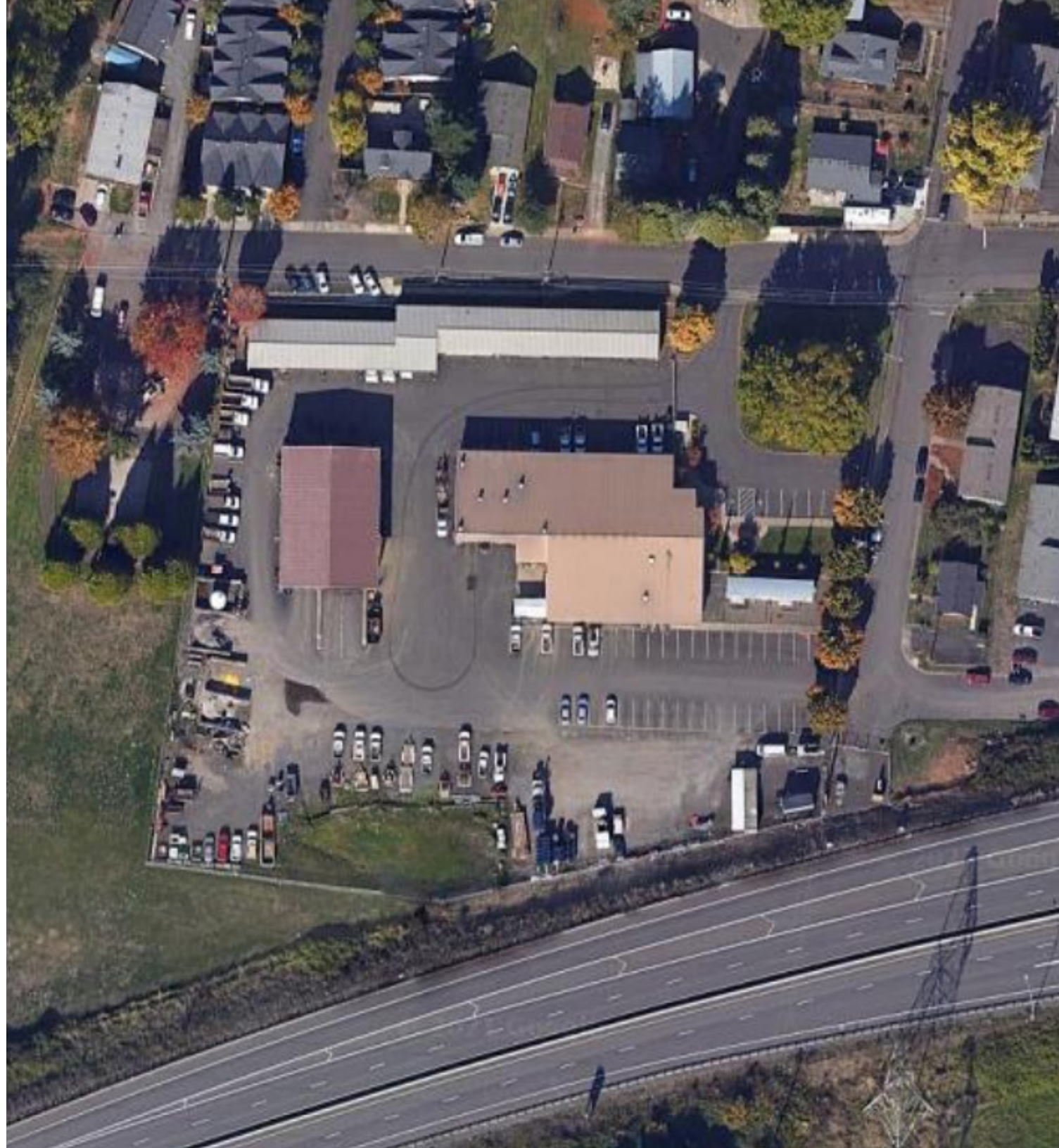


# CITY OF CAMAS PUBLIC WORKS OPERATIONS FACILITY

## Part 1: Public Works Operations Site & Space Needs Analysis

FEBRUARY 3, 2022



## TABLE OF CONTENTS

### Participants

### Executive Report

#### Section 1 – Preliminary Program

- Preliminary Space Program
- Equipment Storage Summary
- Existing Off-Site Storage Summary
- Personnel Analysis
- Vehicle / Parking Analysis
- Preliminary Equipment List
- Programming Agendas
- Programming Workshop Notes
- Programming Workshop Flip Chart Images
- Existing Operations Facility Photos

#### Section 2 – Drawings

- Existing Operations Facility Site Plan
- Existing Operations Facility Main Building Plan
- Conceptual Redevelopment Plan for Existing Operations Site

#### Section 3 – Budgetary Cost Estimates

- Budgetary Summaries for Estimated Total Project Costs
- Detailed Budgetary Estimate for Scenario 1

## PARTICIPANTS

The following people participated in the development of this initial work scope including engagement with the Design Team during the Programming Workshops.

### City of Camas

Steve Wall	Public Works Director
Denis Ryan	Public Works Supervisor
Sam Adams	Utilities Manager
Richard Copsey	Streets
Scott Purkeypyle	Streets
Garry Reed	Solid Waste
Susan Wilde	Operations Administration
Tara Carlin	Operations Administration
TJ Crawford	Stormwater
Steve Klopman	Stormwater
Michael Katzer	Water & Sewer
Brandon Prather	Water & Sewer
Derek Engler	Water & Sewer
Matt Golphene	Water & Sewer
Nick MacQuarrie	Parks Maintenance
Sean Alix	Parks Maintenance
Ryan Hickey	Facilities

### TCF Design Team

Randy Cook	Principal	TCF Architecture
Coreen Van Ausdell	Designer	TCF Architecture
Mike Frei	Principal	Facilities Planning Services
Steve Fisher	Principal	Facilities Planning Services
Danielle Pruit	Engineer	KPFF (Civil)
Andy Cluness	Principal	RC Cost Group

# EXECUTIVE SUMMARY

## INTRODUCTION – PROJECT PURPOSE

In September 2021, City of Camas retained TCF Architecture to assist in a process of determining the City’s current and future needs and solutions for facilities supporting Public Works Operations. The title of this current study is “*Public Works Operations Site and Space Needs Analysis*”. As a first step towards any future decision regarding facilities investments, this study is intended to initiate the fact-finding stage of a broader strategic process, establishing essential data, operational considerations, and preliminary “orders of magnitude” for alternative approaches to investing in long-term facility solutions.

Presently, Public Works operates primarily from an existing Operations Facility, a 3.7-acre site located at 8<sup>th</sup> Avenue and Polk Street on the south edge of the city. Additionally, due to inadequate available site and building area at the existing facility, Public Works also stores materials and equipment at several other locations throughout the city. Recognizing the mounting challenges of serving the needs of a growing city from a finite site—strained to accommodate the needs of its Public Works department—long-term solutions are needed. This initial study approaches the preliminary stage of investigation with the following steps:

- Quantify and assess existing site and facility space allocation and functional operations.
- Determine space needs tied to current and projected Public Works services and personnel & equipment needs.
- Explore potential for existing Operations Facility to accommodate the full projected site and space needs.
- Consider potential options for accommodating the full program of site and space needs with alternative locations, either splitting operations between the existing operations and satellite facilities, or consolidating all operations on a new, single site.
- Assess and compare “Order-of-Magnitude” costs between options, sufficient to initiate discussions and determine next steps.



Existing City of Camas Operation Facility

## From the Perspective of Operations Personnel

At the outset of the programming engagement process, City Operations personnel offered the following thoughts regarding the positive and negative

aspects of existing facilities, the work environment, and the current culture within the organization.

**Table 1 – General Comments from Staff and Crew**

Positive	Negative
<ul style="list-style-type: none"><li>▪ Service is #1. We pride ourselves on going above and beyond to help our community.</li><li>▪ Staff are engaged in greater community events.</li><li>▪ We have a “Friends and Family” atmosphere and a sense of comradery among the crew.</li><li>▪ We have interdependent cooperation among departments</li><li>▪ Staff within individual departments and across different departments are cross trained on equipment, with no assigned operators within departments, everyone runs everything.</li></ul>	<ul style="list-style-type: none"><li>▪ Work operations tend to be reactive vs. pro-active. This is partially due to responding to public orders, and partially due to inherent constraints of equipment and facilities.</li><li>▪ Major effort to keep Downtown Core pristine and collaborate with other city agencies and outside groups to keep City of Camas nice.</li><li>▪ Inadequate Crew Facilities including locker quantities and locations.</li><li>▪ Wash rack is not functional.</li><li>▪ Location is not central to our service areas.</li><li>▪ Significant “windshield” time is currently required for a variety of functions to transport materials due to inadequate space or available locations.</li><li>▪ Parking is inadequate as staff must park on the adjacent streets.</li><li>▪ Dirt, dust, and mud in yard affects equipment, storage, maintenance.</li><li>▪ Admin needs acoustic privacy for zoom and other meetings. Work often interrupted by flow of staff pedestrian traffic.</li><li>▪ Major security issues and theft problems. There is a high rate of theft and improvements are needed for site security. This includes the service yard gates which are manual and stay open, contributing to site security issues. Existing camera set-up is inadequate.</li><li>▪ Inadequate site lighting for safety and security camera visibility</li><li>▪ Multiple locations around the city are needed for storing various materials and equipment due to inadequate space at Operations. This creates inefficiencies.</li></ul>

## EXISTING SPACE AND FUNCTIONAL OPERATIONS

The TCF Design Team reviewed and documented the City's existing Operations facilities and site for space size and functionality and documented existing personnel and city-owned vehicles & equipment. Concurrently, the City is contracting for a separate study to assess the physical conditions of the existing buildings and site. This information is used for comparative purposes as each operational function is reviewed for actual and future projected needs. The Tables provided under the Preliminary Programming Section provide existing data compared with projected and proposed quantities for facility space, personnel, and vehicles.

### Existing Operations Facility

The City's current Operations facility has served the city as far back as the 1980's and constructed in 1994, the main building supports most operations staff and crew members, fleet services and heated storage. Other structures include a three-sided canopy building used for storing a variety of vehicles, equipment, and materials, and a separate canopy covering decanting and vehicle wash functions. In addition, some personnel reside in a separate modular building and a Clark County Work Crew is housed on-site in a modular structure.

The 3.7-acre site is bordered and land-locked by Polk Street to the east, SE 8<sup>th</sup> Avenue to the north, Oak Park to the west, and Highway 14 to the south. While it appears that the west property line extends well into Oak Park (also owned by the City of Camas), indications are that this area will remain as park property in perpetuity. As exhibited in the Preliminary Programming Section to follow, the existing site and buildings are substantially inadequate for safe and efficient operational functions today and cannot support the future projected needs and growth of Public Works. Further, the physical condition of existing facilities continues to deteriorate. Operations personnel have improvised, accommodating staff in temporary modular buildings, storing materials in shipping containers and offsite locations, and building low quality lean-to structures; a lack of solid surfacing and limited canopy covering of vehicles, materials and equipment creates messy and inefficient operations throughout the site. (See Figure 1 for existing site plan).



Figure 1 - Existing Public Works Operations Facility at 8<sup>th</sup> & Polk



## PRELIMINARY PROGRAMMING

TCF and consultant, FPS, conducted a series of workshops over a two-day period, engaging representatives from each of the City’s Public Works departments to understand how each currently functions, assess current and future workforce (personnel) projections, and discuss how specific facility design approaches could optimize work functions.

Section 1 provides a Preliminary Space Program capturing all Operations functions and recommended square footage areas. The areas indicated reflect best practices and development standards implemented by other peer agencies that have constructed Maintenance, Operations, and Administrative (MOA) facilities over the past decade. Determining appropriate space for any given function is a process that considers multiple factors of human and equipment maneuverability, critical and optimum dimensions for access and safety, adjacencies between functions for best workflow efficiency, weather implications for productivity and protection of assets, and code-driven space requirements.

Table 1 summarizes the current square footage occupied by Public Works at the Operations Facility and the 20-year recommended area. Below is a summary of the four primary programmatic space types included in the Preliminary Program, the current conditions, and recommended program approach.

### Administrative and Crew Facilities

While common in older MOA facilities, “people space” is often deficient in terms of both adequacy and quality of space. Well-designed administrative and crew facilities—including restrooms, locker rooms, showers, meeting and collaborative spaces, break spaces, technical workspaces and even public spaces—promote high performance, professionalism, and help to build healthy and sustainable organizational cultures. The existing people spaces in the current Operations Facility are undersized, spread out, and do not provide capacity for the projected workforce growth. The recommended program areas consider a collaborative, professional, practical, and highly [CVA2]productive work environment.

**Table 1 - Current and Recommended Building Program Area**

Space of Function Type	Existing SF	20 Yr Program
Administrative / Crew	4,283 SF	20,712 SF
Heated Shops & Storage	8,830 SF	21,012 SF
Covered Vehicle/Equip Storage	8,160 SF	50,777 SF
Covered Materials/Decant/Wash	5,480 SF	23,320 SF
<b>Totals</b>	<b>26,753 SF</b>	<b>115, 821 SF</b>

### Climate Controlled Shop Facilities

Shop facilities at the existing Operations Facility are undersized or inadequate for the work to be accomplished. In particular, shop facilities for the Fleet Division constrain operations, especially with regard to vehicle work bays which are inadequate in size, height, and quantity for the fleet mix now maintained by the City. Properly designed specialty shop facilities that can be shared by the various work groups are also needed, including metal fabrication, wood working, painting, and sign-making.

### Canopy-Covered Vehicle and Equipment Storage

Canopy-covering over City-owned vehicles and equipment. Covering vehicles in our northwest climate protects assets, increases productivity and safety, and promotes professionalism and cultural morale. Well-designed vehicle and equipment storage canopies offer Public Works crews the ability to safely prepare for and end their workday with increased efficiency and work satisfaction, taking advantage of good lighting in the dark winter months, dry space to load or unload their work trucks, hitch trailers, or leave trailers hitched and out of the weather for immediate access the following day.

### Canopy-Covered Material Storage

As the City has grown over the past two decades, its generated volume of bulk materials has increased substantially. While not all bulk materials and products require canopy covering, certain items must be covered, and others should be as a best practice. Storm and Sewer system decant material (not including effluent), salt, and sand are all shown to be covered.



## Operations Personnel

As part of the programming workshop discussions, representatives from each work group were asked to consider the future delivery of services and what staffing levels may be necessary. Projections shown in Table 2 serve to highlight the potential future personnel growth necessary for Public Works Operations to not only maintain current service levels but continue responding to City growth and changes in regulations. While improved technology and equipment help to increase work productivity, planning ahead for reasonable growth in personnel is highly recommended. Programmatic implications particularly influence sizing of restroom and locker rooms, meeting spaces, and personal vehicle parking.

**Table 2 – Current and 20-year Personnel Projections**

Division	2021	2041
Streets	7.43	11.43
Solid Waste	4.61	6.86
Operations Administration	2.93	11.18
Stormwater	4.43	12.43
Water	8.11	18.86
Sewer	6.11	17.86
Parks	14.43	20.43
Facilities	2.43	6.43
Fleet	4.43	6.43
<b>Total Personnel</b>	<b>55</b>	<b>112</b>

Note: Fractions reflect the shared nature of positions across work groups

## Development Scenarios

As noted in the Introduction, this initial study (Part 1) is intended to consider the expansion and renovation of the existing Operations Facility to accommodate recommended programmatic area and the potential order of magnitude cost delta for a consolidated facility on a new site. With this comparative data available, decisions can be made for taking future steps towards a long-range plan for facilities. (See Next Steps at the conclusion of this Executive Report).

For the purposes of this study, “Options” will be referred to as “Scenarios”, recognizing that the comparative approaches to accommodating a long-term solution require potential grouping of various strategies like different approaches to split operations. For this initial Part 1 work scope, two primary Scenarios are considered: 1) Split Operations (Existing Facility + a Satellite Facility) and 2) A Consolidated Facility on a new site. Actual satellite or consolidated sites have not yet been identified for specific study.

Additional study and evaluation under a future “Part 2” work scope will consider specific candidate properties for a more detailed analysis to determine the feasibility of each scenario.

### Scenario 1 – Split Operations

Under this scenario, the existing Operations Facility would be expanded and renovated to accommodate as much of the recommended program as possible. A satellite site would be acquired and developed for the program area that cannot be accommodated at the existing facility. Figure 2 illustrates a conceptual approach to maximizing the redevelopment potential of the existing site and facilities. Square footage and parking data are included in this figure. This approach assumes that the existing storm pond is covered with surface area and stormwater managed subsurface. The plan also expands the site to the Southwest corner, utilizing the remaining triangular shaped site area.

Paired with the redevelopment of the existing Operations facility would be a 4-5-acre satellite site [CVA3] to accommodate the remaining program area that cannot be accommodated on the existing site. No specific site has been identified at this stage of the analysis. Rough “order of magnitude” costs for potential site development of a commercial property are estimated for initial comparative purposes as indicated in Table 3. Refer to the Preliminary Space Program in Section 1 for a summary of the program area identified for a satellite site.

Figure 2 - Conceptual Redevelopment of Existing Operations Facility Site



BUILDING NAME	AREA	PROGRAM
BUILDING A.1	4,000 SF	ADMIN FACILITIES
BUILDING A.1a	4,000 SF	ADMIN & CREW SUPPORT SPACES
BUILDING A.2	4,000 SF	CREW FACILITIES
BUILDING A.3	10,000 SF	FLEET SHOP
BUILDING A.4	1,920 SF	CHASSIS WASH & EQUIPMENT ROOM
BUILDING A.5	3,000 SF	SLATED SHOP SPACE & CENTRAL WAREHOUSE
BUILDING B.1	4,320 SF	COVERED VEHICLE PARKING & STORAGE
BUILDING B.1a	960 SF	COVERED VEHICLE PARKING & STORAGE
BUILDING B.2	2,880 SF	COVERED VEHICLE PARKING & STORAGE
BUILDING C	10,975 SF	COVERED VEHICLE PARKING & STORAGE
BUILDING D	5,740 SF	COVERED VEHICLE PARKING & STORAGE
BUILDING E	3,840 SF	DEDICATED DEPARTMENT STORAGE & SHOPS
<b>TOTAL BUILDING PROGRAM AREA:</b>	<b>41,655 SF</b>	

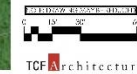
**PROVIDED UNCOVERED PARKING**

VISITOR	7
CREW & STAFF	62
CITY VEHICLE	9

**LEGEND**

1. BUILDING A.1 - EXISTING FIRST FLOOR FOR CREW & ADMIN TO BE REMODELED (4,000 SF)
2. BUILDING A.2 - EXISTING FIRST FLOOR TO BE REMODELED FOR CREW FACILITIES (4,000 SF)
3. BUILDING A.1a - NEW 2ND FLOOR ATOP A.1 & A.2 (8,000 SF)
4. BUILDING A.3 - NEW FLEET SHOP (10,000 SF)
5. BUILDING A.4 - NEW WASH CANOPY AND WASH EQUIPMENT ROOM (1,920 SF)
6. BUILDING A.5 - EXISTING FLEET SHOP TO BE REMODELED FOR WAREHOUSE SPACE (3,000 SF)
7. BUILDING B.1 - EXISTING CANOPY (4,320 SF)
8. BUILDING B.1a - EXISTING CANOPY (960 SF)
9. BUILDING B.2 - EXISTING CANOPY (2,880 SF)
10. BUILDING C - NEW CANOPY (10,975 SF)
11. BUILDING D - NEW CANOPY (5,740 SF)
12. BUILDING E - NEW HEATED SHOP SPACE (3,840 SF)
13. EXISTING STRUCTURE TO BE DEMOLISHED
14. EXISTING STORM POND TO BE COVERED & SURFACED & REPLACED W/ STORM VAULT STRUCTURES
15. ADDITIONAL SITE AREA TO INCLUDE IN OPS YARD DEVELOPMENT
16. DE-ICING STATION
17. (62) STAFF & CREW PARKING
18. (7) VISITOR PARKING
19. (9) CITY VEHICLES PARKING
20. AUTOMATIC SLIDER GATE
21. PEDESTRIAN GATE

**CITY OF CAMAS - EXISTING OPERATIONS FACILITY**  
**CONCEPTUAL REDEVELOPMENT**  
 TCF ARCHITECTURE  
 DECEMBER 23, 2021



## Scenario 2 – Consolidated Facility

Under this scenario, the City would acquire a site sufficient in size to accommodate the full recommended program, with room for future growth, and in a location that seeks to optimize the operational deployment of city maintenance services.

Based on the full recommended program for building and site operations, plus assumptions for site circulation, stormwater management, landscaping, setbacks, etc., a site of at least 10 acres is anticipated for development. Allowing for potential future expansion and areas of a particular site that may undevelopable, 12-15 acres should be considered.

Costs included in the budgetary estimate assume separate structures that group program types—including an administrative/crew building, heated shops building, and canopy structures—within particular building types.

If the City elects to proceed with additional study for this scenario, a site selection process will be conducted to identify potential site candidates, analyze the sites within established criteria, and determine a preferred site alternative for further evaluation and cost estimating.

## Scenario Cost Comparison

Section 3 provides budgetary cost estimates for each scenario based on the Preliminary Program, conceptual redevelopment plan for the existing Operations Facility, and assumed acreage and development for new sites. The estimates are generated using current dollars (December 2021) and escalated two years to provide a baseline budgetary cost. This period represents the minimum time necessary for project implementation if decisions were to be made in early 2022 to pursue a particular development scenario.

Many assumptions are necessary at this early stage of strategic planning and analysis. Variables in scope and cost can be further reduced and clarified in subsequent stages of the alternatives analysis process. Table 3 provides a summary of the major budgetary categories and ROM grand totals for the two primary scenarios.

**Table 3 – Comparison of Estimated Scenario Costs**

Description	Scenario 1 Split Operations	Scenario 2 Consolidated Operations
Site Acquisition	\$3,000,000	\$9,000,000
Site Development/Off-Site	\$10,571,089	\$11,400,000
Buildings and Equipment	\$25,603,774	\$25,962,650
GC/CM Delivery	\$835,141	\$0
<b>Subtotal Site and Bldgs</b>	<b>\$40,010,004</b>	<b>\$46,362,650</b>
Soft Costs and FF&E	\$11,395,122	\$11,884,619
<b>Subtotals Project Cost</b>	<b>\$51,405,126</b>	<b>\$58,247,269</b>
Management Reserve (5%)	\$2,570,256	\$2,802,363
(1) Potential Land Sale	\$0	(\$2,200,000)
<b>Grand Totals</b>	<b>\$53,975,382</b>	<b>\$58,849,632</b>

See Section 3 for cost estimates

## NEXT STEPS

As indicated in the Introduction, the scope and cost information developed and presented in this initial study are intended to provide the City with essential planning-level information for understanding present realities faced by Public Works Operations, and the comparison of possible alternatives for facilities solutions. As internal discussions are held to consider the information presented herein, many additional questions are expected to arise. These questions will form the basis for follow-up work that will provide greater clarity and direction.

Additionally, although the Programming Workshops provided valuable input from Operations personnel, further definition of City goals, objectives, and vision for Public Works Operations is needed. Any subsequent planning work should include a focused process to articulate a vision statement supported by specific goals and metrics that will form the basis for all future decision making and solution implementation.

## SECTION 1 – PRELIMINARY PROGRAM

- Preliminary Space Program
- Equipment Storage Summary
- Existing Off-Site Storage Summary
- Personnel Analysis
- Vehicle / Parking Analysis
- Preliminary Equipment List
- Programming Agendas
- Programming Workshop Notes
- Programming Workshop Flip Chart Images
- Existing Operations Facility Photos

## INTRODUCTION – PROGRAM DEVELOPMENT

Creation and development of the preliminary project program came together over several months of communication and exchanging of information between the City of Camas staff and TCF Design team throughout the Fall of 2021. To better facilitate productive discussion at future development workshops, a series of questionnaires were distributed to City of Camas management personnel. Filled out collectively by a representative sample of Operations and Management staff from each of the nine departments (Operations Admin, Streets, Solid Waste, Stormwater, Water, Sewer, Parks, Facilities, and Fleet), these provided a starting point to initiate more in-depth discussions.

TCF and consultant, FPS, then conducted a series of workshops over a two-day period on October 26<sup>th</sup> & 27<sup>th</sup>, extensively documenting existing material and equipment storage spread over several sites throughout the city and interviewing small groups from each department about day-to-day workflows, inefficiencies, and projections for future growth over a 20-year period. Utilizing knowledge of past projects of similar size and scope, TCF proposed some general organizational and diagrammatic solutions to address voiced program needs. These are documented along with meeting minutes from the Workshops in the latter pages of Section 1 of this report.

Utilizing the data collected in the workshops, TCF and FPS moved to translate this information into quantifiable square footages within a series of programming spreadsheets in the following pages. These breakdown size and scope of various types of spaces (Administrative, Maintenance, Fleet, Storage, and Parking), type of building needed (Heated, Canopy-Covered, Uncovered), and storage requirements for all materials and vehicles to be stored within them.

**SUMMARY OF PROGRAMMING**

This space program was developed during a two-day (Oct 26-27/2021) series of workshops at the City of Camas Operations Center. The purpose of the programming workshops is to review all functions supporting City maintenance operations and develop a program of current and projected space needs tied to projections for anticipated City growth over a 20 year planning horizon. This program is intended for use in establishing a recommended minimum facility size and for evaluating the potential of the existing Operations Center and property to accommodate the recommended program.

**WORKSHOP PARTICIPANTS**

The following City staff participated in the workshop with TCF:

Denis Ryan / Public Works Supervisor  
Sam Adams / Utilities Manager  
Richard Copey / Streets  
Scott Purkeypyle / Streets  
Garry Reed / Solid Waste  
Susan Wilde / Operations Administration  
Tara Carlin / Operations Administration  
TJ Crawford / Stormwater

Steve Klopman / Stormwater  
Michael Katzer / Water & Sewer  
Brandon Prather / Water & Sewer  
Derek Engler / Water & Sewer  
Matt Golphenee / Water & Sewer  
Nick MacQuarrie / Parks Maintenance  
Sean Alix / Parks Maintenance  
Ryan Hickey / Facilities

**TCF DESIGN TEAM**

Randy Cook, Principal, TCF Architecture  
Coreen Van Asdell, TCF Architecture  
Mike Frei, Principal, Facilities Planning Services (FPS)  
Steve Fisher, Facilities Planning Services

**PROGRAM AREA SUMMARY**

SF

The summary below provides the total building and site program areas (square footage) derived from the breakdown of all programmed spaces included in this document. The summary also indicated minimum recommended area for an Operations Facility Site if a new site is pursued.

**Proposed Building Program Area**

**Enclosed and Heated Program Area**

Admin / Crew Facilities	20,712
General Shops and Storage	10,631
Fleet Shops	10,381
<b>Total Enclosed / Heated Area</b>	<b>41,724</b>

**Proposed Covered/Unheated Program Area**

Wash Bay / Vehicles / Miscellaneous	7,924
Covered Bulk Materials Storage	66,173
<b>Total Covered / Unheated Area</b>	<b>74,097</b>

<b>Total Building Program Area</b>	<b>115,821</b>
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**Proposed Site Program Area**

Uncovered Parking	48,864
Uncovered Bulk Materials Storage	18,000
<b>Total Proposed Site Program Area</b>	<b>66,864</b>

<b>Total Proposed Building Structure and Site Program</b>	<b>182,685</b>
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**Proposed Misc. Site Area**

General Yard Circulation	100%	182,685
Stormwater and Landscape Area / Setbacks	50%	91,343
<b>Total Proposed Misc. Minimum Recommended Site Area</b>		<b>274,028</b>

<b>TOTAL PROPOSED MINIMUM RECOMMENDED SITE AREA</b>	<b>456,713</b>
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**Existing Building Program Area**

**Enclosed and Heated Program Area**

Admin / Crew Facilities	4,283
General Shops and Storage	5,730
Fleet Shops	3,100
<b>Total Enclosed / Heated Area</b>	<b>13,113</b>

**Existing Covered/Unheated Program Area**

Covered Storage (Bldg B1, B1a, B2)	8,160
Decant Station/Wash Bay	5,480
<b>Total Covered / Unheated Area</b>	<b>13,640</b>

<b>Total Existing Ops Facility Bldg Area</b>	<b>26,753</b>
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**Existing Site Program Area**

Uncovered Parking	27,904
Uncovered Bulk Materials Storage	4,170
<b>Total Existing Site Program Area</b>	<b>32,074</b>

<b>Total Existing Building Structure and Site Program</b>	<b>58,827</b>
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**Existing Misc. Site Area**

General Yard Circulation	56,775
Police Work Group	3,225
Stormwater and Landscape Area / Setbacks	43,643
<b>Total Other Existing Site Area</b>	<b>103,643</b>

<b>TOTAL EXISTING SITE AREA</b>	<b>162,470</b>
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<b>Existing Operations Facility Acreage (162,470 sf)</b>	<b>3.72</b>
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<b>Existing Offsite Storage Area*</b>	<b>480</b>
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\*Square footage of items currently stored at other City properties.

<b>Proposed Minimum Required Acreage</b>	<b>10.48</b>
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\*Includes Ops staff trailer, excludes Police Work Group trailer & storage

L = 10 (4,800), M = 57 (20,520), S = 11 (2,200), XS = 6 (384)

**PROGRAM SPLIT**

Summary of Areas for

**Portions of Program to locate at Satellite Site**

Covered/Unheated		51,596	
Uncovered Program Area		4,375	
Subtotal Program Area		55,971	
General Yard Circulation	100%	55,971	
Landscape/StormSetbacks/Etc	50%	27,986	
<b>Total Proposed Minimum Satellite Area</b>		<b>139,928</b>	<b>Proposed Minimum Required Acreage 3.21</b>

**SUMMARY OF OPERATIONS STAFFING AND FUTURE GROWTH**

The workshop participants discussed the current staffing levels and developed the following assessment and projections for the 20 year planning horizon. The program is based on a facility supporting 56 staff and crew with projected growth to 88 within 20 years. See below for a full breakdown.

Department	2021 Count	2041 Count
Streets	7.43	11.43
Solid Waste	4.61	6.86
Operations Admin.	2.93	11.18
Stormwater	4.43	12.43
Water	8.11	18.86
Sewer	6.11	17.86
Parks	14.43	20.43
Facilities	2.43	6.43
Fleet	4.43	6.43
<b>Total Personnel</b>	<b>55</b>	<b>112</b>

**SUMMARY OF VEHICLES AND ROLLING STOCK EQUIPMENT**

Vehicles and Rolling stock are categorized by several different sizes totaling **115** pieces currently with projected growth in 20 years to **153**. All items are expected to be canopy covered at a minimum, vehicles and equipment with weather sensitivity will be enclosed and heated. In addition to the programmed parking for city-owned maintenance vehicles, plan for **112** employee parking stalls plus **4** visitor stalls. See detailed vehicle parking analysis document for a full break down of vehicles and equipment.

