Operations & Maintenance Facility Development Report

Site Layout and Recommendations

For: City of Federal Way

By: Helix Design Group, Inc., October 25 2021

Report Contents

Participants List

Owner
City of Federal Way
33325 8th Avenue South, Federal Way, WA 98003-6325

Public Works Contacts:

EJ Walsh, P. E. , Public Works Director
ej.walsh@cityoffederalway.com, (253) 835-2700

Desiree Winkler, P. E., Deputy Public Works Director
desiree.winkler@cityoffederalway.com, (253) 835-2700

David Nelson, Fleet Maintenance Coordinator
david.nelson@cityoffederalway.com, (253) 835-2700

Parks Department Contacts:

John Hutton, Parks Director
john.hutton@cityoffederalway.com, (253) 835-6901

Jason Gerwen, Parks & Facilities Manager
jason.gerwen@cityoffederalway.com, (253) 835-6962

Architect
Helix Design Group, Inc.
6021 12th St E, Fife, WA 98424
Contacts: Lowell Cate, AIA, Principal-in-Charge
lowellc@helixdesigngroup.net, (253) 922-9037

Jeff Ryan, RA, LEED AP BD+C, Project Manager
jeffr@helixdesigngroup.net, (253) 922-9037

Diane Barringer, Interior Designer
dianeb@helixdesigngroup.net, (253) 922-9037

Industrial Engineer
Pinnacle Consulting Group
114 Avenue C, Snohomish, WA 98290
Contact: Frank Coleman
fcoleman@pinnaclegrp.com, (360) 563-6511

Structural Engineer
AHBL Inc.
2215 North 30th Street, Suite 300, Tacoma, WA 98403
Contact: Andrew McEachern
amceachern@ahbl.com, (253) 383-2422

Land Use Planner
AHBL Inc.
2215 North 30th Street, Suite 300, Tacoma, WA 98403
Contact: Lia Klein
lklein@ahbl.com, (253) 383-2422

Civil Engineer
AHBL Inc.
2215 North 30th Street, Suite 300, Tacoma, WA 98403
Contact: William Fierst
wfierst@ahbl.com, (253) 383-2422

Landscape Architect
AHBL Inc.
2215 North 30th Street, Suite 300, Tacoma, WA 98403
Contact: Craig Skipton
cskipton@ahbl.com, (253) 383-2422

Land Surveyor
AHBL Inc.
2215 North 30th Street, Suite 300, Tacoma, WA 98403
Contact: David Follansbee
dfollansbee@ahbl.com, (253) 383-2422

Mechanical Engineer
Hargis Engineers
1201 Third Ave., Suite 600, Seattle, WA 98101
Contact: Andrew Clagett
andrew.clagett@hargis.biz, (206) 448-3376

Electrical Engineer
Hargis Engineers
1201 Third Ave., Suite 600, Seattle, WA 98101
Contact: Robert Smith
robert.smith@hargis.biz, (206) 448-3376

Christopher Teague
christopher.teague@hargis.biz

Traffic Consultant
Transportation Engineering Northwest (TENW)
11400 SE 8th St., Suite 200, Bellevue, WA 98004
Contact: Michael Read
mikeread@tenw.com, (425) 889-6747

Geotechnical
MIgizi Group Inc.
17921 Bothell Everett Hwy, Suite 102, Bothell, WA 98012
Contact: James Brigham
jbrigham@migizigroup.com, (425) 398-2300

Environmental Consulting
Soundview Consultants
2907 Harborview Dr., Suite D., Gig Harbor, WA 98335
Contact: Matt DeCaro
matt@soundviewconsultants.com, (253) 514-8952

Cost Estimator
O'Connor Construction Management, Inc. (OCMI)
1455 NW Leary Way, Suite 400, Seattle, WA 98107
Contact: Abhi Choukse
achoukse@ocmi.com, (206) 395-9738

Executive Summary

Introduction

This report has been prepared though a collaborative effort between the City of Federal Way and the Helix Design Group team to develop a baseline program, concept site plans and development costs for consideration of four sites for a new Parks and Public Works maintenance facility for the city. The facility program has been developed to incorporate both current needs and future growth projections over the next 20 years. The objective of this report is to develop basic space program requirements for a new facility and then use that program to test selected site suitability for development.

As the City of Federal Way expands over the next twenty years, the demand on the City's infrastructure and parks will need to keep pace with growth. The design team reviewed existing facilities to understand current capacities with regard to Parks, Public Works, and Fleet Maintenance, department needs. Our findings indicate that existing maintenance and operations facilities are undersized to meet either current or future needs as compared with other cities of similar size. Existing buildings and infrastructure are deteriorated and nearing the end of their useful life. To meet future needs, and to better serve the city more efficiently, new facilities will be required.

The team reviewed options for utilizing the existing site for new facilities but found that the benefits of relocating to a new site outweigh any savings related to reuse. Advantages of relocation include, lower operating costs, higher operational efficiency, and reduced impact to existing operations during renovation. The most important benefit of a new facility would be the efficiency built into a new facility designed specifically for its intended use and function. Construction phasing that would be required for continuing use of existing buildings, would also result in a much longer project schedule that would result in increased costs.

The program analysis suggests a site area of approximately ten to eleven acres of net buildable area is required for a facility with all buildings on a single level. The anticipated cost of construction for a facility of this size and layout is estimated to be between $23 and $30 million. This cost does not include land cost, sales tax and other soft costs associated with design and construction. Please refer to cost estimates found in this report for breakdowns by building and use along with costs for site work for each of the four sites being considered.

The facility program is comprehensive with regard to all functional needs including uses currently contracted out to private companies such as Fleet Maintenance and Fueling services. These uses are broken out separately in the cost estimate.

Programming and Concept Design Process

The programing process began with review of existing facility functions and building conditions to understand current operations and overall programmatic needs. Through interviews with staff and review of anticipated baseline service requirements, along with allowances for potential future growth, a generalized building and site space needs program was developed for all departments. Once overall space requirements were determined, considerations for the principles of site zoning were incorporated. Site zoning separates operational components for purposes of safety, functional adjacency, vehicle movements along with efficiency of construction. This general program was then used for guidance in creating concept layouts that fit the requirements to specific sites under consideration.

The general Concept Site Layout shown captures recommended relationships, circulation and site storage needs that are important for efficient operations. An overview of site features is listed below. For more in-depth review of site priorities please refer to concept design narratives found within the report.

Required Site Criteria based upon the needs assessment process:

- 20,000 SF Operations Building
- 41,250 SF Shops, Vehicle bays and Maintenance facility
- 25,700 SF Covered Storage Buildings
- Vehicle Wash and Fueling station.
- Fleet, Staff and Public Parking
- Bulk and Covered Materials Storage
- Staging and Laydown Areas
- Future Capacity for Additional Facilities & Expansion

- Safety; separation between user groups and efficient traffic flow throughout the site. Visitors, staff parking, fleet traffic and parking.
- Efficiency; use of space and appropriate adjacencies of individual uses.
- Cost-effective; maximize the site while allowing for future growth.

Cost Estimates

Cost estimates for this report are projected as rough-order-of-magnitude (ROM) values representing the average cost of construction for a facility of this quality, complexity and size. Costs shown reflect a preliminary, concept level of detail. Estimates assume a single-phase construction project with the start of construction in the spring of 2022. The estimate is presented in 2022-dollar values for construction costs (labor and material with Contractor markups). Sales tax, soft costs and other owner costs are not included in the estimate. Please note that estimates are subject to adjustment as the project evolves with additional design detail.

