, the Administrative Headquarters has been prioritized early in the capital improvement project. This facility houses the command-and-control structure for the department and is vitally important to the overall operations and facility network. The Shops/Maintenance Facility and Central Stores have been paired together on the overall project timeline. This offers the best value since it is expected that they will be located on the same site and could be constructed concurrently. The Classroom Building and Administrative Building and Site functions, while important, could have a lower priority.

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"Existing" Replacement Stations

	Land				Bond	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
	Year	Replacement	Facil Type	Lnd/Tmp	2026 Aug	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Station 13	Const Yr 2032	$24,960,622	2 bay +	Tmp 2						D D D	D P P P	B C C C	C C				
Station 14	Const Yr 2031	$23,863,621	2 bay +	Tmp 1					D D D	D P P P	B B C C C	C C					
Station 20	Constr Yr 2030	$22,768,246	2 bay +	Tmp 2				D D D	D P P P	B B C C C	C C						
Station 22	Const Yr 2025	$17,645,309	2 bay +	Lnd-done		P B C C	C C C										
Station 23	Const Yr 2029	$21,411,509	2 bay +	Tmp 1			D D D	D P P P	B C C C	C C							
Station 76	Const Yr 2033	$25,950,000	2 bay +	Lnd Need					LA LA		D D D	D P P P	B C C C	C C C			

"Existing" Station Renovations & Seismic Upgrades

	Land				Bond	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
	Renovations/Seismic				2026	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Station 11	Constr Yr 2033	$15,981,666	E-5 bay	Tmp							D D D	P P P B	C C C C				
Station 15	Constr Yr 2034	$6,511,076	E-6 bay									D D	P P P B	C C C			
Station 17	Const Yr 2035	$906,625	E-3 bay											D P P B	C C		
Station 19	Const Yr 2034	$2,075,194	E-2 bay										D P P	B C C			

"New" Service Gap Stations

	Land				Bond	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
	New/Gap				2026	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Manor	Constr Yr 2030	$21,881,301	2 bay +					D D D	P P P B	C C C C							
AMP	Constr Yr 2034	$26,602,805	2 bay +									D D D	P P P B	C C C C			
Heights	Constr Yr 2035	$35,406,582	4 bay	Lnd Need				LA LA	VV				D D D	P P P B	C C C C	C	
Cascadian	Constr Yr 2036	$30,498,100	2 bay +	Lnd Need					LA LA						D	D D D P	P P B C	C C C

Schedule Abbreviations

LA	Land Acquisition (not in cost)
D	Design
P	Permit
B	Bidding
C	Construction

Base Assumptions

Design 1 year
Permitting 9 months
Bid 3 months
Construction 1 year

Variations

Land Acquisition 6 months
Design 6 mo - Seismic upgrade
Design 9 mo - Small project
Design 14 mo - Very large project
Constr 6 mo - Seismic upgrade
Constr 1 year - Small to medium size project
Constr 14 mo - Large project
Constr 24 mo - Very large project

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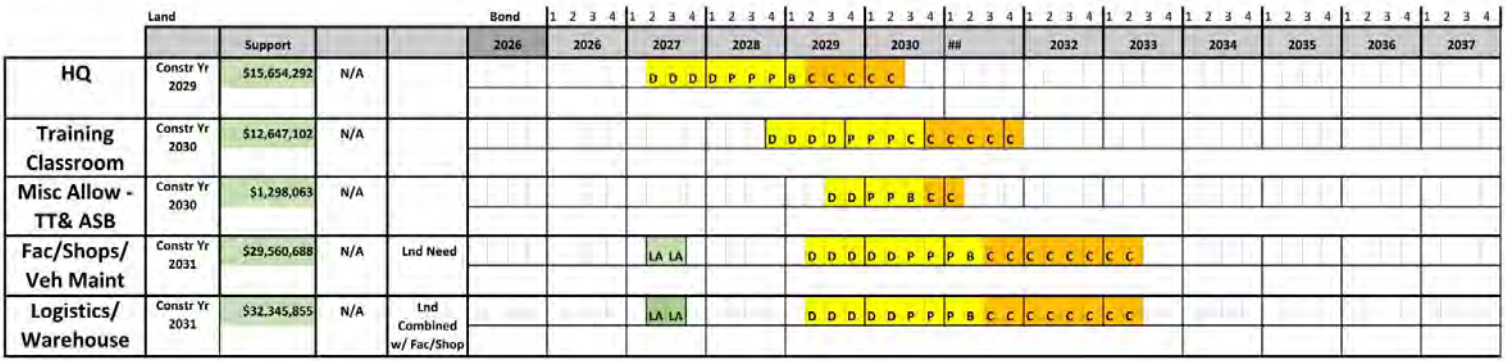
"New And Renovated" Support Facilities



Schedule Abbreviations

LA	Land Acquisition (not in cost)
D	Design
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C	Construction

Base Assumptions

Design 1 year
Permitting 9 months
Bid 3 months
Construction 1 year

Variations

Land Acquisition 6 months
Design 6 mo - Seismic upgrade
Design 9 mo - Small project
Design 14 mo - Very large project
Constr 6 mo - Seismic upgrade
Constr 1 year - Small to medium size project
Constr 14 mo - Large project
Constr 24 mo - Very large project

Projects	**$ 367,968,656**
Manage Reserve	**$ 4,368,000**
Land	**$ 22,000,000**
Energy Effiency Contingency (e.g. LEED)	**$ 6,300,000**
CM/ PM/ Prg Mgmt/Asset Mgmt	**$ 8,100,000**
Apparatus	**$ 10,385,000**
GRAND TOTAL	**$ 419,121,656**

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CAPITAL FACILITIES FINANCING

The final Phase 3 is determined by the Department's consideration of the overall identified and prioritized needs within this plan, decisions relative to long-term expenditure goals, and available financing strategies necessary to execute the plan's general implementation framework. As the implementation timeline progresses, it is anticipated that the Board, in conjunction with staff input, will establish benchmarks to allow for the acceleration or deceleration of the plan to adjust to regional economics, growth, and unexpected circumstances should they arise.

To support this future decision making, BERK Consulting has identified general funding sources as follows:

Levy Lid Lifts

Raising more money through existing property tax levies.

Single Year Temporary/Permanent
Multi-year Temporary/Permanent

Councilmanic Debt

Issuing debt without voter approval to be repaid using existing funds
No new revenue

Voted General Obligation (GO) Bonds/Excess Levy

Issuing debt and an excess levy to support repayment approved by voters.
Levy expressed as a rate: $X/$1000 assessed value (AV).

Funding Alternatives bookends and range of considerations

- Timing and Magnitude
  - Aligning the timing and amount of revenues to costs (in the form of debt payments or capital costs).
- Voters
  - Which options will be politically viable? Which will not?
  - When are voter taxation thresholds likely to be met?
- Economy
  - Which options are most resilient to changes to the economy, including a potential recession?
- Trade-offs
  - Do options preclude others that may be more desirable?