**CITY OF CAMAS**  
Public Works Operations Needs Assessment Study

**Program Location**

A = Program Area can be accommodated at a reconfigured Existing Operations Facility. (See conceptual layout plan)

B = Program Area will be located at a Satellite Site

\* Indicates that, unless a single, consolidated site is selected for all Operations, this program area should be located towards the north portion of the City.

Dept	Location	Floor	Space Description	No.	Proposed Space Standard	20 Year Program			General Space Purpose and Design Criteria	Adjacencies	Clear Height	Other Criteria / Equip. / Furnishing Needs
						Area (SF)	Qty.	Total Area				

**ENCLOSED / HEATED FACILITIES**

**ADMINISTRATION / CREW / SHARED**

Shared	A	1	Lobby / Waiting Room	A1	10 x 12	120	1	120	Assume the building will require occasional access by public visitors & services	Visitor and crew parking, Reception	9+	(2-3) guest chairs and side table. Secure access to facility
Shared	A	1	Entry Vestibule	A2	8 x 10	80	1	80	Entrance vestibule for weather protection and additional security stage. Code-required	Lobby / Reception	9+	Walk-off mat material
Shared	A	1	Reception / Admin Asst.	A3	16 x 16	256	2	512	Open workstation with counter for public and vendor interaction	Lobby, PPE Storage	9+	Built-in reception counter / workstation for (4) employees, including (2) senior admins. Provide line of sight from reception desk to lobby and to entry area, parking, and crew yard if possible
Shared	A	1	PPE Storage/Office Work Room	A4	16 x 12	192	1	192	Storage for PPE Consumables & General Office Supplies. Area for printer/copier & Layout space.	Reception, Crew Areas	9'	Room or Alcove with cabinets & shelves, copier/printer, shelves for paper storage, 6-8 foot linear counter, recycle bins. Includes safety storage & Library. Accessible to Crew & Admin
Shared	A	1	Crew Entry Vestibule	A5	10 x 10	100	1	100	Secondary Access to building from Yard	Main circulation	9+	Controlled access/checkpoint. At current site w/ increased security (gates closed) foot traffic would increase through front desk area.
Shared	A	1	Public Restroom	A6	8 x 8	64	1	64	Unisex restroom serving public	Lobby, Reception	9'	Toilet, sink, floor drain, lockable with occupancy sensor
Shared	A	2	EOC/Resource Room/Conference Room	A7	24 x 34	816	1	816	Space for meetings up to (25) people & large map layout space + Map storage	Admin & Lead Office space	9'	Table with up to (15) chairs, white board, TV wall for emergency ops use and/or projectors, & full height cabinet storage & Layout table/alcove for map storage. Built-in shelving to store maps rolled, flat, and/or hanging. Confirm quantity of drawings and maps.
Shared	A	2	Crew Room	A8	25 x 70	1,750	1	1,750	Secure room for crew to work on laptops or do paperwork. Sized for (69) people	Supervisor offices; adjacent to Resource Room/EOC	12'	(69) 4' wide sit down workstations with 5' high partitions, with stool seating & drawer storage, work table with (4) chairs, white board and TV, copier/printer, bookshelf & tall cabinet storage, resource library, plotter,(1) computer station. <i>Assumed 69 crew staff between Ops and Utilities by 2041, multiplied by 25sf/person. Could maybe split into (2) rooms?</i>
Shared	A	2	Director Office	A9	12 x 16	192	1	192	Private office for director	Lobby, Crew Areas	9'	Prefer views to yard. Workstation with small conference table & up to (3) chairs, bookshelves, white board. <i>Should this office be bigger than Supervisor Offices even though Director isn't present all the time?</i>
Shared	A	2	Supervisor Office	A10	12 x 16	192	2	384	Private office for O&M Supervisor & (Future)Utilities Supervisor	Lobby, Crew Areas	9'	Prefer views to yard. Workstation with (2) additional chairs at desk, bookshelves, white board



**CITY OF CAMAS**  
Public Works Operations Needs Assessment Study

**PRELIMINARY SPACE PROGRAM**

Dept	Location	Floor	Space Description	No.	Proposed Space Standard	20 Year Program			General Space Purpose and Design Criteria	Adjacencies	Clear Height	Other Criteria / Equip. / Furnishing Needs
						Area (SF)	Qty.	Total Area				
Shared	A	2	Manager Office	A11	10 x 12	120	2	240	Private office for Utilities Manager + (1) flex office	Lobby, Crew areas	9'	Prefer views to yard. Workstation with (2) additional chairs at desk, bookshelves, white board
Shared	A	2	Lead/Senior Open Office	A12	40 x 40	1,600	1	1,600	Open workstation space for (14) Lead & Senior Positions	Lobby, Crew Areas		small workstation space (5' linear?) for (23) Lead & Senior positions + 8x8 desk module. <b>Possibly oversized?</b>
Shared	A	2	Stormwater Engineering	A13	14 x 14	196	1	196	Shared private office for Stormwater engineer & (2) stormwater tech support	Lobby, Crew areas	9'	(3) workstations, bookshelves, white board
Shared	A	2	Tech Support/GIS Office	A14	10 x 12	120	3	360	Private office for (Future) Tech Support/GIS position	Lobby, Crew Areas		Workstation, bookshelves
Shared	A	1&2	Small Conference Room	A15	10 x 12	120	2	240	Small conference room for vendor's/private phone calls	Offices	9'	Small conference table with up to (4) chairs, white board
Shared	A	2	Large Conference Room	A16	20 x 34	680	1	680	Large Conference Room for (20) people	Offices, Resource Room/EOC	9'	Large conference table with up to (20) chairs, white board. Side credenza/casework, TV/Projector
Shared	A	2	Personal Conf/Mother's Room	A17	10 x 10	100	1	100	Private room w/ Occupancy Sensor	Offices, Crew areas	9'	Microwave, sink, & undercounter fridge, personal storage space. (1) Lounge chair + adjacent side table & outlets.
Shared	A	1	Large Multipurpose Room	A18	36 x 72	2592	1	2,592	Meeting area for all departments. Water/Sewer crews use for morning tailgate. Sized for roughly (40) people, each bay.	Supervisor offices; adjacent to Ops Crew Resource Room	12'	Operable dividing wall subdivides space into (3) separate rooms. Total room occupancy for (120) people when combined. TV and/or projector, white boards & AV equipment in each of (3). Counter with sink. This space is oversized to account for the larger meeting space needs
Shared	A	1	Table & Chair Storage	A19	8 x 10	80	1	80	Storage room for tables & chairs in Crew meeting rooms	Large Multipurpose Room	9'	Double door
Shared	A	2	Unisex Restroom	A20	8 x 8	64	2	128	Unisex restroom	Office Areas	9'	Toilet, sink, floor drain, lockable with occupancy sensor
Shared	A	1	Break Room/Kitchen	A21	28 x 30	840	1	840	Shared by all staff and crew for (65-75) people. Kitchen area shared by all staff and crew.	Crew Areas, Exterior patio	12'	(2) full size refrigerators, (1) full size freezer, (6) microwaves, possible dishwasher, possible range, lower and upper cabinets, sink. Island or Serving Counter. Includes pantry with extra cabinets for emergency storage. Up to (2) vending machines, standalone ice machine.
Shared	A	2	Wellness Room	A22	16 x 20	320	1	320	Workout room for up to (5) people	Centrally located near locker rooms areas. Could be 2nd level	10'	Tread mill, excersize bike, stair stepper, free weights
Shared	A	1	Laundry Alcove	A23	10 x 16	160	1	160	Utility alcove for industrial washer & dryer (possibly use residential W/D)	Locker rooms	8'	<b>Separate "pre-wash" units to be provided for Sewer.</b> (2) Commercial-grade washers, (2) Commerical-grade dryers, counter space, hanging rods, wash sink.
Shared	A	1	Men's Mud Room/Wet Locker Room	A24	35 x 50	1,750	1	1,750	Space for storage and drying of wet gear / bulky gear.	Adjacent to men's locker rooms, exterior access, boot wash	10'	<b>Potential for locker room space to be gender neutral w/ separate changing/Shower/Toilet Areas.</b> Provide space for up to (100) lockers, 18"x18", full height cage style lockers. Boot dryers integrated into base of lockers, bench, floor drains.
Shared	A	1	Men's Locker / Toilet Room	A25	25 x 40	1,000	1	1,000	Private men's locker and toilet room. Toilets, sinks per plumbing code. Provide (2-3) private shower stalls.	Men's Mud room, wellness room	10'	Provide space for up to (100), 12"x12" wide full height lockers with concrete base. Bench, floor drains. (Allow expansion space for up to 15 more lockers).

**CITY OF CAMAS**  
Public Works Operations Needs Assessment Study

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						Area (SF)	Qty.	Total Area				
Shared	A	1	Women's Mud Room/Wet Locker Room	A26	12 x 24	288	1	288	Space for storage and drying of wet gear / bulky gear.	Adjacent to women's locker rooms, exterior access, boot wash	10'	Potential for locker room space to be gender neutral w/ separate changing/Shower/Toilet Areas. Provide space for up to (12), 18"x18", full height cage style lockers. Boot dryers integrated into base of lockers, bench, floor drains.
Shared	A	1	Women's Locker / Toilet Room	A27	20 x 30	600	1	600	Private women's locker and toilet room. Toilets, sinks per plumbing code. Provide (1) private shower stall.	Women's Mud room, wellness room	10'	Provide space for up to (12), 12"x12" wide full height lockers with concrete base. Bench, floor drains. Allow expansion space for up to 6 additional lockers
Shared	A	1	Unisex Shower Room	A28	6 x 8	48	1	48	Unisex private shower stall, ADA accessible	Unisex restroom	8'	Tile, shower accessories, floor drain
Shared	A	1	Custodial Room	A29	5 x 8	40	2	80	Mop sink/rack	Central to building	8'	Floor Drain
Shared	A	2	IT Room	A30	10 x 14	140	1	140	IT equipment	Centrally located, Admin	8'	Plywood walls.
Shared	A	2	Electrical Room	A31	10 x 10	100	1	100	Electrical equipment	Central to building	8'	Plywood walls.
Shared	A	2	Mechanical Room	A32	10 x 18	180	1	180	Mechanical equipment	Central to building	10'	
SUBTOTAL AREA						15,932						
Circulation / Walls / Misc						30%			4,780			
<b>TOTAL ADMIN / CREW</b>						<b>20,712</b>						
Approximate Split between Floors						1st Floor			9,984			
						2nd Floor			10,728			

**ENCLOSED AND HEATED SHOPS / STORAGE / VEHICLES & EQUIPMENT**

Shared	A	1	Wood Shop	M1	20 x 20	400	1	400	Multi-use Facilities workspace between all departments except Fleet.	Facilities Storage	16'	Mono-point or swinging jib arm at (1) overhead door to transfer material into show spaces (heaviest are hydrants, anvils, manhole covers). <b>Wood/Carpentry:</b> Table saw, chop saw portable hand tools, work bench, moveable table, air, vise, central vac dust.
Shared	A	1	Metal Shop + Staging Space	M2	20 x 30	600	1	600	includes staging area between metal and wood shops	Central		Metal Fabrication: ventilation for equipment, welder for catchbasins & field grate repair, dam components, and handrails (storm, max. 500lbs), central vac dust, drill press, band saw (horizontal & vertical), buffer grinder, pipe threader (for Water), plasma cutter(storm), Welder (both wire-feed & gas), work bench, moveable table. Paint: Paint Booth for items up to picnic table size (8' deep x 12' wide). Ability to prime/paint. Spray down gun/area adjacent to paint booth w/ waste disposal container for cleaning paint off equipment.
Shared	A	1	Future Stock Warehouse	M3	20 x 60	1,200	1	1,200	Inventory for all departments under audit control.	Central to site Operations.	23'	Pallet racking (4) high. Climate controlled
Shared	A	1	Unisex Restroom	M4	8 x 8	64	1	64	Unisex restroom in shop area if distance to crew areas is determined to be too far.	Shops	9'	Toilet, sink, urinal, floor drain, lockable with occupancy sensor. Should be directly accessible from the exterior.
Streets	A	1	Sign Shop	M5	20 x 20	400	1	400	Shop for sign fabrication/repair	Facilities Shop	16'	Computer workstation, air & electricity connections overhead, plotter, 8'x8' overhead door from exterior. Sign posts, blanks, inventoried signs, rolling table. Still undecided if a full sign shop is desired by the City. Priority is to reface/reuse faded signs that would otherwise be thrown out.

**CITY OF CAMAS**  
Public Works Operations Needs Assessment Study

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						Area (SF)	Qty.	Total Area				
Shared	A	1	Hazmat Storage	M6	20 x 30	600	1	600	Shared Hazmat storage facility, no paint booth	Shops	12'	<b>Herbicide/Pesticides:</b> (3 pallets - Parks, 1 pallet - Streets). <b>Paint storage:</b> (50) 5-gal. buckets (Parks), (200) 5-gal. buckets (Streets). <b>Chlorine:</b> current capacity for Water use but will need to expand to cover future City Spray Park. <b>Fertilizer:</b> (3 pallets - Parks. <b>Graffiti Remover:</b> (12) 1/2-gal. jugs. <b>Fluoride:</b> unknown quantity - Water/Sewer use. <b>Central Hazmat Disposal:</b> sharps, batteries, chemicals, fluorescent lights, appliances, waste oil. <b>Homeless Encampment Impound:</b> store material for 60 days in secured bins prior to disposal.
Parks	A	1	Parks Storage/Shop	M7	20 x 40	800	1	800	General storage area	Facility Storage	16'	Includes Playgroud Equipment Storage/triage, general bulk storage of restroom supplies (TP, soap, cleaners, doggie bags, paper towels, misc. recreation (life jackets, nets), holiday décor. Pallet rack storage. <b>Bulk storage may need to be interior, rest outside, covered? Urinal/Toilet repair should move more into Facilities' wheelhouse in future. Could share racked storage bay w/ Parks for this?</b>
Facilities	A	1	Facilities Storage/Shop	M8	20 x 20	400	1	400	General storage Area	Parks Storage		Shared Bay w/ Parks (in addition to Park's dedicated bay). Restroom repair (urinals, toilets, etc.), future bulk storage of janitorial supplies ( <b>reabsorb scope in future - current service is private contract \$150k/yr</b> ).
Water	A	1	Water Meter Testing	M9	20 x 20	400	1	400	Miscellaneous shop working space and storage	Other shop spaces, STEP Pump Repair ( <b>potential shared space</b> )	16'	Dedicated work bench & rolling rack storage for meters.
Water	A	1	Water Storage	M10	20 x 40	800	1	800	Miscellaneous shop working space and vehicle storage	Other shop spaces	16'	14'x14' overhead door. Vehicle in space. Meter pallet storage (meter maintenance program turnover every 5-7 years). General storage for meter boxes, hydrants, lids, chemical feed pumps, pump motors oil, oil pump motors, valves/clay valves. ( <b>Would prefer Central Storage Warehouse method for new stock w/ remaining in dedicated Water Storage Bay</b> ).
Sewer	A	1	Sewer Storage	M11	20 x 40	800	1	800	Miscellaneous shop working space and vehicle storage. STEP Pump Repair Work space for pump repair & storage	Water Meter Testing	16'	Wall storage for 5k pumps (existing & new) 3' tall ea., and storage for associated tools & replacement parts. Area for washing, scissor table, workbench.
Storm	A	1	Stormwater Storage	M12	20 x 20	400	1	400	Miscellaneous shop working space and vehicle storage	Other shop spaces	16'	Pallet rack storage. Rack storage for Catchbasin tops & stock barricades.
Shared	A	1	Wash Bay Equipment Room	M13	10 x 30	300	1	300	Houses water reclaim system & other wash bay equipment.	General Purpose and Chassis Wash Bays	16'	Exterior man door access, 8'x8' overhead door. Floor drain. Oilk-water separation water reclaim equipment
Shared	A	1	Large Vehicle Parking	M14	12 x 40	480	2	960	See complete vehicle analysis document. This area is dedicated to vactor trucks. Planning for 2	Other enclosed vehicle storage	16'	14'x14' overhead door, trench drain.
Shared	A	1	Medium Vehicle Parking	M15	12 x 30	360	2	720	See complete vehicle analysis document	Other enclosed vehicle storage	16'	14'x14' overhead door, trench drain.
Shared	A	1	Small Vehicle Parking	M16	10 x 20	200	2	400	See complete vehicle analysis document	Other enclosed vehicle storage	16'	14'x14' overhead door, trench drain.

**CITY OF CAMAS**  
Public Works Operations Needs Assessment Study

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						Area (SF)	Qty.	Total Area				
Streets	A	1	X-Small Vehicle Parking	M17	8 x 8	64	0	-	See complete vehicle analysis document	Other enclosed vehicle storage	16'	14'x14' overhead door, trench drain.
<b>SUBTOTAL AREA</b>						<b>9,244</b>						
Circulation / Walls / Misc						15%			1,387			
<b>MAINTENANCE / SHOPS / VEHICLES &amp; EQUIPMENT</b>						<b>10,631</b>						

**FLEET SHOP FACILITIES**

Fleet	A	1	Heavy Repair Bay	F1	20 x 55	1,100	3	3,300	Large Vehicle Maintenance Bay	Fleet Shop	24'	Utilize wireless mobile column lifts. 14'x14' overhead doors. Lube reels, work tables, air & power. Drive through bay
Fleet	A	1	Light Repair Bay	F2	20 x 40	800	3	2,400	Automotive Vehicle Maintenance Bay	Fleet Shop	24'	14'x14' overhead doors. Lube reels, work tables, air & power.
Fleet	A	1	Hydraulic hose workstation	F3	8 x 12	96	1	96	cutting / crimping workbench	Fleet Shop	12'	
Fleet	A	1	Secured Consumables Room	F4	10 x 15	150	1	150	Consumables Storage	Fleet Shop	12'	
Fleet	A	1	Parts Storage	F5	20 x 20	400	1	400	Parts storage room, including central receiving area	Fleet Shop	12'	
Fleet	A	2	Parts Storage Mezzanine	F6	20 x 20	400	1	400	Parts storage room, including central receiving area	Fleet Shop	12'	This mezzanine can be as large as the building allows. Use for other general storage.
Fleet	A	1	Fluids Storage	F7	10 x 20	200	1	200	Storage for bulk oil, lube, & fluids.	Fleet Shop	9'	Does not need to be enclosed room separate from shop. Double door to main shops, man door to exterior.
Fleet	A	1	Tire Shop	F8	15 x 15	225	1	225	tire changing / balancing equip	Fleet Shop	12'	
Fleet	A	1	Welding/ Fabrication Bay	F9	20 x 55	1,100	1	1,100	aluminum & steel fabrication shop.	Fleet Shop	12'	14'x14' overhead door. 3'x6' welding table, TIG & MIG Welders, Plasma cutter, drill press, horiz. band saw, grinder, break & shear, hyd. Press, acet/oxy, vise, misc. cabinets, brake lathe.
Fleet	A	1	Office	F10	10 x 12	120	1	120	Supervisor Office	Fleet Shop, Fleet Bays	9'	Prefer views to Fleet Bays. Workstation with (2) additional chairs at desk, bookshelves, white board
Fleet	A	1	Break Room	F11	10 x 14	140	1	140	Break area for (3-4) people	Office, Restroom	9'	Includes kitchenette with sink, fridge, microwave, table for (4) people, shelf
Fleet	A	1	Unisex Restroom	F12	10 x 12	120	1	120	Enlarged unisex restroom serving fleet shop, including fleet lockers.	Office, Break Room	9'	(3-4) 18" cage lockers and bench. Toilet, sink, urinal, floor drain, lockable with occupancy sensor. Should be directly accessible from exterior.
<b>SUBTOTAL AREA</b>						<b>8,651</b>						
Circulation / Walls / Misc						20%			1,730			
<b>FLEET</b>						<b>10,381</b>						
<b>TOTAL ENCLOSED / HEATED FACILITIES</b>						<b>41,724</b>						

**COVERED / UNHEATED FACILITIES**

**Wash / Fuel / Misc**

Shared	B	1	Wash Bay	M18	20 x 65	1,300	2	2,600	Drive through general purpose wash bays for shared use by all crews.	Can be near other areas needing convenient truck access. Adjacent to Chassi wash bay and equipment room	16'	If determined to be enclosed, provide 14'x14' overhead doors. Catwalk on one side. 1-1/2 inch hose connection plus manual wash wand with high pressure water & soap.
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**CITY OF CAMAS**  
Public Works Operations Needs Assessment Study

**PRELIMINARY SPACE PROGRAM**

Dept	Location	Floor	Space Description	No.	Proposed Space Standard	20 Year Program			General Space Purpose and Design Criteria	Adjacencies	Clear Height	Other Criteria / Equip. / Furnishing Needs
						Area (SF)	Qty.	Total Area				
Fleet	A	1	Chassis Wash Bay	M19	20 x 65	1,300	1	1,300	Drive through bay with steam cleaning & under carriage spray for use primarily by Fleet mechanics.	Adjacent to General Purpose Wash Bays and Equipment Room	16'	Steam cleaning & under carriage spray. Manual wash wand with high pressure water & soap. Consider minimal slab heat for anti-freezing if bay is not enclosed and heated.
Shared	A	1	Boot Wash	A33	8 x 10	80	1	80	Cleaning of boots before entering the building, exterior space with canopy	Crew Vestibule on yard side of main building	10'	Hose bib, sump, grating, boot scrubber
Shared	A	1	Exterior patio	A34	15 x 40	600	1	600	Outside space for staff and crew	Kitchen and Break room	12'	BBQ, partially covered, enough covered area for (40-60) people
Shared	A	1	Facilities Storage	M20	4 x 30	120	1	120	Racking & material storage for various items. Includes Facilities dry goods inventory. Tall, linear, covered storage racking with adjustable rack arms	Facilities Shop, Facilities Dry Goods Inventory.	16'	Desired 20' length pipe rack storage (Water & Stormwater), bar & angle stock (stormwater), steeltight poles, 8' and 16' lumber lengths (concrete formwork), 4'x8' plywood sheets, filter storage (50 count) stacked and covered, general boneyard storage. Racking accessible by forklift. Stormwater would like catchbasin tops stored on-site & in-stock.
Shared	B	1	Decommissioned Vehicle Storage	C1	12 x 40	480	2	960	Large Vehicle	Other canopy spaces	16'	
Shared	B	1	Decommissioned Vehicle Storage	C2	12 x 30	360	3	1,080	Medium Vehicle	Other canopy spaces	16'	
Shared	A	1	Fueling	M21	10 x 15	150	1	150	Small vehicle fueling			(2) 55-gal. drums shared by all Ops. departments.
<b>SUBTOTAL AREA</b>						<b>6,890</b>						
Circulation / Walls / Misc						15%		1,034				
<b>COVERED / UNHEATED PROGRAM AREA</b>						<b>7,924</b>						
<b>CANOPY-COVERED - BULK STORAGE AND COVERED VEHICLE STORAGE</b>												
Street	A		Brine Equipment	C3	35 x 35	1,225	1	1,225	Canopy covered area for brine equipment	Other materials storage	20'	<b>White Rock Salt</b> (produce brine on-site): +/- 300 ton. <b>Liquid Salt</b> (completed brine): 20k gallons (2x 10k gallons). Confirm brine equipment needs. <b>If no brine system:</b> 100-150 ton iceslicer.
Street	A		De-icer		4 x 4	16	1	16				Pure Calcium Chloride: 200-250 gal. (Streets)
Shared	B		Decant	C4	40 x 100	4,000	2	8,000	Water or storm decant. Separate site if staying on current site.	Other site storage, Sewer Decant	24'	<b>Decant Storm:</b> 40 yards/day from catchbasin cleaning (20 yd water + 5-10 yd. solids). Produce 35-40 yds solids/week, need 1000 yd max pile of decant solids storage pile. <b>Decant Streets:</b> leaves/organics (solid waste), 40 yd capacity. <b>Streets would prefer centralized hubs (North, Central, South) offsite for this.</b>
Shared	B		Decant	C5	40 x 40	1,600	2	3,200	Sewer	Other site storage, Storm/Water decant	24'	<b>Decant Sewer:</b> (2) bays w/ 20 yard capacity. Same location as Storm/Street Decant but isolated.
Parks	B		Materials Storage	C6	16 x 16	256	1	256	Covered sand storage, (75 ton)	Other materials storage	10'	Material stored 10' high. Ecology blocks to 12' AFF.
Solid Waste	B		Bin Storage & Wash	M22	16 x 50	800	1	800	Stacked bin storage & bin "bidet"	Wash Bay? Could be offsite location?		Covered "box" enclosure on concrete pad. Confirm if location is on main site or off-site, centralized? Confirm bin quantities for ea. of (3) types. Wash capacity is 50-60 bins at a time. <b>35 gal:</b> 350 @ 3 high = 467sf. <b>60 gal:</b> 250 @ 3 high = 333sf. <b>300 gal:</b> 6 @ 6 high = 64sf. <b>450 gal:</b> 20 @ 6 high = 256sf.
Streets	B		Crematorium	M23	10 x 10	100	1	100	Contained storage & crematorium for road kill.		16'	Confirm capacity & crematorium equipment needs. Propose <b>30" diameter x 7'-0" unit on 10'x10' concrete pad.</b>
Police	B		General Storage	M24	20 x 20	400	1	400	Work Crew equipment Storage	N/A	16'	

Public Works Operations Needs Assessment Study

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Shared	A/B		Large Vehicle Parking	C7	12 x 40	480	13	6,240	See complete vehicle analysis document	Other canopy spaces	16'	
Shared	A/B		Medium Vehicle Parking	C8	12 x 30	360	101	36,360	See complete vehicle analysis document	Other canopy spaces	16'	
Shared	A		Small Vehicle Parking	C9	10 x 20	200	13	2,600	See complete vehicle analysis document	Other canopy spaces	16'	
Shared	A		X-Small Vehicle Parking	C10	8 x 8	64	15	960	See complete vehicle analysis document	Other canopy spaces	16'	
<b>SUBTOTAL AREA</b>						<b>60,157</b>						
Circulation / Walls / Misc						10%			6,016			
<b>TOTAL COVERED / UNHEATED</b>						<b>66,173</b>						
Approx Spilt Parking between						Ops Site			23,800			
Ops and Satellite Sites						Satellite			34,200			

**CITY OF CAMAS**  
Public Works Operations Needs Assessment Study

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						Area (SF)	Qty.	Total Area				

**SITE FACILITIES**

**PARKING - UNCOVERED**

Shared			Large Vehicle Parking	S1	12 x 40	480	0	-	See complete vehicle analysis document	Other canopy spaces	16'
Shared			Medium Vehicle Parking	S2	12 x 30	360	0	-	See complete vehicle analysis document	Other canopy spaces	16'
Shared	A		Small Vehicle Parking	S3	10 x 20	200	6	1,200	See complete vehicle analysis document	Other canopy spaces	16'
Shared			X-Small Vehicle Parking	S4	8 x 8	64	0	-	See complete vehicle analysis document	Other canopy spaces	16'
Shared			Employee Parking	S5	10 x 20	200	112	22,400		Administration building	In secure fenced area, ADA stalls as required. (2) electric charging spots
Shared			Visitor Parking	S6	10 x 20	200	4	800		Main entry	In unfenced area. ADA stalls as required, (1) electric charging spot.
Shared			Bicycle Parking	S7	4 x 8	32	1	32		Main entry	
						<b>SUBTOTAL AREA</b>		<b>24,432</b>			
						Circulation	100%	24,432			
						<b>Total Parking</b>		<b>48,864</b>			

**BULK MATERIALS / MISCELLANEOUS SITE ITEMS - UNCOVERED**

Shared	A		Generator	S8	12 x 25	300	1	300	Concrete Pad	Centrally located	Power full site
Shared	B		Garbage Bins - 35 gal	S9	15 x 30	450	1	450	City stock of garbage bins for commercial/residential use	Other site storage	24"x24" = 4 sq.ft. x 350 on hand, stacked (3) high
Shared	B		Garbage Bins - 60 gal	S10	15 x 25	375	1	375	City stock of garbage bins for commercial/residential use	Other site storage	24"x24" = 4 sq.ft. x 250 on hand, stacked (3) high
Shared	B		Garbage Bins - 300 gal	S11	5 x 15	75	1	75	City stock of garbage bins for commercial/residential use	Other site storage	96"x96" = 64 sq.ft. x 6 on hand, stacked (6) high
Shared	B		Garbage Bins - 450 gal	S12	15 x 15	225	1	225	City stock of garbage bins for commercial/residential use	Other site storage	96"x96" = 64 sq.ft. x 20 on hand, stacked (6) high
Shared	A		Dumpsters	S13	10 x 20	200	7	1,400	Dumpsters & Recycling for all Dept. needs. Provide teardown/layout area for metal recycling.	Easily accessible by collection vehicle.	Garbage, metal recycling (multiple types), road kill, asphalt waste, concrete waste up to (10) yards container. Maintain clear area for drop off and pick up by vendor. Access for dump truck to dump directly from elevated platform.
Shared	B		Bulk Materials Storage	S14	25 x 50	1,250	1	1,250	Ecology block separators for material storage.	Other site storage <b>Could be located at central facility on another site.</b>	Ecology Block separators to 12' AFF. Organics from excavations, grass clippings, trees, leaves (Stormwater/Streets/Parks).
Streets	B		Bulk Materials Storage	S15	25 x 50	1,250	1	1,250	Ecology block separators for material storage.	Other site storage	<b>5/8m Gravel:</b> 150 ton.
Streets	B		Bulk Materials Storage	S16	25 x 50	1,250	1	1,250	Ecology block separators for material storage.	Other site storage	<b>1.25m Gravel:</b> 150 ton.
Streets	B		Bulk Materials Storage	S17	25 x 25	625	1	625	Ecology block separators for material storage.	Other site storage	<b>Gabion:</b> 75 ton.
						<b>Subtotal</b>		<b>7,200</b>			
						Circulation	150%	10,800			
						<b>Total Bulk Materials</b>		<b>18,000</b>			