Site Selection

Sites included in this report were identified through a site selection process which included a property search conducted to locate available land that match the following considerations:

Property zoning which allows construction of the facility without rezoning efforts.
Adjacent land use and zoning that does not conflict with facility use.
Regulations that do not prohibit anticipated building height and overall building development coverage.

- Property zoning which allows construction of the facility without rezoning efforts
- Adjacent land use and zoning that does not conflict with facility use
- Regulations that do not prohibit anticipated building height and overall building development coverage
- Availability of utilities
- Critical area concerns
- Environmental issues; geology, habitat, cultural/historical
- Economic impacts, loss of opportunity for development for other uses
- Site topography
- Site access and roadway improvements

Based on these criteria, available properties within the city were investigated for the new facility. The review also included two properties owned or partial owned by the city. From this review the four sites included in the report where selected.

The four sites evaluated were scored utilizing an evaluation matrix similar to the example shown at the end of this section. The criteria matrix was used to evaluate each site along with a concept layout for each site to test suitability for development. The site concept design developed for each site was also used for estimating. A detailed narrative review of each site can be found in this report.

Recommendations

Based on the program, site selection criteria, and cost evaluation it is recommended that Site 2 and Site 4 are suitable for consideration as the preferred site for future development of the project.

Site 2, received the highest evaluation score and allows for future expansion. The site is current owned by the city but represents a higher initial construction cost and timeline compared with Site 4. This site would require that the full site area be developed as the existing use is a city park. Site 4 features existing usable buildings that match project needs and requires much less site development costs. This property had the second highest evaluation score and represents the lowest initial construction cost and shortest schedule for occupancy by the City. This site requires costs for acquisition of the land and because of limited space, any future expansion would require multi-story structures for additional buildings and parking.

Site Evaluation Matrix Example

Federal Way Operations & Maintenance Center: XX Site — Evaluator Name:_____

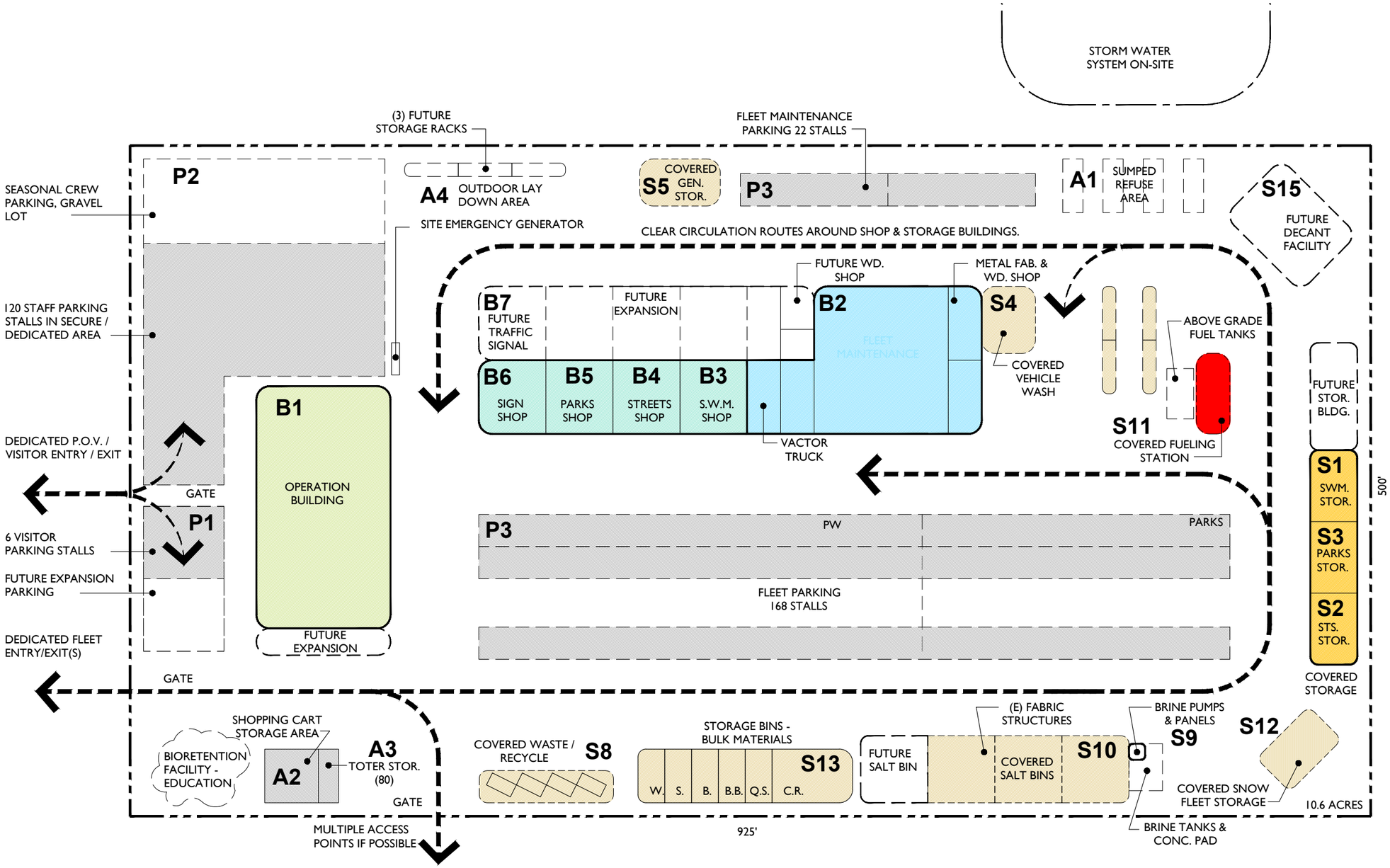
Site Evaluation Criteria

Site Letter: __

Site Name:

Site Ratings	2	1	-2	U		
	Preferred	Acceptable	Undesirable	Unacceptable	Total Score	Comments
1. SITE CHARACTERISTICS						
Natural Environment Features						
1.1 Wetlands and streams					Enter a single X to left	
1.2 Fish and Wildlife Habitat Conservation Areas					Enter a single X to left	
1.3 Priority Habitat Areas					Enter a single X to left	
1.4 Floodplain					Enter a single X to left	
1.5 Designated shorelines					Enter a single X to left	
Total Natural Environment Features					0	
Geologic Hazards						
1.10 Steep slopes (greater than 40%)					Enter a single X to left	
1.11 Landslide					Enter a single X to left	
1.12 Erosion					Enter a single X to left	
1.13 Critical recharge areas					Enter a single X to left	
1.7 Geology (soils and bedrock)					Enter a single X to left	
1.14 Soil or groundwater contamination					Enter a single X to left	
Total Geological Hazards					0	
Other Site Characteristics						
1.16 Site cost/budget					Enter a single X to left	
1.17 Willing seller					Enter a single X to left	
1.19 Existing Improvements					Enter a single X to left	
1.21 Buildable area					Enter a single X to left	
1.22 Other site constraints _____					Enter a single X to left	
Total Other Site Characteristics					0	
2. SITE PROXIMITY						
2.1 Surrounding land use compatibility					Enter a single X to left	
Total Site Proximity					0	
3. SITE SERVICES						
Fire Flow						
3.1 Fire Flow (GPM) and residual pressure (psi)					Enter a single X to left	
Total Site Services					0	
Domestic Water						
3.2 Flow (gallons per day) available					Enter a single X to left	
3.3 Cost of connection to local water purveyors					Enter a single X to left	
Total Domestic Water					0	
Sewer						
3.5 Location of point of connection					Enter a single X to left	
3.6 Capacity and method of connection					Enter a single X to left	
Total Sewer					0	
Natural Gas						
3.9 Location and capacity of nearest connection					Enter a single X to left	
Total Natural Gas					0	
Stormwater Managment						
3.10 Infiltration					Enter a single X to left	
3.11 Availability of stormwater main for connection					Enter a single X to left	
Total Stormwater Management					0	
4. TRANSPORTATION						
4.1 Proximity to public transit for employees					Enter a single X to left	
4.3 Proximity to arterial street					Enter a single X to left	
4.4 Jurisdictional requirements for frontage improvements					Enter a single X to left	
47. Site access feasibility					Enter a single X to left	
Total Transportation					0	
5. LAND USE AND REGULATORY COMPLIANCE						
5.2 Zoning - allowed use					Enter a single X to left	
5.2 Land use approval process					Enter a single X to left	
5.3 Site development standards					Enter a single X to left	
Total Land Use and Regulatory Compliance					0	
7. COMMUNITY ACCEPTANCE						
7.1 Likelihood for community support					Enter a single X to left	
Total Community Acceptance					0	
Grand Total					0	