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APPENDIX

SECTION A

ASSESSMENT SUMMARY MATRIX- ALL FACILITIES (from Phase 1)

STATION	ARCHITECTURAL				ENVELOPE		STRUCTURAL			MECHANICAL			ELECTRICAL			
	Program	Code	Interior Finish	Exterior Finish	Roof	Roof Details	Vertical Load	Lateral Load Seismic	App Bay Door Racking	Fire Sprinkler	Plumbing	HVAC	Power	Alerting	Lighting	Overall Condition
Admin HQ	+3	+1	+1	0	+2	+2	+3	0	N/A	+3	+2	+2	-3	N/A	+2	+18
Station 10	+3	+2	+2	+2	+2	0	+3	+3	+3	+3	+2	+2	+2	+2	+2	+33
Station 11	0	-2	+1	-1	0	-3	0	-4	-4	+1	+1	+1	+3	+2	+2	+3*
Station 12	+3	+2	+2	+1	0	-2	+3	+3	+3	+3	+2	+2	+3	+2	+2	+27
Station 13	-2	-2	+1	-1	-4	-3	+3	-4	-4	+1	0	-3	0	+1	0	-19
Station 18	+3	+2	+2	+1	0	-2	+3	+3	+3	+3	+2	+2	+3	+2	+2	+29
Station 21	+3	+2	+2	+2	+2	-2	+3	+3	+3	+3	+2	+2	+3	+2	+2	+32
Station 22	-3	-3	-1	-1	-1	-3	0	-4	-4	-4	-3	-3	+1	-3	-1	-33
Station 23	-3	-3	-1	-1	-1	-3	0	-4	-4	-4	-3	-3	+1	-3	-1	-33
Station 14	-4	-4	-1	+2	-1	-2	+3	-4	-4	+3	-1	-3	+3	+2	+2	-9
Station 15	+1	0	+2	+2	+2	+1	+3	-2	-3	+3	+1	-3	+3	+2	+2	+14
Station 16	+3	+1	+2	+1	+2	0	+3	0	0	+3	+1	-1	+3	+2	+2	+22*
Station 17	+2	0	+2	0	+2	-2	+3	-1	-1	+3	+1	+1	+3	+2	+2	+17*
Station 20	-4	-4	-2	-1	-3	-3	-2	-4	-4	+2	-3	+1	-1	-1	0	-29
Station 19	+1	+1	0	+2	+2	-2	+3	-1	0	+3	0	-3	+3	+2	+2	+9*
Station 76	-2	-1	+1	+2	+2	0	+3	-1	-1	+3	+1	-3	+3	+3	+2	+12

GOOD		FAIR			POOR		CRITICAL
+3	+2	-1	0	+1	-2	-3	-4

X	X	X
MAINTENANCE REPAIR UPGRADE	SEISMIC / SAFETY UPGRADE	REPLACEMENT

* Stations needing additional seismic study

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APPENDIX

SECTION B

	PROTOTYPE SPACE SUMMARY	STATION TYPE			
		NEIGH 1 (2 BAYS / 2 STORY)	NEIGH 1 (ADD-Ons / 2 STORY)	NEIGH 3 (4 BAYS / 2 STORY)	NEIGH 3 (ADD-ONs)
1.000	**PUBLIC AREA**				
1.001	Vestibule	0	72	72	0
1.002	Lobby/Waiting Area	110	225	225	0
1.003	Public Restrooms	60	120	60	60
1.004	Conference	0	500	0	700
1.005	Storage	0	100	0	100
1.006	Aid Room	0	90	0	90
	Subtotal	**170**	**1107**	**357**	**950**
2.000	**ADMIN AREA**				
2.001	Office- Type A (BC)	0	0	180	0
2.002	Office- Type B (Officer/FF)	150	0	300	0
	Subtotal	**150**	**0**	**480**	**0**
3.000	**CREW OFFICE AREA**				
3.001	Firefighter Work Area	350	0	450	0
	Subtotal	**350**	**0**	**450**	**0**
4.000	**CREW LIVING AREA**				
4.001	Kitchen/Dining/Dayroom	900	0	1,200	0
4.002	FF Storage	0	0	0	0
4.003	Sleeping Room- FF	900	0	1500	0
4.004	Toilet/Shower Room- FF	255	0	425	0
4.005	Sleeping Room (BC)	0	0	150	0
4.006	Toilet/Shower Room (BC)	0	0	85	0
4.007	Laundry	80	0	100	0
4.008	Custodial	80	0	80	0
4.009	Exercise Room	600	0	900	0
	Subtotal	**2,215**	**0**	**3,540**	**0**
5.000	**APPARATUS SUPPORT AREA**				
5.001	Apparatus Bays				
	Bay 1	1,575	0	1,008	0
	Bay 2	1,008	0	1,044	0
	Bay 3	0	0	1,044	0
	Bay 4	0	0	1,218	0
5.002	Bay Toilet Room	60	0	60	0
5.003	Shop/Tool Bench	125	0	150	0
5.004	Medical Gas Storage	36	0	36	0
5.005	SCBA Compressor/Cascade Alcove	12	0	12	120
5.006	EMS Storage	80	0	100	0
5.007	Delivery Room	50	0	50	0
5.008	Operational Storage (Poss Mezz)	150	0	200	0
5.009	Decon/Cleaning	470	0	500	0
5.010	Turnout Gear Storage	350	0	580	0
5.011	Hose Storage Alcove	40	0	40	0
5.012	Disaster Relief Supply Room	75	0	75	0
5.013	Apparatus Wash Alcove	32	0	32	0
5.014	Vending/Ice Machine Alcove	0	0	0	0
	Subtotal	**4,063**	**0**	**6,149**	**120**
6.000	**SYSTEMS**				
6.001	Stairs	800	0	800	0
6.002	Elevator	175	0	175	0
6.003	Pole Hole	0	0	0	0
6.004	IT/Server Room	90	0	90	0
6.005	Electrical Room	200	0	250	0
6.006	Fire Sprinkler Riser Room/Alcove	100	0	100	0
6.007	Mechanical Room/Elect	250	0	300	0
	Subtotal	**1615**	**0**	**1715**	**0**
	Subtotal NSF	8,563	1107	12,691	1070
	Grossing Factor	1.31	1.31	1.28	1.28
	Total Gross SF	**11,218**	1450	**16,244**	1370
	Total Gross SF W/ 3% Contingency	**11,554**	**1494**	**16,569**	**1397**
	Rounded	**13,100**		**18,000**	
7.000	**SITE**				
7.001	Parking				
	FF Parking	10		22	
	Admin Parking	0		0	
	Visitor Parking	2		11	
	Accessible Parking	1		2	
	Total Parking Exterior	13	0	35	0
7.002	Site Amenities				
7.0021	Solid Waste Storage/Recycling	1		1	
7.0022	Generator	1		1	
7.0023	Outdoor patio	1		1	
	Propsd Min. Site Area (Drive Thru)	41,516		67,626	
	Propsd Min. Site Area (Back In)	34,632		63,002	

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FACILITY AND APPARATUS SUMMARY

REPLACEMENTS	Bays	Size	Land req	Site Location	New Apparatus	Apparatus Type
13	2 bay +	13,100 SF New (6) Sleeping Rms, 49' & 75' bays, EV ready	No	13611 Puget Park Dr Everett, WA	No	NA
14	2 bay +	13,100 SF New (6) Sleeping Rms, 49' & 75' bays, EV ready	No	18800 68th Ave. W Lynnwood, WA 98037	No	NA
20	2 bay +	13,100 SF New (6) Sleeping Rms, 49' & 75' bays, EV ready	No	23009 88th Avenue W Edmonds, WA 98026	No	NA
22	2 bay +	13,100 SF New (6) Sleeping Rms, 49' & 75' bays, EV ready	Purchased	20510 Damson Road Lynnwood, WA 98036	No	NA
23	2 bay +	13,100 SF New (6) Sleeping Rms, 49' & 75' bays, EV ready	No	4323 Serene Way Lynnwood, WA 98087	No	NA
76	2 bay +	13,100 SF New (6) Sleeping Rms, 49' & 75' bays, EV ready	Yes	TBD	No	NA