# City of Camas PW

# Storage Requirements Program

line no.	Description	Storage Type						Shelf Lev. Qty.* (Wk. Stock)		Pallet Qty. (Wk. Stock)		Pallet Qty. (Overstock)		Comments
		Pallet Rack	Cantilever Rack	Shelving Unit	Secure	Hanging	Floor Staging	Existing	20 yr. Growth	Existing	20 yr. Growth	Existing	20 yr. Growth	
								Existing	20 yr. Growth	Existing	20 yr. Growth	Existing	20 yr. Growth	
<b>1</b>	<b>FACILITIES</b>													
2	Lumber Storage		X							2			part of Carpentry Shop	
3	Plywood Storage		X							2			part of Carpentry Shop	
4	Sheet Metal Storage		X							2			part of Metals Shop	
5	Metals Extrusions/Bar		X							2			part of Metals Shop	
6	HVAC Storage	X								1			future	
7	Electrical Storage	X								1			future	
8														
9														
9							<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>		
10														
<b>11</b>	<b>FLEET MAINTENANCE</b>													
12	Vehicle Seats	x										10	10	
13	Body Parts	X								3	3			
14	Elec. Cables	X								1	1			
15	Extension cords			X			1	1						
16	Tubing			X			1	1						
17	Air/Water hose	X		X			1	1	1	1				
18	Filters			X			1	1						
19	Hydraulic Oil			X			1	1						
20	Vac. Pump Oil Pallet	X							1	1				
21	Antifreeze Pallet	X							1	1				
22	Chains	X							5	5				
23	Misc. Winter Pallets	X							3	3				
24	DEF Fluid Tote	X							1	1				
25	Tire Storage Pallets	X										24	24	
26	Tire Storage Units	X										5	5	
27	Misc. Pallets	X							5	5				
28														
29														
29							<b>5</b>	<b>5</b>	<b>21</b>	<b>21</b>	<b>39</b>	<b>39</b>		
30														
<b>31</b>	<b>GROUNDS / PARKS &amp; REC.</b>													
32	Grass Seed	X							0	2				
33	Playground Equipment					X			20	20				
34	Restroom Supplies			X			2	2						tp, soap, etc.
35	Restroom Repair			X			2	2						urinals, toilets
36	Misc. Recreation			X			2	2						life jackets, nets







# City of Camas PW

# Storage Requirements Program

line no.	Description	Storage Type						Shelf Lev. Qty.* (Wk. Stock)		Pallet Qty. (Wk. Stock)		Pallet Qty. (Overstock)		Comments
		Pallet Rack	Cantilever Rack	Shelving Unit	Secure	Hanging	Floor Staging	Existing	20 yr. Growth	Existing	20 yr. Growth	Existing	20 yr. Growth	
90	5/8 gravel	X												150 tons (x 0.714 = 107 cu.yds. x 9 = 963 / 2 = 482 sq.ft.) required, ecology block separators to 12' AFF, off-site storage
91	1-1/4 gravel	X												150 tons (x 0.714 = 107 cu.yds. x 9 = 963 / 2 = 482 sq.ft.) required, ecology block separators to 12' AFF, off-site storage
92	Sand													75 tons (x 0.714 = 54 cu.yds. x 9 = 486 / 2 = 241 sq.ft.) required (covered), ecology block separators to 12' AFF, off-site storage
93	Gabion													75 tons (x 0.714 = 54 cu.yds. x 9 = 486 / 2 = 241 sq.ft.) required , ecology block separators to 12' AFF, off-site storage
94	Indoor, dry cold mixes concrete													15 tons (x 0.714 = 11 cu.yds. x 9 = 99 / 2 = 50 sq.ft.) required , ecology block separators to 12' AFF, indoor heated
95	Brine													
96	White Rock Salt													300 tons (x 0.714 = 214 cu.yds. x 9 = 1926 / 2 = 963 sq.ft.) required, ecology block separators to 12' AFF, off-site storage, covered
97	Liquid Salt Tanks (Completed Brine)													20k gallons required (2x 10k gallon tanks), off-site storage,
98	Calcium Chloride Tote	X								1	1			4'x4' tote 200-250 gallons, off-site storage

# City of Camas PW

# Storage Requirements Program

line no.	Description	Storage Type						Shelf Lev. Qty.* (Wk. Stock)		Pallet Qty. (Wk. Stock)		Pallet Qty. (Overstock)		Comments
		Pallet Rack	Cantilever Rack	Shelving Unit	Secure	Hanging	Floor Staging	Existing	20 yr. Growth	Existing	20 yr. Growth	Existing	20 yr. Growth	
99	Waste / Recycle													
100	Concrete / Asphalt Debris													75 tons (x 0.714 = 54 cu.yds. x 9 = 486 / 4 = 122 sq.ft.) required, ecology block separators to 12' AFF, off-site storage
101	Scrap Metal (ferrous)													20 yd. container required, off-site storage
102	Scrap Metal (non-ferrous)													aluminum, copper, brass, off-site storage, 4'x4' tote
103	Organic Material													current capacity = 15 yard box, off-site storage
104	Waste Material													large dumpster required, off-site storage
105	Haz. Mat.													
106	1 gallon fuel containers			X				1	1					stored in flammables cabinet
107	Consumables													
108	Eng. Fiber Matrix	X								1	2			
109	Absorbant Material	X								1	2			
110	Spill Response Equip.	X								4	4	8	8	
111	Lumber Storage		X											covered yard storage
112	Light Bulbs			X				2	2					
113	Concrete mix	X								1	2			
114	Filters	X								1	1			
115	Blue Steel material			X						1	1			
116	TackCoat Emulsion Drum													
117	Detack pallet	X								1	1			
118	Asphalt Sealant	X								1	1			
119	Light Poles		X											covered yard storage, 30' long poles
120	Sign Storage													
121	Sign Storage Units, Inside			X				7	7					vertical storage units (3)
122	Sign Storage, Covered	X				X				5	9			
123	Sign Storage, Uncovered	X								4	0			
124	Sign Posts		X											covered yard storage
125	Stencils	X								2	2			

# City of Camas PW

# Storage Requirements Program

line no.	Description	Storage Type						Shelf Lev. Qty.* (Wk. Stock)		Pallet Qty. (Wk. Stock)		Pallet Qty. (Overstock)		Comments
		Pallet Rack	Cantilever Rack	Shelving Unit	Secure	Hanging	Floor Staging	Existing	20 yr. Growth	Existing	20 yr. Growth	Existing	20 yr. Growth	
126	Holiday Décor	X							1	1			large tree	
127														
128														
129														
130	<b>WATER</b>													
131	Valves storage	X		X				8	8					
132	Fittings storage			X				8	8					
133	Water Meters	X								2	2		8	
134	Meter Boxes	X								2	2		8	
135	Fire Hydrants	X								4	4		8	
136	Lids	X								2	2		8	
137	Chemical Feed Pumps	X								4	4			
138	Pump Motors	X								4	4			
139	Neptune Technology Pallets	X								3	3			
140	Haz. Mat.													
141	1 gallon fuel containers			X				1	1				stored in flammables cabinet	
142	Tools													
143	Power Tools	X		X				3	3				Secured	
144	Hand Tools					X	X			1	1			
145	Concrete saw						X			2	2			
146	Pipe threader						X			1	1			
147	Oxy / Acetylene cart						X			1	1			
148														
149														
150														
151	<b>SEWER</b>													
152	Sewer Piping		X										covered yard storage, 20' lengths	
153	STEP Pump Storage	X								16	16		5,000 units, 3' tall,	
154														
155														
156														

# City of Camas PW

# Storage Requirements Program

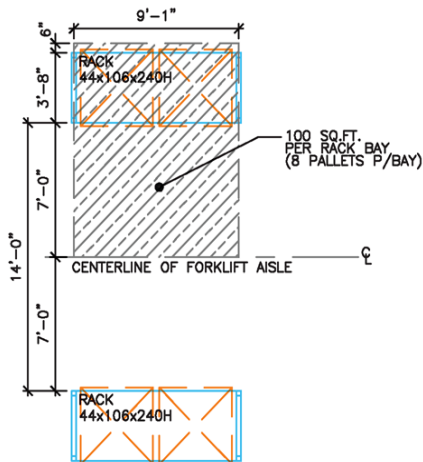
line no.	Description	Storage Type						Shelf Lev. Qty.* (Wk. Stock)		Pallet Qty. (Wk. Stock)		Pallet Qty. (Overstock)		Comments
		Pallet Rack	Cantilever Rack	Shelving Unit	Secure	Hanging	Floor Staging	Existing	20 yr. Growth	Existing	20 yr. Growth	Existing	20 yr. Growth	
157	<b>Haz. Mat.</b>													
158	Sharps	X								1	1			from all departments
159	Batteries	X								1	1			from all departments
160	Chemicals	X								1	1			from all departments
161	Fluorescent light bulbs	X								1	1			from all departments
162	Waste oil, misc.	X								1	1			from all departments
163	Herbicide / Pesticides	X								4	4			Grounds
164	Paint	X								2	2			Grounds
165	Fertilizer	X								3	3			Grounds
166	1 gallon fuel containers			X				1	1					Grounds, stored in flam. cabinet
167	graffiti remover			X				1	1					Grounds
168	Homeless Camp Impound						X			10	10			from all departments
169	Herbicide / Pesticides	X								1	1			Streets
170	Marking Paint						X			2	10			Streets, 200 5-gallon buckets
171	Chlorine									1	1			Water dept.
172														
173								<b>2</b>	<b>2</b>	<b>28</b>	<b>36</b>	<b>0</b>	<b>0</b>	
174														
175														
176												<b>53</b>	<b>85</b>	
177												<b>11</b>	<b>17</b>	
178												<b>64</b>	<b>102</b>	
179												<b>795</b>	<b>1,275</b>	

\* Note: Each shelving level quantity is equal to one(1) pallet position

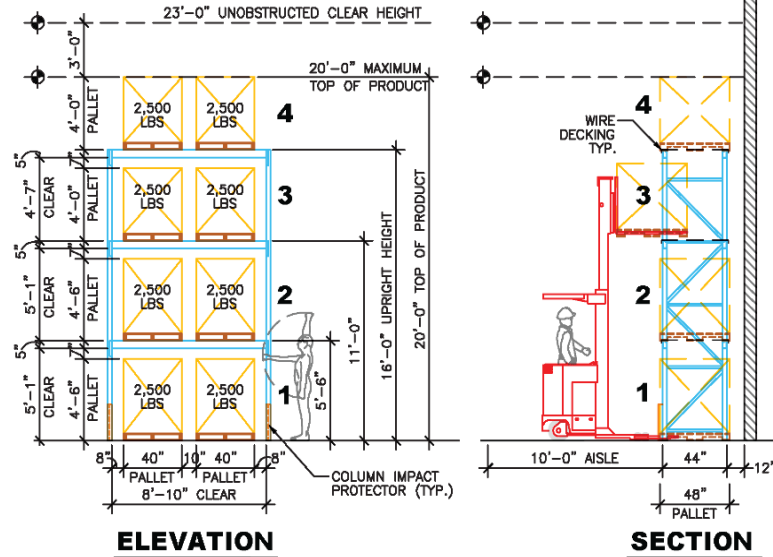
# City of Camas PW

# Storage Requirements Program

line no.	Description	Storage Type						Shelf Lev. Qty.* (Wk. Stock)		Pallet Qty. (Wk. Stock)		Pallet Qty. (Overstock)		Comments
		Pallet Rack	Cantilever Rack	Shelving Unit	Secure	Hanging	Floor Staging	Existing	20 yr. Growth	Existing	20 yr. Growth	Existing	20 yr. Growth	



**1 RACK BAY PLAN**  
SCALE: 1/4" = 1'-0"



**A SELECTIVE RACK CONFIG.-A**  
SCALE: 1/4" = 1'-0"

# City of Camas PW

# Off-Site Storage Areas

line no.	Description	Storage Type						Shelf Lev.	Comments
		Pallet Rack	Cantilever Rack	Shelving Unit	Secure	Hanging	Floor Staging	Existing	
1	<b>CEMETERY</b>								
2	New Holland Tractor						X	300	10'x 30' stall
3	Tractor Attachments		X					200	5 attachments at 8'X5'
4									
5								<b>500</b>	
6									
7	<b>WATER PUMPING STATION (LEWIS ANGELO)</b>								
8	Irrigation Fittings			X				20	36x18 storage unit
9	Irrigation Pipe						X	60	vertical storage
10	Irrigation Vaults			X				20	36x18 storage unit
11	Misc. Staging						X	60	floor staging
12									
13								<b>160</b>	
14									
15	<b>FIRE STATION (4010)</b>								
16	Herbicide / Pesticides			X				140	(2) 120x44 pallet rack
17	Backpack sprayers						X	60	
18	Paint Storage			X				60	1 gallons
16	Misc. Items						X	60	
17	Hi-Pressure Washer Trailer						X	200	10'x20' stall
18	De-Icer Tank, 500 gal						X	200	protected by 10'x20' ecology blocks
19	Barbage Bins, 300 gal.						X	400	
17	Bulk Sand Staging						X	200	uncovered
18									
19								<b>1,320</b>	
20									



# City of Camas PW

# Off-Site Storage Areas

line no.	Description	Storage Type						Shelf Lev.	Comments
		Pallet Rack	Cantilever Rack	Shelving Unit	Secure	Hanging	Floor Staging	Existing	

OFF-SITE STORAGE AREAS TOTAL 1,980

Public Works Operations Needs Assessment Study

Operations/Facilities	Public Works Director		Manager		Lead		Senior		Crew/Tech Support		Admin		Seasonal		Totals	
	2021	2041	2021	2041	2021	2041	2021	2041	2021	2041	2021	2041	2021	2041	2021	2041
Streets	0.11	0.11	0.16	0.16	1	1	1	2	5	8	0.16	0.16	0	0	7.43	11.43
Solid Waste	0.11	0.11	0.25	0.5	1	1	0	0	3	5	0.25	0.25	0	0	4.61	6.86
Operations Admin.	0.11	0.11	0.41	0.66	0	0	0	0	2	8	0.41	2.41	0	0	2.93	11.18
Stormwater	0.11	0.11	0.16	0.16	1	1	1	2	2	6	0.16	0.16	0	3	4.43	12.43
Water	0.11	0.11	0.25	0.5	1.5	2	1	3	5	12	0.25	0.25	0	1	8.11	18.86
Sewer	0.11	0.11	0.25	0.5	0.5	2	1	2	4	12	0.25	0.25	0	1	6.11	17.86
Parks	0.11	0.11	0.16	0.16	1	2	2	2	6	11	0.16	0.16	5	5	14.43	20.43
Facilities	0.11	0.11	0.16	0.16	1	1	0	0	1	3	0.16	0.16	0	2	2.43	6.43
Fleet	0.11	0.11	0.16	0.16	1	1	0	1	3	4	0.16	0.16	0	0	4.43	6.43
<b>Totals</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>8</b>	<b>11</b>	<b>6</b>	<b>12</b>	<b>31</b>	<b>69</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>12</b>	<b>55</b>	<b>112</b>

Streets	2021	2041
Director	0.11	0.11
Manager	0.16	0.16
Lead	1	1
Senior	1	2
Crew	5	8
Admin	0.16	0.16
Seasonal	0	0
<b>TOTAL</b>	<b>7.43</b>	<b>11.43</b>

\*still covered under Ops/Facilities Supervisor

Solid Waste	2021	2041
Director	0.11	0.11
Manager	0.25	0.5
Lead	1	1
Senior	0	0
Crew	3	5

\*still covered under Utility Manager

\*2041 value = (1) replacement driver for Gary + (1) additional truck driver above '21 levels. Not accounting for annexation.

**CITY OF CAMAS**

**PRELIMINARY PERSONNEL ANALYSIS**

Public Works Operations Needs Assessment Study

Admin	0.25	0.25
Seasonal	0	0
<b>TOTAL</b>	<b>4.61</b>	<b>6.86</b>

<b>Operations Admin.</b>	<b>2021</b>	<b>2041</b>
Director	0.11	0.11
Manager	0.41	0.66
Stormwater Engineer	1	3
Senior Admin	0.41	0.41
Admin	0	2
Tech Support/GIS	0	3
Custodial	1	2
<b>TOTAL</b>	<b>2.93</b>	<b>11.18</b>

\*2041 totals: (1) Ops. Manager, (1) Utilities Manager, (1) Utilities Supervisor  
 \*count includes (1) existing stormwater engineer + (2) new stormwater tech support staff in shared private office  
 \* (2) GIS/Tech, (1) Asset Mgmt Coordinator  
 \*(1) custodial staff is counted under "crew" in chart above

<b>Stormwater</b>	<b>2021</b>	<b>2041</b>
Director	0.11	0.11
Manager	0.16	0.16
Lead	1	1
Senior	1	2
Crew	2	6
Admin	0.16	0.16
Seasonal	0	3
<b>TOTAL</b>	<b>4.43</b>	<b>12.43</b>

<b>Water</b>	<b>2021</b>	<b>2041</b>
Director	0.11	0.11

Public Works Operations Needs Assessment Study

Manager	0.25	0.5
Lead	1.5	2
Senior	1	3
Crew	5	12
Admin	0.25	0.25
Seasonal	0	1
<b>TOTAL</b>	<b>8.11</b>	<b>18.86</b>

\*2021: counted STEP, WQ, Lead, & Senior positions in "Lead" category between Water & Sewer

2041:(1) WQ + (2) Senior

2041: (3) WQ, (1) Backflow, (8) Maintenance

Sewer	2021	2041
Director	0.11	0.11
Manager	0.25	0.5
Lead	0.5	2
Senior	1	2
Crew	4	12
Admin	0.25	0.25
Seasonal	0	1
<b>TOTAL</b>	<b>6.11</b>	<b>17.86</b>

\*2021: counted STEP, WQ, Lead, & Senior positions in "Lead" category between Water & Sewer

2041: (1) Step, (1) Senior

2041: (2) STEP, (4) Pump, (6) Maintenance

Parks	2021	2041
Director	0.11	0.11
Manager	0.16	0.16
Lead	1	2
Senior	2	2
Crew	6	11
Admin	0.16	0.16
Seasonal	5	5
<b>TOTAL</b>	<b>14.43</b>	<b>20.43</b>

Facilities	2021	2041
Director	0.11	0.11
Manager	0.16	0.16

**CITY OF CAMAS**  
Public Works Operations Needs Assessment Study

**PRELIMINARY PERSONNEL ANALYSIS**

Lead	1	1
Senior	0	0
Crew	1	3
Admin	0.16	0.16
Seasonal	0	2
<b>TOTAL</b>	<b>2.43</b>	<b>6.43</b>

<b>Fleet</b>	<b>2021</b>	<b>2041</b>
Director	0.11	0.11
Manager	0.16	0.16
Lead	1	1
Senior	0	1
Crew	3	4
Admin	0.16	0.16
Seasonal	0	0
<b>TOTAL</b>	<b>4.43</b>	<b>6.43</b>











NOTE: MEP contractors are responsible to field verify all connections types and service sizes prior to installation and equipment connection activities.

row	Equip. ID	Description	Manufacturer/Model No.	QTY.	Disposition				Responsibility				Electrical					Plumbing / Piping				HVAC		Special Foundation/ Floor Isolation	Floor Anchors	Comments									
					Reuse	New	Future	Surplus	Owner Funnished / Owner Installed		Contractor Funnished / Contractor Installed		Voltage	Phase	Amps (FLA)	HP	Voice / Data	Compressed Air	Natural Gas	City Water	Drain	Vent / Exhaust	Dust Collection												
									Unit Cost \$	Extended Cost \$	Unit Cost \$	Extended Cost \$																							
<b>1 FACILITIES</b>																																			
2	FAC-01	Storage Shelving		4		X			\$900	\$3,600																				electrical components					
3	FAC-02	Storage Racking		2		X					\$1,800	\$3,600																yes	HVAC material						
4																																			
<b>5 SHARED - CARPENTRY SHOP</b>																																			
6	CAR-01	Table Saw	Delta	1	X									120	1	20																			
7	CAR-02	Miter Saw	TBD	1	X									120	1	20																			
8	CAR-03	Band Saw, Vertical	TBD	1		X			\$4,000	\$4,000				220	1	20																			
9	CAR-04	Panel Saw	TBD	1		X			\$9,000	\$9,000				220	1	20																			
10	CAR-04	Belt / Disc Sander	TBD	1		X			\$800	\$800				120	1	20																			
	CAR-05	Workbench	36"x96"	1		X			\$900	\$900				120	1	20																			
11	CAR-06	Cantilever Storage Rack, Lumber	36"x144"	1		X					\$1,800	\$1,800																			yes				
12	CAR-07	Vertical Storage Rack, Plywood	48"x96"	1		X					\$1,800	\$1,800																			yes				
13	CAR-08	Dust Collection System	TBD	1		X					\$2,800	\$2,800		120	1	20															per mechanical				
14	CAR-09	Spray Booth	TBD, 96x96	1		X					\$8,000	\$8,000		120	1	20												yes		yes	small item painting				
15	CAR-10	Storage Shelving, Paint	24"x48"	2		X			\$900	\$1,800																									
16	CAR-11	Storage Shelving, consumables	24"x48"	4		X			\$900	\$3,600																									
17																																			
<b>18 SHARED - METALS SHOP</b>																																			
19	MET-01	Horizontal Band Saw	TBD	1		X			\$6,000	\$6,000				220	1		3														yes				
20	MET-02	Drill Press	Porter Cable	1		X								120	1	10																yes			
21	MET-03	Pedestal Grinder		1		X								120	1	10																yes			
21	MET-04	Welder	140 MIG	1		X								220	1	70																			
22	MET-05	Welder	TIG	1		X								220	1	60																			
23	MET-06	Plasma Cutter	48"x96"	1		X			\$4,000	\$4,000				240	1	40																			
	MET-07	Oxy / Acetylene Cart		1		X																													
23	MET-08	Welding Table	48"x48"	1		X			\$5,800	\$5,800																							yes		
24	MET-09	Workbench	48"x96"	1		X			\$2,800	\$2,800				120	1	20																			
25	MET-10	Vertical Storage Rack, Sheet Metal	48"x96"	1		X					\$2,800	\$2,800																				yes			
26	MET-11	Horiz. Storage Rack, Bar Stock	24"x120"	1		X					\$3,200	\$3,200																				yes			
27	MET-12	Jib Crane - 1 ton	16' boom, 12' mast	1		X					\$12,000	\$12,000		120	1	20															yes				
28	MET-13	Fume Extractor, Portable	TBD	1		X			\$6,000	\$6,000				120	1	20																			
29	MET-14	Piopo Threader		1		X								120	1	20																			
30	MET-15	Storage Shelving, consumables	24"x48"	4		X			\$900	\$3,600																									
31	MET-16	Dust Collection System	TBD	1		X					\$2,800	\$2,800		120	1	20																			
32																																			
<b>33 FLEET MAINTENANCE</b>																																			

NOTE: MEP contractors are responsible to field verify all connections types and service sizes prior to installation and equipment connection activities.

row	Equip. ID	Description	Manufacturer/Model No.	QTY.	Disposition				Responsibility				Electrical					Plumbing / Piping				HVAC		Special Foundation/ Floor Isolation	Floor Anchors	Comments		
					Reuse	New	Future	Surplus	Owner Furnished / Owner Installed		Contractor Furnished / Contractor Installed		Voltage	Phase	Amps (FLA)	HP	Voice / Data	Compressed Air	Natural Gas	City Water	Drain	Vent / Exhaust	Dust Collection					
									Unit Cost \$	Extended Cost \$	Unit Cost \$	Extended Cost \$																
34	FM-01	Vehicle Lift, Mobile Column (4)	TBD, wireless	3		X			\$44,000	\$132,000			120	1	20													charging station required, Heavy Repair Bays
35	FM-02	Vehicle Lift, 2-post	rotary	1	X								230	1		5			yes							yes	light repair bays - existing	
36	FM-02	Vehicle Lift, 2-post	mohawk 15k capacity	1	X								230	1		5			yes							yes	light repair bays - existing	
37	FM-03	Vehicle Lift, 2-post	TBD	1		X					\$22,000	\$22,000	230	1		5			yes							yes	light repair bays	
38	FM-04	Parts Storage Shelving	24"x48"	6		X			\$900	\$5,400																		
39																												
40		Weld / Fab Bay																										
41	FM-05	Bridge Crane - 3 ton	20' span, 50' run	1		X					\$75,000	\$75,000	230	1	30											yes	18' raised hook height	
42	FM-06	Horizontal Band Saw	Jet	1	X								230	1	20											yes		
43	FM-07	Plasma Cutter	Hypertherm	1	X								240	1	40													
44	FM-08	Welder	Miller	1	X								240	1	40													
45	FM-09	Cut-Off Saw		1	X								120	1	20			yes										
46	FM-10	Drill Press	Powermatic	1	X								120	1	20			yes								yes		
47	FM-11	Pedestal Grinder	Milwaukee	1	X								120	1	10											yes		
48	FM-12	Solvent Cleaner		1	X								120	1	10													
49	FM-13	Shear		1	X								230	1	20											yes		
50	FM-14	Brake		1	X																					yes		
51	FM-15	Hydraulic Press		1	X																					yes		
52	FM-16	Oxy / Acetylene Cart		1	X																							
53	FM-17	Parts Washer		6	X								230	1	20											yes		
54	FM-18	Stor. Shelving, consumables	24"x48"	4		X			\$900	\$3,600																		
55	FM-19	Workbench	48"x96"	1		X			\$2,800	\$2,800			120	1	20			yes										
56	FM-20	Hydraulic Hose Workstation		1		X							120	1	20			yes										
57																												
58		Tire Shop																										
59	FM-21	Tire Changer		1	X								230	1	20			yes								yes		
60	FM-22	Tire Balancer		1	X								230	1	20											yes		
61	FM-23	Tire Storage Racks		5	X																					yes		
62																												
63		Fluids Storage																										
64	FM-24	Engine Oil 15W-40		1	X													yes										
65	FM-22	Engine Oil 5W-30		1	X													yes										
66	FM-23	Engine Oil 5W-20		1	X													yes										
67	FM-24	Hydraulic Fluid		1	X													yes										
68	FM-25	Transmission Fluid		2	X													yes										
69	FM-26	Chassis Grease		1	X													yes										
70																												

NOTE: MEP contractors are responsible to field verify all connections types and service sizes prior to installation and equipment connection activities.

row	Equip. ID	Description	Manufacturer/Model No.	QTY.	Disposition				Responsibility				Electrical					Plumbing / Piping				HVAC		Special Foundation/ Floor Isolation	Floor Anchors	Comments														
					Reuse	New	Future	Surplus	Owner Furnished / Owner Installed		Contractor Furnished / Contractor Installed		Voltage	Phase	Amps (FLA)	HP	Voice / Data	Compressed Air	Natural Gas	City Water	Drain	Vent / Exhaust	Dust Collection																	
									Unit Cost \$	Extended Cost \$	Unit Cost \$	Extended Cost \$																												
71		Wash Bay																																						
72	FM-27	Hot Water Hi-Pressure Washer	TBD	1		X																											Shared between Parks & Vehicle Maint.							
73	FM-28	Detergent Tanks	TBD	1		X																																		
74																																								
75	<b>GROUNDS</b>																																							
76	GND-01	Pallet Racking	44"x108"	4		X																												yes						
77	GND-02	Stor. Shelving, consumables	24"x48"	4		X			\$900	\$3,600																														
78	GND-03	Workbench	36"x96"	1		X			\$1,800	\$1,800																														
79	GND-04	Storage Cabinets	36"x24"	2		X			\$900	\$1,800																														
80	GND-05	Hanging Tool Storage	24"x144"	1		X			\$600	\$600																														
81																																								
82	<b>SANITATION / SOLID WASTE</b>																																							
83	SAN-01	Barbage Bin Racking	TBD	1		X			\$5,000	\$5,000																														
84																																								
85	<b>STORMWATER</b>																																							
86	SW-01	Pipe Storage Cantilever Rack	20' lengths	1		X				\$3,200	\$3,200																									yes	stormwater pipe			
87	SW-02	Pallet Racking	44"x108"	4		X				\$1,200	\$4,800																										yes			
88	SW-03	Stor. Shelving, consumables	24"x48"	4		X			\$900	\$3,600																														
89	SW-04	Workbench	36"x96"	1		X			\$1,800	\$1,800																														
90	SW-05	Storage Cabinets	36"x24"	2		X			\$900	\$1,800																														
91	SW-06	Hanging Tool Storage	24"x144"	1		X			\$600	\$600																														
92																																								
93	<b>STREETS</b>																																							
94	STR-01	Storage Cantilever Rack	20' lengths	1		X				\$3,200	\$3,200																										yes	sign posts / light poles		
95	STR-02	Pallet Racking	44"x108"	4		X				\$1,200	\$4,800																											yes		
96	STR-03	Stor. Shelving, consumables	24"x48"	4		X			\$900	\$3,600																														
97	STR-04	Workbench	36"x96"	1		X			\$1,800	\$1,800																														
98	STR-05	Storage Cabinets	36"x24"	2		X			\$900	\$1,800																														
99	STR-06	Hanging Tool Storage	24"x144"	1		X			\$600	\$600																														
100	STR-08	De-Icer Tanks	10k gallons	2		X				\$12,000	\$24,000																													
101																																								
102		Sign Shop																																						
103	STR-09	Plotter	TBD	1		X			\$3,000	\$3,000																														
104	STR-10	Heat Lamp Applicator	TBD	1		X			\$5,000	\$5,000																														
105	STR-11	Squeeze Roll Applicator	TBD	1		X			\$4,000	\$4,000																														
106	STR-12	Workbench	48x96	1		X			\$2,200	\$2,200																														

NOTE: MEP contractors are responsible to field verify all connections types and service sizes prior to installation and equipment connection activities.