I. Site



Ideal Site Plan

This concept was developed based on discussions with both Public Works and Parks and Recreations staff to determine the proper site size to match the needs of the City of Federal Way. The layout represents the following priorities:

- Parking and site circulation configured for separation of uses for safety and operational efficiency.
- Required adjacency between the administrative staff, crews and their shops and equipment.
- Compact, value driven design with
- co-located, shared occupancies for cost control and energy conservation.
  Efficient parking located near its use or
- function, placed to meet specific needs.
- Efficient yard area and site circulation, sized to accommodate vehicles that will service the facility safely while maintaining future flexibility.
- Fueling facility for use by facility and police vehicles. Located for convenience and strategic police presence on site during off-hours.
- Site allows for future expansion of facilities and services.

This concept plan was developed as a model representing the programmatic requirements of the site and building requirements. The model is adapted as necessary to meet the constraints presented by each site under consideration. This model plan should be referenced for specific building or space detailed callouts not shown on prospective sites for clarity.

Program Diagram - Ideal Site Plan

Land Acquisition

There are currently four sites under consideration for the new OMF facility. One of the sites is owned by the City of Federal Way, the other three would require the City to acquire new property.

All value estimates in this section represent land value only and do not include the full acquisition cost.

Site 1: Existing Site Expansion

Site 1 is a multi-parcel assemblage located east of 28th Ave South and Steel Lake Park in Federal Way. The assemblage would contain 10 individual parcels totaling 10.6 acres in land area.

The southernmost 4.2 acres of this assemblage is owned by the City of Federal Way and houses its existing maintenance base. The parcel directly north of the City's property may be owned by Sound Transit; however, this has not been verified. The remainder of the parcels are comprised of existing single-family homes and vacant single-family land that is not currently for sale.

Site 2: Steel Lake Park

Site 2 is located sound of South 312th Street and Steel Lake Park and west of 28th Street. This site is owned by the City of Federal Way and is part of a larger parcel that contains Steel Lake Park. This concept would not require the City to acquire new land.

Site 3: Off Market Vacant Land

Site 3 is a vacant 16-acre Office Park (OP) zoned parcel. The site is not actively listed for sale, but may be available off-market. The location is disguised do to its off-market status, but it is a well located operationally efficient site and with convenient access to key corridors. Site access is good, and it is located on a major lighted intersection. There are wetland issues on a portion of the site but most of it is unaffected. Single family residences boarder one side; however, the size of the site would likely allow for a buffer between the OMF and the residences.

The property is not being actively marketed by may be available as an off-market sale.

Site 4: Off Market Commercial Property Assemblage

Site 4 is a two-parcel assemblage totaling 7.55 acres. Each parcel is owned by a separate entity, but both are willing sellers. The location is disguised do to its off-market status. The first parcel contains a car dealership and the other contains an industrial warehouse. The site offers reasonable access and is located on a major thoroughfare. A portion of the existing improvements may be able to be repurposed for the OMF, therefore have value to the city. There are some topography challenges and the site's triangular shape isn't ideal from an operational efficiency perspective, but overall, this site meets many of the cities needs.

Site Evaluations

Four sites were selected for review based on their availability and location. Two of the sites are at least partially owned by the City of Federal Way and two of the sites require acquisition. Based on the space needs program developed for the project, the new facility will require ten to twelve acres of flat area. This amount of property would allow the project to be constructed with administration offices built as a one-story structure for ease of access and efficient communication to other site functions. The one-story option is preferred however, a two-story office building is acceptable and might be required on a site of less than ten-acres.

Summary of Sites

Refer to site plans associated with the descriptions that follow:

Site One

This site would use the existing maintenance facility site, currently owned by the city, and require acquisition of residential properties to the north to increase the site area to accommodate the full building program. The site topography is not ideal in that it slopes away from the access street (28th Ave S) toward the east. Site development would likely require a two-story structure combining the maintenance and storage uses on the lower floor with office components above. Office areas would be accessed from the west while maintenance uses below would be accessed from the east. This configuration would be needed because of site area limitations but it would also serve to mitigate grade changes across the sloping site.

The site would not fully accommodate fleet vehicle parking and other uses without expansion onto residential properties on the north that are not currently owned by the city. PW currently operates out of existing buildings that are subject to replacement because of deterioration and lack of lack of suitability for continued use.

All existing structures would require replacement but they would also need to remain operational during construction until replacements were finished. This would require substantial phasing and additional work which could compromise efficiency during construction and would also increase costs due to an extended schedule.

Opportunity Cost

No current loss of opportunity since this site is already public facility but there would be the loss of residential properties to the north to facilitate the anticipated expansion needs. The current site has the potential for redevelopment if no longer utilized as maintenance facility. Current the site(s) are zoned is R7.2, Single Family zone 7,200 sf per dwelling unit, but the site is adjacent to a R2400 multi-family residential zone. Highest and best use of property would be high medium to high density housing, with rezone of property. Replacement of public use with private would result in additional tax revenue, property tax and utility tax.

Site Two

This site consists of a portion of the city owned Steel Lake Park located just south of the current PW site across 28th Ave South. The new facility would use areas of the park currently occupied by, the skate park, baseball fields, parking lot and the restroom building. The multi-use sports field would remain operational and share parking included in the new facility program.

This site also includes a wetland area along the western edge of the property. Though a wetland buffer area would be required, available land area on the east portion of the site is adequate to accommodate the new facility along with future expansion. Site topography includes a substantial cross slope approximately equal to that which is found at the existing PW site. Site prep would require retaining walls and moderate grading work, but there is enough area to allow for construction of a one-story office building.

Opportunity Cost

No current loss of opportunity since this site is already a public park. Currently the site is zoned is R7.2, Single Family zone 7,200 sf per dwelling unit. While this site too could be sold and up zoned for a high use its location and use may best serve as public property as a park or other public facility, such as a maintenance facility.

Site Three

This site is a forested property with a small centrally located wetland. The site has more acreage than is required for the project which might make it possible to sell the excess property to mitigate the purchase cost. The site fronts on an arterial street with an existing signaled intersection offering very good site access. In addition, site topography is generally level which would reduce relative site development cost.

Opportunity Cost

As a vacant wooded privately held site there is an opportunity loss in tax revenue, housing and employment based on any future use of the site, even though it is currently only taxed as vacant land. The site is zoned as OP, Office Park and Single family High density.