RENOVATIONS/SEISMIC	Bays	Size	Land req	Site Location	New Apparatus	Apparatus Type
11	E-5 bay	16,270 SF Modernization	No	12310 Meridian Ave. S Everett, WA 98208	No	NA
15	E-6 bay	18,710 SF Modernization	No	18800 44th Ave. W Lynnwood, WA 98036	No	NA
17	E-3 bay	8,900 SF Modernization	No	275 Sixth Ave. N. Edmonds, WA 98020	No	NA
19	E-2 bay	7,350 SF Modernization	No	5902 232nd St. SW Mountlake Terrace, WA 98043	No	NA

NEW/GAP	Bays	Size	Land req	Site Location	New Apparatus	Apparatus Type
Manor	2 bay +	13,100 SF New	No	2224 Manor Way Lynnwood, WA 98037	Yes	(1) Engine (1) Ambulance
AMP	2 bay +	13,100 SF New	Purchased	2811 170th St SW Lynnwood, WA 98037	Yes	(1) Engine (1) Ambulance
Heights	4 bay	18,000 SF New	Yes	21558 Highway 99 Edmonds, WA 98026	Yes	(1) Engine, (1) Ladder (2) Ambulance, (1) BC
Cascadian	2 bay +	13,100 SF New	Yes	TBD	Yes	(1) Engine (1) Ambulance

SUPPORT	Bays	Size	Land req	Site Location	New Apparatus	Apparatus Type
HQ	N/A	18,458 SF- Main Level Reno - Light 18,458 SF- Basement Reno - Heavy	No	12425 Meridian Ave. S Everett, WA 98208	No	NA
Training Classroom	N/A	10,250 SF	No	HQ	No	NA
Misc Allow - TT & ASB	N/A	Training Tower Reno/Repair Allowance App Storage Bldg Reno Allowance	No	12425 Meridian Ave. S Everett, WA 98298	No	NA
Facilities/Shop Veh Maint	N/A	25,700 SF Building 10,000 SF 3-Sided App Storage Canopy	Yes	TBD	Yes Support Vehicles	(1) Mobile Fleet Repair Vehicle (1) Forklift (1) Van
Logistics/ Warehouse	N/A	30,100 SF	Combined with Fac/Shop	TBD	Yes Support Vehicles	(1) Forklift (1) Order Picker (1) Van

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APPENDIX

SECTION C

SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE

RC COST GROUP

CLARIFICATIONS AND ASSUMPTIONS

RC Cost Group Estimating Team:

Lead Estimator: Mark Richardson

Exclusions from Construction Cost:

Removal of unforeseen underground obstructions
Hazardous Material Abatement

Assumption used in establishing the estimate:

Open and competitive bidding among all proportions of the work
Project Development Cost (soft costs) as stated on Overall Summary sheet
Construction Start Date: Varies
Escalation at 5.0% per Year
No Land Costs included
Leed Certification for Stations 13, 14, 29, 22, 23, 76, Manor, AMP, Heights and Cascadian
No Apparatus included
Two Temporary Facilities are included in the estimate
No Alternative Delivery Method is included

Items that may affect the cost estimate:

Modifications to the scope of work included in this estimate.
Special phasing requirements other than mentioned above.
Restrictive technical specifications or excessive contract conditions.
Any non-competitive bid situations.
Bids delayed beyond the projected schedule.

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE

DATE: September 29, 2025

RC COST GROUP

OVERALL SUMMARY PROJECT COST

ESCALATION AT 5% PER ANNUM

			$
REPLACEMENT STATIONS			
STATION 13	13,100 SF	1,905.39	24,960,622
STATION 14	13,100 SF	1,821.65	23,863,621
STATION 20	13,100 SF	1,738.03	22,768,246
STATION 22	13,100 SF	1,346.97	17,645,309
STATION 23	13,100 SF	1,634.47	21,411,509
STATION 76	*13,100 SF*	*1,980.92*	*25,950,000*
RENOVATIONS/SEISMIC			
STATION 11	16,270 SF	982.28	15,981,666
STATION 15	18,710 SF	348.00	6,511,076
STATION 17	8,900 SF	101.42	902,625
STATION 19	7,350 SF	282.34	2,075,194
NEW/GAP			
MANOR	13,100 SF	1,670.33	21,881,301
AMP	13,100 SF	2,030.75	26,602,805
HEIGHTS	18,000 SF	1,967.03	35,406,582
CASCADIAN	*13,100 SF*	*2,328.10*	*30,498,100*
SUPPORT			
HQ	36,916 SF	424.05	15,654,292
FACILITIES/SHOP/VEHICLE MAINTENANCE	*25,700 SF*	*1,150.22*	*29,560,688*
LOGISTICS/WAREHOUSE	*30,100 SF*	*1,074.61*	*32,345,855*
TRAINING CLASSROOM	*10,250 SF*	*1,233.86*	*12,647,102*
MISCELLANEOUS ALLOWANCES	*1 LS*		*1,298,063*
TOTAL PROJECT COST			**367,986,656**

MANAGEMENT RESERVE FUND CONTINGENCY	4,368,000

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
STATION 13 - REPLACEMENT

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
STATION 13		13,100 SF	688.50	9,019,377
SITEWORK				2,775,000
FRONTAGE IMPROVEMENTS				INCL ABOVE
TEMPORARY CREW QUARTERS				185,000
TOTAL CONSTRUCTION COST				**11,979,377**
SOFT COSTS	47.15%			5,648,276
TOTAL PROJECT COST				**17,627,654**
ESCALATION 5 %	3RD QTR 2032			
TOTAL ESCALATED PROJECT COST				**24,960,622**

Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	14.50%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	9.90%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	47.15%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
STATION 14 - REPLACEMENT

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
STATION 14		13,100 SF	688.50	9,019,377
SITEWORK				2,775,000
FRONTAGE IMPROVEMENTS				INCL ABOVE
TEMPORARY CREW QUARTERS				185,000
TOTAL CONSTRUCTION COST				**11,979,377**
SOFT COSTS	47.85%			5,732,132
TOTAL PROJECT COST				**17,711,509**
ESCALATION 5 %	3RD QTR 2031			
TOTAL ESCALATED PROJECT COST				**23,863,621**

Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	14.50%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	47.85%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
STATION 20

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
STATION 20		13,100 SF	688.50	9,019,377
SITEWORK				2,775,000
FRONTAGE IMPROVEMENTS				INCL ABOVE
TEMPORARY CREW QUARTERS				185,000
TOTAL CONSTRUCTION COST				**11,979,377**
SOFT COSTS	48.25%			5,780,050
TOTAL PROJECT COST				**17,759,427**
ESCALATION 5 %	3RD QTR 2030			
TOTAL ESCALATED PROJECT COST				**22,768,246**

Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	15.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.50%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	48.25%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
STATION 22 - REPLACEMENT