row	Equip. ID	Description	Manufacturer/Model No.	QTY.	Disposition				Responsibility				Electrical					Plumbing / Piping				HVAC		Special Foundation/ Floor Isolation	Floor Anchors	Comments																
					Reuse	New	Future	Surplus	Owner Furnished / Owner Installed		Contractor Furnished / Contractor Installed		Voltage	Phase	Amps (FLA)	HP	Voice / Data	Compressed Air	Natural Gas	City Water	Drain	Vent / Exhaust	Dust Collection																			
									Unit Cost \$	Extended Cost \$	Unit Cost \$	Extended Cost \$																														
107	STR-13	Sign Storage Units	36x96	4		X			\$1,400	\$5,600																																
108	STR-14	Cremator - Incinerator	36"x84"	1		X			\$9,500	\$9,500					120	1	10									yes	yes							for roadkill								
109																																										
110	<b>WATER</b>																																									
111	WAT-01	Pallet Racking	44"x108"	4		X					\$1,200	\$4,800																						yes								
112	WAT-02	Stor. Shelving, consumables	24"x48"	4		X			\$900	\$3,600																																
113	WAT-03	Workbench	36"x96"	1		X			\$1,800	\$1,800					120	1	20				yes																					
114	WAT-04	Storage Cabinets	36"x24"	2		X			\$900	\$1,800																																
115	WAT-05	Hanging Tool Storage	24"x144"	1		X			\$600	\$600																																
116	WAT-06	Water Meter Testing Bench	TBD	1		X			\$1,800	\$1,800					120	1	20				yes				yes	yes																
117	WAT-07	Water Meter Storage Racks		2		X			\$1,200	\$2,400																																
118																																										
119	<b>SEWER</b>																																									
120	SEW-01	Pallet Racking	44"x108"	4		X					\$1,200	\$4,800																							yes							
121	SEW-02	Stor. Shelving, consumables	24"x48"	4		X			\$900	\$3,600																																
122	SEW-03	Workbench	36"x96"	1		X			\$1,800	\$1,800					120	1	20				yes																					
123	SEW-04	Storage Cabinets	36"x24"	2		X			\$900	\$1,800																																
124	SEW-05	Hanging Tool Storage	24"x144"	1		X			\$600	\$600																																
125	SEW-06	Step Pump Repair Bench	TBD	1		X			\$1,800	\$1,800					120	1	20				yes				yes	yes																
126																																										
127	<b>CENTRAL WAREHOUSE</b>																																									
128	CW-01	Pallet Racking	44"x108"	20		X					\$1,200	\$24,000																														
129	CW-02	Forklift, reach truck		1		X			\$40,000	\$40,000																																
130																																										
131	<b>HAZ. MAT.</b>																																									
132	HM-01	Containment Pallets	48"x48"	8		X			\$800	\$6,400																																
133	HM-02	Flammables Cabinets		4		X			\$2,500	\$10,000																																
134																																										
135	<b>FUELING</b>																																									
136	FUEL-01	Small Engine Fuel Tanks	48"x48"	8	X																yes															two(2) 55 gallon drums						
137																																										
138																																										
139																																										
140										OF / OI		CF / CI																														
<b>COST ESTIMATE TOTALS</b>																																										
									<b>\$331,400</b>		<b>\$228,200</b>																															

# WORKSHOP - AGENDA

**CITY OF CAMAS**

**Public Works Operations Facility Site & Space Needs Study**

**Programming Workshop 1**

October 26-27, 2021

Camas Operations Center, 616 4<sup>th</sup> Avenue, Camas, WA

**WORKSHOP DAY 1 AGENDA**

**Tuesday October 26, 2021**

TIME & LOCATION	SESSION AGENDA OUTLINE	ATTENDANCE
9:00am – 10:30pm Meet at the Operations Campus	<b>SESSION 1.1 KICK-OFF WITH OPERATIONS LEADS</b> This session offers an opportunity for the Design Team to meet the lead personnel for each work group/department, and to discuss responses to the questionnaire. Review Crew Facilities.  Take a brief tour around the building and site together.	<b>TCF Team:</b> TCF: Randy Cook TCF: Coreen Van Ausdell FPS: Mike Frei & Steve Fisher  <b>City Participants:</b> Core Advisory Team Operations Leads
10:30am – 12:00noon	<b>SESSION 1.2 – STREETS DIVISION</b> <ul style="list-style-type: none"> <li>Review daily workflow and deployment process</li> <li>Review program needs for parking, storage, maintenance, and crew facility functions</li> <li>Review growth projections and potential future changes that could impact Streets operations and facility &amp; equipment needs.</li> </ul>	<b>TCF Team:</b> TCF: Randy Cook TCF: Coreen Van Ausdell FPS: Mike Frei & Steve Fisher  <b>City Participants:</b> Streets: Scott Purkeyppyle Others as determined
Lunch Break 12:00-1:00pm		
1:00-2:30pm	<b>SESSION 1.3 – SOLID WASTE DIVISION</b> <ul style="list-style-type: none"> <li>Review daily workflow and deployment process</li> <li>Review program needs for parking, storage, maintenance, and crew facility functions</li> <li>Review growth projections and potential future changes that could impact Solid Waste operations and facility &amp; equipment needs.</li> </ul>	<b>TCF Team:</b> TCF: Randy Cook TCF: Coreen Van Ausdell FPS: Mike Frei & Steve Fisher  <b>City Participants:</b> Solid Waste: Gary Reed Others as determined
2:30pm – 4:00pm	<b>SESSION 1.4 – OPERATIONS ADMINISTRATION</b> <ul style="list-style-type: none"> <li>Review daily workflow</li> <li>Review program needs for office functions, public spaces, and other shared and general-purpose spaces.</li> </ul>	<b>TCF Team:</b> TCF: Randy Cook TCF: Coreen Van Ausdell  <b>City Participants:</b> Admin Staff

NOTES


**WORKSHOP DAY 2 AGENDA**

Wednesday, October 27, 2021

TIME & LOCATION	SESSION AGENDA OUTLINE	ATTENDANCE
8:00am - 9:30am	<b>SESSION 2.1 – STORMWATER DIVISION</b> <ul style="list-style-type: none"> <li>Review daily workflow and deployment process.</li> <li>Review program needs for parking, storage, maintenance, and crew facility functions.</li> <li>Review growth projections and potential future changes that could impact Stormwater operations and facility &amp; equipment needs.</li> </ul>	<b>TCF Team:</b> TCF: Randy Cook TCF: Coreen Van Ausdell FPS: Mike Frei & Steve Fisher  <b>City Participants:</b> Stormwater: Jackie Caldwell Others as determined
10:00am – 11:30pm	<b>SESSION 2.2 – WATER – SEWER DIVISION(S)</b> <ul style="list-style-type: none"> <li>Review daily workflow and deployment process.</li> <li>Review program needs for parking, storage, maintenance, and crew facility functions.</li> <li>Review growth projections and potential future changes that could impact Water &amp; Sewer operations and facility &amp; equipment needs.</li> </ul>	<b>TCF Team:</b> TCF: Randy Cook TCF: Coreen Van Ausdell FPS: Mike Frei & Steve Fisher  <b>City Participants:</b> Water/Sewer: Tobin Reed Others as determined
11:30pm-12:30pm	<b>LUNCH ON YOUR OWN</b>	
12:30pm – 2:00pm	<b>SESSION 2.3 – PARKS / CEMETERY</b> <ul style="list-style-type: none"> <li>Review daily workflow and deployment process.</li> <li>Review program needs for parking, storage, maintenance, and crew facility functions.</li> <li>Review growth projections and potential future changes that could impact Parks/Cemetery operations and facility &amp; equipment needs.</li> </ul>	<b>TCF Team:</b> TCF: Randy Cook TCF: Coreen Van Ausdell FPS: Mike Frei & Steve Fisher  <b>City Participants:</b> Parks/Cemetery: Nick MacQuarrie Others as determined
2:00pm – 3:30pm	<b>SESSION 2.4 – FACILITIES</b> <ul style="list-style-type: none"> <li>Review daily workflow and deployment process.</li> <li>Review program needs for parking, storage, maintenance, and crew facility functions.</li> <li>Review growth projections and potential future changes that could impact Facilities operations and facility &amp; equipment needs.</li> </ul>	<b>TCF Team:</b> TCF: Randy Cook TCF: Coreen Van Ausdell FPS: Mike Frei & Steve Fisher  <b>City Participants:</b> Facilities: Ryan Hickey Others as determined
3:30pm – 4:30pm	<b>DEBRIEF</b> <ul style="list-style-type: none"> <li>Review discussions from the sessions and discuss next steps</li> </ul>	<b>TCF Team:</b> TCF: Randy Cook TCF: Coreen Van Ausdell FPS: Mike Frei & Steve Fisher  <b>City Participants:</b> Denis Ryan & Sam Adams

NOTES

# WORKSHOP – MEETING MINUTES



**CITY OF CAMAS**  
 PUBLIC WORKS OPERATIONS CENTER SPACE NEEDS STUDY  
**PROGRAMMING WORKSHOP #1**  
 October 26-27, 2021

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**Attendees**

<b>Randy Cook</b>	TCF Architecture	Principal/PM
<b>Coreen Van Ausdell</b>	TCF Architecture	Designer
<b>Mike Frei</b>	FPS	Principal
<b>Steve Fisher</b>	FPS	PM
<b>Denis Ryan</b>	City of Camas	Public Works Supervisor
<b>Sam Adams</b>	City of Camas	Utilities Manager
<b>Richard Copsey</b>	City of Camas	Streets
<b>Scott Purkeyppyle</b>	City of Camas	Streets
<b>Garry Reed</b>	City of Camas	Solid Waste/Sanitation
<b>Susan Wilde</b>	City of Camas	Operations Administration
<b>Tara Carlin</b>	City of Camas	Operations Administration
<b>TJ Crawford</b>	City of Camas	Stormwater
<b>Steve Klopman</b>	City of Camas	Stormwater
<b>Michael Katzer</b>	City of Camas	Water/Sewer
<b>Brandon Prather</b>	City of Camas	Water/Sewer
<b>Derek Engler</b>	City of Camas	Water/Sewer
<b>Matt Golphenee</b>	City of Camas	Water/Sewer
<b>Nick MacQuarrie</b>	City of Camas	Parks Maintenance
<b>Sean Alix</b>	City of Camas	Parks Maintenance
<b>Ryan Hickey</b>	City of Camas	Facilities

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**Session Notes**


**INTRODUCTIONS AND CONTACTS:**

- Main Contact at City of Camas is Denis.
- Contacts at TCF will always be Randy and Coreen.
- See attached sign-in sheets

**1.1 KICK-OFF WITH OPERATIONS LEADS:**

- Programming Questionnaire Overview
  - Missing items to add:
    - No central spot for many items that staff need. Often need to go off-site elsewhere to grab items, then head to job sites.
    - FPS to work with CCPW staff to update inventory to include all of these items
    - Some off-site locations of storage cause additional issues (ex. Pump site around high school is very high traffic. Storage space is available but not utilized because of time sink due to traffic.
  - "Culture" and Goals of CCPW:
    - Service is #1, go beyond helping
    - "Friends and Family" atmosphere among entire crew

CCPW – Programming Workshop #1  
 TCF Architecture, PLLC
 Meeting Notes  
10/27/2021



- Comradery
- Interdependent cooperation among departments
- Staff within individual departments & across different departments are cross-trained on equipment. No assigned operators within departments, everyone runs everything
- Work operations are reactive vs. pro-active
  - Partially due to responding to public orders
  - Partially due to inherent constraints of equipment/facilities
- Staff engaged in greater community events
- Major effort to keep Downtown Core pristine and collaborate with other city agencies and outside groups to keep City of Camas nice.

- What do you love about working here:
  - Beautiful area
- Frustrations/Barriers to your work?
  - Inadequate Crew Facilities:
    - Locker quantities and locations
    - Wash rack not functional
    - Location not central to City
    - Dirt/Dust in yard affects equipment, storage, maintenance
    - Admin needs acoustic privacy for zoom and other meetings. Work often interrupted by flow of staff pedestrian traffic
  - Major Security Issues & Theft
    - Overall improvements to site security
      - Service yard gates are manual and stay open – plays into various site security issues
      - Automatic gates critical. Would need to streamline activity schedule
    - High rate of theft
    - Inadequate site lighting – for safety and security camera visibility
    - Security Cameras exist but aren't super helpful

**SESSION 1.2 STREETS DIVISION**

- Storage
  - Warehouse model vs. Individual control
  - Items to Store:
    - Vehicles
      - All trucks are outfitted in fleet w/ tools/equip
      - Denis to provide vehicle inventory flow-chart
      - Stated goal: **All work vehicles should be at least covered/some enclosed**
        - Covered/protected from elements
          - Protection of future green fleet w/ electric components
          - Protection of hoses/hydraulics
          - Develop analysis of vehicles needing covered storage vs. not
        - On-call vehicles ready to go and load up inside bay
        - Benefit to moral/productivity
    - Non-rolling stock equipment

CCPW – Programming Workshop #1  
 TCF Architecture, PLLC
 Meeting Notes  
10/27/2021

- Tools
  - Portable welder (ideally on trailer)
- Bulk materials
  - 5/8m gravel (150 ton)
  - Sand (75 ton – covered)
  - 1.25 (150 ton)
  - Gabion (75 ton)
  - Indoor, dry cold mixes concrete (10-15 tons)
    - Currently buy by bag – more expensive
  - Brine:
    - White Rock Salt (produce brine on-site) = (+/-300 ton)
    - Liquid S
    - alt – 20k gallons(2x 10k gallons) (completed brine)
  - if no brine system: iceslicer 100-150 ton capacity
- Waste/Recycle(See Workshop Flipchart E):
  - Can provide yard docks w/ diff bins for materials
    - Enough volume to justify?
  - Concrete/Asphalt
  - Multiple metal types
    - Alum
    - Copper/brass
    - Carbon steel
  - Organic material
    - Current capacity (15 yard box)
  - Current metal dumpster gets dumped 1x/month
    - Traffic signals, street signs, appliances/roadside scrap
  - Current need for large dumpster
    - Round dumpsters available don't fit these
    - Pick-up roadkill
      - Takes 1hr roundtrip to take off site to dispose w/ 2 people
        - Denis to provide data on amounts
      - Propose crematorium
- Hazmat
  - Dispose of appliances at nearby waste transfer
- New Inventory
- Workstock
- Shop (See Workshop Flipchart D)
  - Some carpentry
    - Need table/band/chop saw access
      - Equip:
        - Table saw
        - Chop saw
        - Portable hand tools
        - Workbench/table

- Some metal fabrication
    - Currently unvented
    - Centralized metal fabrication for all depts. Except fleet (fleet would have isolated area for them)
    - Equip:
      - Central vac dust
      - Drill press
      - Band saw
      - Buffer grinder
      - Pipe threader (for water)
      - Welder (both wire-feed & gas)
      - Heavy duty benches & tables
    - Ideal combined Wood & Metal fab shop for general use (all depts)
      - Jib-arm or mono crane to transfer material to one side/work area
        - Will need to lift hydrants/anvils, etc.
    - Small paint booth on-site
      - (ask water/sewer)
  - Decant (See Workshop Flipchart F)
    - Storm
    - Leaves/Organics
      - Street sweepings fall under solid waste (no special treatment)
      - 1.5 hours to empty leaves/organics from maintenance yards (6 loads of 10yd box every 2 weeks) (need covered, drained storage for 40 yards)
        - Ideally would need remote locations for this
          - North hub
          - Central hub (ideally main location)
          - South hub
  - Striping
    - Operation will grow
    - 500 gal/each (white + yellow)
    - May consider in-house signage shop
  - More conference/presentation & tech savvy infrastructure throughout building
  - Multifunctional Meeting/Coworking Space (See Workshop Flipchart A)
    - Acoustics, each group needs privacy to meet
- SESSION 1.3 SOLID WASTE**
- Garbage is #1 source of citizen complaint. s
    - Difficulty coordinating between private & public providers
  - Storage:
    - Bins (See Workshop Flipchart B):
      - Types:
        - 35 gal (currently have 350)
        - 60 gal (currently have 250)
        - 450 gal rounds (2 yard) (currently have 20 on-site)
          - Can stack (6) high
          - Need 5+ nested on-site



- o 300 gal (1 ½)
  - Need 5+ nested on-site
- o Annexation cans (would take over existing private cans, many are 32 gal)
- Most bins aren't stored on-site, they are spread around for operational reasons
- Currently buy 15-20 new bins every couple years (for 450 gal bins)
- Storage Methods:
  - o 65's:
    - (12) come in shipment
      - Stacked on-site w/o axels in 3's
      - Currently (2) rows of 12 stacks ea.
  - o 35's have to be laid down
  - o Could create a storage "box" enclosure, covered, on conc. pad to contain both types, then you could stack higher
- Washing:
  - o "bidet" for bins (automatic) – Steve to track down
  - o Main wash session every 1.5 months, ~50-60 bins at a time
- **Desired: totally separate area of bins, cans, etc. away from other Ops**
- Current location is functional for operations
- Vehicles
  - 4 Garbage Trucks currently, non-covered
    - o Don't drive in inclement weather
    - o Set out extra bins at commercial areas or extra pick-up prior to known weather events
    - o Trucks need to be heated (block heaters)
    - o Washing(See Workshop Flipchart C):
      - Don't wash inside of hopper
  - (1) truck coming for quick can delivery to customers
    - o Ford ¼ ton?
  - Steve to provide summary of list of vehicles most susceptible to deterioration
    - o Effective cycle of garbage trucks for Camas is ~7 years
- Double of population:
  - (1) driver, (2) additional trucks minimum (not accounting for annexation)
    - o All commercial customers are on 450 gal max round bins (residential too)
  - Annexed areas are currently serviced by private provider. If these areas are taken over, would need min:
    - o (2) trucks, (2) drivers
    - o (1) replacement driver for Gary
    - o (1) finance person
  - 20 year growth:
    - o (4) new routes added (~1 route every 5 years)
    - o (1) route / day = 1,000 pickups
- No recycle or yard debris is facilitated – contracted out for those

- o Crew Facilities
  - Meet at 6am, leave by 2pm
  - Locker improvements, boot dryers needed
  - Minimal wellness area in City Hall, nothing at this facility
  - Individual showers would be utilized if available / restrooms
  - (1) Lead Office
    - Semi-private shared
    - Fully private enclosed
  - Desk space for each other crew members
    - Shared computer spaces
    - Does each employee (all groups, not just solid waste) need individual personal desk space, or shared between certain amount of employees that come and go
    - Can utilize meeting space/tailgate early and share w/ other staff because they arrive first

**SESSION 1.4 OPERATIONS ADMINISTRATION**

- o Daily Foot traffic:
  - 12-15 through front door (public & deliveries)
- o Staff:
  - Currently (2) senior admins (Susan & Tara)
  - (1) customer service admin + support for senior admins (Future)
  - (1) tech support/GIS – Private office (Future)
  - (1) Public Works Director – private office
  - (1) Operations Supervisor – private office
  - (1) Stormwater engineer – private office
    - (1) stormwater tech support, could share private office w/ engineer (Future)
  - **(See Workshop Flipchart G)**
  - Potential for (1) flex office
  - (1) Utilities Manager – private office
    - Future Supervisor (1)
    - (4) Utility Leads (water, sewer, sanitation, water quality) **(See Workshop Flipchart G)**
  - Operations Leads:
    - o (1) streets, (1) parks/grounds
  - Leads responsibilities will all be elevated in future – greater responsibility
    - At least shared semi-private space
      - o Like Lead desk space at Rock Island
- o Daily Routine:
  - 7am-3/4pm
  - Current visual lines to front parking lot & trucks in/out
  - Site Security: w/ increased security (gates closed) will increase foot traffic through front desk area
    - Option for 2-way voice activation of gates to allow yard deliveries
      - o Automatic gate
      - o Can be programmed according to routine needs

- Package delivery:
  - Small (take to recipient)
  - Large (hold at front desk)
- Resource Materials:
  - Generalized IT questions are most common
  - Move large layout table into crew room-type space (See Workshop Flipchart G)
  - Don't want too much individualized ownership of desk spaces for crew employees
- Communal Training/Assembly Space (See Workshop Flipchart A):
  - EOC space w/ 100 person capacity (future)
  - All hands-meeting would include engineering division from City Hall & Wastewater Treatment staff
  - Could utilize space for outside functions for City
  - Remote videoconferencing and training
- Kitchenette:
  - Not encouraging staff to return to home base for lunch
  - Large ice machine
  - Oven/range (possible)
  - Microwaves
  - Dishwasher (possible)
- Office supplies/PPE/layout/print kiosk
- Small conference space for vendors/private phone calls, mother's room etc.
- Wellness room
- Put Employee parking outside of main gates/yard
  - Could be outside main yard but still secure
- Conference Spaces:
  - Future:
    - (1) large for meeting of Team Leads or higher ups, etc. (15-20 people)
    - (2-3) smedium/small conference rooms for general use (6-8 people)

SESSION 2.1 STORMWATER DIVISION

- Day in the Life:
  - Facilities:
    - Oversee all catch basins
    - (3) dams
    - Storm ponds
    - Future ditching
  - Mix of old infrastructure and new development
  - Major outfall, service some private areas, special projects
  - Intend to do more day labor, capital projects in the future but don't have current capacity
    - Ex: No dump site for ditching
  - Any stormwater issues related to facility or park is done by this crew
  - Busy season is summer (dry weather)

- This coincides w/ Streets' busy season so it's difficult to share equipment
- Mitigated Wetlands (100s of acres in city). Possibly coming into Stormwater's wheelhouse in near future
- In future, will get into mainline cleaning
- Staff:
  - (4) staff currently in group
  - Current need (6-8) staff + seasonal workers in summer
  - Future need (8-10) staff + seasonal workers
    - Private ponds exist that aren't currently serviced by City – (8) staff doesn't account for servicing any of this area
- Decant:
  - Material Volumes:
    - 30 yards/day for cleaning catchbasins
      - 20 yards water + 5-10 solids
  - Daily Loads:
    - All loads currently driven to Whatley/Decant. ~2hrs roundtrip, 2x Day
      - 6-8 yards solids/day, remaining is water
      - 35-40 yards/week
    - Hauling of material out of decant location will be contracted out
      - 1000 yard max pile (that would be pickup 1x per 6 months)
  - Water's Vactor Truck use can dump elsewhere
  - Streets V Truck use can dump elsewhere
- Vegetation Materials/Ditching (See Workshop Flipchart F)
  - Currently no one will take vegetation associated w/ dump truck loads
  - Types:
    - Stormwater Organics from excavations
    - Streets/Parks
    - Grass Clippings
    - Trees
  - Expand "Transfer Bays" needed to sort/hold vegetative material before it is contractually emptied and taken away (See Workshop Flipchart E)
    - Would need full time employee to manage this "transfer station" that services all depts.
    - This facility doesn't have to be located on main Ops site, could be elsewhere centrally in city
      - Could potentially partner w/ State & County & City of Vancouver or the Port to help fund
- Vehicles:
  - (1) Vactor currently, (1) coming soon
    - New vactor coming is grant funded, requires expansion of service areas. Staff will be utilizing this vehicle full time to cover this
  - (2) Crew trucks (3/4 ton) currently, will need (3)
  - Currently utilize shared equipment trucks (ex. Dump trucks)
    - Will take over a truck for a whole season, not taken on a daily/weekly basis
  - Will need (1) camera inspection van to share w/ Water/Sewer

- Staff often short a vehicle
- o Storage:
  - Option for central warehouse storage shared between all departments
    - More secure, easier to manage
    - Better for Audit
  - Most ordering for Stormwater is currently "just in time" & not held in stock
    - Would like to keep some long-lead items (ex. Catchbasin tops) on-site and in stock regularly
    - Currently have to order material on as-needed basis bc no room to store on site. Pay a premium to order (1) piece at a time vs. bulk
      - o Desired 20' length pipe rack storage
        - Piping used primarily for repairs
        - Water Dept. could use pipe storage also
        - Streetlight poles
        - Lumber rack
          - Concrete formwork
      - o Desired filter storage (50) stacked & covered
      - o General Boneyard storage
    - Many tools used by Storm were purchased w/ grant money & dictates use only by storm
      - Also insures that tools/equipment are in working order when they are needed by Storm
    - Have to rent most barricades because not enough room to store own
    - Vactor Bays (See Workshop Flipchart H):
      - (2) bays w/ tools in middle and storage along each side
      - Enclosed, heated
    - Crack Tank truck could be heated
    - Hydroseeder could be heated
    - Denis to mark which vehicles in fleet need heating capability vs. covered vs. open air
  - o Fab Shop (See Workshop Flipchart D):
    - (see additional notes from Streets session, doesn't include Fab Bay associated solely w/ Fleet)
    - Additional Equipment needs:
      - Plasma Cutter
      - Storage for bar stock/angle stock
      - Welding capabilities for catchbasin and field grates
        - o ~max 500lb loads
        - o Potential components associated w/ Dams
        - o Handrails
    - Communicate w/ Keith about tools/equip that can move out of fleet shop
    - In-house sign shop potential – would allow for reface/reuse of existing faded signs that currently get thrown out
    - Paint:
      - Prime & paint w/ spray galvanized for all new items
        - o Currently there are exhaust issues when this occurs

- o Accommodate large items like picnic table frames
  - Need Paint booth to accommodate (8' deep x 12' wide)
- o Crew Rooms
  - Resource Room (shared between all depts)
    - Resource library
    - Plotter
    - Computer station w/ software (bluebeam)
  - Combo Quiet/Mother's Room/Private Room/Small Conference Room
    - Potentially need storage elsewhere for a couple cots
- SESSION 2.2 WATER/SEWER/MAINTENANCE
  - o Crew Size (Now & Future)
    - Currently 14 staff, not dedicated (not including Sam)
      - Pump Supervisor (Sam)
        - o Currently Sam is Pump Supervisor & Utility Mgr. Future (3-5 years) this will be split into (2) positions
      - Step (1)
        - o Sewer (3-5 years): 2
        - o Sewer (20 year): additional (1) – total (4)
      - Water Quality: (1)
        - o Water (3-5 years): 2
        - o Water (20 years): additional (1) – total (4)
      - Lead (1)
        - o Sewer (3-5 years): 1
      - Senior (1)
        - o Sewer (3-5 years): 1
        - o Water (currently 1)
      - Backflow (none currently)
        - o Water (3-5 years): 1
      - General Maintenance (9)
        - o Water (3-5 years): 4
          - Additional (4) – (8 total) in 20 years
        - o Sewer (3-5 years): 5
          - Additional (1) – (6 total) in 20 years
    - Everyone works on pumping crew
  - o Service:
    - 5000 septic tanks
  - o Vehicles:
    - (1) Vactor dedicated Water/Sewer
    - Future could use TV van but not regularly needed. Could share w/ Storm
  - o Decant/Dumping (See Workshop Flipchart I):
    - Sewer Pumping dumped at Wastewater treatment
    - Spoils to Rotchy's (Large Rock Pit):
      - Pay \$5/yard to dump (usually a 2-3 yards but charged full load)
      - 1hr/roundtrip per load, ~(1) load per week

- Plan for future dedicated Sewer Decant (2) bays, connected to Sewer
  - 20 yard capacity
  - Could be on same site as Storm/Street Decant but isolated (they are connected to Stormwater)
- Storage (See Workshop Flipchart I):
  - Water:
    - Meter pallet storage for meter maintenance program recurs ~5-7 years
    - Meter boxes, Hydrants, Lids, chemical feed pumps, pump motors, oil, oil pump motors, valves/clay valves
      - Advocate for central storage warehouse for all new stock, then leftover items would be stored within Water Bay
  - Vehicles:
    - Currently storing working stock alongside vehicles within indoor bays
      - Currently (12) Crew Trucks mainly ¾ ton
        - Future goal: all crew trucks outfitted and stored outside under canopy
        - Future capacity: (16 total Water crew trucks + 20-24 total Sewer Crew trucks)
      - Future Working Stock storage in bays w/ dedicated Vector
  - Dedicated Cleaning/Shop Space for Step Pump Repair (~5k of those, 3' tall)
    - Wash and rebuild
    - Storage: 20'x40' module for entire building w/ storage along wall of pumps (existing and repaired) + components + tools
    - Base area on STOP's pump room
      - Scissor table, work bench, etc.
  - Fab Shop (see previous notes in other departments (See Workshop Flipchart D):
    - Water/Sewer would use both horizontal & vertical band saws
  - Water Meter Testing (residential) (See Workshop Flipchart K)
    - Need dedicated work bench & storage
      - Rolling racks for meters, small operation
- Crew Rooms: see notes from previous sections

**SESSION 2.3 PARKS MAINTENANCE**

- Scope:
  - Cemetery
  - Parks:
    - (16) parks current
      - Possibly ~24 (total) in 20 years
    - Sports fields
    - Trails (50-60 mi currently)
      - Will increase in 20 years
    - Open Spaces
    - Wooded Areas
    - Some Facilities (landscaping at Police/Fire stations)

- Some seasonal pots/hanging baskets/etc.
  - These items often split w/ Streets Dept
- Landscaping areas in Right of Ways & medians
- Personnel:

	2021	3.5 years	2041
Lead	1	1	2
Senior	2	2	3
Maintenance II	1	3 (2 promoted from Maint. I)	5
Maintenance I	5	5	5
*Seasonal	(5)	(5)	(5)
<b>TOTAL:</b>	<b>9</b>	<b>11</b>	<b>15</b>

Not included in totals

- Vehicles:
  - (7-8) Work trucks (Current)
    - Try to keep the mowers going as much as possible, parks and sites spread out so people work alone to reach items
    - (3.5 years): 9 trucks total
    - (20 years): 10-12 trucks total
    - (4) separate crew truck + trailer combos needed (See Workshop Flipchart J)
      - Efficiency to keep connected up
      - Misc. trailers stored adjacent
  - Tractor & trailer currently parked at cemetery, no room on-site
    - Would like relocated to Main Ops Location
- Storage:
  - Hazmat (quantities are ideal amount stored on site) (See Workshop Flipchart K)
    - Herbicide/Pesticides currently stored at old Fire Station
      - Special containment needed & relocate to main ops site
      - Need up to 3 pallets (parks)
      - (1) pallet (Streets)
    - Paint also stored there currently, should be relocated
      - Up to (50) 5 gal. buckets (Parks)
      - (200) 5 gal. (Streets)
      - Paint Booth (Sewer/Water & Storm will use this most)
        - Spray down gun/area directly adjacent to paint booth w/ waste disposal container for cleaning paint off equipment
    - Chlorine (Water uses this currently but potential spray pad would need this in future)
    - Fertilizer
      - (3) pallets (Parks)
      - Try to mix herbicides/fertilizers in ways that create zero waste
    - Small fuel quantities
      - (8) 1 gal. containers/ each. Department at Ops
    - (2) 55 gal drum – gasoline
      - Shared by all Ops
    - Graffiti Remover

- o (12) ½ gal. jugs
- Pure Calcium Chloride
  - o 200-250 gallons (Streets)
- Fluoride
  - o Sewer/Water use unknown quantity
- Centralized Hazmat disposal location needed
  - o Sharps
  - o Batteries
  - o Chemicals
  - o Fluorescent lights
- Waste Oil
  - o All depts deal with some level of this
- Misc. bags of concrete mix shared by all departments
- Will need future storage for grass seed
- Will need to impound homeless encampment materials, store for 60 days
- Pressure washer currently stored off-site at old Fire Station
  - Relocate to main ops site
- o Still have a need for all departments to share Small Tool Crib (See Workshop Flipchart K)
- o Parks equipment:
  - Playground equipment storage/triage: 24' x 30' space needed
    - Some assembly will happen prior to site delivery for new equipment
  - Restroom Supplies (tp, soap, cleaners, doggie bags, paper towels etc.)
  - Restroom repair (urinals, toilets, etc.)
  - Misc. recreation (life jackets, nets....)
- o Holiday Décor:
  - Large Tree (décor covered by Streets)
  - Tractor Décor (Parks)
  - Community Center area near tree décor (Community Center Staff?)
- o Washing Equipment (See Workshop Flipchart C):
  - Mowers are moved off trailers to wash, washed after every use
    - Use (4) mowers every day for 6 months out of year at peak times under current capacity
  - Grass will need to be contained/captured in run-off
  - All departments: staggered shifts or alternate schedules could free up wash areas/equipment for everyone instead of combining peak times
  - Potential for (2) bay wash facility (See Workshop Flipchart K):
    - One for larger trucks/equipment
    - One for equipment with large solids (mowers, tractor, etc...grass/dirt)