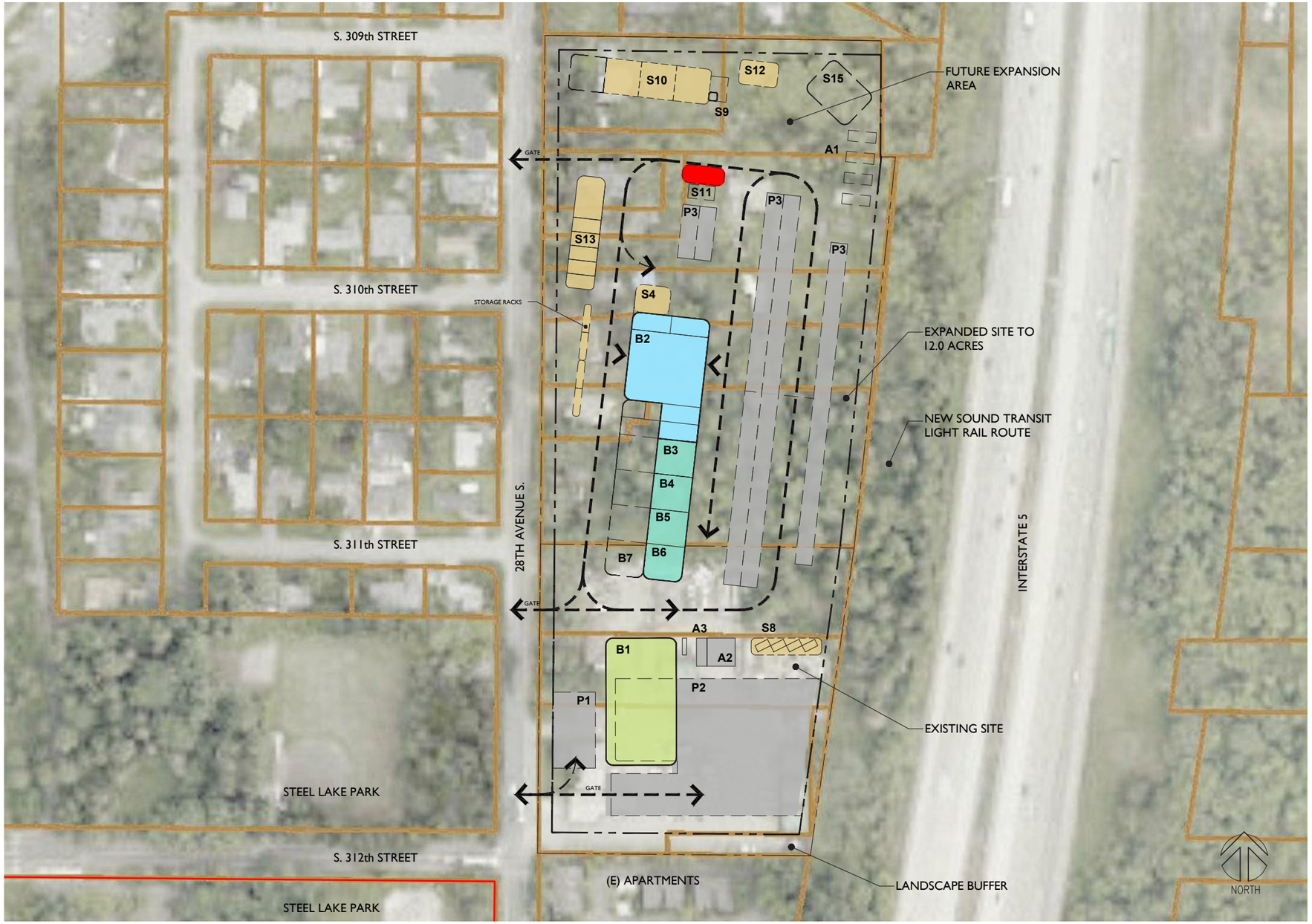
Site Four

The site area for this property is 7.55 acres, which is the smallest area of the four sites under consideration. The property features two existing buildings that could be adapted, with limited improvements, to house program administrative offices, vehicle maintenance and some components of project storage needs. Renovations would be required to adapt the buildings for use as the new facility, but the existing buildings represent a substantial portion of the required space needed for the project program. Therefore, this site would substantially shorten the relocation schedule.

Though portions of the site have relatively steep slopes, all site areas are accessible and surfaced. Options for future expansion and development for increased functionality include; construction of retaining walls for terracing to level fleet parking areas or construction of a multiuse parking structure. The site fronts on a major arterial road with signaled intersections for good access. Adjacent parcels that also include directly usable structures could be acquired for future expansion needs.

Opportunity Cost

This option would result in the loss of an existing commercial development. Loss of property and sales taxes as well as employment as it currently existing; however with the anticipated closure of the existing business the future revenues are unclear at this time. Location of site adjacent to future light rail gives the city an advanta ge in control over potential future redevelopment of the site. With the possibility of finding a higher and better use in the future for the community. The current zoned use is CE Commercial Enterprise.



Site One

This Concept utilized the existing maintenance facility site but would require the acquisition of additional properties to the north to meet all planned programing requirements. While all four of the concepts presented are based on the conceptual site plan layout developed during the programing discussions, this site would require some stacking of the facilities to fit the functions on the sloped site. The site is relatively long in the North-South direction and narrow between the street and I-5 / Sound Transit Right-of Way, the grade also drops off from street at the south end of the property. In this concept, the maintenance facility structures would be constructed in the first phase at the northern end of the site, then the existing facility would be removed and a new administrative facility constructed on the existing site. Due to the existing grade conditions the administrative building would be stacked over some storage uses. Parking for staff would be limited during the second phase of work and admin. staff would need to be relocated or housed on site in the new shop buildings or trailers. Some storage needs may also need to utilize containers during the second phase as well.

Pros:

- The property is partially owned by City, on an established location
- Site grades allow for a two story Administration building with storage space below (restrooms on upper level only)
- Concept would allow for future expansion
- Good frontage along the street for both administrative and shop buildings, clear identification of facility.
- Fairly compact design, allows for efficient
- yard operations and future flexibility.
- Allows for a phased approach to construction.

Cons:

- Would require assemblage of additional properties Concept would require a phased project approach, some disruption of current uses and possible temporary relocation costs will occur.
- Would require a split level site arrangement
- and added site development costs.
- Demolition cost for existing facility and adjacent single family structures.
- Two story building would require additional costs for vertical circulation (stairs, elevator, etc.)