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
STATION 22		13,100 SF	688.50	9,019,377
SITEWORK				2,775,000
FRONTAGE IMPROVEMENTS				INCL ABOVE
STREET FLASHERS ALLOWANCE				100,000
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**11,894,377**
SOFT COSTS	48.35%			5,750,931
TOTAL PROJECT COST				**17,645,309**
ESCALATION 5 %	2ND QTR 2025			
TOTAL ESCALATED PROJECT COST				**17,645,309**

Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	15.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	48.35%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
STATION 23 - REPLACEMENT

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
STATION 23		13,100 SF	688.50	9,019,377
SITEWORK				2,775,000
FRONTAGE IMPROVEMENTS				INCL ABOVE
TEMPORARY CREW QUARTERS				185,000
TOTAL CONSTRUCTION COST				**11,979,377**
SOFT COSTS	48.35%			5,792,029
TOTAL PROJECT COST				**17,771,406**
ESCALATION 5 %	2ND QTR 2029			
TOTAL ESCALATED PROJECT COST				**21,411,509**

Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	15.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	48.35%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
STATION 76 - REPLACEMENT

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
STATION 76		13,100 SF	688.50	9,019,377
SITEWORK				2,775,000
FRONTAGE IMPROVEMENTS				INCL ABOVE
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**11,794,377**
SOFT COSTS	47.85%			5,643,610
TOTAL PROJECT COST				**17,437,987**
ESCALATION 5 %	3RD QTR 2033			
TOTAL ESCALATED PROJECT COST				**25,950,000**

Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	14.50%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	47.85%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
STATION 11 - RENOVATION/SEISMIC

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
STATION 11		16,270 SF	388.31	6,317,798
SITEWORK				953,747
FRONTAGE IMPROVEMENTS				N/A
TEMPORARY CREW QUARTERS				185,000
TOTAL CONSTRUCTION COST				7,456,545
SOFT COSTS	47.65%			3,553,044
TOTAL PROJECT COST				11,009,589
ESCALATION 5 %	1ST QTR 2033			
TOTAL ESCALATED PROJECT COST				15,981,666

Project Development/Soft Costs Include:

Architect/Engineering	15.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	9.90%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	47.65%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
STATION 15 - RENOVATION/SEISMIC

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
STATION 15		18,710 SF	153.77	2,876,962
SITEWORK				N/A
FRONTAGE IMPROVEMENTS				N/A
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**2,876,962**
SOFT COSTS	48.35%			1,391,011
TOTAL PROJECT COST				**4,267,973**
ESCALATION 5 %	1ST QTR 2034			
TOTAL ESCALATED PROJECT COST				**6,511,076**

Project Development/Soft Costs Include:

Architect/Engineering	15.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	48.35%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
STATION 17 - RENOVATION/SEISMIC

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
STATION 17		8,900 SF	42.67	379,753
SITEWORK				N/A
FRONTAGE IMPROVEMENTS				N/A
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**379,753**
SOFT COSTS	48.25%			183,231
TOTAL PROJECT COST				**562,984**
ESCALATION 5 %	1ST QTR 2035			
TOTAL ESCALATED PROJECT COST				**906,625**

Project Development/Soft Costs Include:

Architect/Engineering	15.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.50%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	48.25%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
STATION 19 - RENOVATION/SEISMIC

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
STATION 19		7,350 SF	123.21	905,618
SITEWORK				N/A
FRONTAGE IMPROVEMENTS				N/A
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**905,618**
SOFT COSTS	48.35%			437,866
TOTAL PROJECT COST				**1,343,484**
ESCALATION 5 %	2ND QTR 2034			
TOTAL ESCALATED PROJECT COST				**2,075,194**

Project Development/Soft Costs Include:

Architect/Engineering	15.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	48.35%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
MANOR - NEW/GAP

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
MANOR		13,100 SF	688.50	9,019,377
SITEWORK				2,775,000
FRONTAGE IMPROVEMENTS				INCL ABOVE
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**11,794,377**
SOFT COSTS	48.35%			5,702,581
TOTAL PROJECT COST				**17,496,959**
ESCALATION 5 %	1ST QTR 2030			
TOTAL ESCALATED PROJECT COST				**21,881,301**

Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	15.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	48.35%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
AMP - NEW/GAP

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
AMP		13,100 SF	688.50	9,019,377
SITEWORK				2,775,000
FRONTAGE IMPROVEMENTS				INCL ABOVE
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**11,794,377**
SOFT COSTS	47.85%			5,643,610
TOTAL PROJECT COST				**17,437,987**
ESCALATION 5 %	1ST QTR 2034			
TOTAL ESCALATED PROJECT COST				**26,602,805**

Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	14.50%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	47.85%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
HEIGHTS - NEW/GAP

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
HEIGHTS		18,000 SF	638.18	11,487,274
SITEWORK				3,500,000
FRONTAGE IMPROVEMENTS				INCL ABOVE
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**14,987,274**
SOFT COSTS	47.35%			7,096,474
TOTAL PROJECT COST				**22,083,749**
ESCALATION 5 %	1ST QTR 2035			
TOTAL ESCALATED PROJECT COST				**35,406,582**

Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	14.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	47.35%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
CASCADIAN - NEW/GAP

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
CASCADIAN		13,100 SF	688.50	9,019,377
SITEWORK				2,775,000
FRONTAGE IMPROVEMENTS				INCL ABOVE
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**11,794,377**
SOFT COSTS	47.85%			5,643,610
TOTAL PROJECT COST				**17,437,987**
ESCALATION 5 %	4TH QTR 2036			
TOTAL ESCALATED PROJECT COST				**30,498,100**

Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	14.50%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	47.85%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
HQ

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
HQ				
MAIN LEVEL RENOVATION - LIGHT		18,458 SF	165.00	3,045,570
BASEMENT LEVEL RENOVATION - HEAVY		18,458 SF	315.00	5,814,270
SITEWORK				N/A
FRONTAGE IMPROVEMENTS				N/A
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**8,859,840**
SOFT COSTS	46.65%			4,133,115
TOTAL PROJECT COST				**12,992,955**
ESCALATION 5 %	2ND QTR 2029			
TOTAL ESCALATED PROJECT COST				**15,654,292**

Project Development/Soft Costs Include:

Architect/Engineering	14.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	9.90%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	46.65%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
FACILITIES/SHOP/VEHICLE MAINTENANCE **DATE: September 29, 2025**

RC COST GROUP

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
FACILITIES/SHOP/VEHICLE MAINTENANCE		25,700 SF	520.00	13,364,000
3-SIDED APPARATUS STORAGE		10,000 SF	173.05	1,730,500
SITEWORK			SEE LOGISTICS/WAREHOUSE	
FRONTAGE IMPROVEMENTS				N/A
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**15,094,500**
SOFT COSTS	45.35%			6,845,356
TOTAL PROJECT COST				**21,939,856**
ESCALATION 5 %	3RD QTR 2031			
TOTAL ESCALATED PROJECT COST				**29,560,688**
			Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	14.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	45.35%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
LOGISTICS/WAREHOUSE

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
LOGISTICS/WAREHOUSE		30,100 SF	425.00	12,792,500
SITEWORK				3,500,000
FRONTAGE IMPROVEMENTS				INCL ABOVE
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**16,292,500**
SOFT COSTS	47.35%			7,714,499
TOTAL PROJECT COST				**24,006,999**
ESCALATION 5 %	3RD QTR 2031			
TOTAL ESCALATED PROJECT COST				**32,345,855**

Energy Efficiency Contingency (e.g. LEED)	525,000

Project Development/Soft Costs Include:

Architect/Engineering	14.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	10.60%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	47.35%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
TRAINING CLASSROOM

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

		GFA	$/SF	$
TRAINING CLASSROOM		10,250 SF	575.00	5,893,750
SITEWORK				750,000
FRONTAGE IMPROVEMENTS				N/A
TEMPORARY CREW QUARTERS				N/A
TOTAL CONSTRUCTION COST				**6,643,750**
SOFT COSTS	46.65%			3,099,309
TOTAL PROJECT COST				**9,743,059**
ESCALATION 5 %	4TH QTR 2030			
TOTAL ESCALATED PROJECT COST				**12,647,102**

Project Development/Soft Costs Include:

Architect/Engineering	14.00%
Owner consultants (survey, Geotech, Haz., commissioning etc.)	3.00%
Permits	1.00%
Construction Contingency	8.00%
Builders Risk Policy	0.75%
Washington State Sales Tax	9.90%
Furnishings and Equipment	2.00%
Technology	2.00%
Jurisdictional/Utility Co Fees	0.50%
Staff Planning/Moving	0.50%
Project/bid/market/code change contingency/sales tax changes	5.00%
	46.65%

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
MISCELLANEOUS ALLOWANCES

RC COST GROUP

DATE: September 29, 2025

OVERALL SUMMARY CONSTRUCTION COST

	GFA	$/SF	$
TRAINING TOWER RENOVATION/REPAIR			500,000
APPARATUS STORAGE BUILDING RENOVATION ALLOWANCE			500,000
PUMP TEST PIT ALLOWANCE			0
TOTAL CONSTRUCTION COST			**1,000,000**
SOFT COSTS			N/A
TOTAL PROJECT COST			**1,000,000**
ESCALATION 5 %	4TH QTR 2030		
TOTAL ESCALATED PROJECT COST			**1,298,063**

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
2 BAY FIRE STATION

GROSS FLOOR AREA: 13,100 SF
DATE: September 29, 2025

RC COST GROUP

No.	ELEMENT DESCRIPTION		ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS			$ 461,436	$ 35.22
A1010	Standard Foundation	$	342,175	$ 26.12	
A1020	Special Foundation	$	-	$ -	
A1030	Slab on grade	$	119,261	$ 9.10	
A20	BASEMENT WALL CONSTRUCTION			$ -	$ -
A2010	Basement Excavation	$	-	$ -	
A2020	Basement Wall Construction	$	-	$ -	
B10	SUPERSTRUCTURE			$ 1,019,405	$ 77.82
B1010	Floor & Roof Construction	$	1,019,405	$ 77.82	
B20	EXTERIOR ENCLOSURE			$ 1,309,162	$ 99.94
B2010	Exterior Walls	$	1,060,393	$ 80.95	
B2020	Exterior Windows	$	113,805	$ 8.69	
B2030	Exterior Doors	$	134,965	$ 10.30	
B30	ROOFING			$ 357,639	$ 27.30
B3010	Roofing	$	357,639	$ 27.30	
C10	INTERIOR CONSTRUCTION			$ 687,454	$ 52.48
C1010	Partitions	$	442,007	$ 33.74	
C1020	Interior Doors	$	170,862	$ 13.04	
C1030	Fittings and Specialties	$	74,585	$ 5.69	
C20	STAIRS			$ 56,980	$ 4.35
C2010	Stair Construction	$	56,980	$ 4.35	
C30	INTERIOR FINISHES			$ 517,646	$ 39.51
C3010	Wall Finishes	$	175,093	$ 13.37	
C3020	Floor Finishes	$	173,979	$ 13.28	
C3030	Ceiling Finishes	$	168,574	$ 12.87	
D10	CONVEYING			$ 139,860	$ 10.68
D1010	Elevators & Lifts	$	139,860	$ 10.68	
D20	PLUMBING			$ 615,842	$ 47.01
D2010	Plumbing	$	615,842	$ 47.01	
D30	HVAC			$ 900,952	$ 68.77
D3010	HVAC	$	900,952	$ 68.77	
D40	FIRE PROTECTION			$ 72,558	$ 5.54
D4010	Sprinkler System	$	72,558	$ 5.54	
D50	ELECTRICAL			$ 959,404	$ 73.24
D5000	Electrical	$	959,404	$ 73.24	
E10	EQUIPMENT			$ 105,998	$ 8.09
E1010	Equipment	$	105,998	$ 8.09	
E20	FIXED FURNISHINGS			$ 138,753	$ 10.59
E2010	Fixed Furnishings	$	138,753	$ 10.59	
F10	SPECIAL CONSTRUCTION			$ -	$ -
F1010	Special Structure	$	-		
F1020	Special Construction	$	-		
F20	SELECTIVE BUILDING DEMOLITION			$ -	$ -
F2010	Building Elements Demolition	$	-		
Z10	GENERAL RQUIREMENTS			$ 647,500	$ 49.43
Z1010	General requirements	$	647,500		
	Sub-Total Direct Cost			$ 7,990,589	$ 609.97
	Estimating / Design Contingency	5.00%		$ 399,529	$ 30.50
	Sub-Total			$ 8,390,118	$ 640.47
	General Contractor's OH&P	7.50%		$ 629,259	$ 48.04
	TOTAL CONSTRUCTION COST			$ 9,019,377	$ 688.50

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SOUTH COUNTY FIRE
CAPITAL FACILITIES PLAN
EVERETT, WA
PRE-DESIGN ESTIMATE
4-BAY FIRE STATION

GROSS FLOOR AREA: 18,000 SF
DATE: September 29, 2025

RC COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		$ 659,435	$ 36.64
A1010	Standard Foundation	$ 448,590	$ 24.92	
A1020	Special Foundation	$ -	$ -	
A1030	Slab on grade	$ 210,845	$ 11.71	
A20	BASEMENT WALL CONSTRUCTION		$ -	$ -
A2010	Basement Excavation	$ -	$ -	
A2020	Basement Wall Construction	$ -	$ -	
B10	SUPERSTRUCTURE		$ 1,286,977	$ 71.50
B1010	Floor & Roof Construction	$ 1,286,977	$ 71.50	
B20	EXTERIOR ENCLOSURE		$ 1,546,905	$ 85.94
B2010	Exterior Walls	$ 1,093,053	$ 60.73	
B2020	Exterior Windows	$ 104,294	$ 5.79	
B2030	Exterior Doors	$ 349,559	$ 19.42	
B30	ROOFING		$ 491,412	$ 27.30
B3010	Roofing	$ 491,412	$ 27.30	
C10	INTERIOR CONSTRUCTION		$ 733,749	$ 40.76
C1010	Partitions	$ 487,921	$ 27.11	
C1020	Interior Doors	$ 172,917	$ 9.61	
C1030	Fittings and Specialties	$ 72,911	$ 4.05	
C20	STAIRS		$ 56,980	$ 3.17
C2010	Stair Construction	$ 56,980	$ 3.17	
C30	INTERIOR FINISHES		$ 583,350	$ 32.41
C3010	Wall Finishes	$ 221,026	$ 12.28	
C3020	Floor Finishes	$ 193,514	$ 10.75	
C3030	Ceiling Finishes	$ 168,810	$ 9.38	
D10	CONVEYING		$ -	$ -
D1010	Elevators & Lifts	$ -	$ -	
D20	PLUMBING		$ 676,373	$ 37.58
D2010	Plumbing	$ 676,373	$ 37.58	
D30	HVAC	$ -	$ 1,319,407	$ 73.30
D3010	HVAC	$ 1,319,407	$ 73.30	
D40	FIRE PROTECTION		$ 108,727	$ 6.04
D4010	Sprinkler System	$ 108,727	$ 6.04	
D50	ELECTRICAL		$ 1,343,700	$ 74.65
D5000	Electrical	$ 1,343,700	$ 74.65	
E10	EQUIPMENT		$ 132,967	$ 7.39
E1010	Equipment	$ 132,967	$ 7.39	
E20	FIXED FURNISHINGS		$ 173,590	$ 9.64
E2010	Fixed Furnishings	$ 173,590	$ 9.64	
F10	SPECIAL CONSTRUCTION		$ -	$ -
F1010	Special Structure	$ -		
F1020	Special Construction	$ -		
F20	SELECTIVE BUILDING DEMOLITION		$ -	$ -
F2010	Building Elements Demolition	$ -		
Z10	GENERAL RQUIREMENTS		$ 1,063,415	$ 59.08
Z1010	General requirements	$ 1,063,415		
	Sub-Total Direct Cost		$ 10,176,987	$ 565.39
	Estimating / Design Contingency 5.00%		$ 508,849	$ 28.27
	Sub-Total		$ 10,685,837	$ 593.66
	General Contractor's OH&P 7.50%		$ 801,438	$ 44.52
	TOTAL CONSTRUCTION COST		$ 11,487,274	$ 638.18