**SESSION 2.4 FACILITIES**

(NOTE: DENIS STOOD IN FOR FACILITIES SPECIALIST FOR THIS SESSION)

- o Many things are currently contracted out (Mech/Elec/Plumbing)

- o Most items are reactionary
- o Vehicles:
  - (1) Transit van full of tools, high value, parked in high visibility site behind gate
  - (1) ½ ton crew truck
  - (1) F150/light duty truck per future HVAC/Electrician
- o Staff:
  - (1) Specialist (current)
    - Shared private office w/ Maintenance worker
  - (1) Maintenance (current)
    - Shared private office w/ Specialist gave specialist a desk in “Lead Open office” and the (3) future maintenance workers don’t have much desk space. (See Workshop Flipchart G)
  - (1) Electrician (shared between departments): coming 3-5 years
    - Water/Sewer had dedicated contracted electrical
    - Streetlight repair, low voltage, etc.
  - (1) HVAC: coming 3-5 years
  - City Building Facilities = 160k sf of space throughout city
  - (1) Community Center
- o Scope:
  - Facilities should plan to take on more of restroom maintenance and repair (toilets, partitions, urinals, etc. and take scope off Parks)
  - Potential for Facilities to reabsorb janitorial services in the future
    - City currently pays ~\$150k to contract this out
- o Shop/Storage:
  - Facilities could likely share 20’x40’ racked bay with Parks (in addition to Park’s dedicated bay). Facilities probably doesn’t need full bay.
  - Access to carpentry shop, paint booth, etc. Don’t need additional dedicated shop

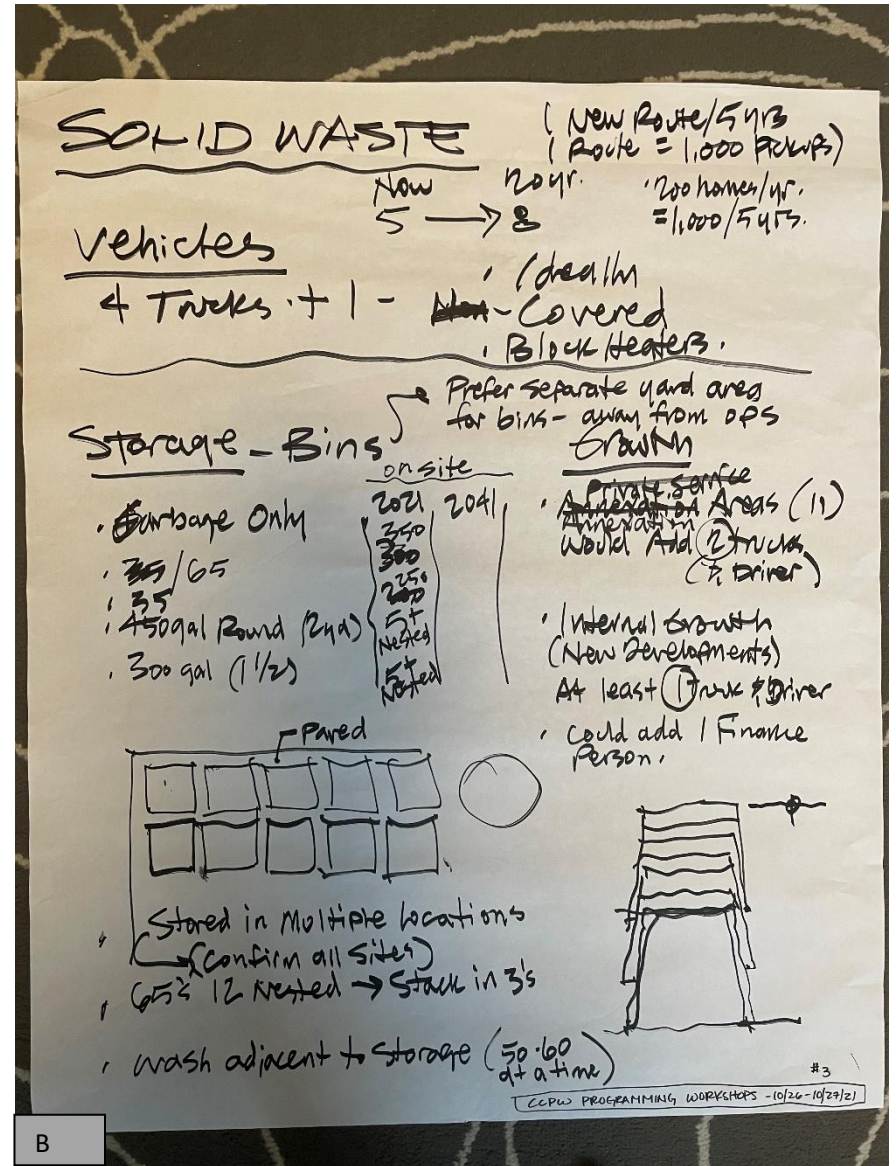
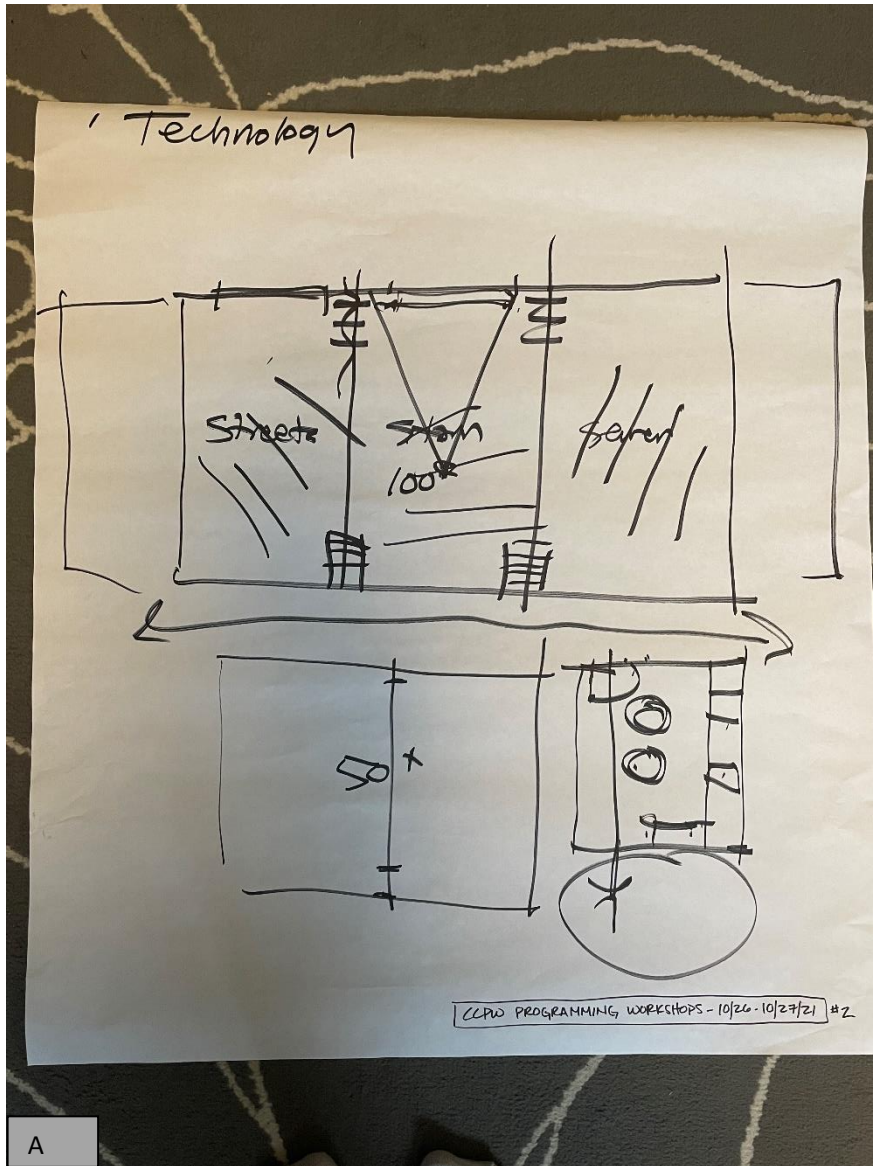
**WORKSHOP DEBRIEF & NEXT STEPS:**

- TCF to compile workshop notes and proceed with populating draft preliminary program for CCPW review
- TCF to begin shortlist of cost-benefit related items discussed in workshops for Denis/Sam to assemble related metrics.
- FPS to update vehicle fleet and overall inventory list line items for Facility, including items stored at alternative sites within City
- FPS to begin storage sf and organization for central warehouse concept
- Denis/Sam to further brainstorm cost-benefit items – everything you know is being done now that has significant or potentially significant labor hours associated due to facility, location, or simply old practices that have never gone away

**END OF MEETING NOTES**

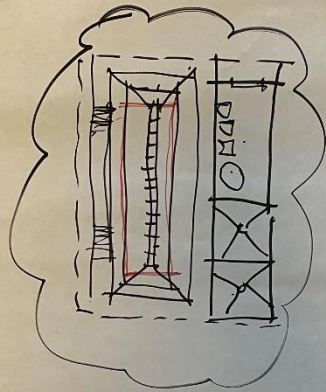
Prepared by Coreen Van Ausdell

WORKSHOP — FLIPCHART IMAGES



## SOLID WASTE - BIN WASHING

- 50-60 at a time



## CREW FACILITIES

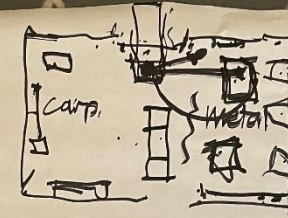
- Lockers
- Showers/RR
- Lead office
- Crew Stations
- Access to mta Rm for Am Tailgate

## Location

- current ops site is good location

CCPW PROGRAMMING WORKSHOPS - 10/26-10/27/21 #4

C



## Carp. & Fab Shop

### Carpentry

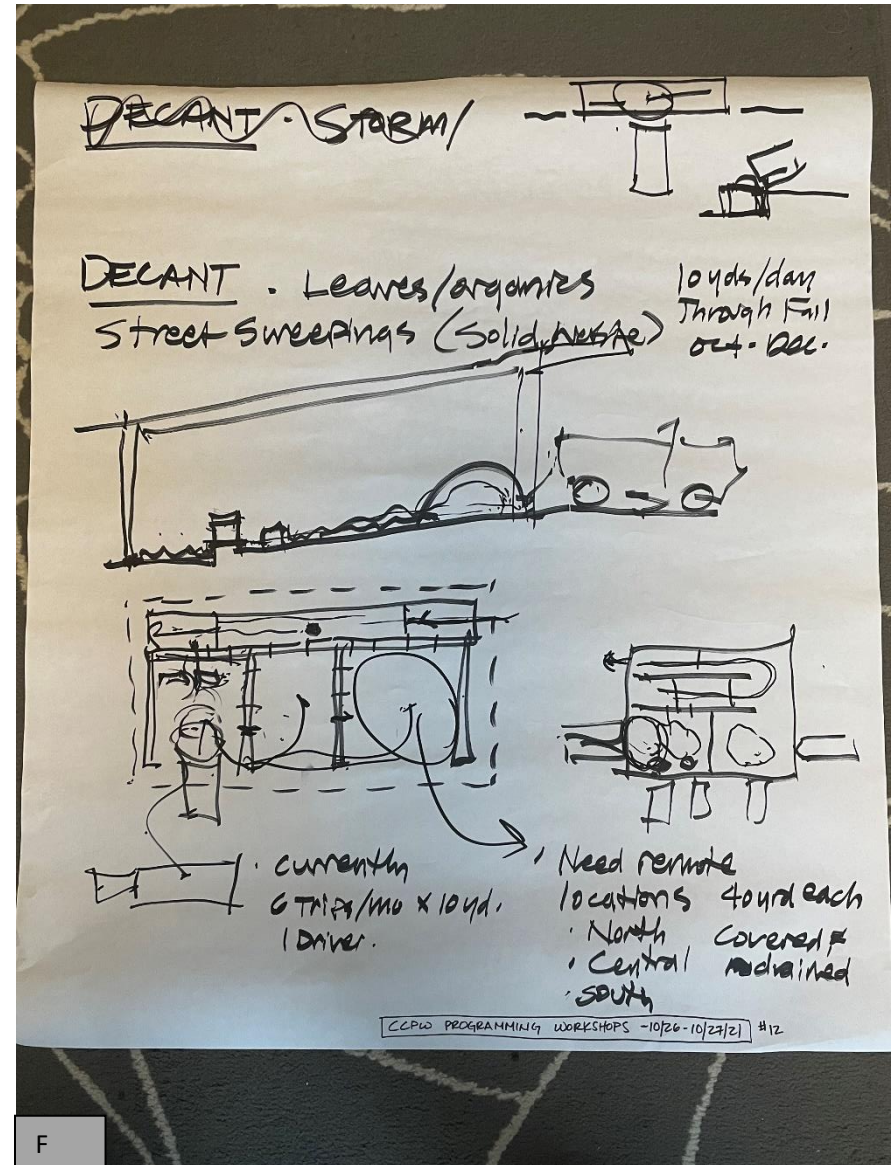
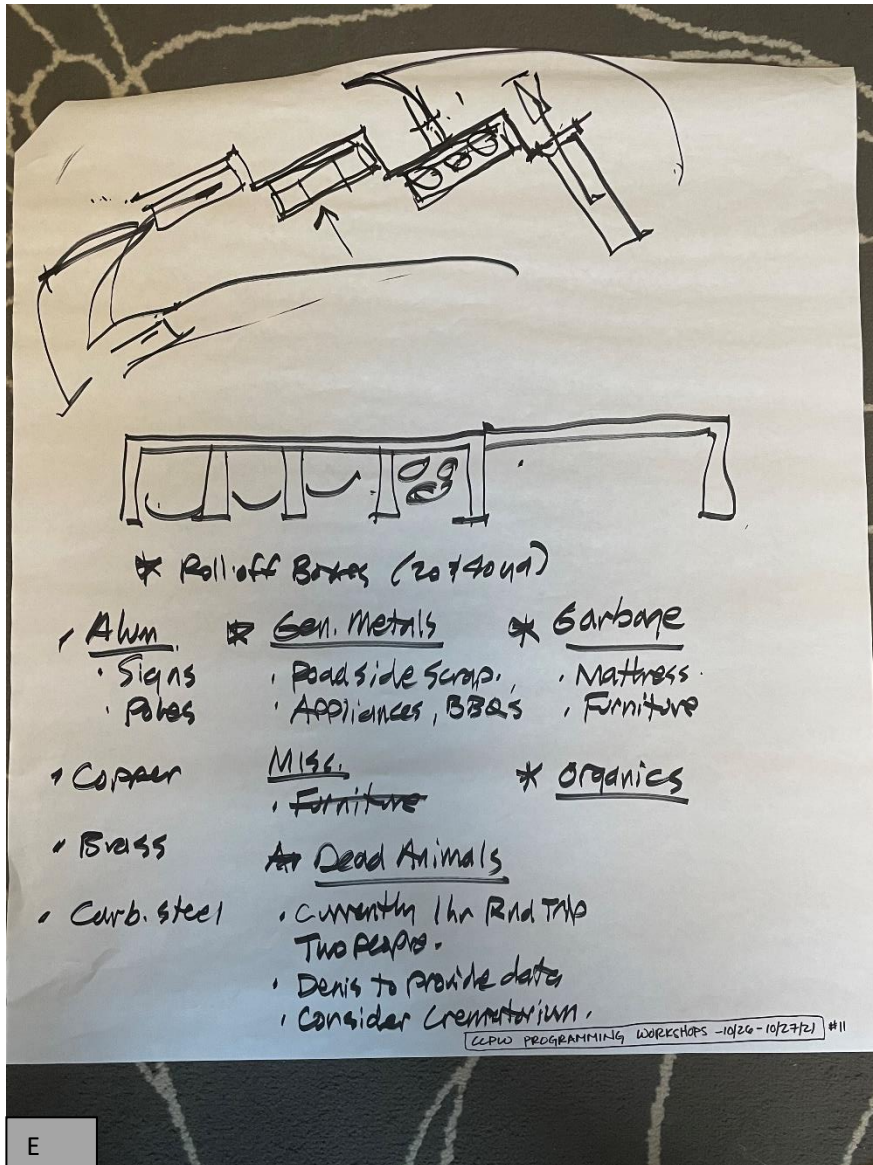
- Table Saw
- Chop Saw
- Band Saw
- Router & other hand tools
- Workbench

### Metal

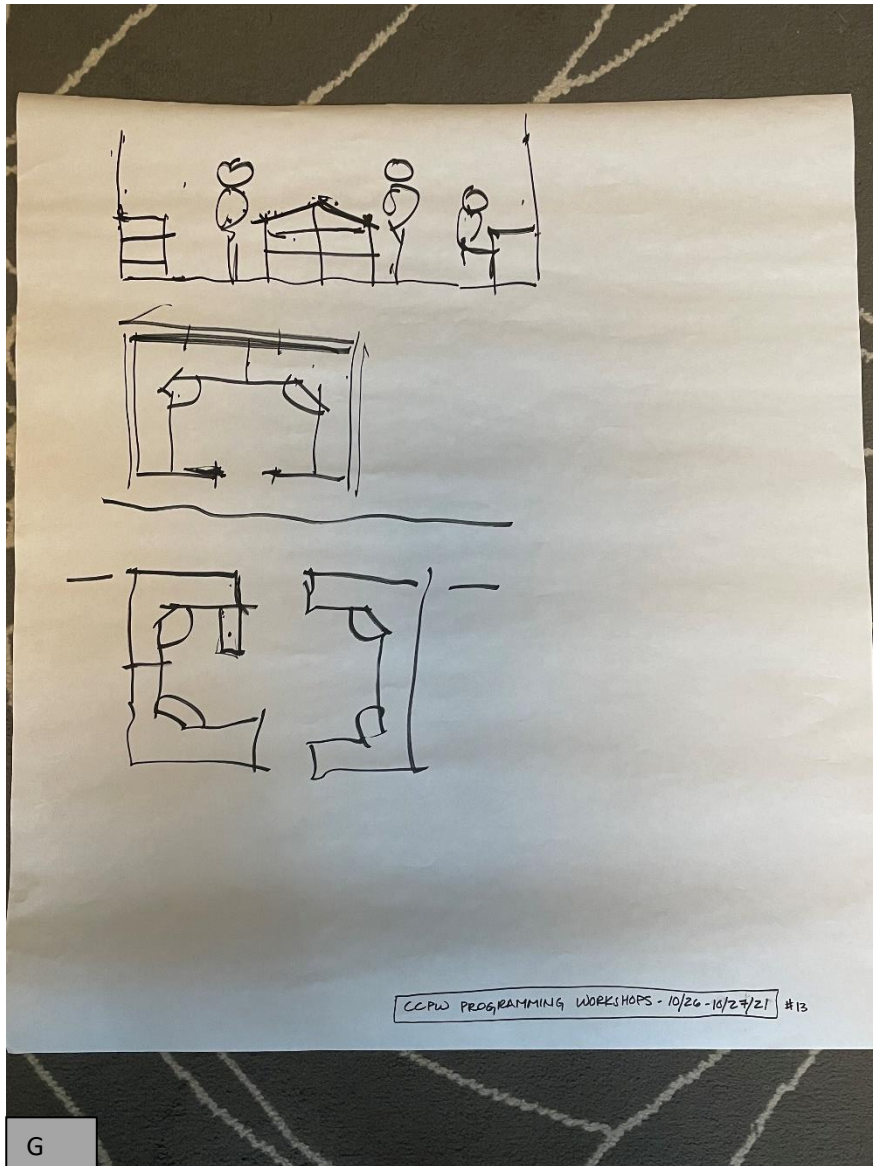
- Band Saw (Horiz)
- Drill Press
- Buffer/Grinder
- Pipe Threader
- Welders
  - Wire feed
  - Gas Oxy/Acet.
- Heavy Duty Benches & Movable Table(s)
- Vice & Anvil
- Plasma Cutter
- Vert. Band Saw

CCPW PROGRAMMING WORKSHOPS - 10/26-10/27/21 #8

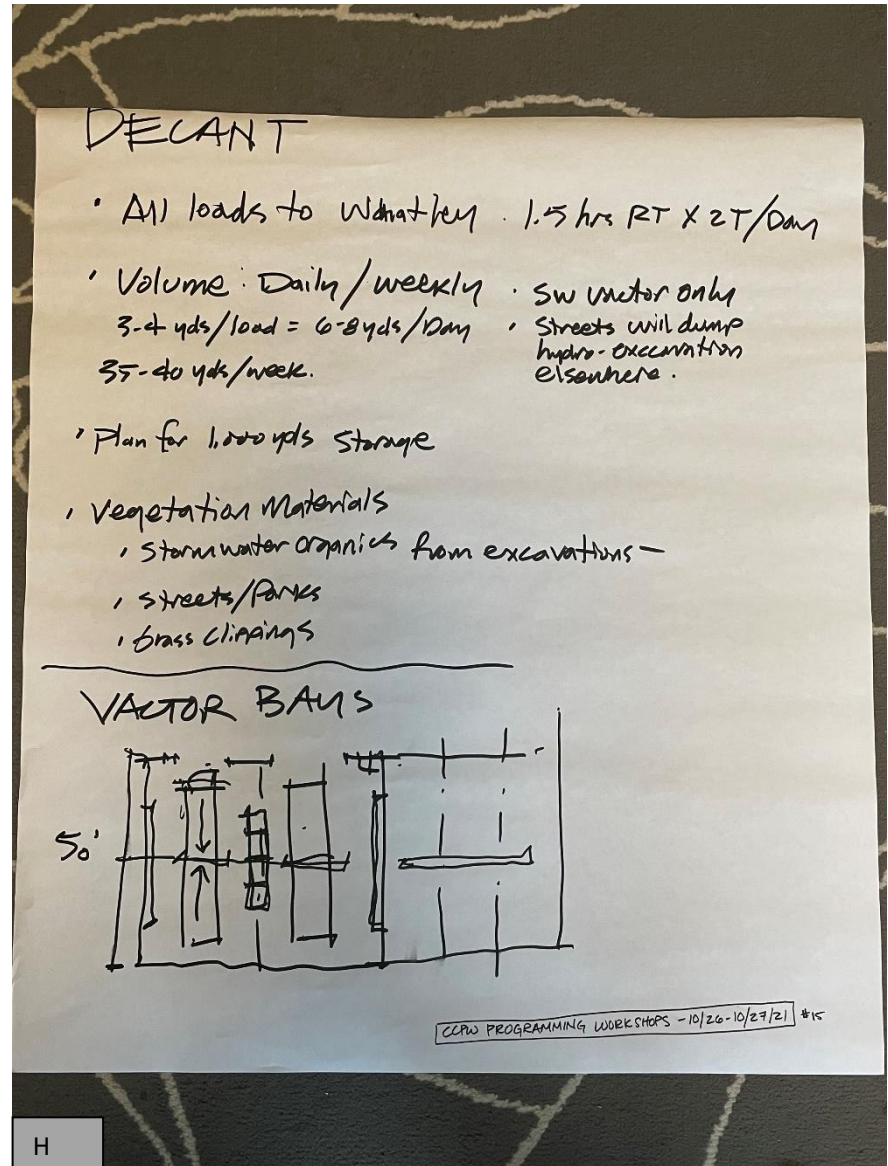
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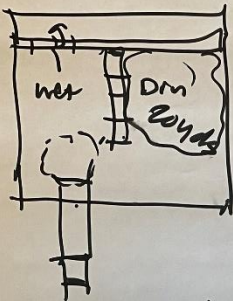
G



H

Vector Decant.

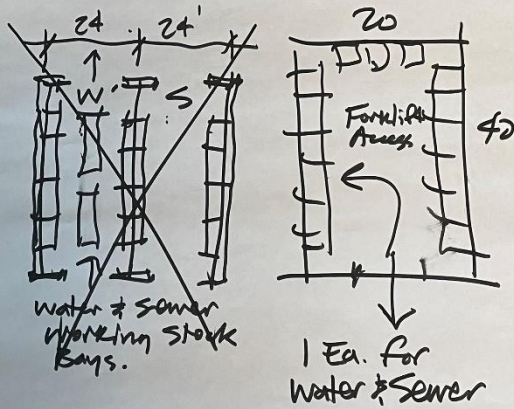
- Currently Spills go to ~~Bochase~~ Rotschy's
- Average 1x/week. 2-3 yds \$5/yd.



Storage

Water

- Meters
- Valves
- Meter Boxes
- Hydrants



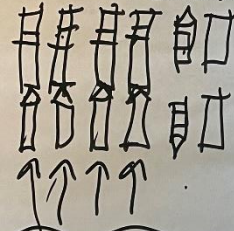
CCPD PROGRAMMING WORKSHOPS 10/26-10/27/21 #17

PARKS MAINT.

Personnel \* Cemetery

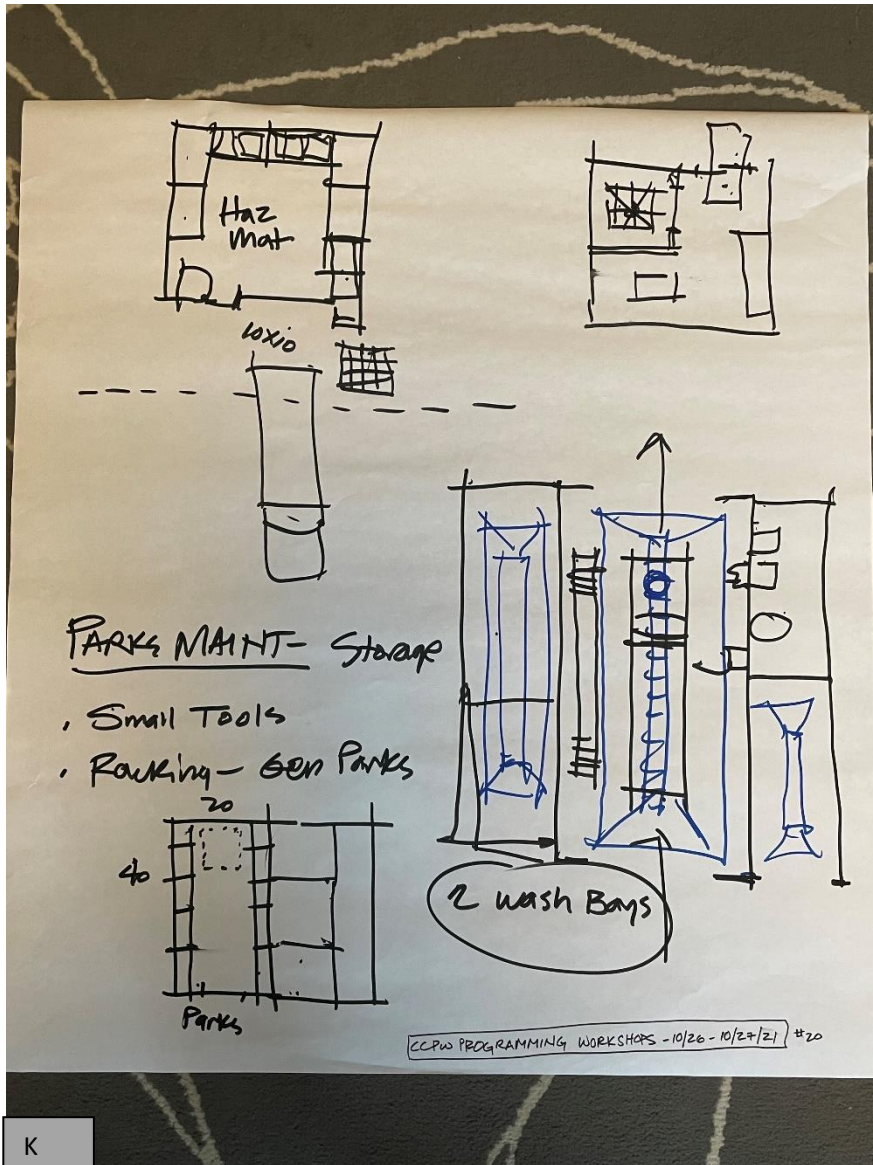
	2021	3.5	2041
• Incl. Cemetery			
• Parks (16)	24±		
• Trails 50-60mi	2021		2041
• OPEN SPACES	will increase		
• Woodlands			
• Maint at City Facilities			
• Street Sweeps / Roundabouts			
	Lead 1	1	2
	Senior 2*	2	3
	Maint II 1	3	5
	Maint I 5	5	5
	Seasonals 5		
	Trucks 7-8	9	10-12
			15

• Crow truck + Trailer Combos (4)



- Cemetery
- Some Equip to be stored on site (See list)
- Relocate Tractor & Implements back to OPS. and Trailer w/ Pressure Washer

CCPD PROGRAMMING WORKSHOPS 10/26-10/27/21 #18



K

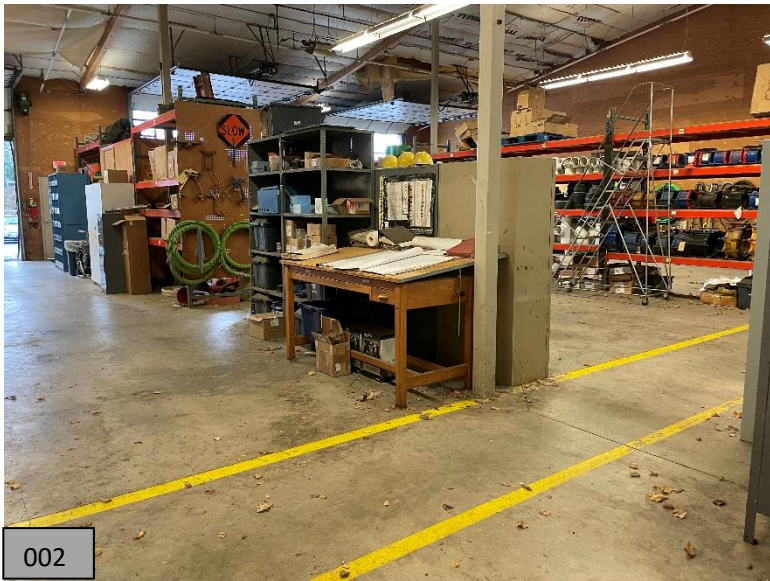
# EXISTING OPERATIONS FACILITY PHOTOS



001



003



002



004



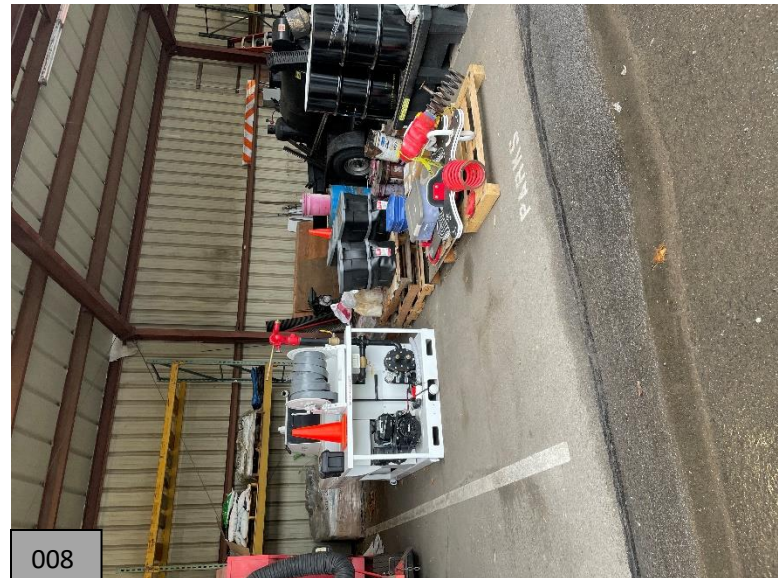
005



007



006



008



009



011



010



012



013



015



014



016



017



018



## SECTION 2 – DRAWINGS

- Existing Operations Facility Site Plan
- Existing Operations Facility Main Building Plan
- Conceptual Redevelopment Plan for Existing Operations Site



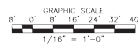
**EXISTING FACILITY SITE PLAN**  
SCALE: 1/16" = 1'-0"



**AREA LEGEND**

- OFFICE AREA
- SHOP/STORAGE AREA
- COMMON AREA
- COVERED AREA

- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_
- 6. \_\_\_\_\_
- 7. \_\_\_\_\_
- 8. \_\_\_\_\_
- Revisions:



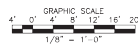
Sheet Title:  
EXISTING FACILITY SITE PLAN

Designed by: SF  
Drawn by: SF  
Checked by: SF

Sheet Number:  
**EQ1.01**  
of Sheets

Revisions:

3.	
4.	
5.	
6.	