Site One Evaluation Matrix

Site Ratings	2	1	-2	U			
	Preferred	Acceptable	Undesirable	Unacceptable	Total Score	Comments	Lead
1. SITE CHARACTERISTICS							
Natural Environment Features							
1.1 Wetlands and streams	x				2	No wetlands or streams are known to be present	L Klein
1.2 Fish and Wildlife Habitat Conservation Areas	x				2	not present	L Klein
1.3 Priority Habitat Areas	x				2	not present	L Klein
1.4 Floodplain	x				2	not present	L Klein
1.5 Designated shorelines	x				2	not present	L Klein
Total Natural Environment Features					10		
Geologic Hazards							
1.6 Topography			x		-2	The site slopes to the northeast creating issues with storm drainage and discharge location. See the stormwater section.	W Fierst
1.7 Critical aquifer recharge areas	x				2	not present	L Klein
1.8 Geology (soils and bedrock)		x			1		W Fierst
1.9 Known or suspected soil or groundwater contamination	x				2	None known. Mapped as under 20ppm for arsenic/lead.	L Klein
Total Geological Hazards					3		
Other Site Characteristics							
1.10 Existing Improvements			x		-2	demolition of existing structures required	Team
1.11 Buildable area		x			1	workable, but requires acquisition of all parcels	Team
1.12 Other site constraints _____		x			1	Sound Transit sound wall and easements	Team
Total Other Site Characteristics					0		
Total Site Characteristics					**13**		
2. SITE PROXIMITY/LOCATION							
2.1 Proximity to City Services		x			1	On the eastern edge of the city but close to downtown, 1.8 miles to City Hall	all
2.2 Within 15 minute walk to future Sound Transit Center?	x				2		L Klein
2.3 Ability to screen adjacent properties beyond code requirements	x				2		Helix
2.4 Ability to secure the property			x		-2		Helix
2.5 Surrounding land use compatibility			x		-2	single family to the north and multifamily to the south are incompatible uses. I-5 and ST to east are compatible, park to west is compatible	L Klein
Total Site Proximity/Location					**1**		
3. SITE SERVICES							
Fire Flow							
3.1 Fire Flow (GPM) and residual pressure (psi)		X			1	LUD did not provide flow and pressure information and there is no modeling in this area. However, LUD noted flow and pressure should be acceptabel for the project.	W Fierst
Total Fire Flow					1		
Domestic Water							
3.2 Flow (gallons per day) available		X			1	LUD did not provide flow and pressure information and there is no modeling in this area. However, LUD noted flow and pressure should be acceptabel for the project.	W Fierst
3.3 Cost of connection to local water purveyors		x			1		W Fierst
Total Domestic Water					2		
Sewer							
3.4 Location of point of connection		x			1		W Fierst
3.5 Capacity and method of connection		x			1		W Fierst
Total Sewer					2		
Electrical							
3.6 Location of point of connection		x			1	Power is available. However, adequacy needs to be determined by the eletrical eng.	W Fierst
Total Electrical					1		
Natural Gas							
3.7 Location and capacity of nearest connection		x			1	Gas is available in S. 312th Street. However, the pipe is only 2-inch in size.	W Fierst
Total Natural Gas					1		
Stormwater Managment							
3.8 Availability of stormwater main for connection			x		-2	existing stormwater discharge at NE corner outfalls to Sound Transit and I-5 ROW. A connection to a new point may be required	W Fierst
Total Stormwater Management					-2		
Total Site Services					**5**		
4. LAND USE AND REGULATORY COMPLIANCE							
4.1 Zoning - allowed use		x			1	The use is allowed, but with a locational restriction to be confirmed by planning staff.	L Klein
4.2 Land use approval process		x			1	administrative approval, Type III process requires more noticing than Type II	L Klein
4.3 Site development standards		x			1	Acceptable	L Klein
Total Land Use and Regulatory Compliance					**3**		
5. COMMUNITY ACCEPTANCE							
5.1 Loss of opportunity costs for higher/better use on the site	x				2		Helix
5.2 Impacts to Community Assets	x				2		Helix
5.3 Likelihood for community support	x				2	expanding an existing use, should be supported	Team
Total Community Acceptance					**6**		
6. ACQUISITION CONSIDERATIONS							
6.1 Ease of Acquisition			x		-2		Helix
6.2 Acquisition Costs		x			1		Helix
6.3 Willing Seller			x		-2	unknown, likelihood there will be one or two holdouts	Helix
Total Acquisition Considerations					**-3**		
7. CONSTRUCTION CONSIDERATIONS							
7.1 Adequacy for construction staging		x			1	only issue is maintaining use of existing facility	W Fierst
7.2 Construction Costs		x			1		Helix
Total Construction Considerations					**2**		
GRAND TOTAL					**27**		

Site One Feasibility Report

FEASIBILITY STUDY

TO:	Jeff Ryan and Lowell Cate, Helix Design Group	**DATE:**	September 16, 2021
		FROM:	Lisa Klein, AICP Bill Fierst, P.E.
		PROJECT NO.:	2200572.10 / .30
PROJECT NAME:	Federal Way O & M Building – Feasibility Site #1		

This memorandum summarizes our feasibility evaluation of Site #1 for potential use as a future Operations & Maintenance Facility for the City of Federal Way.

The following maps and documents are attached:

1. Site 1 Vicinity
2. Site 1 Parcel Map
3. Zoning Map
4. City of Federal Way Critical Areas Map
5. Sound Transit Easement Exhibits
6. Site 1 Conceptual Site Plan
7. Site 1 Detailed Site Plan

EXECUTIVE SUMMARY

Site 1 is located east of 28th Ave South and Steel Lake Park in Federal Way. The Site is comprised of 12 parcels totaling approximately 12 acres, one of which is owned by the City for its existing City Operations and Maintenance Facility. The others would need to be acquired and are largely comprised of existing single-family homes. The site is located to the east of Steel Lake Park and to the north of an apartment building. The east boundary is adjacent to Interstate 5 / Sound Transit right of way. The grade drops from the street at the south end of the property and towards I-5 along the east.

Sound Transit plans show a sound wall along the east boundary, a 25-foot wide temporary construction easement and a 5-foot wide permanent wall maintenance easement along the east boundary and a 5-foot wide pedestrian access easement along the south side of parcel 092104985.

All parcels are zoned RS7.2 – 1 Unit/7,200 SF. This zoning designation allows for a “government facility” use, but “only if locating this use in the immediate area of the subject property is necessary to permit effective service to the area to be served.”

The site does not appear to contain any critical areas. The City’s site and architectural design requirements do not appear to be problematic. A 10-foot perimeter landscape buffer is required on all sides, it is anticipated that the use will require additional buffering from adjacent residential uses. Parking is required to be located behind or beside the buildings, which may require some reconfiguration of the site plan.

Existing site soils are not compatible with infiltration. Therefore, the stormwater system to control runoff will likely require underground detention. Due to the limited space, the systems to provide water quality to stormwater runoff will likely be in the form of Filterra units. Additional exploratory investigation including site survey is needed to determine the exact location(s) of surface runoff discharge points and to determine whether the runoff location(s) in the proposed design are feasible. Conflicts with the new light rail system to the east may require the runoff to drain to the street, in which case a pump may be required. The storm system will provide detention and water quality in accordance with the 2016 King County Surface Water Design Manual and with the City of Federal Way Addendum to the KCSWDM. A Geotechnical investigation will be required to provide recommendations for long term infiltration rates, as well as pavement section recommendations and soil bearing capacity.

Water availability appears adequate at the site within 28th Avenue South. A water main loop through the site will likely be required, connecting to the existing system beneath 28th Avenue South. Performing a flow test on the nearest hydrant would be needed to determine the actual flow rate and available pressure since the Purveyor does not have existing data or modeling in the area.

Existing sanitary sewer utility is at the site at the southern portion of the site. Depending on available capacity, the existing connection is the most feasible. An alternative second connection point is located approximately 2,800 feet to the north. However, Lakehaven does not have an existing easement and the construction costs would be prohibitive. It is anticipated that connecting to the existing sanitary sewer system is feasible.

The site can be accessed from 28th Avenue South. Half street improvements would likely include improvements to 28th Avenue South, as well as the intersection between 28th Avenue South and South 312th Street. The exact extent of the City required road improvement needs to be determined to more accurately estimate the cost of the off-site improvements. A Transportation Impact Analysis will need to be conducted for accurate average daily traffic counts and noise expectations.

The use would require the following permits/approvals:

- Type III Land Use Approval (approximately 120-day approval, approval by Director)
- SEPA Environmental Review
- Demolition Permits
- PSCAA Air Permits for demolition (potential)
- Site Development, grading and drainage permits
- Right-of-way permit
- Building Permit
- Ecology Construction Stormwater Permit

RECOMMENDATIONS AND NEXT STEPS

It is unclear if the a “government facility” use can be located in this area of the city. Per FWRC 19.200.150 government facilities can be located in the RS7.2 zoning district “only if locating this use in the immediate area of the subject property is necessary to permit effective service to the area to be served.” We recommend confirmation with the City planning department that the use will be allowed in this location.