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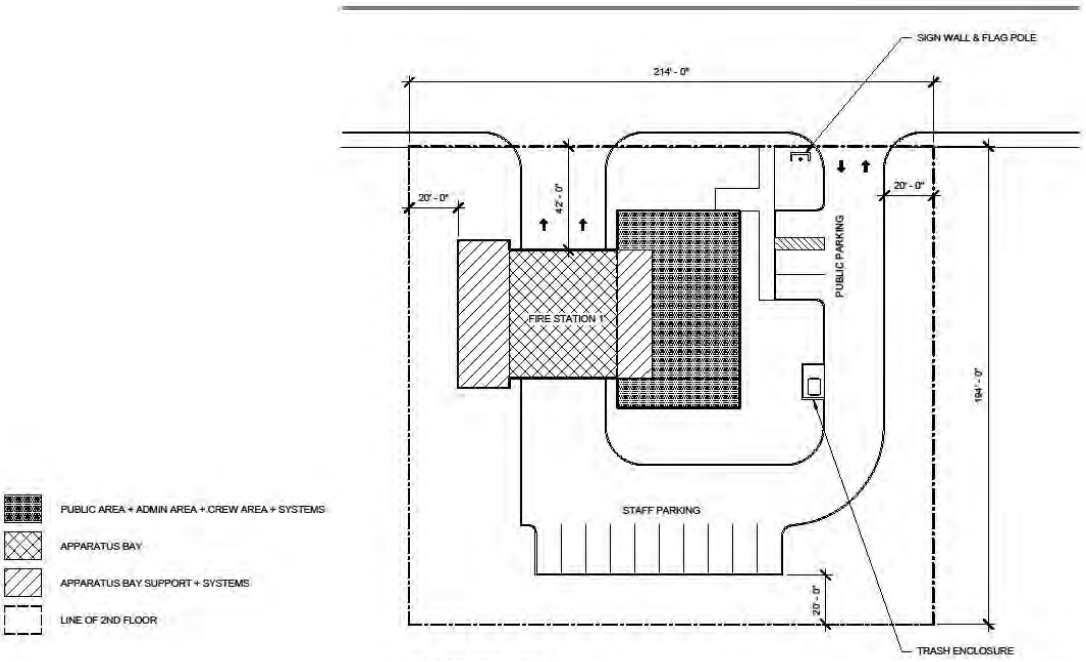
APPENDIX SECTION D

SITE SIZING SCENARIOS- REPLACEMENT AND NEW SERVICE GAP STATIONS

N-1
Two Story Drive-Through



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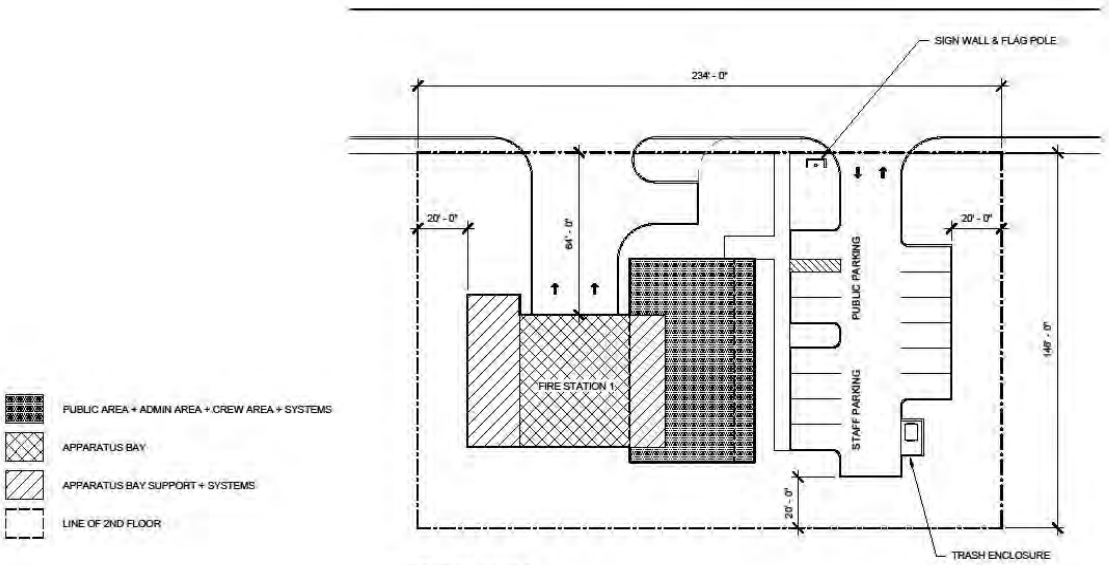
Two Story Non Drive-Through