Sheet Title:  
 EXISTING BUILDING FLOOR PLANS

Designed by: JF  
 Drawn by: JF  
 Checked by: JF

Sheet Number:  
**BLDG-A**  
 of Sheets



**EXISTING BUILDING FLOOR PLANS**  
 SCALE: 1/8" = 1'-0"



BUILDING NAME	AREA	PROGRAM
BUILDING A.1	4,000 SF	ADMIN FACILITIES
BUILDING A.1a	8,000 SF	ADMIN & CREW SUPPORT SPACES
BUILDING A.2	6,000 SF	CREW FACILITIES
BUILDING A.3	10,000 SF	FLEET SHOP
BUILDING A.4	1,920 SF	CHASSIS WASH & EQUIPMENT ROOM
BUILDING A.5	3,000 SF	SHARED SHOP SPACE & CENTRAL WAREHOUSE
BUILDING B.1	4,320 SF	COVERED VEHICLE PARKING & STORAGE
BUILDING B.1a	960 SF	COVERED VEHICLE PARKING & STORAGE
BUILDING B.2	2,880 SF	COVERED VEHICLE PARKING & STORAGE
BUILDING C	10,975 SF	COVERED VEHICLE PARKING & STORAGE
BUILDING D	5,760 SF	COVERED VEHICLE PARKING & STORAGE
BUILDING E	3,840 SF	DEDICATED DEPARTMENT STORAGE & SHOPS
<b>TOTAL BUILDING PROGRAM AREA:</b>	<b>61,655 SF</b>	

PROVIDED UNCOVERED PARKING	
VISITOR	7
CREW & STAFF	62
CITY VEHICLE	9

#### LEGEND

- BUILDING A.1 - EXISTING FIRST FLOOR FOR CREW & ADMIN TO BE REMODELED (4,000 SF)
- BUILDING A.2 - EXISTING FIRST FLOOR TO BE REMODELED FOR CREW FACILITIES (6,000 SF)
- BUILDING A.1a - NEW 2ND FLOOR ATOP A.1 & A.2 (8,000 SF)
- BUILDING A.3 - NEW FLEET SHOP (10,000 SF)
- BUILDING A.4 - NEW WASH CANOPY AND WASH EQUIPMENT ROOM (1,920 SF)
- BUILDING A.5 - EXISTING FLEET SHOP TO BE REMODELED FOR WAREHOUSE SPACE (3,000 SF)
- BUILDING B.1 - EXISTING CANOPY (4,320 SF)
- BUILDING B.1a - EXISTING CANOPY (960 SF)
- BUILDING B.2 - EXISTING CANOPY (2,880 SF)
- BUILDING C - NEW CANOPY (10,975 SF)
- BUILDING D - NEW CANOPY (5,760 SF)
- BUILDING E - NEW HEATED SHOP SPACE (3,840 SF)
- EXISTING STRUCTURE TO BE DEMOLISHED
- EXISTING STORM POND TO BE COVERED & SURFACED & REPLACED W/ STORM VAULT STRUCTURES
- ADDITIONAL SITE AREA TO INCLUDE IN OPS YARD DEVELOPMENT
- DE-ICING STATION
- (62) STAFF & CREW PARKING
- (7) VISITOR PARKING
- (9) CITY VEHICLES PARKING
- AUTOMATIC SLIDER GATE
- PEDESTRIAN GATE

**CITY OF CAMAS - EXISTING OPERATIONS FACILITY  
CONCEPTUAL REDEVELOPMENT  
TCF ARCHITECTURE  
DECEMBER 23, 2021**

GRAPHIC SCALE: 0 15 30 60



TCF Architecture



NORTH

## SECTION 3 – BUDGETARY COST ESTIMATES

- Budgetary Summaries for Estimated Total Project Costs
- Detailed Budgetary Estimate for Scenario 1

**SUMMARY OF ESTIMATING METHODOLOGY**

**Scenario Comparison:** The Part 1 Work Scope developed by the TCF Team is intended to provide a preliminary comparison between two development Scenarios:

**Scenario 1:** A Split Operation whereby the City renovates and expands the existing City Operations Facility (1A), maximizing the site to accommodate as much of the proposed program areas as possible, and locating remaining program area to a yet-to-be determined Satellite site (1B), creating a Split Operation.

**Scenario 2:** A consolidated, single campus facility accommodating the full proposed program area.

Because actual sites for a satellite or consolidated scenario have not yet been identified or studied, the cost comparisons only provide the basis for initial comparison and discussions to determine next steps. The Part 2 Work Scope will allow for actual sites to be explored and evaluated for programmatic and operational suitability, and for more specific budget estimating.

**Estimating Methodology:** Estimates represent an "Opinion of Probable Costs" based on cost data as collected by RC Cost Group, or "Rough Order of Magnitude" in the case of establishing cost numbers for site acquisition and development for sites that are not yet known. The RC Cost Group has prepared estimates for each of the three possible sites (existing, satellite, and consolidated), providing general contractor mark-ups and provision for escalation over a minimum two year period. Additional escalation provision will be necessary for years beyond. For the Existing Operations site, a GC/CM delivery method is anticipated, with premium costs noted for this delivery method.

**SCENARIO 1A - EXISTING OPERATIONS FACILITY REDEVELOPMENT**

Project Scope Description	Unit	Estimate	Remarks
<b>A1 - SITE DEVELOPMENT COSTS</b>			
On Site Improvements to accommodate full redevelopment		\$3,744,760	Estimate by RC Cost Group and KPFF
Off-Site Improvements (ROW on facing streets)		\$200,000	Allowance
Soil Remediation (Allowance)		\$500,000	Allowance
<b>Total Estimated Site Costs</b>		<b>\$4,444,760</b>	
<b>A2 - BUILDING COSTS</b>			
Existing Main Building - A - Expansion Area		\$4,770,739	See RC Cost Group Cost Estimate
Existing Main Building - A - Remodeled First Level		\$3,119,729	See RC Cost Group Cost Estimate
Existing Main Building - A - New Upper Floor		\$4,415,650	See RC Cost Group Cost Estimate
Existing Storage Canopy Structure - B - Misc Upgrades		\$179,820	See RC Cost Group Cost Estimate
New Storage Canopy Structure - C - Storage Canopy		\$1,945,465	See RC Cost Group Cost Estimate
New Storage Canopy Structure - D - Storage Canopy		\$672,199	See RC Cost Group Cost Estimate
New Storage Enclosed Structure - E - Dept Storage/Work Bays		\$1,254,209	See RC Cost Group Cost Estimate
Building Demolition		\$45,000	See RC Cost Group Cost Estimate
New Equipment: CF-CI		\$300,000	See FPS Preliminary Equipment List
<b>Total Estimated Building Costs (61,655 SF)</b>		<b>\$16,702,811</b>	Blended Cost/SF = \$266/SF
<b>A3 - GC/CM CONTRACTUAL MARK-UP FACTOR</b>			
GC/CM - Provision for GC/CM Delivery Method	5%	\$835,141	
<b>Total Estimated Off-Site Costs</b>		<b>\$835,141</b>	
<b>Subtotal Construction Cost (A1+A2+A3)</b>		<b>\$21,982,712</b>	
<b>B - SOFT COSTS ON CONSTRUCTION COSTS</b>			
Sales Tax	8.40%	\$1,846,548	City of Camas Sales Tax
Professional Design and Construction Support Services	14.00%	\$3,077,580	Allowance
Permitting & Development Fees	2.00%	\$439,654	Allowance - Confirm with City
Other Owner Internal Development and Management Costs	5.00%	\$1,099,136	Allowance - Confirm with District
<b>Total Estimated Soft Costs on Construction Cost</b>	<b>29.40%</b>	<b>\$6,462,917</b>	
<b>Subtotal Const. Costs, Soft Costs (A1+A2+A3+B)</b>		<b>\$28,445,629</b>	
<b>C - EQUIPMENT &amp; FURNISHINGS (OWNER-FURNISHED)</b>			
Owner-Provided Equipment (OF/OI)		\$340,000	See FPS Preliminary Equipment List
Owner-provided Technology		\$150,000	Allowance
Furnishings		\$400,000	Allowance
<b>Total Equipment Furnished by Owner</b>		<b>\$890,000</b>	
<b>Subtotal Const. Costs, Soft Costs, FF&amp;E (A1+A2+A3+B+C)</b>		<b>\$29,335,629</b>	
<b>D - MANAGEMENT RESERVE</b>			
Owner's Management Reserve Fund	5.00%	\$1,466,781	
<b>Total Management Reserve Fund</b>		<b>\$1,466,781</b>	
<b>TOTAL PROJECT BUDGETARY ESTIMATE</b>		<b>\$30,802,410</b>	

**SCENARIO 1B - SATELLITE SITE**

**Satellite Site:** Because the existing Operations Site is not sufficient in size to accommodate the full Operations Program Requirements, estimated budgetary costs for development of a satellite site to accommodate all remaining program elements is included after the Existing Operations Facility Redevelopment Budgetary Estimate. The estimate below provides an "Rough Order of Magnitude" (ROM) budgetary estimate for a hypothetical site developed to accommodate the program scope identified in the Preliminary Program document. Program estimates for minimum area of development indicate 3.2 acres are needed. For conservative planning purposes, 4 acres of development are shown for estimating, and 5 acres are shown for purchase.

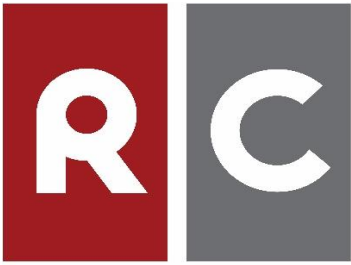
Project Scope Description		Estimate	Remarks
<b>A - SITE DEVELOPMENT COSTS</b>			
On-Site Costs (Assume a 4 acre site)		\$5,041,332	See budgetary ROM estimate by RCCG
Assumed Off-Site Costs		\$1,084,997	Allowance
<b>Total Estimated Building Costs</b>		<b>\$6,126,329</b>	
<b>B- BUILDINGS AND EQUIPMENT</b>			
Assume Canopy Structures totalling (50,000sf)		\$7,372,845	See budgtary ROM RCCG
(2) Wash Bays plus Equip Room &RR (3,840 Sf)		\$1,498,118	See budgtary ROM RCCG
Equipment: CF/CI		\$30,000	Wash Bay Equipment / Misc
<b>Total Estimated Building and Equipment Costs</b>		<b>\$8,900,963</b>	Blended: \$165/SF
<b>Subtotal Construction Cost (A+B)</b>		<b>\$15,027,292</b>	
<b>C - SOFT COSTS ON CONSTRUCTION COSTS</b>			
Sales Tax	8.40%	\$1,262,293	City of Camas Sales Tax
Professional Design and Construction Support Services	11.00%	\$1,653,002	Allowance
Permitting & Development Fees	2.00%	\$300,546	Allowance
Other Owner Development and Management Costs	5.00%	\$751,365	Allowance
<b>Total Estimated Soft Costs on Construction Cost</b>	<b>26.40%</b>	<b>\$3,967,205</b>	
<b>Subtotal Const. Costs, Soft Costs (A+B+C)</b>		<b>\$18,994,497</b>	
<b>D- EQUIPMENT &amp; FURNISHINGS (OWNER-FURNISHED)</b>			
Allowance for OF/OI Equipment		\$25,000	Allowance
Owner-provided Technology		\$50,000	Allowance
Furnishings		\$0	Allowance
<b>Total Equipment Furnished by Owner</b>		<b>\$75,000</b>	
<b>Subtotal Const. Costs, Soft Costs, FF&amp;E (A+B+C+D)</b>		<b>\$19,069,497</b>	
<b>E - SITE ACQUISITION VALUE</b>			
New 5 Acre Site = 217,800sf (Acreage to be confirmed)		\$3,000,000	Value Range: \$12-15/sf
<b>Total Estimated Acquisition or Sales Value</b>		<b>\$3,000,000</b>	
<b>Subtotal Const. Costs, Soft Costs, FF&amp;E (A+B+C+D+E)</b>		<b>\$22,069,497</b>	
<b>F- MANAGEMENT RESERVE</b>			
Owner's Management Reserve Fund	5.00%	\$1,103,475	
<b>Total Management Reserve Fund</b>		<b>\$1,103,475</b>	
<b>TOTAL PROJECT BUDGETARY ESTIMATE</b>		<b>\$23,172,972</b>	
<b>TOTAL EXISTING OPS + SATELLITE SITE BUDGETARY ESTIMATE</b>		<b>\$53,975,382</b>	

**SCENARIO 2 - CONSOLIDATED CAMPUS SITE**

**Consolidated Campus:** The cost figures below provide a "Rough Order of Magnitude" (ROM) budgetary estimate for a hypothetical site developed to accommodate the full City Operations Program for comparison purposes to the Split Campus Scenario. The Program indicates a developable site area of approximately 10 acres. Costs are based on developing 10 acres. However, the site acquisition budget indicates a site of between 12-15 acres which will be recommended for planning purposes, allowing additional site area for expansion or sites that may require a purchase of such acreage to yield an actual developable area of 10+ acres. Building Areas are expressed as hypothetical separate buildings organized by building type for budgeting.

Project Scope Description		Estimate	Remarks
<b>A - SITE DEVELOPMENT COSTS</b>			
On-Site Costs (Assume a 10 acre site development)		\$10,000,000	Assume \$23/sf
Assumed Off-Site Costs		\$1,400,000	Allowance
<b>Total Estimated Building Costs</b>		<b>\$11,400,000</b>	
<b>B- BUILDINGS AND EQUIPMENT</b>			
Building A: Admin & Crew (One story, 18,000sf)		\$9,486,000	Budget \$475/SF plus 11% Esc to March 2024 = \$527/SF
Building B: Warehouse/Shops/Dept Bays (One Story 21,000sf)		\$7,455,000	Budget \$320/SF plus 11% Esc to March 2024 = \$355/SF
Buildings C.1 and C.2: Covered Vehicle/Equip Storage 27,000 SF Each		\$4,482,000	Budget \$150/SF plus 11% Esc to March 2024 = \$166/SF
Building D: Wash Bays/Chassis Wash/Equip Rm (4,850sf)		\$2,080,650	Budget \$390/SF plus 11% Esc to March 2024 = \$429/SF
Building E: Canopy Covering for bulk materials/Decant (14,000sf)		\$1,918,000	Budget \$125/SF plus 11% Esc to March 2024 = \$137/SF
Building F: 3-sided canopy storage: Salt/Brine (1,400sf)		\$210,000	Budget \$150/SF plus 11% Esc to March 2024 = \$166/SF
Equipment: CF/CI		\$331,000	See FPS Preliminary Equipment List
<b>Total Estimated Building and Equipment Costs (113,250sf)</b>		<b>\$25,962,650</b>	Blended: \$229/SF
<b>Subtotal Construction Cost (A+B)</b>		<b>\$37,362,650</b>	
<b>C - SOFT COSTS ON CONSTRUCTION COSTS</b>			
Sales Tax	8.40%	\$3,138,463	City of Camas Sales Tax
Professional Design and Construction Support Services	14.00%	\$5,230,771	Allowance
Permitting & Development Fees	2.00%	\$747,253	Allowance
Other Owner Development and Management Costs	5.00%	\$1,868,133	Allowance
<b>Total Estimated Soft Costs on Construction Cost</b>		<b>29.40%</b>	<b>\$10,984,619</b>
<b>Subtotal Const. Costs, Soft Costs (A+B+C)</b>		<b>\$48,347,269</b>	
<b>D- EQUIPMENT &amp; FURNISHINGS (OWNER-FURNISHED)</b>			
Allowance for OF/OI Equipment		\$300,000	Allowance
Owner-provided Technology		\$200,000	Allowance
Furnishings		\$400,000	Allowance
<b>Total Equipment Furnished by Owner</b>		<b>\$900,000</b>	
<b>Subtotal Const. Costs, Soft Costs, FF&amp;E (A+B+C+D)</b>		<b>\$49,247,269</b>	
<b>E - LAND ACQUISITION AND SALES</b>			
New 12-15 Acre Site = (Acreage to be confirmed)		\$9,000,000	Value Range: \$12-15/sf
Potential to sell current Operations Site 3.7 acre		(\$2,200,000)	Value Range: \$12-15/sf
<b>Total Estimated Acquisition or Sales Values</b>		<b>\$6,800,000</b>	
<b>Subtotal Const. Costs, Soft Costs, FF&amp;E (A+B+C+D+E)</b>		<b>\$56,047,269</b>	
<b>F- MANAGEMENT RESERVE</b>			
Owner's Management Reserve Fund		5.00%	\$2,802,363
<b>Total Management Reserve Fund</b>		<b>\$2,802,363</b>	
<b>TOTAL PROJECT BUDGETARY ESTIMATE</b>		<b>\$58,849,633</b>	





**COST GROUP**

**CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE**

**ESTIMATE ISSUE DATE: December 6, 2021  
ESTIMATE REVISION: 0**

**Submitted To:**

**RANDY COOK, MANAGING PRINCIPAL  
TCF ARCHITECTURE PLLC  
902 NORTH 2ND STREET  
TACOMA, WA 98403**

## CLARIFICATIONS AND ASSUMPTIONS

### RC Cost Group Estimating Team:

Lead Estimator: Andy Cluness

### Exclusions from Construction Cost:

- Design fees
- Owners administration costs
- Building and land acquisition fees
- Legal and accounting fees
- Removal of unforeseen underground obstructions
- Owner's furniture, furnishings and equipment
- Owners supplied materials
- Moving owners equipment and furniture
- Compression of schedule, premium or shift work
- Assessments, finance, legal and development charges
- Builder's risk, project wrap-up and other owner provided insurance program
- Washington State Sales Tax
- AV Equipment

### Assumption used in establishing the estimate:

- The project will be procured utilizing the Design, Bid, Build Delivery Method
- Open and competitive bidding among all proportions of the work
- Construction Start Date: March 2024
- Escalation has been included at the following to Start of Construction: 11.27%
  - Year 1: 5.50%, Year 3: 4.50%, Year 3: 4.00%

### 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.

**OVERALL SUMMARY CONSTRUCTION COST**

<u>Existing Operations Facility</u>		GFA	\$/SF	\$
Building A.1 and A.2 Remodel for Crew / Facilities	Building A1 / A2	10,000 SF	311.97	3,119,729
Building A New Second Floor	Building A	8,000 SF	551.96	4,415,650
Building A.3 New Fleet Shop	Building A3	10,000 SF	370.20	3,702,011
Building A.4 New Wash Bay and Equipment Room	Building A4	1,920 SF	390.13	749,059
Building A.5 Renovation for New Fleet Shop	Building A5	3,000 SF	106.56	319,669
Upgrades to Existing Three Sided Canopy Structure	Building B	8,160 SF	22.04	179,820
Enclosed Canopy	Building C1	3,631 SF	238.16	864,747
New Three Sided Canopy Storage	Building C2	7,344 SF	147.16	1,080,718
New Canopy Structure	Building D	5,760 SF	116.70	672,199
New Heated Shop Space	Building E	3,840 SF	326.62	1,254,209
Building Structure Demolition		3,000 SF	15.00	45,000
Sitework	Site			3,744,760
Equipment CFCI	Equipment			330,129

**TOTAL CONSTRUCTION COST AT EXISTING FACILITY**

**20,477,700**

Satellite Facility Scope - 4 Acre

Garbage Bin Storage		1,125 SF	45.00	50,625
Wash Bays (2)		3,840 SF	390.13	1,498,118
Covered Bulk Materials Storage (Balance of 115,253 SF, Excludes Bin Storage Area)		49,758 SF	147.16	7,322,220
Sitework (\$20/SF + Mark Ups)		174,240 SF	28.93	5,041,332
Frontage Improvements (\$750K + Mark Ups)				1,084,997

**TOTAL CONSTRUCTION COST AT SATELLITE FACILITY**

**14,997,292**

**BUILDING DATA**

**Building A1 and A2 Remodel Area:**

Level 1 10,000 SF

**Total Gross Floor Area 10,000 SF**

	Quantity	Unit	Ratio to Gross Area
Gross Area	10,000	SF	1.000
Footprint Area	-	SF	
Suspended Slab	10,000	SF	1.000

**CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
BUILDING A1 and A2 REMODEL**

GROSS FLOOR AREA: 10,000 SF  
DATE: December 6, 2021



No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS	\$	14,500	\$ 1.45
A1010	Standard Foundation	\$ -	\$ -	
A1020	Special Foundation	\$ -	\$ -	
A1030	Slab on grade	\$ 14,500	\$ 14,500	\$ 1.45
A20	BASEMENT WALL CONSTRUCTION	\$	-	\$ -
A2010	Basement Excavation	\$ -	\$ -	
A2020	Basement Wall Construction	\$ -	\$ -	
B10	SUPERSTRUCTURE	\$	-	\$ -
B1010	Floor & Roof Construction	\$ -	\$ -	
B20	EXTERIOR ENCLOSURE	\$	205,000	\$ 20.50
B2010	Exterior Walls	\$ 120,000	\$ 120,000	\$ 12.00
B2020	Exterior Windows	\$ 65,000	\$ 65,000	\$ 6.50
B2030	Exterior Doors	\$ 20,000	\$ 20,000	\$ 2.00
B30	ROOFING	\$	-	\$ -
B3010	Roofing	\$ -	\$ -	
C10	INTERIOR CONSTRUCTION	\$	323,500	\$ 32.35
C1010	Partitions	\$ 200,000	\$ 200,000	\$ 20.00
C1020	Interior Doors	\$ 46,000	\$ 46,000	\$ 4.60
C1030	Fittings and Specialties	\$ 77,500	\$ 77,500	\$ 7.75
C20	STAIRS	\$	-	\$ -
C2010	Stair Construction	\$ -	\$ -	
C30	INTERIOR FINISHES	\$	283,500	\$ 28.35
C3010	Wall Finishes	\$ 85,000	\$ 85,000	\$ 8.50
C3020	Floor Finishes	\$ 89,000	\$ 89,000	\$ 8.90
C3030	Ceiling Finishes	\$ 109,500	\$ 109,500	\$ 10.95
D10	CONVEYING	\$	-	\$ -
D1010	Elevators & Lifts	\$ -	\$ -	
D20	PLUMBING	\$	165,000	\$ 16.50
D2010	Plumbing	\$ 165,000	\$ 165,000	\$ 16.50
D30	HVAC	\$	470,000	\$ 47.00
D3010	HVAC	\$ 470,000	\$ 470,000	\$ 47.00
D40	FIRE PROTECTION	\$	56,000	\$ 5.60
D4010	Sprinkler System	\$ 56,000	\$ 56,000	\$ 5.60
D50	ELECTRICAL	\$	470,000	\$ 47.00
D5000	Electrical	\$ 470,000	\$ 470,000	\$ 47.00
E10	EQUIPMENT	\$	12,500	\$ 1.25
E1010	Equipment	\$ 12,500	\$ 12,500	\$ 1.25
E20	FIXED FURNISHINGS	\$	66,500	\$ 6.65
E2010	Fixed Furnishings	\$ 66,500	\$ 66,500	\$ 6.65
F10	SPECIAL CONSTRUCTION	\$	-	\$ -
F1010	Special Structure	\$ -	\$ -	
F1020	Special Construction	\$ -	\$ -	
F20	SELECTIVE BUILDING DEMOLITION	\$	90,000	\$ 9.00
F2010	Building Elements Demolition	\$ 90,000	\$ 90,000	\$ 9.00
Sub-Total Direct Cost		\$	2,156,500	\$ 215.65
Estimating / Design Contingency 10.00%		\$	215,650	\$ 21.57
Sub-Total		\$	2,372,150	\$ 237.22
General Conditions/General Requirements 10.15%		\$	240,773	\$ 24.08
General Contractor's Fee, Bonds and Insurance 7.30%		\$	190,743	\$ 19.07
Sub-Total		\$	2,803,667	\$ 280.37
Escalation, March 2024 11.27%		\$	316,062	\$ 31.61
<b>TOTAL CONSTRUCTION COST</b>		\$	<b>3,119,729</b>	\$ <b>311.97</b>

**BUILDING DATA**

**Building A Area: Add Second Floor**

Level 1 8,000 SF

**Total Gross Floor Area 8,000 SF**

	Quantity	Unit	Ratio to Gross Area
Gross Area	8,000	SF	1.000
Footprint Area	-	SF	
Suspended Slab	8,144	SF	1.018

CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
BUILDING A: NEW SECOND FLOOR

GROSS FLOOR AREA: 8,000 SF  
DATE: December 6, 2021



No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		\$ 49,600	\$ 6.20
A1010	Standard Foundation	\$ 38,000	\$ 4.75	
A1020	Special Foundation	\$ -	\$ -	
A1030	Slab on grade	\$ 11,600	\$ 1.45	
A20	BASEMENT WALL CONSTRUCTION		\$ -	\$ -
A2010	Basement Excavation	\$ -	\$ -	
A2020	Basement Wall Construction	\$ -	\$ -	
B10	SUPERSTRUCTURE		\$ 480,000	\$ 60.00
B1010	Floor & Roof Construction	\$ 480,000	\$ 60.00	
B20	EXTERIOR ENCLOSURE		\$ 406,900	\$ 50.86
B2010	Exterior Walls	\$ 296,400	\$ 37.05	
B2020	Exterior Windows	\$ 110,500	\$ 13.81	
B2030	Exterior Doors	\$ -	\$ -	
B30	ROOFING		\$ 240,000	\$ 30.00
B3010	Roofing	\$ 240,000	\$ 30.00	
C10	INTERIOR CONSTRUCTION		\$ 330,000	\$ 41.25
C1010	Partitions	\$ 192,000	\$ 24.00	
C1020	Interior Doors	\$ 53,200	\$ 6.65	
C1030	Fittings and Specialties	\$ 84,800	\$ 10.60	
C20	STAIRS		\$ 60,000	\$ 7.50
C2010	Stair Construction	\$ 60,000	\$ 7.50	
C30	INTERIOR FINISHES		\$ 226,800	\$ 28.35
C3010	Wall Finishes	\$ 68,000	\$ 8.50	
C3020	Floor Finishes	\$ 71,200	\$ 8.90	
C3030	Ceiling Finishes	\$ 87,600	\$ 10.95	
D10	CONVEYING		\$ 175,000	\$ 21.88
D1010	Elevators & Lifts	\$ 175,000	\$ 21.88	
D20	PLUMBING		\$ 112,000	\$ 14.00
D2010	Plumbing	\$ 112,000	\$ 14.00	
D30	HVAC		\$ 376,000	\$ 47.00
D3010	HVAC	\$ 376,000	\$ 47.00	
D40	FIRE PROTECTION		\$ 44,800	\$ 5.60
D4010	Sprinkler System	\$ 44,800	\$ 5.60	
D50	ELECTRICAL		\$ 376,000	\$ 47.00
D5000	Electrical	\$ 376,000	\$ 47.00	
E10	EQUIPMENT		\$ 10,000	\$ 1.25
E1010	Equipment	\$ 10,000	\$ 1.25	
E20	FIXED FURNISHINGS		\$ 53,200	\$ 6.65
E2010	Fixed Furnishings	\$ 53,200	\$ 6.65	
F10	SPECIAL CONSTRUCTION		\$ -	\$ -
F1010	Special Structure	\$ -	\$ -	
F1020	Special Construction	\$ -	\$ -	
F20	SELECTIVE BUILDING DEMOLITION		\$ 112,000	\$ 14.00
F2010	Building Elements Demolition	\$ 112,000		
	<b>Sub-Total Direct Cost</b>		\$ 3,052,300	\$ 381.54
	Estimating / Design Contingency 10.00%		\$ 305,230	\$ 38.15
	<b>Sub-Total</b>		\$ 3,357,530	\$ 419.69
	General Conditions/General Requirements 10.15%		\$ 340,789	\$ 42.60
	General Contractor's Fee, Bonds and Insurance 7.30%		\$ 269,977	\$ 33.75
	<b>Sub-Total</b>		\$ 3,968,297	\$ 496.04
	Escalation, March 2024 11.27%		\$ 447,353	\$ 55.92
	<b>TOTAL CONSTRUCTION COST</b>		\$ 4,415,650	\$ 551.96