Reconfigure the site plan to provide parking behind or beside buildings per FWRC Chapter 19.

Reconfigure the site plan to accommodate the 5-foot wide pedestrian easement on parcel 092104985.

Although there are no indications of the presence of critical areas on the property, we recommend a biologist complete a site reconnaissance to confirm prior to acquisition.

Prior to final site selection, we recommend a pre-application meeting be held with City staff to review the findings.

Existing Conditions	
ADDRESS	31016 28th Ave S Federal Way 98003 (central parcel)
PARCEL NUMBER	• Parcels: 0921049239; 0921049240; 0921049095; 0921049115; 0921049085; 0921049170; 0921049009; 0921049250; 0921049198; 0921049026 (portion, this is a large parcel that encompasses Steel Lake Park) • Potential additional parcels: 0921049084 and 0921049329
LOCATION DESCRIPTION	• Total site size: 10.6 acres ○ With potential parcels: 12.42 acres
EXISTING USES	City Operations and Maintenance Facility, single family homes
VEGETATION	Existing facility is mainly paved. Parcels to the north are single family with heavily forested areas.
TOPOGRAPHY	Flat with up to 8% slopes at the eastern boundary
DISCUSSION	• The third northern parcel, east of the identified two potential additional parcels, is identified as a Tract on King County Assessor's site, it is believed to be owned by Sound Transit but that is not identified on King County's site. • This site has a grading easement on it. The City already conveyed about 20 feet of the east boundary to Street. It shows now on the assessor site. • The Recorder's office shows easements for temporary construction (25 feet) and permanent wall maintenance (5 feet) on parcels 0921049085, 0921049009, 0921049250, and 0921049198 which share an eastern border with the ROW, granted to Central Puget Sound Regional Transit Authority. Parcel 0921049085 also has a permanent pedestrian access easement.

Land Use and Zoning Analysis	
LAND USE DESIGNATION	• Single Family, High Density
ZONING DISTRICT	Zoning: RS7.2 – 1 unit / 7,200 SF
ALLOWED USES FWMC 19.200.150	• Government Facility* ○ May be permitted only if locating this use in the immediate area of the subject property is necessary to permit effective service to the area to be served.
ADJACENT USES/ ZONING	• North: Single-family residential / RS7.2 • East: I-5 / City limits, no Federal Way zoning ○ Sound Transit has ROW between property and I-5

	• South: Multi-family residential / RM2,400 • West: Single Family Residential and Steel Lake Park / RS7.2
SOUND TRANSIT ADJACENCY	Sound Transit has easements on parcels 0921049085, 0921049009, 0921049250, and 0921049198. This includes a 5-foot permanent wall maintenance easement on the eastern portion of the parcel, and a 25-foot temporary construction easement on the eastern portion of the parcel. Parcel 0921049085 also has a permanent pedestrian access easement that's 5' wide along the southern boundary (see attached for exhibits for parcel 092104985, but I have them for all effected parcels if you'd like to see them).
SETBACKS / YARDS FWMC 19.200.150	• Front: 20 feet • Side: 10 feet • Rear: 10 feet

BULK REQUIREMENTS
FWMC 19.200.150
	• Lot coverage*: 75%
	• Height: 30 feet above average building elevation
	  ○ If any portion of a structure on the subject property is within 100 ft. of a low-density use, then either:
	  ▪ The height of that structure shall not exceed 15 ft. above average building elevation; or
	  ▪ The facade of that portion of the structure parallel to the low-density use shall not exceed 50 ft. in length.
	As currently drawn, there is a possibility the structure is within 100 feet of a low-density use. Assumption would be it applies to the North, South, and West sides of the site.

LANDSCAPING REQUIREMENTS FWMC 19.115 FWMC 19.125	• The city may require additional landscaping or buffers on a case-by-case basis. • Type III landscaping 10 feet in width shall be provided along all property lines of nonresidential uses in the RS zoning districts. • Landscaped yards shall be provided between building(s) and public street(s). • All portions of a lot not used for buildings, future buildings, parking, storage or accessory uses, and proposed landscaped areas shall be retained in a "native" or predeveloped state. • All outside storage areas shall be fully screened by Type I landscaping a minimum of five feet in width • Building walls which are uninterrupted by window, door, or other architectural feature(s) that are 240 square feet or greater in area, and not located on a property line, shall be screened by landscaping. • Landscaping shall not be required along interior lot lines within a development where parking is being shared. • Parking areas adjacent to public right-of-way shall incorporate berms at least three feet in height within perimeter landscape areas; or alternatively, add substantial shrub plantings to the required perimeter landscape type
TREE RETENTION FWRC 19.120.020	• No person shall remove any trees on a site without first obtaining approval of a tree retention plan by the director; except for those activities that are exempt as described in FWRC 19.120.030. Tree and vegetation removal may also require Class IV – General forest practices application approval as administered by the city of Federal Way per FWRC 19.120.180 et seq. • Required minimum tree unit density for SF zones: 25 tree units/acre (see Table 19.120.130-2 – Tree Unit Credits for more information)

	• Where an applicant cannot provide for the minimum required tree units per acre on site, off-site mitigation or a fee-in-lieu payment into the city's urban forestry account may be approved by the director.
PARKING REQUIREMENTS FWMC 19.115 FWMC 19.130	• Required parking is determined on a case-by-case basis. The director shall base this determination on review of an applicant's written narrative of expected parking need, comparison of similar uses, a thorough parking study in accordance with FWRC 19.130.080(2), or other means. • Parking lots should be beside or behind buildings that front upon streets. • Parking lots should be broken up into rows containing no more than 10 adjacent stalls, separated by planting areas. • Vehicle turning movements shall be minimized. Parking aisles without loop access are discouraged. • The applicant may develop and designate up to 25 percent of the number of parking spaces for compact cars.
SITE DESIGN REQUIREMENTS FWMC 19.200.150 FWMC 19.215 FWMC 19.115 FWMC 19.125	• Pedestrian walkways (minimum six feet wide) shall be provided between the interior of the project and the public sidewalk. • Lighting fixtures should not exceed 20 feet in height and include cutoff shields. • Principal entries to buildings shall be highlighted with plaza or garden areas containing planting, lighting, seating, trellises and other features. • Appear to have a roof pitch ranging from at least 4:12 to a maximum of 12:12. • All building facades that are both longer than 60 feet and are visible from either a right-of-way or residential use or zone shall incorporate facade treatment according to FWMC 19.115.060(2) • Building facades that exceed 120 feet in length and are visible from an adjacent residential zone, right-of-way, public park, or recreation area shall incorporate a significant structural modulation (offset). The minimum depth of the modulation shall be approximately equal to 10 percent of the total length of the subject facade and the minimum width shall be approximately twice the minimum depth. The modulation shall be integral to the building structure from base to roofline. • Buildings should be designed to have a distinct base, middle and top. • Residential design features, including but not limited to entry porches, projecting window bays, balconies or decks, individual windows (rather than strip windows), offsets and cascading or stepped roof forms, shall be incorporated into all buildings. Window openings shall have visible trim material or painted detailing that resembles trim. • Multiple buildings on the same site should incorporate public spaces (formal or informal) • Barbed wire is permitted only atop a fence or a wall at least six feet in height, razor wire fences are prohibited. • Fences and railings not over six feet in height may be located in required yards subject to FWMC 19.125.
CONCLUSION / RECOMMENDATION	• Confirm building height requirement with City • All sites need to take into consideration additional buffering of adjacent uses (more than code) • The Federal Way Sound Transit extension for the Link Light Rail is in the design and construction phase currently and is expected to be open in 2024. Next to Steel Lake Park, at approximately 312th Street, it will transfer from surface (coming from north) to elevated (heading south) tracks. A noise wall will be constructed to help mitigate construction noise.