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N-1
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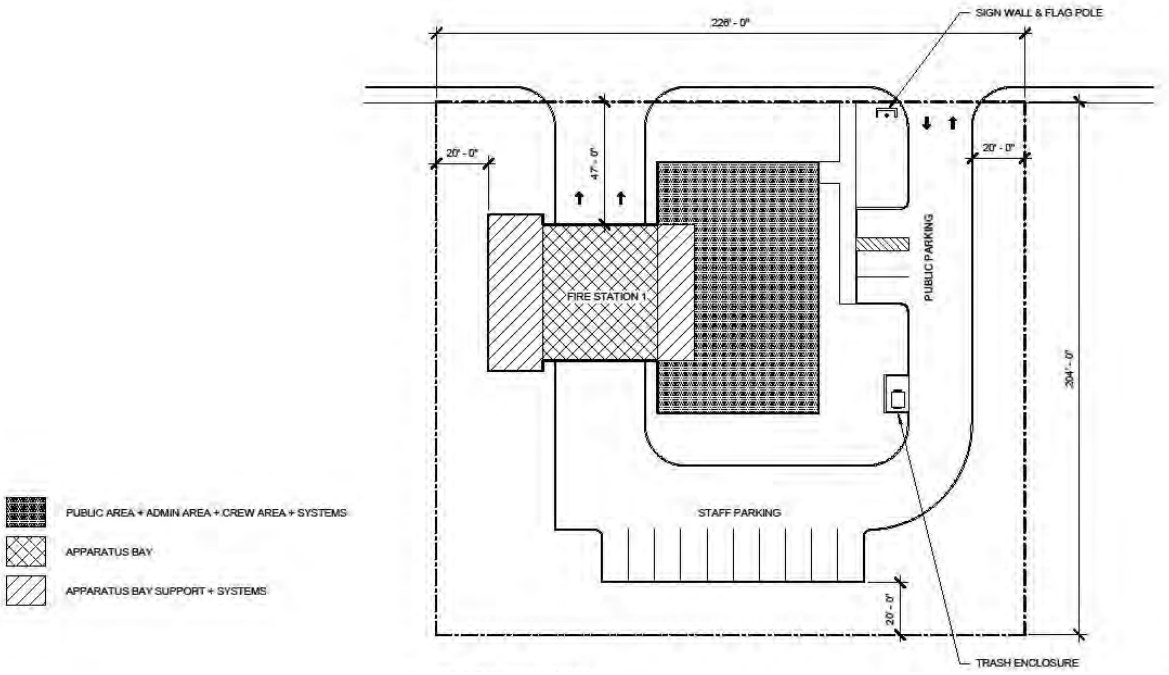

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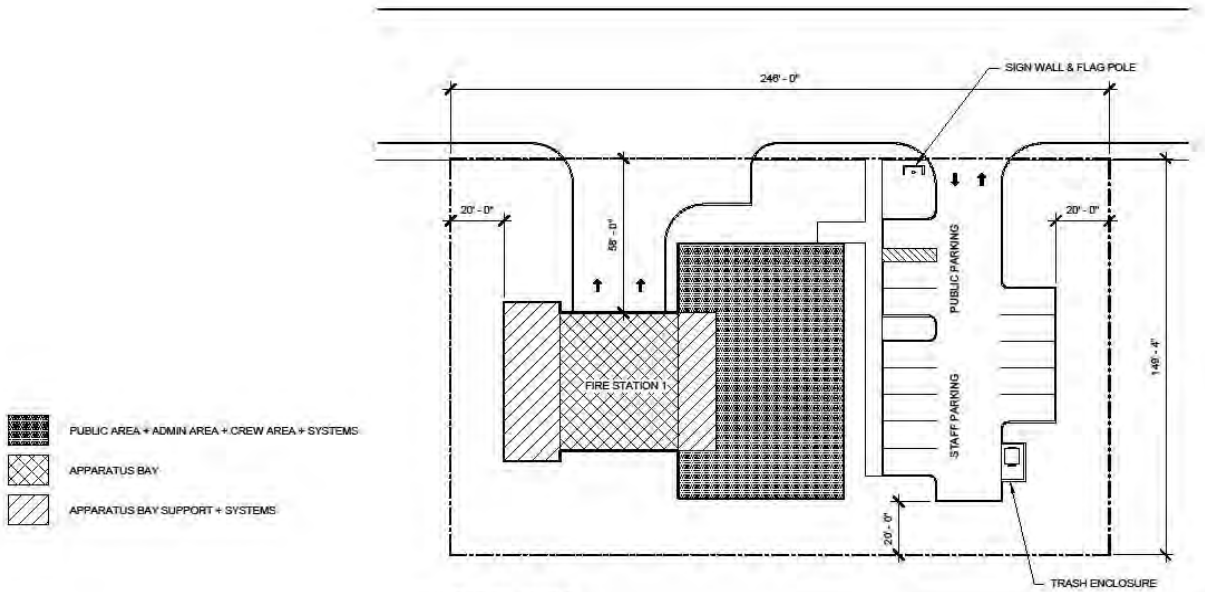
Single Story Non Drive-Through



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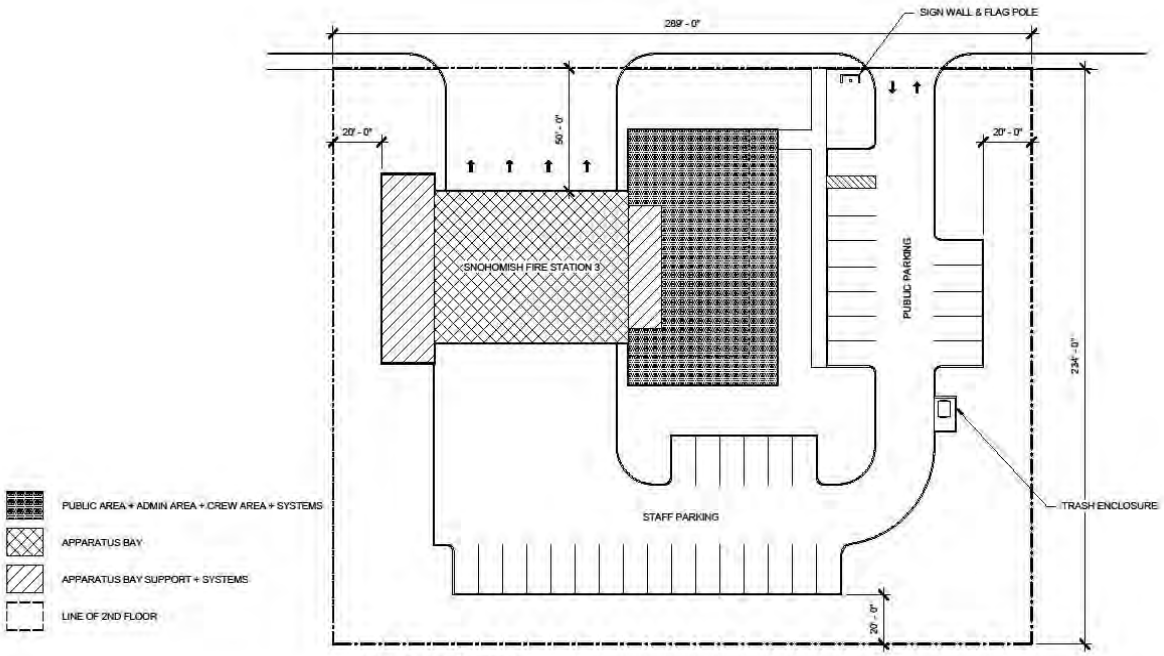
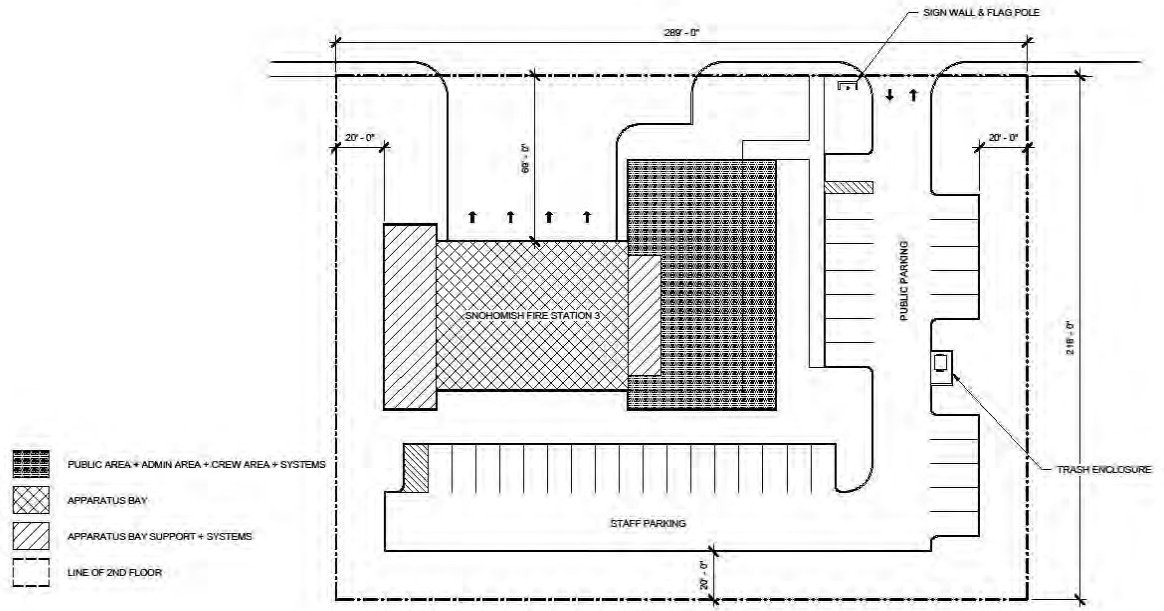
Two Story Drive-Through