**BUILDING DATA**

**Building a3 Area: New Fleet Shop**

Level 1	10,000 SF	
<b>Total Gross Floor Area</b>		<b>10,000 SF</b>
Storage Mezzanine	1,440 SF	
<b>Total Unoccupied Space (Excluded from GFA)</b>		<b>1,440 SF</b>

	<b>Quantity</b>	<b>Unit</b>	<b>Ratio to Gross Area</b>
Gross Area	10,000	SF	1.000
Footprint Area	10,000	SF	1.000



**CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
BUILDING A3: NEW FLEET SHOP**

GROSS FLOOR AREA: 10,000 SF  
DATE: December 6, 2021



No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		\$ 180,000	\$ 18.00
A1010	Standard Foundation	\$ 70,000	\$ 7.00	
A1020	Special Foundation	\$ -	\$ -	
A1030	Slab on grade	\$ 110,000	\$ 11.00	
A20	BASEMENT WALL CONSTRUCTION		\$ -	\$ -
A2010	Basement Excavation	\$ -	\$ -	
A2020	Basement Wall Construction	\$ -	\$ -	
B10	SUPERSTRUCTURE		\$ 366,500	\$ 36.65
B1010	Floor & Roof Construction	\$ 366,500	\$ 36.65	
B20	EXTERIOR ENCLOSURE		\$ 350,000	\$ 35.00
B2010	Exterior Walls	\$ 244,000	\$ 24.40	
B2020	Exterior Windows	\$ 31,000	\$ 3.10	
B2030	Exterior Doors	\$ 75,000	\$ 7.50	
B30	ROOFING		\$ 300,000	\$ 30.00
B3010	Roofing	\$ 300,000	\$ 30.00	
C10	INTERIOR CONSTRUCTION		\$ 216,000	\$ 21.60
C1010	Partitions	\$ 157,500	\$ 15.75	
C1020	Interior Doors	\$ 23,500	\$ 2.35	
C1030	Fittings and Specialties	\$ 35,000	\$ 3.50	
C20	STAIRS		\$ 18,500	\$ 1.85
C2010	Stair Construction	\$ 18,500	\$ 1.85	
C30	INTERIOR FINISHES		\$ 95,000	\$ 9.50
C3010	Wall Finishes	\$ 70,000	\$ 7.00	
C3020	Floor Finishes	\$ 20,000	\$ 2.00	
C3030	Ceiling Finishes	\$ 5,000	\$ 0.50	
D10	CONVEYING		\$ -	\$ -
D1010	Elevators & Lifts	\$ -	\$ -	
D20	PLUMBING		\$ 198,000	\$ 19.80
D2010	Plumbing	\$ 198,000	\$ 19.80	
D30	HVAC		\$ 325,000	\$ 32.50
D3010	HVAC	\$ 325,000	\$ 32.50	
D40	FIRE PROTECTION		\$ 52,500	\$ 5.25
D4010	Sprinkler System	\$ 52,500	\$ 5.25	
D50	ELECTRICAL		\$ 330,000	\$ 33.00
D5000	Electrical	\$ 330,000	\$ 33.00	
E10	EQUIPMENT		\$ -	\$ -
E1010	Equipment	\$ -	\$ -	
E20	FIXED FURNISHINGS		\$ 42,500	\$ 4.25
E2010	Fixed Furnishings	\$ 42,500	\$ 4.25	
F10	SPECIAL CONSTRUCTION		\$ -	\$ -
F1010	Special Structure		\$ -	
F1020	Special Construction	\$ -		
F20	SELECTIVE BUILDING DEMOLITION		\$ 85,000	\$ 8.50
F2010	Building Elements Demolition	\$ 85,000		
Sub-Total Direct Cost			\$ 2,559,000	\$ 255.90
Estimating / Design Contingency 10.00%			\$ 255,900	\$ 25.59
Sub-Total			\$ 2,814,900	\$ 281.49
General Conditions/General Requirements 10.15%			\$ 285,712	\$ 28.57
General Contractor's Fee, Bonds and Insurance 7.30%			\$ 226,345	\$ 22.63
Sub-Total			\$ 3,326,957	\$ 332.70
Escalation, March 2024 11.27%			\$ 375,054	\$ 37.51
<b>TOTAL CONSTRUCTION COST</b>			<b>\$ 3,702,011</b>	<b>\$ 370.20</b>

**BUILDING DATA**

**Building A4 Area: New Wash Bay and Equipment Room**

Level 1 1,920 SF

**Total Gross Floor Area 1,920 SF**

	Quantity	Unit	Ratio to Gross Area
Gross Area	1,920	SF	1.000
Footprint Area	1,920	SF	1.000

CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
BUILDING A: NEW WASH BAY AND EQUIPMENT ROOM

GROSS FLOOR AREA: 1,920 SF  
DATE: December 6, 2021



No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		\$ 53,760	\$ 28.00
A1010	Standard Foundation	\$ 24,960	\$ 13.00	
A1020	Special Foundation	\$ -	\$ -	
A1030	Slab on grade	\$ 28,800	\$ 15.00	
A20	BASEMENT WALL CONSTRUCTION		\$ -	\$ -
A2010	Basement Excavation	\$ -	\$ -	
A2020	Basement Wall Construction	\$ -	\$ -	
B10	SUPERSTRUCTURE		\$ 59,000	\$ 30.73
B1010	Floor & Roof Construction	\$ 59,000	\$ 30.73	
B20	EXTERIOR ENCLOSURE		\$ 32,640	\$ 17.00
B2010	Exterior Walls	\$ 28,800	\$ 15.00	
B2020	Exterior Windows	\$ -	\$ -	
B2030	Exterior Doors	\$ 3,840	\$ 2.00	
B30	ROOFING		\$ 1,440	\$ 0.75
B3010	Roofing	\$ 1,440	\$ 0.75	
C10	INTERIOR CONSTRUCTION		\$ 14,592	\$ 7.60
C1010	Partitions	\$ 3,552	\$ 1.85	
C1020	Interior Doors	\$ 1,920	\$ 1.00	
C1030	Fittings and Specialties	\$ 9,120	\$ 4.75	
C20	STAIRS		\$ -	\$ -
C2010	Stair Construction	\$ -	\$ -	
C30	INTERIOR FINISHES		\$ 9,600	\$ 5.00
C3010	Wall Finishes	\$ 5,760	\$ 3.00	
C3020	Floor Finishes	\$ 3,840	\$ 2.00	
C3030	Ceiling Finishes	\$ -	\$ -	
D10	CONVEYING		\$ -	\$ -
D1010	Elevators & Lifts	\$ -	\$ -	
D20	PLUMBING		\$ 99,840	\$ 52.00
D2010	Plumbing	\$ 99,840	\$ 52.00	
D30	HVAC		\$ 2,880	\$ 1.50
D3010	HVAC	\$ 2,880	\$ 1.50	
D40	FIRE PROTECTION		\$ 10,752	\$ 5.60
D4010	Sprinkler System	\$ 10,752	\$ 5.60	
D50	ELECTRICAL		\$ 55,680	\$ 29.00
D5000	Electrical	\$ 55,680	\$ 29.00	
E10	EQUIPMENT		\$ 86,400	\$ 45.00
E1010	Equipment	\$ 86,400	\$ 45.00	
E20	FIXED FURNISHINGS		\$ -	\$ -
E2010	Fixed Furnishings	\$ -	\$ -	
F10	SPECIAL CONSTRUCTION		\$ 91,200	\$ 47.50
F1010	Special Structure	\$ 91,200	\$ 47.50	
F1020	Special Construction	\$ -		
F20	SELECTIVE BUILDING DEMOLITION		\$ -	\$ -
F2010	Building Elements Demolition	\$ -		
Sub-Total Direct Cost			\$ 517,784	\$ 269.68
Estimating / Design Contingency 10.00%			\$ 51,778	\$ 26.97
Sub-Total			\$ 569,562	\$ 296.65
General Conditions/General Requirements 10.15%			\$ 57,811	\$ 30.11
General Contractor's Fee, Bonds and Insurance 7.30%			\$ 45,798	\$ 23.85
Sub-Total			\$ 673,171	\$ 350.61
Escalation, March 2024 11.27%			\$ 75,888	\$ 39.52
<b>TOTAL CONSTRUCTION COST</b>			<b>\$ 749,059</b>	<b>\$ 390.13</b>

**BUILDING DATA**

**Building A5 Area: Renovation to Warehouse Area**

Level 1 3,000 SF

**Total Gross Floor Area 3,000 SF**

	Quantity	Unit	Ratio to Gross Area
Gross Area	3,000	SF	1.000
Footprint Area	3,000	SF	1.000

CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA

PRE-DESIGN ESTIMATE

BUILDING D: FLEET MAINTENANCE, WASH BAY, FUEL CANOPY

GROSS FLOOR AREA: 3,000 SF

DATE: December 6, 2021



No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		\$ 6,000	\$ 2.00
A1010	Standard Foundation	\$ -	\$ -	
A1020	Special Foundation	\$ -	\$ -	
A1030	Slab on grade	\$ 6,000	\$ 2.00	
A20	BASEMENT WALL CONSTRUCTION	\$ -	\$ -	\$ -
A2010	Basement Excavation	\$ -	\$ -	
A2020	Basement Wall Construction	\$ -	\$ -	
B10	SUPERSTRUCTURE	\$ 19,500	\$ 19,500	\$ 6.50
B1010	Floor & Roof Construction	\$ 19,500	\$ 6.50	
B20	EXTERIOR ENCLOSURE	\$ 30,000	\$ 30,000	\$ 10.00
B2010	Exterior Walls	\$ -	\$ -	
B2020	Exterior Windows	\$ -	\$ -	
B2030	Exterior Doors	\$ 30,000	\$ 10.00	
B30	ROOFING	\$ -	\$ -	\$ -
B3010	Roofing	\$ -	\$ -	
C10	INTERIOR CONSTRUCTION	\$ 28,000	\$ 28,000	\$ 9.33
C1010	Partitions	\$ 18,000	\$ 6.00	
C1020	Interior Doors	\$ 5,000	\$ 1.67	
C1030	Fittings and Specialties	\$ 5,000	\$ 1.67	
C20	STAIRS	\$ -	\$ -	\$ -
C2010	Stair Construction	\$ -	\$ -	
C30	INTERIOR FINISHES	\$ 11,600	\$ 11,600	\$ 3.87
C3010	Wall Finishes	\$ 6,600	\$ 2.20	
C3020	Floor Finishes	\$ 5,000	\$ 1.67	
C3030	Ceiling Finishes	\$ -	\$ -	
D10	CONVEYING	\$ -	\$ -	\$ -
D1010	Elevators & Lifts	\$ -	\$ -	
D20	PLUMBING	\$ 10,000	\$ 10,000	\$ 3.33
D2010	Plumbing	\$ 10,000	\$ 3.33	
D30	HVAC	\$ 45,000	\$ 45,000	\$ 15.00
D3010	HVAC	\$ 45,000	\$ 15.00	
D40	FIRE PROTECTION	\$ 10,500	\$ 10,500	\$ 3.50
D4010	Sprinkler System	\$ 10,500	\$ 3.50	
D50	ELECTRICAL	\$ 48,000	\$ 48,000	\$ 16.00
D5000	Electrical	\$ 48,000	\$ 16.00	
E10	EQUIPMENT	\$ -	\$ -	\$ -
E1010	Equipment	\$ -	\$ -	
E20	FIXED FURNISHINGS	\$ -	\$ -	\$ -
E2010	Fixed Furnishings	\$ -	\$ -	
F10	SPECIAL CONSTRUCTION	\$ -	\$ -	\$ -
F1010	Special Structure	\$ -	\$ -	
F1020	Special Construction	\$ -	\$ -	
F20	SELECTIVE BUILDING DEMOLITION	\$ 24,000	\$ 24,000	\$ 8.00
F2010	Building Elements Demolition	\$ 24,000		
Sub-Total Direct Cost			\$ 232,600	\$ 77.53
Estimating / Design Contingency 4.50%			\$ 10,467	\$ 3.49
Sub-Total			\$ 243,067	\$ 81.02
General Conditions/General Requirements 10.15%			\$ 24,671	\$ 8.22
General Contractor's Fee, Bonds and Insurance 7.30%			\$ 19,545	\$ 6.51
Sub-Total			\$ 287,283	\$ 95.76
Escalation, March 2024 11.27%			\$ 32,386	\$ 10.80
<b>TOTAL CONSTRUCTION COST</b>			<b>\$ 319,669</b>	<b>\$ 106.56</b>

**BUILDING DATA**

**Building B Area: Existing Canopy**

Canopy: B1	4,320 SF
Canopy: B2	960 SF
Canopy: B3	2,880 SF

<b>Total Gross Floor Area</b>	<b>8,160 SF</b>
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	<b>Quantity</b>	<b>Unit</b>	<b>Ratio to Gross Area</b>
Gross Area	8,160	SF	1.000
Footprint Area	8,160	SF	1.000

CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
BUILDING B: EXISTING CANOPY

GROSS FLOOR AREA: 8,160 SF  
DATE: December 6, 2021



No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		\$ -	\$ -
A1010	Standard Foundation	\$ -	\$ -	
A1020	Special Foundation	\$ -	\$ -	
A1030	Slab on grade	\$ -	\$ -	
A20	BASEMENT WALL CONSTRUCTION		\$ -	\$ -
A2010	Basement Excavation	\$ -	\$ -	
A2020	Basement Wall Construction	\$ -	\$ -	
B10	SUPERSTRUCTURE		\$ 40,800	\$ 5.00
B1010	Floor & Roof Construction	\$ 40,800	\$ 5.00	
B20	EXTERIOR ENCLOSURE		\$ -	\$ -
B2010	Exterior Walls	\$ -	\$ -	
B2020	Exterior Windows	\$ -	\$ -	
B2030	Exterior Doors	\$ -	\$ -	
B30	ROOFING		\$ 15,000	\$ 1.84
B3010	Roofing	\$ 15,000	\$ 1.84	
C10	INTERIOR CONSTRUCTION		\$ 8,500	\$ 1.04
C1010	Partitions	\$ -	\$ -	
C1020	Interior Doors	\$ -	\$ -	
C1030	Fittings and Specialties	\$ 8,500	\$ 1.04	
C20	STAIRS		\$ -	\$ -
C2010	Stair Construction	\$ -	\$ -	
C30	INTERIOR FINISHES		\$ -	\$ -
C3010	Wall Finishes	\$ -	\$ -	
C3020	Floor Finishes	\$ -	\$ -	
C3030	Ceiling Finishes	\$ -	\$ -	
D10	CONVEYING		\$ -	\$ -
D1010	Elevators & Lifts	\$ -	\$ -	
D20	PLUMBING		\$ -	\$ -
D2010	Plumbing	\$ -	\$ -	
D30	HVAC		\$ -	\$ -
D3010	HVAC	\$ -	\$ -	
D40	FIRE PROTECTION		\$ -	\$ -
D4010	Sprinkler System	\$ -	\$ -	
D50	ELECTRICAL		\$ 60,000	\$ 7.35
D5000	Electrical	\$ 60,000	\$ 7.35	
E10	EQUIPMENT		\$ -	\$ -
E1010	Equipment	\$ -	\$ -	
E20	FIXED FURNISHINGS		\$ -	\$ -
E2010	Fixed Furnishings	\$ -	\$ -	
F10	SPECIAL CONSTRUCTION		\$ -	\$ -
F1010	Special Structure	\$ -		
F1020	Special Construction	\$ -		
F20	SELECTIVE BUILDING DEMOLITION		\$ -	\$ -
F2010	Building Elements Demolition	\$ -		
Sub-Total Direct Cost			\$ 124,300	\$ 15.23
Estimating / Design Contingency 10.00%			\$ 12,430	\$ 1.52
Sub-Total			\$ 136,730	\$ 16.76
General Conditions/General Requirements 10.15%			\$ 13,878	\$ 1.70
General Contractor's Fee, Bonds and Insurance 7.30%			\$ 10,994	\$ 1.35
Sub-Total			\$ 161,602	\$ 19.80
Escalation, March 2024 11.27%			\$ 18,218	\$ 2.23
<b>TOTAL CONSTRUCTION COST</b>			<b>\$ 179,820</b>	<b>\$ 22.04</b>

CITY OF TUMWATER PUBLIC WORKS  
M&O FACILITY  
TUMWATER, WA  
PRE-DESIGN ESTIMATE  
BUILDING C1: ENCLOSED STORAGE

GROSS FLOOR AREA: 3,631 SF  
DATE: December 6, 2021



No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		\$ 72,807	\$ 20.05
A1010	Standard Foundation	\$ 33,883	\$ 9.33	
A1020	Special Foundation	\$ -	\$ -	
A1030	Slab on grade	\$ 38,924	\$ 10.72	
A20	BASEMENT WALL CONSTRUCTION	\$ -	\$ -	\$ -
A2010	Basement Excavation	\$ -	\$ -	
A2020	Basement Wall Construction	\$ -	\$ -	
B10	SUPERSTRUCTURE	\$ -	\$ -	\$ -
B1010	Floor & Roof Construction	\$ -	\$ -	
B20	EXTERIOR ENCLOSURE	\$ 75,294	\$ 20.74	
B2010	Exterior Walls	\$ 16,081	\$ 4.43	
B2020	Exterior Windows	\$ -	\$ -	
B2030	Exterior Doors	\$ 59,213	\$ 16.31	
B30	ROOFING	\$ 2,905	\$ 0.80	
B3010	Roofing	\$ 2,905	\$ 0.80	
C10	INTERIOR CONSTRUCTION	\$ 10,644	\$ 2.93	
C1010	Partitions	\$ -	\$ -	
C1020	Interior Doors	\$ -	\$ -	
C1030	Fittings and Specialties	\$ 10,644	\$ 2.93	
C20	STAIRS	\$ -	\$ -	\$ -
C2010	Stair Construction	\$ -	\$ -	
C30	INTERIOR FINISHES	\$ 17,429	\$ 4.80	
C3010	Wall Finishes	\$ 10,893	\$ 3.00	
C3020	Floor Finishes	\$ 6,536	\$ 1.80	
C3030	Ceiling Finishes	\$ -	\$ -	
D10	CONVEYING	\$ -	\$ -	\$ -
D1010	Elevators & Lifts	\$ -	\$ -	
D20	PLUMBING	\$ 21,060	\$ 5.80	
D2010	Plumbing	\$ 21,060	\$ 5.80	
D30	HVAC	\$ 50,834	\$ 14.00	
D3010	HVAC	\$ 50,834	\$ 14.00	
D40	FIRE PROTECTION	\$ 14,524	\$ 4.00	
D4010	Sprinkler System	\$ 14,524	\$ 4.00	
D50	ELECTRICAL	\$ 94,406	\$ 26.00	
D5000	Electrical	\$ 94,406	\$ 26.00	
E10	EQUIPMENT	\$ -	\$ -	\$ -
E1010	Equipment	\$ -	\$ -	
E20	FIXED FURNISHINGS	\$ -	\$ -	\$ -
E2010	Fixed Furnishings	\$ -	\$ -	
F10	SPECIAL CONSTRUCTION	\$ 237,850	\$ 65.51	
F1010	Special Structure	\$ 237,850	\$ 65.51	
F1020	Special Construction	\$ -		
F20	SELECTIVE BUILDING DEMOLITION	\$ -	\$ -	\$ -
F2010	Building Elements Demolition	\$ -		
Sub-Total Direct Cost		\$ 597,753	\$ 164.62	
Estimating / Design Contingency 10.00%		\$ 59,775	\$ 16.46	
Sub-Total		\$ 657,528	\$ 181.09	
General Conditions/General Requirements 10.15%		\$ 66,739	\$ 18.38	
General Contractor's Fee, Bonds and Insurance 7.30%		\$ 52,871	\$ 14.56	
Sub-Total		\$ 777,138	\$ 214.03	
Escalation, March 2024 11.27%		\$ 87,608	\$ 24.13	
<b>TOTAL CONSTRUCTION COST</b>		<b>\$ 864,747</b>	<b>\$ 238.16</b>	



**BUILDING DATA**

**Building C2 Area: New Three Sided Canopy**

Canopy 7,344 SF

**Total Gross Floor Area 7,344 SF**

	Quantity	Unit	Ratio to Gross Area
Gross Area	7,344	SF	1.000
Footprint Area	7,344	SF	1.000

CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
BUILDING C2: NEW THREE SIDED CANOPY

GROSS FLOOR AREA: 7,344 SF  
DATE: December 6, 2021



No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		\$ 230,100	\$ 31.33
A1010	Standard Foundation	\$ 143,521	\$ 19.54	
A1020	Special Foundation	\$ -	\$ -	
A1030	Slab on grade	\$ 86,579	\$ 11.79	
A20	BASEMENT WALL CONSTRUCTION	\$ -	\$ -	\$ -
A2010	Basement Excavation	\$ -	\$ -	
A2020	Basement Wall Construction	\$ -	\$ -	
B10	SUPERSTRUCTURE	\$ 1,514	\$ 0.21	
B1010	Floor & Roof Construction	\$ 1,514	\$ 0.21	
B20	EXTERIOR ENCLOSURE	\$ 101,660	\$ 13.84	
B2010	Exterior Walls	\$ 97,060	\$ 13.22	
B2020	Exterior Windows	\$ -	\$ -	
B2030	Exterior Doors	\$ 4,600	\$ 0.63	
B30	ROOFING	\$ 4,840	\$ 0.66	
B3010	Roofing	\$ 4,840	\$ 0.66	
C10	INTERIOR CONSTRUCTION	\$ 7,740	\$ 1.05	
C1010	Partitions	\$ -	\$ -	
C1020	Interior Doors	\$ -	\$ -	
C1030	Fittings and Specialties	\$ 7,740	\$ 1.05	
C20	STAIRS	\$ -	\$ -	
C2010	Stair Construction	\$ -	\$ -	
C30	INTERIOR FINISHES	\$ 755	\$ 0.10	
C3010	Wall Finishes	\$ -	\$ -	
C3020	Floor Finishes	\$ -	\$ -	
C3030	Ceiling Finishes	\$ 755	\$ 0.10	
D10	CONVEYING	\$ -	\$ -	
D1010	Elevators & Lifts	\$ -	\$ -	
D20	PLUMBING	\$ -	\$ -	
D2010	Plumbing	\$ -	\$ -	
D30	HVAC	\$ 1,680	\$ 0.23	
D3010	HVAC	\$ 1,680	\$ 0.23	
D40	FIRE PROTECTION	\$ 21,298	\$ 2.90	
D4010	Sprinkler System	\$ 21,298	\$ 2.90	
D50	ELECTRICAL	\$ 78,921	\$ 10.75	
D5000	Electrical	\$ 78,921	\$ 10.75	
E10	EQUIPMENT	\$ -	\$ -	
E1010	Equipment	\$ -	\$ -	
E20	FIXED FURNISHINGS	\$ -	\$ -	
E2010	Fixed Furnishings	\$ -	\$ -	
F10	SPECIAL CONSTRUCTION	\$ 298,534	\$ 40.65	
F1010	Special Structure	\$ 298,534		
F1020	Special Construction	\$ -		
F20	SELECTIVE BUILDING DEMOLITION	\$ -	\$ -	
F2010	Building Elements Demolition	\$ -	\$ -	
Sub-Total Direct Cost			\$ 747,042	\$ 101.72
Estimating / Design Contingency 10.00%			\$ 74,704	\$ 10.17
Sub-Total			\$ 821,746	\$ 111.89
General Conditions/General Requirements 10.15%			\$ 83,407	\$ 11.36
General Contractor's Fee, Bonds and Insurance 7.30%			\$ 66,076	\$ 9.00
Sub-Total			\$ 971,230	\$ 132.25
Escalation, March 2024 11.27%			\$ 109,489	\$ 14.91
<b>TOTAL CONSTRUCTION COST</b>			<b>\$ 1,080,718</b>	<b>\$ 147.16</b>

CITY OF SUMNER  
M&O FACILITY  
SUMNER, WA  
PRE-DESIGN ESTIMATE  
BUILDING C2: NEW THREE SIDED CANOPY

Gross Floor Area: 7,344 SF  
Date: December 6, 2021



ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
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**A10 FOUNDATIONS**

**A1010 Standard Foundation**

A1011 Foundations

Reinforced concrete continuous footings

Excavate for continuous footings	123	CY	55.00	6,763
Backfill, assume imported fill	73	CY	50.00	3,639
Disposal of excavated material off-site within 8 miles, assumed a 33% swell factor	164	CY	26.25	4,293
Fine grade bottom of footing	1,232	SF	0.74	912
Formwork to foundations - sides	526	SF	10.60	5,576
Reinforcing steel in foundations	6,525	LB	1.46	9,527
Concrete, 4,000 psi	50	CY	235.43	11,817
Finish to top of footing	1,232	SF	0.75	924

Reinforced concrete grade beams

Excavate for continuous footings	84	CY	55.00	4,611
Backfill, assume imported fill	50	CY	50.00	2,481
Disposal of excavated material off-site within 8 miles, assumed a 33% swell factor	112	CY	26.25	2,927
Fine grade bottom of footing	840	SF	0.74	622
Formwork to foundations - sides	566	SF	10.60	6,000
Reinforcing steel in foundations	4,449	LB	1.46	6,495
Concrete, 4,000 psi	34	CY	235.43	8,057
Finish to top of footing	840	SF	0.75	630

A1012 Column foundations

Reinforced concrete spread footings

Excavate for spread footings	67	CY	55.00	3,670
Backfill, assume imported fill	48	CY	50.00	2,383
Disposal of excavated material off-site within 8 miles, assumed a 33% swell factor	89	CY	26.25	2,330
Fine grade bottom of footing	400	SF	2.72	1,088
Formwork to foundations - sides	374	SF	10.60	3,969
Reinforcing steel in foundations	2,383	LB	1.46	3,480
Concrete, 4,000 psi	19	CY	258.00	4,919
Finish to top of footing	400	SF	2.72	1,088

A1013 Perimeter drainage and insulation

Perimeter drain pipe and rock	357	LF	27.06	9,661
Perimeter insulation	536	SF	4.33	2,319

Miscellaneous

Reinforced concrete stem walls	13	CY	1,425.00	18,936
Waterproofing at stem walls	357	SF	10.40	3,713
Masonry pilaster	11	EA	972.00	10,692

**Total For Standard Foundations**

**143,521**

**A1020 Special Foundation**

No work anticipated

N/A

**Total For Special Foundations**

**A1030 Slab on Grade**

CITY OF SUMNER  
M&O FACILITY  
SUMNER, WA  
PRE-DESIGN ESTIMATE  
BUILDING C2: NEW THREE SIDED CANOPY

Gross Floor Area: 7,344 SF  
Date: December 6, 2021



ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
A1031 Standard slab on grade Reinforced concrete slab on grade, 6" thick	7,344	SF	10.72	78,728
Thickened slab edge	289	LF	22.00	6,351
Striping / Markings	1	LS	1,500.00	1,500
<b>Total For Slab on Grade</b>				<b>86,579</b>
<b>A20 BASEMENT CONSTRUCTION</b>				
<b>A2010 <u>Basement Excavation</u></b>				
No work anticipated				N/A
<b>Total For Basement Excavation</b>				
<b>A2010 <u>Basement Walls</u></b>				
No work anticipated				N/A
<b>Total For Basement Walls</b>				
<b>B1010 <u>Floor &amp; Roof Construction</u></b>				
B 1020 Roof Construction				
Masonry lintel at riser room	6	LF	55.00	330
Joists, 6", 18 ga	74	SF	10.50	777
FRT Plywood sheathing	74	SF	5.50	407
Remaining structure included in pre-engineered building estimate in estimate section				
<b>Total For Floor &amp; Roof Construction</b>				<b>1,514</b>
<b>B20 EXTERIOR CLOSURE</b>				
<b>B2010 <u>Exterior Walls</u></b>				
B2011 Exterior wall construction				
CMU walls, 12" fully grouted and reinforced	2,867	SF	30.80	88,310
CMU walls, 8" fully grouted and reinforced	196	SF	24.30	4,751
Graffiti coating	1	LS	4,000.00	4,000
<b>Total For Exterior Walls</b>				<b>97,060</b>
<b>B2020 <u>Exterior Windows</u></b>				
No work anticipated				N/A
<b>Total For Exterior Windows</b>				
<b>B2030 <u>Exterior Doors</u></b>				
B 2030 Exterior Doors				
Exterior door, HM, flush, double	1	EA	4,600.00	4,600
<b>Total For Exterior Doors</b>				<b>4,600</b>
<b>B30 ROOFING</b>				
<b>B3010 <u>Roof Covering</u></b>				
B3011 Roof finishes				
Membrane roofing system over rigid insulation	82	SF	20.00	1,640



ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
B3014 Flashings and trim Included in pre-engineered building estimate section F1012				N/A
B3016 Gutters and downspouts Included in pre-engineered building estimate section F1012				N/A
Miscellaneous Rough carpentry	1	LS	3,200.00	3,200
<b>Total For Roofing</b>				<b>4,840</b>
<b>C10 INTERIOR CONSTRUCTION</b>				
<b>C1010 Partitions</b>				
No work anticipated				N/A
<b>Total For Interior Partitions</b>				
<b>C1020 Interior Doors</b>				
No work anticipated				N/A
<b>Total For Interior Doors</b>				
<b>C1030 Specialties</b>				
C1035 Identifying devices Exterior building signage	1	LS	4,500.00	4,500
C1037 General fittings and misc. metals Bollards	2	EA	940.00	1,880
Fire extinguishers, wall mounted on brackets	5	EA	188.00	940
Key lock box at riser room	1	EA	420.00	420
<b>Total For Fittings and Specialty Items</b>				<b>7,740</b>
<b>C20 STAIRS</b>				
<b>C2010 Stair Construction</b>				
No work anticipated				N/A
<b>Total For Stair Construction</b>				
<b>C30 INTERIOR FINISHES</b>				
<b>C3010 Wall Finishes</b>				
No work anticipated				N/A
<b>Total For Wall Finishes</b>				
<b>C3020 Floor Finishes</b>				
No work anticipated				N/A
<b>Total For Floor Finishes</b>				