Critical Areas	
FEMA FLOOD ZONE	• Per the FIRM map number 53033C1235G dated 8/19/2020, the area lies within an “Area of Minimal Flood Hazard”.
WETLANDS/STREAMS	• Per the King County imap and City of Federal Way mapping, there are none
SHORELINES	• Per the King County imap and City of Federal Way mapping, there are none
GEOLOGIC HAZARDS	• Per the King County imap and City of Federal Way mapping, there are none
CRITICAL AQUIFER RECHARGE AREA	• The Federal Way Critical Areas Map indicates the site is in the Lower Puget Sound drainage basin. Per the King County Aquifer Recharge Map, dated April 2003, from the Department of Natural Resources and Parks, the site does not appear to be within a critical aquifer recharge area.
WELLHEAD PROTECTION AREA	• Per the King County imap, there are none
FISH/ WILDLIFE CONSERVATION AREA	• Per WAC 365-190-130 and available mapping the site will likely not be considered a fish and wildlife conservation area.
PRIORITY HABITAT AREA	• Department of Fish and Wildlife Priority Habitat Species mapping did not identify any on site.
CONCLUSION / RECOMMENDATION	• No effect on permitting

Soils	
SOIL TYPE	• Per USDA, soils in the area are approximately 85%Alderwood gravelly sandy loam with shallow depth to ground water, typically 1-3 feet.
INFILTRATION RATE	• Poor
CONTAMINATION	• Department of Ecology mapping indicates the site is in the Tacoma Smelter Plume Area-Wide Contamination with under 20 ppm or arsenic/ lead
CONCLUSION / RECOMMENDATION	• A Geotechnical investigation and study to provide recommendations for long term infiltration rates, pavement section recommendations and soil bearing capacity.

Stormwater	
STORM MANUAL / REQUIREMENTS	• 2016 King County Surface Water Design Manual, with the City of Federal Way Addendum to the KCSWDM
TYPE OF RETENTION / DETENTION	• The existing storm conveyance system is limited, consisting of culverts in ditches along 28th Avenue South to the west of the site and surface conveyance to the east. Site runoff is proposed to be detained with an underground system such as Stormtech Chambers or vaults, located below the fleet parking area. • The street runoff will be detained with a separate underground detention system, located near 28th Ave South. All developed discharge is to match predeveloped discharge rates from 50% of the 2-year peak flow up to the full 50-year peak flow. Developed peak discharge rates shall also match predeveloped peak discharge rates for the

	2- and 10-year return periods. All runoff is proposed to discharge to the west in the existing surface conveyance system.
PERMITTING REQUIREMENTS	• Full Drainage Review per Section 1.1.2-4 with all core and special requirements of the 2016 KCSWDM and City of Federal Way Addendum.
CONCLUSIONS / RECOMMENDATIONS	• Additional exploratory investigation including site survey is needed to determine the exact location(s) of surface runoff discharge points and to determine whether the runoff location(s) in the proposed design are feasible. If the surface conveyance is not feasible, a new piped system will be required.

Water	
LOCATION OF / DISTANCE TO CONNECTION POINT	• A 12" AC water main is currently in operation beneath 28th Avenue South. The distance to the waterline service is approximately 130'.
LOOP REQUIREMENTS	• An 8" loop is proposed through the site, both ends to be connected to the existing system beneath 28th Avenue South.
SYSTEM CAPACITY	• It is anticipated that the existing system has capacity.
FIRE HYDRANT SPACING	• There are currently 2 existing fire hydrants on the properties. Commercial fire spacing shall be located no closer than 50' to the building and no further than 150' from the building. All measurements as vehicular travel distance. The existing fire hydrants meet these requirements.
FIRE FLOW	• Static pressure about 90+/- psi. • There are no system hydraulic models (or other info) specific to this area. • With surrounding 12" and 10" water mains, a hydraulic model will definitely indicate more than 2,500 GPM of available 'fire flow' at a minimum 20 psi (likely results would indicate something in the 3,000-4,000 GPM range).
CONCLUSIONS / RECOMMENDATIONS	• Water availability appears adequate. Performing a flow test on the nearest hydrant would determine the flow rate and available pressure.

Sewer	
LOCATION OF / DISTANCE TO CONNECTION POINT	• The existing sanitary sewer connection for the O&M Facility is located to the southeast of the parcels. It is anticipated that the same connection will be employed. A sewer line extension will be constructed for the shops building. An oil/water separator will be required for the fueling station. A connection to the sewer may be required for the Sumped Refuse Area, depending on whether the Refuse Area is covered. • A sewer connection to the north can be further explored if needed, but significant existing issues make the prospect much less desirable. Lakehaven does not have an easement, so additional/new easement would be required to be secured and Lakehaven wouldn't start any sort of formal action, until/unless there was an active Developer Extension Agreement in place, and until the developer had provided them with the required/estimated deposit for any legal action, if needed.

SYSTEM CAPACITY	• The existing system is an 8". The capacity should be sufficient.
CONCLUSIONS / RECOMMENDATIONS	• It is anticipated that the existing connection is feasible.

Transportation	
CURRENT ACCESS	• The parcels are all currently accessed from 28th Avenue South. 28th Avenue South is accessed from I-5 via South 320th Street.
ACCESS REQUIREMENTS	• Three access points for the proposed facility are proposed from 28th Avenue South.
FRONTAGE IMPROVEMENTS	• Half street improvements on 28th Avenue South will be required, with improvements to the 28th Avenue South and South 312th Street intersection likely.
OFFSITE IMPROVEMENTS	• 28th Avenue South is classified as a type K. Half street improvements include the 78' ROW, consisting of 44' pavement with 6' planter, 8' sidewalk and 3' utility strip. Right-of-way dedication will likely have to be made to the City. Current pavement width is approximately 35'. Widening would trigger overhead and water utility relocations, grading, tree, sign and mailbox removal/replacement. The impervious area for the half street improvement is approximately 38,000 SF. A detention and water quality system to detain and treat street runoff would be required.
PERMITTING REQUIREMENTS	• Right-of-way permits. Transportation Impact Analysis for accurate average daily traffic counts and noise expectations.
CONCLUSIONS / RECOMMENDATIONS	• The exact required road improvement needs to be determined to more accurately estimate the cost of the off-site improvements.

Permitting Requirements	
LAND USE PERMITS FWMC 19.65	• Type III – Project Approval process • 120-day time period • The Director will make the initial land use decision and the decision on the community design guidelines based on written comments and information. Any appeals of either decision will be decided by the hearing examiner after a public hearing.
SEPA ENVIRONMENTAL REVIEW	• SEPA will be required.
SITE DEVELOPMENT PERMITS	• Site development, demolition, grading and drainage permits, right-of-way permits, water and sewer permits.
DESIGN REVIEW	• Required
CRITICAL AREAS PERMITS	• n/a
BUILDING PERMITS	• Building, plumbing, fire protection, sanitary sewer, gas and electrical permits.