N-3
Two Story Non Drive-Through



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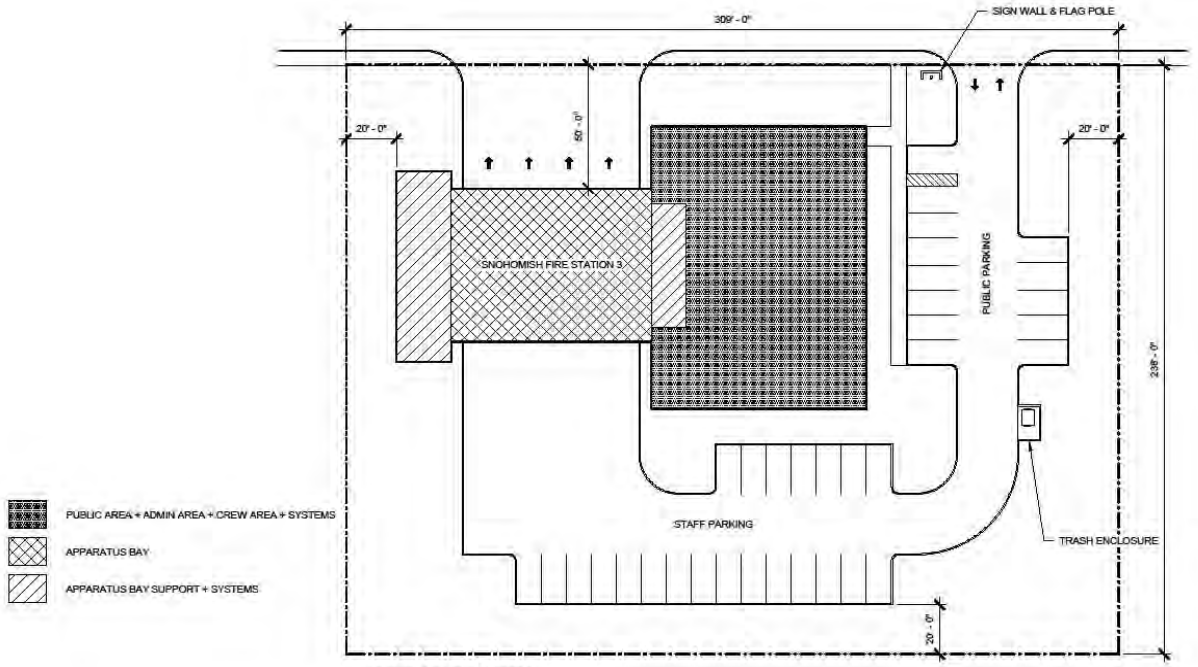
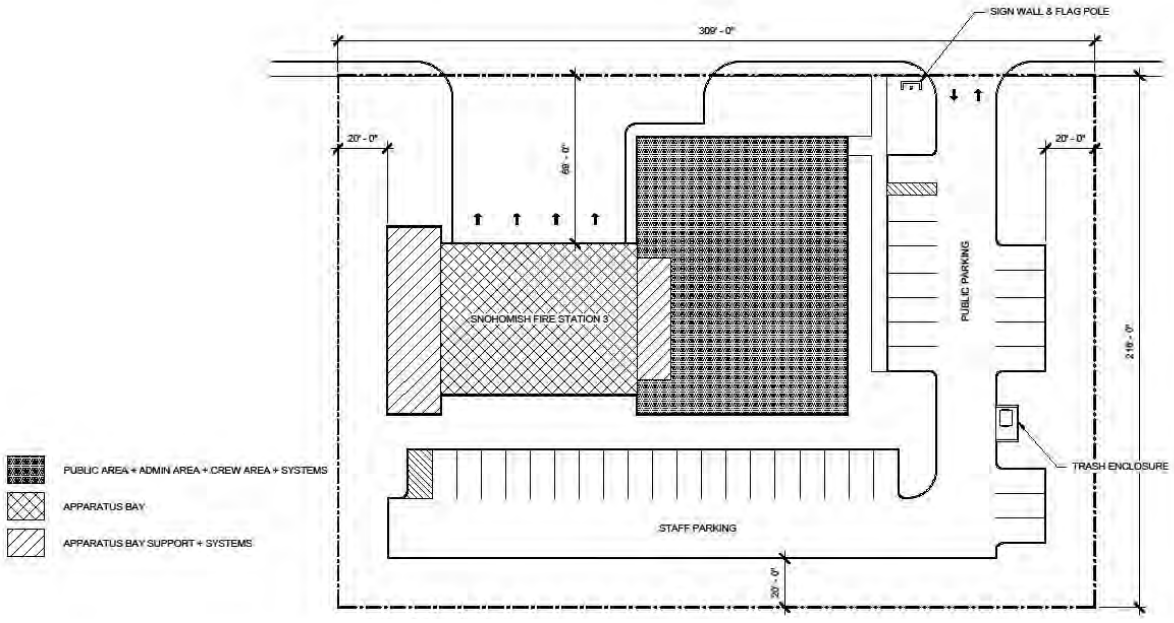
N-3
Single Story Drive-Through



N-3
Single Story Non Drive-Through



Certificate Of Completion

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Signatures: 1
Certificate Pages: 2
Initials: 0
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Redmond, WA 98052
docusignpurchasing@redmond.gov
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Brian Harris brian@tca-inc.com President TCA Architecture + Planning Security Level: Email, Account Authentication (None)	DocuSigned by: Brian Harris 0DAB8580BD9F46B... Signature Adoption: Pre-selected Style Using IP Address: 173.10.77.89	Sent: 4/30/2026 5:20:29 PM Viewed: 4/30/2026 5:22:08 PM Signed: 4/30/2026 5:28:57 PM
Electronic Record and Signature Disclosure: Not Offered via Docusign		
Secure Bids SecureBids@Redmond.gov Security Level: Email, Account Authentication (None)	**Completed** Using IP Address: 204.152.61.20	Sent: 4/30/2026 5:29:23 PM Viewed: 5/1/2026 2:00:50 PM Signed: 5/1/2026 2:00:58 PM
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In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

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Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
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