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
<b>C3030 Ceiling Finishes</b>				
C 3030 Ceiling Finishes Allowance for GWB ceiling at riser room, painted	59	SF	12.80	755
<b>Total For Ceiling Finishes</b>				<b>755</b>
<b>D10 VERTICAL TRANSPORTATION</b>				
<b>D1010 Elevator &amp; Lift</b>				
No work anticipated				N/A
<b>Total For Elevator &amp; Lifts</b>				
<b>D20 PLUMBING</b>				
<b>D2010 Plumbing</b>				
No work anticipated				N/A
<b>Total For Plumbing</b>				
<b>D30 HVAC</b>				
<b>D3010 HVAC</b>				
Unit heater at riser room	1	EA	1,680.00	1,680
<b>Total For HVAC</b>				<b>1,680</b>
<b>D40 FIRE PROTECTION</b>				
<b>D4010 Fire Protection</b>				
D 4010 Sprinklers Fire protection system	7,344	SF	2.90	21,298
<b>Total For Fire Sprinkler System</b>				<b>21,298</b>
<b>D50 ELECTRICAL</b>				
<b>D5000 Electrical</b>				
D5010 Electrical Service and Distribution Switchboard, panel boards, feeder conduit and wire, etc.	7,344	GFA	2.08	15,276
D5020 Lighting and Branch Wiring User convenience power				
Receptacles including conduit and wire	11	EA	360.00	3,960
Lighting systems				
Lighting fixtures	17	EA	1,545.00	26,265
Lighting controls				
Lighting control devices including conduit & wire	7,344	GFA	0.90	6,610
D5033 Telephone/data systems Telephone/data/WAP outlets	7,344	GFA	0.24	1,763
D5037 Fire alarm system Fire alarm system complete	7,344	GFA	2.85	20,930

CITY OF SUMNER  
M&O FACILITY  
SUMNER, WA  
PRE-DESIGN ESTIMATE  
BUILDING C2: NEW THREE SIDED CANOPY

Gross Floor Area: 7,344 SF  
Date: December 6, 2021



ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
D5038 Security and detection systems CCTV systems, assumed not required				N/A
D5091 Grounding systems Grounding	7,344	GFA	0.35	2,570
D5095 General construction items Testing	1	LS	1,547.47	1,547
<b>Total For Electrical</b>				<b>78,921</b>
<b>E10 EQUIPMENT</b>				
<b>E1010 Equipment</b>				
No work anticipated in GC contract, assumed by owner				N/A
<b>Total For Equipment</b>				
<b>E20 FIXED FURNISHINGS</b>				
<b>E2010 Fixed Furnishing</b>				
No work anticipated				N/A
<b>Total For Fixed Furnishings</b>				
<b>F10 SPECIAL STRUCTURES</b>				
<b>F1010 Special Structure</b>				
F1012 Pre-engineered structures Pre-engineered building canopy, excludes metal roofing components	7,344	SF	40.65	298,534
<b>Total For Special Structure</b>				<b>298,534</b>
<b>F1020 Special Construction</b>				
No work anticipated				N/A
<b>Total For Special Construction</b>				
<b>F20 SELECTIVE BUILDING DEMOLITION</b>				
<b>F2010 Building Elements Demolition</b>				
No work anticipated				N/A
<b>Total For Selective Building Demolition</b>				

**BUILDING DATA**

**Building D Area: New Canopy**

Canopy 5,760 SF

**Total Gross Floor Area 5,760 SF**

	Quantity	Unit	Ratio to Gross Area
Gross Area	5,760	SF	1.000
Footprint Area	5,760	SF	1.000



CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
BUILDING D: NEW CANOPY

GROSS FLOOR AREA: 5,760 SF  
DATE: December 6, 2021



No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		\$ 120,326	\$ 20.89
A1010	Standard Foundation	\$ 50,515	\$ 8.77	
A1020	Special Foundation	\$ -	\$ -	
A1030	Slab on grade	\$ 69,811	\$ 12.12	
A20	BASEMENT WALL CONSTRUCTION		\$ -	\$ -
A2010	Basement Excavation	\$ -	\$ -	
A2020	Basement Wall Construction	\$ -	\$ -	
B10	SUPERSTRUCTURE		\$ -	\$ -
B1010	Floor & Roof Construction	\$ -	\$ -	
B20	EXTERIOR ENCLOSURE		\$ -	\$ -
B2010	Exterior Walls	\$ -	\$ -	
B2020	Exterior Windows	\$ -	\$ -	
B2030	Exterior Doors	\$ -	\$ -	
B30	ROOFING		\$ 3,200	\$ 0.56
B3010	Roofing	\$ 3,200	\$ 0.56	
C10	INTERIOR CONSTRUCTION		\$ 23,676	\$ 4.11
C1010	Partitions	\$ -	\$ -	
C1020	Interior Doors	\$ -	\$ -	
C1030	Fittings and Specialties	\$ 23,676	\$ 4.11	
C20	STAIRS		\$ -	\$ -
C2010	Stair Construction	\$ -	\$ -	
C30	INTERIOR FINISHES		\$ -	\$ -
C3010	Wall Finishes	\$ -	\$ -	
C3020	Floor Finishes	\$ -	\$ -	
C3030	Ceiling Finishes	\$ -	\$ -	
D10	CONVEYING		\$ -	\$ -
D1010	Elevators & Lifts	\$ -	\$ -	
D20	PLUMBING		\$ -	\$ -
D2010	Plumbing	\$ -	\$ -	
D30	HVAC		\$ -	\$ -
D3010	HVAC	\$ -	\$ -	
D40	FIRE PROTECTION		\$ 16,704	\$ 2.90
D4010	Sprinkler System	\$ 16,704	\$ 2.90	
D50	ELECTRICAL		\$ 66,605	\$ 11.56
D5000	Electrical	\$ 66,605	\$ 11.56	
E10	EQUIPMENT		\$ -	\$ -
E1010	Equipment	\$ -	\$ -	
E20	FIXED FURNISHINGS		\$ -	\$ -
E2010	Fixed Furnishings	\$ -	\$ -	
F10	SPECIAL CONSTRUCTION		\$ 234,144	\$ 40.65
F1010	Special Structure	\$ 234,144		
F1020	Special Construction	\$ -		
F20	SELECTIVE BUILDING DEMOLITION		\$ -	\$ -
F2010	Building Elements Demolition	\$ -		
Sub-Total Direct Cost			\$ 464,655	\$ 80.67
Estimating / Design Contingency 10.00%			\$ 46,466	\$ 8.07
Sub-Total			\$ 511,121	\$ 88.74
General Conditions/General Requirements 10.15%			\$ 51,879	\$ 9.01
General Contractor's Fee, Bonds and Insurance 7.30%			\$ 41,099	\$ 7.14
Sub-Total			\$ 604,098	\$ 104.88
Escalation, March 2024 11.27%			\$ 68,101	\$ 11.82
<b>TOTAL CONSTRUCTION COST</b>			<b>\$ 672,199</b>	<b>\$ 116.70</b>



ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
<b>A10 FOUNDATIONS</b>				
<b>A1010 <u>Standard Foundation</u></b>				
A1012 Column foundations				
Reinforced concrete spread footings				
Excavate for spread footings	123	CY	55.00	6,744
Backfill, assume imported fill	88	CY	50.00	4,379
Disposal of excavated material off-site within 8 miles, assumed a 33% swell factor	163	CY	26.25	4,281
Fine grade bottom of footing	735	SF	2.72	1,999
Formwork to foundations - sides	491	SF	10.60	5,209
Reinforcing steel in foundations	4,379	LB	1.46	6,394
Concrete, 4,000 psi	35	CY	258.00	9,039
Finish to top of footing	735	SF	2.72	1,999
A1013 Perimeter drainage and insulation				
Perimeter drain pipe and rock	312	LF	27.06	8,444
Perimeter insulation	468	SF	4.33	2,026
<b>Total For Standard Foundations</b>				<b>50,515</b>
<b>A1020 <u>Special Foundation</u></b>				
No work anticipated				N/A
<b>Total For Special Foundations</b>				
<b>A1030 <u>Slab on Grade</u></b>				
A1031 Standard slab on grade				
Reinforced concrete slab on grade, 6" thick	5,760	SF	10.72	61,747
Thickened slab edge	312	LF	22.00	6,864
Striping / Markings	1	LS	1,200.00	1,200
<b>Total For Slab on Grade</b>				<b>69,811</b>
<b>A20 BASEMENT CONSTRUCTION</b>				
<b>A2010 <u>Basement Excavation</u></b>				
No work anticipated				N/A
<b>Total For Basement Excavation</b>				
<b>A2010 <u>Basement Walls</u></b>				
No work anticipated				N/A
<b>Total For Basement Walls</b>				
<b>B1010 <u>Floor &amp; Roof Construction</u></b>				
No work anticipated				N/A
<b>Total For Floor &amp; Roof Construction</b>				
<b>B20 EXTERIOR CLOSURE</b>				
<b>B2010 <u>Exterior Walls</u></b>				



ITEM DESCRIPTION		QUANTITY	UNIT	UNIT COST	TOTALS
No work anticipated					N/A
<b>Total For Exterior Walls</b>					
<b>B2020</b>	<b><u>Exterior Windows</u></b>				
No work anticipated					N/A
<b>Total For Exterior Windows</b>					
<b>B2030</b>	<b><u>Exterior Doors</u></b>				
No work anticipated					N/A
<b>Total For Exterior Doors</b>					
<b>B30</b>	<b>ROOFING</b>				
<b>B3010</b>	<b><u>Roof Covering</u></b>				
B3014 Flashings and trim Included in pre-engineered building estimate section F1012					N/A
B3016 Gutters and downspouts Included in pre-engineered building estimate section F1012					N/A
Miscellaneous Rough carpentry		1	LS	3,200.00	3,200
<b>Total For Roofing</b>					<b>3,200</b>
<b>C10</b>	<b>INTERIOR CONSTRUCTION</b>				
<b>C1010</b>	<b><u>Partitions</u></b>				
No work anticipated					N/A
<b>Total For Interior Partitions</b>					
<b>C1020</b>	<b><u>Interior Doors</u></b>				
No work anticipated					N/A
<b>Total For Interior Doors</b>					
<b>C1030</b>	<b><u>Specialties</u></b>				
C1035 Identifying devices Exterior building signage		1	LS	4,500.00	4,500
C1037 General fittings and misc. metals Bollards		20	EA	940.00	18,800
Fire extinguishers, wall mounted on brackets		2	EA	188.00	376
<b>Total For Fittings and Specialty Items</b>					<b>23,676</b>
<b>C20</b>	<b>STAIRS</b>				
<b>C2010</b>	<b><u>Stair Construction</u></b>				



ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
No work anticipated				N/A
<b>Total For Stair Construction</b>				
<b>C30 INTERIOR FINISHES</b>				
<b>C3010 <u>Wall Finishes</u></b>				
No work anticipated				N/A
<b>Total For Wall Finishes</b>				
<b>C3020 <u>Floor Finishes</u></b>				
No work anticipated				N/A
<b>Total For Floor Finishes</b>				
<b>C3030 <u>Ceiling Finishes</u></b>				
No work anticipated				N/A
<b>Total For Ceiling Finishes</b>				
<b>D10 VERTICAL TRANSPORTATION</b>				
<b>D1010 <u>Elevator &amp; Lift</u></b>				
No work anticipated				N/A
<b>Total For Elevator &amp; Lifts</b>				
<b>D20 PLUMBING</b>				
<b>D2010 <u>Plumbing</u></b>				
No work anticipated				N/A
<b>Total For Plumbing</b>				
<b>D30 HVAC</b>				
<b>D3010 HVAC</b>				
No work anticipated				N/A
<b>Total For HVAC</b>				
<b>D40 FIRE PROTECTION</b>				
<b>D4010 <u>Fire Protection</u></b>				
D 4010 Sprinklers Fire protection system	5,760	SF	2.90	16,704
<b>Total For Fire Sprinkler System</b>				
<b>16,704</b>				
<b>D50 ELECTRICAL</b>				
<b>D5000 <u>Electrical</u></b>				
D5010 Electrical Service and Distribution Switchboard, panel boards, feeder conduit and wire, etc.	5,760	GFA	2.08	11,981

CITY OF SUMNER  
M&O FACILITY  
SUMNER, WA  
PRE-DESIGN ESTIMATE  
BUILDING D: NEW CANOPY

Gross Floor Area: 5,760 SF  
Date: December 6, 2021



ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
D5020 Lighting and Branch Wiring				
User convenience power				
Receptacles including conduit and wire	10	EA	360.00	3,600
Lighting systems				
Lighting fixtures	16	EA	1,545.00	24,720
Lighting controls				
Lighting control devices including conduit & wire	5,760	GFA	0.90	5,184
D5033 Telephone/data systems				
Telephone/data/WAP outlets	5,760	GFA	0.24	1,382
D5037 Fire alarm system				
Fire alarm system complete	5,760	GFA	2.85	16,416
D5038 Security and detection systems				
CCTV systems, assumed not required				N/A
D5091 Grounding systems				
Grounding	5,760	GFA	0.35	2,016
D5095 General construction items				
Testing	1	LS	1,305.98	1,306
<b>Total For Electrical</b>				<b>66,605</b>
<b>E10 EQUIPMENT</b>				
<b>E1010 Equipment</b>				
No work anticipated in GC contract, assumed by owner				N/A
<b>Total For Equipment</b>				
<b>E20 FIXED FURNISHINGS</b>				
<b>E2010 Fixed Furnishing</b>				
No work anticipated				N/A
<b>Total For Fixed Furnishings</b>				
<b>F10 SPECIAL STRUCTURES</b>				
<b>F1010 Special Structure</b>				
F1012 Pre-engineered structures				
Pre-engineered building canopy, excludes metal roofing components	5,760	SF	40.65	234,144
<b>Total For Special Structure</b>				<b>234,144</b>
<b>F1020 Special Construction</b>				
No work anticipated				N/A
<b>Total For Special Construction</b>				
<b>F20 SELECTIVE BUILDING DEMOLITION</b>				



ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
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F2010 Building Elements Demolition

No work anticipated				N/A
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**Total For Selective Building Demolition**

**BUILDING DATA**

**Building E Area: Heated Shop Space**

Shop Space, Heated 3,840 SF

**Total Gross Floor Area 3,840 SF**

	Quantity	Unit	Ratio to Gross Area
Gross Area	3,840	SF	1.000
Footprint Area	3,840	SF	1.000

**CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
BUILDING E: NEW CANOPY**

GROSS FLOOR AREA: 3,840 SF  
DATE: December 6, 2021



No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL	COST PER SF
A10	FOUNDATIONS		\$ 69,798	\$ 18.18
A1010	Standard Foundation	\$ 28,633	\$ 7.46	
A1020	Special Foundation	\$ -	\$ -	
A1030	Slab on grade	\$ 41,165	\$ 10.72	
A20	BASEMENT WALL CONSTRUCTION		\$ -	\$ -
A2010	Basement Excavation	\$ -	\$ -	
A2020	Basement Wall Construction	\$ -	\$ -	
B10	SUPERSTRUCTURE		\$ -	\$ -
B1010	Floor & Roof Construction	\$ -	\$ -	
B20	EXTERIOR ENCLOSURE		\$ 76,996	\$ 20.05
B2010	Exterior Walls	\$ 20,795	\$ 5.42	
B2020	Exterior Windows	\$ 14,976	\$ 3.90	
B2030	Exterior Doors	\$ 41,225	\$ 10.74	
B30	ROOFING		\$ 1,728	\$ 0.45
B3010	Roofing	\$ 1,728	\$ 0.45	
C10	INTERIOR CONSTRUCTION		\$ 56,422	\$ 14.69
C1010	Partitions	\$ 37,285	\$ 9.71	
C1020	Interior Doors	\$ 6,820	\$ 1.78	
C1030	Fittings and Specialties	\$ 12,316	\$ 3.21	
C20	STAIRS		\$ -	\$ -
C2010	Stair Construction	\$ -	\$ -	
C30	INTERIOR FINISHES		\$ 51,136	\$ 13.32
C3010	Wall Finishes	\$ 38,154	\$ 9.94	
C3020	Floor Finishes	\$ 7,989	\$ 2.08	
C3030	Ceiling Finishes	\$ 4,992	\$ 1.30	
D10	CONVEYING		\$ -	\$ -
D1010	Elevators & Lifts	\$ -	\$ -	
D20	PLUMBING		\$ 47,424	\$ 12.35
D2010	Plumbing	\$ 47,424	\$ 12.35	
D30	HVAC		\$ 126,720	\$ 33.00
D3010	HVAC	\$ 126,720	\$ 33.00	
D40	FIRE PROTECTION		\$ 20,160	\$ 5.25
D4010	Sprinkler System	\$ 20,160	\$ 5.25	
D50	ELECTRICAL		\$ 122,880	\$ 32.00
D5000	Electrical	\$ 122,880	\$ 32.00	
E10	EQUIPMENT		\$ -	\$ -
E1010	Equipment	\$ -	\$ -	
E20	FIXED FURNISHINGS		\$ -	\$ -
E2010	Fixed Furnishings	\$ -	\$ -	
F10	SPECIAL CONSTRUCTION		\$ 293,703	\$ 76.49
F1010	Special Structure	\$ 293,703		
F1020	Special Construction	\$ -		
F20	SELECTIVE BUILDING DEMOLITION		\$ -	\$ -
F2010	Building Elements Demolition	\$ -		
Sub-Total Direct Cost			\$ 866,967	\$ 225.77
Estimating / Design Contingency 10.00%			\$ 86,697	\$ 22.58
Sub-Total			\$ 953,663	\$ 248.35
General Conditions/General Requirements 10.15%			\$ 96,797	\$ 25.21
General Contractor's Fee, Bonds and Insurance 7.30%			\$ 76,684	\$ 19.97
Sub-Total			\$ 1,127,144	\$ 293.53
Escalation, March 2024 11.27%			\$ 127,065	\$ 33.09
<b>TOTAL CONSTRUCTION COST</b>			<b>\$ 1,254,209</b>	<b>\$ 326.62</b>



CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
SITWORK



DATE: December 6, 2021 COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL
<b>G10</b>	<b>SITE PREPARATION</b>		\$ 520,300
G1010	Site Clearing	\$ -	
G1020	Site Demolition and Relocations	\$ 210,000	
G1030	Site Earthwork	\$ 310,300	
G1040	Hazardous Waste Remediation	\$ -	
<b>G20</b>	<b>SITE IMPROVEMENTS</b>		\$ 669,150
G2010	Roadways	\$ -	
G2020	Parking Lots	\$ -	
G2030	Pedestrian Paving	\$ 495,400	
G2040	Site Development	\$ 136,250	
G2050	Landscaping	\$ 37,500	
<b>G30</b>	<b>SITE MECHANICAL UTILITIES</b>		\$ 1,134,100
G3010	Water Supply	\$ 218,000	
G3020	Sanitary Sewer	\$ 91,250	
G3030	Storm Sewer	\$ 824,850	
G3040	Heating Distribution	\$ -	
G3050	Cooling Distribution	\$ -	
G3060	Fuel Distribution	\$ -	
G3090	Other Site Mechanical Utilities	\$ -	
<b>G40</b>	<b>SITE ELECTRICAL UTILITIES</b>		\$ 265,000
G4010	Electrical Distribution	\$ 140,000	
G4020	Site Lighting	\$ 90,000	
G4030	Site Communications and Security	\$ 35,000	
G4090	Other Site Electrical Utilities	\$ -	
	<b>Sub-Total Direct Cost</b>		\$ 2,588,550
	Estimating / Design Contingency 10.00%		\$ 258,855
	<b>Sub-Total</b>		\$ 2,847,405
	General Conditions/General Requirements 10.15%		\$ 289,012
	General Contractor's Fee, Bonds and Insurance 7.30%		\$ 228,958
	<b>Sub-Total</b>		\$ 3,365,375
	Escalation, March 2024 11.27%		\$ 379,385
	<b>TOTAL CONSTRUCTION COST</b>		\$ 3,744,760

CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
SITWORK



Date: December 6, 2021

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
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**G10 SITE PREPARATION**

**G1010 Site Clearing**

Included in G1020 Site Demolition and Relocations

**Total For Site Clearing**

**G1020 Site Demolition and Relocations**

G1020 Site Demolition

Allowance Site Contractor Mobilization	1	LS	50,000.00	50,000
General Crushed Rock Work Pad	1	LS	20,000.00	20,000
Brush Clearing	0.3	ACRE	5,000.00	1,250
Misc. Fencing Removal	1	LS	2,000.00	2,000
Asphalt Paving Demolition & Removal	80,000	SF	1.00	80,000
Concrete Curb Removal	500	LF	7.50	3,750
Utility Removal & Structural Backfill - Variable Size Storm/Sanitary Lines	1,500	LF	25.00	37,500
Utility Removal & Structural Backfill - Precast Manholes	3	EA	500.00	1,500
Utility Removal & Structural Backfill - Utility Vaults & Drainage Structures	3	EA	500.00	1,500
Utility removal & structural backfill - water line	300	LF	25.00	7,500
Allowance Miscellaneous Landscape Demolition & Removal	1	LS	5,000.00	5,000

**Total For Site Demolition and Relocations**

**210,000**

**G1030 Site Earthwork**

G1030 Site Earthwork

General Site Topsoil Stripping (6" stripping)	100	CY	4.00	400
Onsite Cut Material	1,000	CY	5.00	5,000
Import Structural Fill	2,000	CY	28.00	56,000
Placement of Topsoil	50	CY	8.00	400
Haul Off Stripping/Cut Material	1,050	CY	10.00	10,500
Structural Building Excavation & Backfill (Footings)	30,000	SF	4.00	120,000
Building Floorslab 8" Compacted Layer Crushed Rock	3,500	SY	5.00	17,500

G1031 Erosion Control

Rock Construction Entrance	1	EA	7,500.00	7,500
Wheel Wash Facility	1	EA	15,000.00	15,000
Silt Fencing	1,000	LF	3.50	3,500
Inlet Protection	10	EA	350.00	3,500
Concrete Washout Area	1	EA	3,500.00	3,500
Straw Mulch Covering Allowance	50,000	SF	0.05	2,500
Stockpile Plastic Covering Allowance	1	LS	10,000.00	10,000
Temporary Infiltration or Settling Pond Facilities	1	LS	25,000.00	25,000
Maintenance & Monitoring	12	MONTHS	2,500.00	30,000

**Total For Site Earthwork**

**310,300**

**G1040 Hazardous Waste Remediation**

No work anticipated

N/A

CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
SITEWORK



Date: December 6, 2021

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
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**Total For Hazardous Waste Remediation**

**G20 SITE IMPROVEMENTS**

**G2010 Roadways**

Included in G2030 Pedestrian Paving N/A

**Total For Roadways**

**G2020 Parking Lots**

Included in G2030 Pedestrian Paving N/A

**Total For Parking Lots**

**G2030 Pedestrian Paving**

G2031 Paving and surfacing

ADA Stall Post Signage	2	EA	450.00	900
Specialty Parking Signage (Car Pool, FEV, Elec Charging)	4	EA	450.00	1,800
Directional Traffic Signage	4	EA	600.00	2,400
Other Directional Signage	4	EA	600.00	2,400
Heavy AC Pavement Sections (Access Drives & Drop Off Loops)				
Base Course (12")	80,000	SF	2.50	200,000
AC Paving (4")	80,000	SF	2.50	200,000
Geotechnical Subgrade Fabric	80,000	SF	0.25	20,000
General Parking Stall Striping	1	LS	5,000.00	5,000
Cross Walks & Unload Lane Marking	1	LS	5,000.00	5,000
Truncated Domes and Raised Surface Panels	2	EA	750.00	1,500
ADA Parking Stencils	4	EA	500.00	2,000
Painted Curbs	200	LF	2.00	400
Concrete Curbing (includes base rock)	1,300	LF	20.00	26,000
ADA Curb Ramps (including base rock)	2	EA	1,750.00	3,500
Concrete Entrance Driveway Aprons (including base rock)	1	EA	7,500.00	7,500
Pre-Cast Wheel Stops (Allowance)	20	EA	250.00	5,000
Standard Concrete Sidewalks & Plazas	2,000	SF	6.00	12,000

**Total For Pedestrian Paving** **495,400**

**G2040 Site Development**

G2040 Site Development

Galvanized 6' high Chain Link	1,400	LF	35.00	49,000
Misc. Chain Link Personnel Gates	3	EA	750.00	2,250
Automated Card-Key Vehicle Gates	2	EA	25,000.00	50,000
Trash Enclosures	1	EA	25,000.00	25,000
Site furniture, Bike racks, allow	1	LS	10,000.00	10,000

**Total For Site Development** **136,250**

**G2050 Landscaping**

CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
SITEWORK

Date: December 6, 2021



ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
G2050 Landscaping Landscaping, allow	5,000	SF	7.50	37,500
<b>Total For Landscaping</b>				<b>37,500</b>
<b>G30 SITE MECHANICAL UTILITIES</b>				
<b>G3010 <u>Water Supply</u></b>				
G3010 Water Supply				
6" Ductile Iron Fire Water Lines (including trenching & Imported backfill)	1,500	LF	100.00	150,000
4" PVC Schedule 40 Potable Water Lines	400	LF	35.00	14,000
Precast Fire Backflow Preventor Vaults	1	EA	3,500.00	3,500
6" Fire Backflow Assemblies	1	EA	6,500.00	6,500
FDC Assemblies (at vaults)	1	EA	2,500.00	2,500
Fire Hydrant Assemblies	2	EA	5,000.00	10,000
4" Gate Valves	1	EA	500.00	500
Joint Restraint Assemblies	15	EA	500.00	7,500
4" RPBP Potable Backflow Assemblies with Enclosure	1	EA	9,500.00	9,500
Potable Meter Vaults	1	EA	2,500.00	2,500
Public Connections / Taps to Existing Systems	2	EA	5,000.00	10,000
Sump Pump Assemblies for Backflow Vaults	1	EA	1,500.00	1,500
<b>Total For Water Supply</b>				<b>218,000</b>
<b>G3020 <u>Sanitary Sewer</u></b>				
G3020 Sanitary Sewer				
6" PVC Gravity Sanitary (including trenching & import backfill)	400	LF	80.00	32,000
4"-6" Sanitary Building Laterals	50	LF	35.00	1,750
Precast Concrete Sanitary Manholes	2	EA	5,000.00	10,000
Sanitary Gravity Cleanouts	8	EA	750.00	6,000
Oil/Water Separator Precast Concrete Vault (1,000 - 1,500 gal)	2	EA	20,000.00	40,000
Trapped Sanitary Drain Inlet (Trash Enclosure)	1	EA	1,500.00	1,500
<b>Total For Sanitary Sewer</b>				<b>91,250</b>
<b>G3030 <u>Storm Sewer</u></b>				
G3030 Storm Drainage				
8" PVC Storm Lines (included trenching & import backfill)	1,000	LF	60.00	60,000
12" PVC Storm Mains (included trenching & import backfill)	500	LF	85.00	42,500
48" Detention N-12 Pipe	4,000	LF	125.00	500,000
Storm Outfall Allowance	2	EA	2,500.00	5,000
Storm Pump Allowance	2	EA	15,000.00	30,000
Riprap @ Discharges	2	CY	50.00	100
12" Metal Lynch style Catch Basins (Landscape, Plazas)	2	EA	750.00	1,500
24" Metal Lynch style Catch Basins	10	EA	1,500.00	15,000
48" Precast Concrete Manholes	3	EA	4,000.00	12,000
Trench Drains	100	LF	100.00	10,000

Date: December 6, 2021

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTALS
Contech Filterra Treatment Vault	850	SF	175.00	148,750
<b>Total For Storm Sewer</b>				<b>824,850</b>
<b>G3040 Heating Distribution</b>				
No work anticipated				N/A
<b>Total For Heating Distribution</b>				
<b>G3050 Cooling Distribution</b>				
No work anticipated				N/A
<b>Total For Cooling Distribution</b>				
<b>G3060 Fuel Distribution</b>				
No work anticipated				N/A
<b>Total For Fuel Distribution</b>				
<b>G3090 Other Site Mechanical Utilities</b>				
No work anticipated				N/A
<b>Total For Other Site Mechanical Utilities</b>				
<b>G40 SITE ELECTRICAL UTILITIES</b>				
<b>G4010 Electrical Distribution</b>				
Site Electrical distribution, allow by RC Cost Group	1	LS	140,000.00	140,000
<b>Total For Electrical Distribution</b>				<b>140,000</b>
<b>G4020 Site Lighting</b>				
G4020 Site Lighting Illumination - Site Lighting	1	LS	90,000.00	90,000
<b>Total For Site Lighting</b>				<b>90,000</b>
<b>G4030 Site Communications and Security</b>				
Site Communications and security, allow by RC Cost Group	1	LS	35,000.00	35,000
<b>Total For Site Communications and Security</b>				<b>35,000</b>
<b>G4090 Other Site Electrical Utilities</b>				
No work anticipated				N/A
<b>Total For Other Site Electrical Utilities</b>				

CITY OF CAMAS PUBLIC WORKS  
M&O FACILITY  
CAMAS, WA  
PRE-DESIGN ESTIMATE  
EQUIPMENT CFCI



DATE: December 6, 2021 COST GROUP

No.	ELEMENT DESCRIPTION	ELEMENT TOTAL	GROUP TOTAL
A10	FOUNDATIONS		\$ -
A1010	Standard Foundation		
A1020	Special Foundation		
A1030	Slab on grade		
A20	BASEMENT WALL CONSTRUCTION		\$ -
A2010	Basement Excavation		
A2020	Basement Wall Construction		
B10	SUPERSTRUCTURE		\$ -
B1010	Floor & Roof Construction		
B20	EXTERIOR ENCLOSURE		\$ -
B2010	Exterior Walls		
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		\$ -
D2010	Plumbing		
D30	HVAC		\$ -
D3010	HVAC		
D40	FIRE PROTECTION		\$ -
D4010	Sprinkler System		
D50	ELECTRICAL		\$ -
D5000	Electrical		
E10	EQUIPMENT		\$ 228,200
E1010	Equipment	\$ 228,200	
E20	FIXED FURNISHINGS		\$ -
E2010	Fixed Furnishings		
F10	SPECIAL CONSTRUCTION		\$ -
F1010	Special Structure		
F1020	Special Construction		
F20	SELECTIVE BUILDING DEMOLITION		\$ -
F2010	Building Elements Demolition		
	<b>Sub-Total Direct Cost</b>		\$ 228,200
	Estimating / Design Contingency 10.00%		\$ 22,820
	<b>Sub-Total</b>		\$ 251,020
	General Conditions/General Requirements 10.15%		\$ 25,479
	General Contractor's Fee, Bonds and Insurance 7.30%		\$ 20,184
	<b>Sub-Total</b>		\$ 296,683
	Escalation, March 2024 11.27%		\$ 33,446
	<b>TOTAL CONSTRUCTION COST</b>		\$ 330,129