Definitions:

- "Government facility" means a use consisting of services and facilities operated by any level of government, excluding those uses listed separately in this title.
- "Maximum lot coverage" means the maximum percentage of the surface of the subject property that may be covered with materials which will not allow for the percolation of water into the underlying soils. See FWRC 19.110.020 et seq. for further details.
    - The area of all structures, pavement and any other impervious surface on the subject property will be calculated as a percentage of total lot area, exclusive of the area of any recorded access easements, in determining compliance with maximum lot coverage required in this title. If the subject property contains more than one use, the maximum lot coverage requirements for the predominant use will apply to the entire development.

Figure 1.0: Vicinity Map

Figure 2.0: Parcel Map

Figure 3.0: Zoning Map

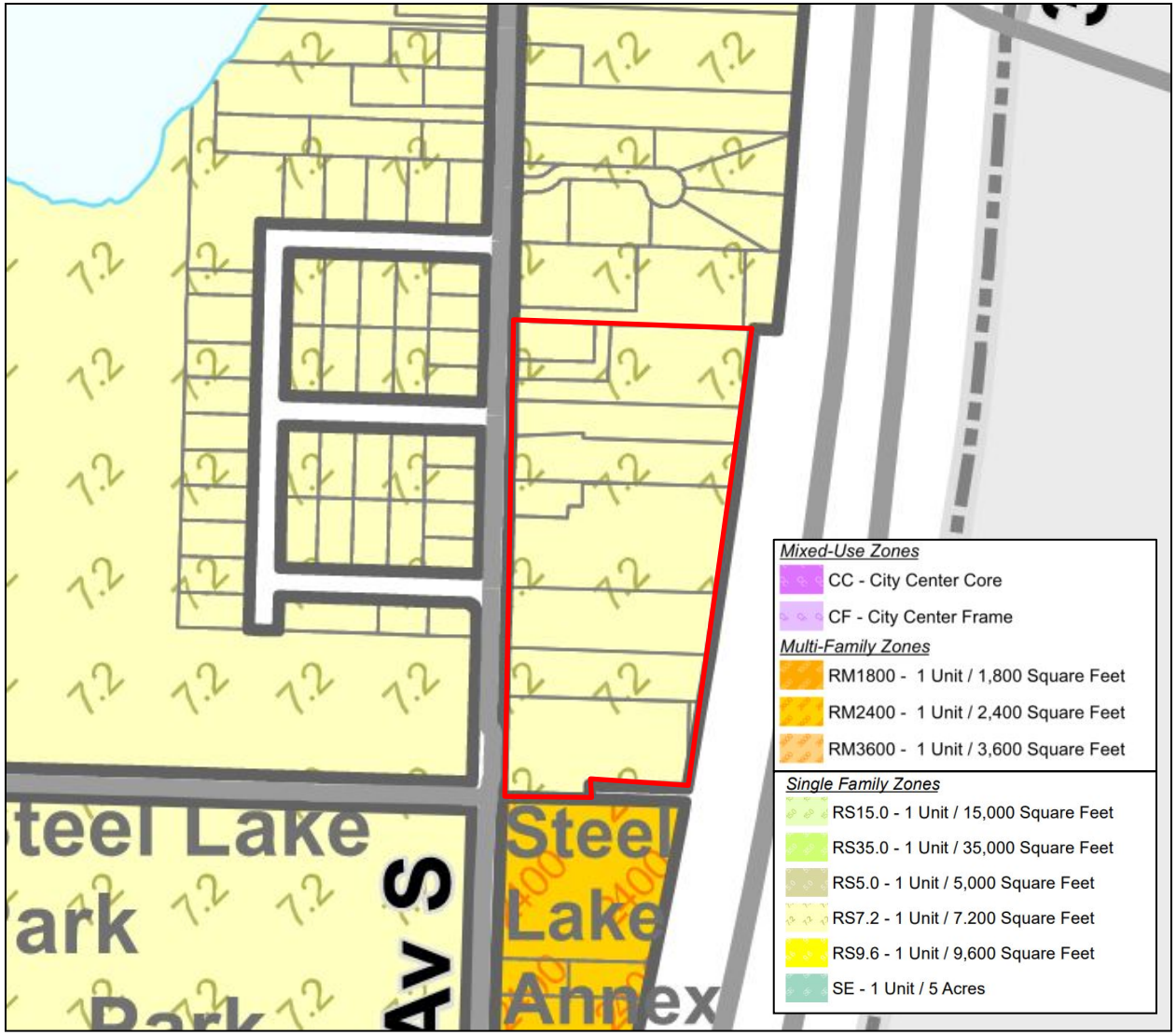
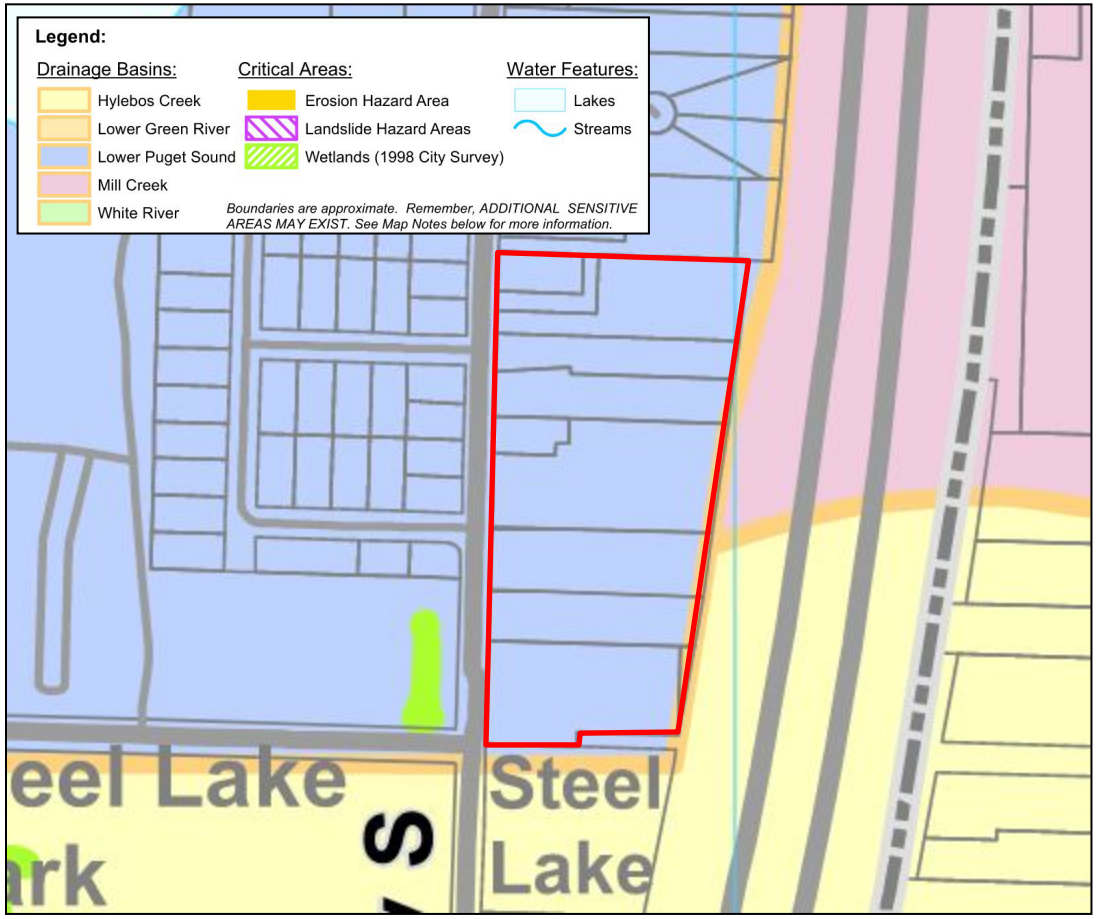
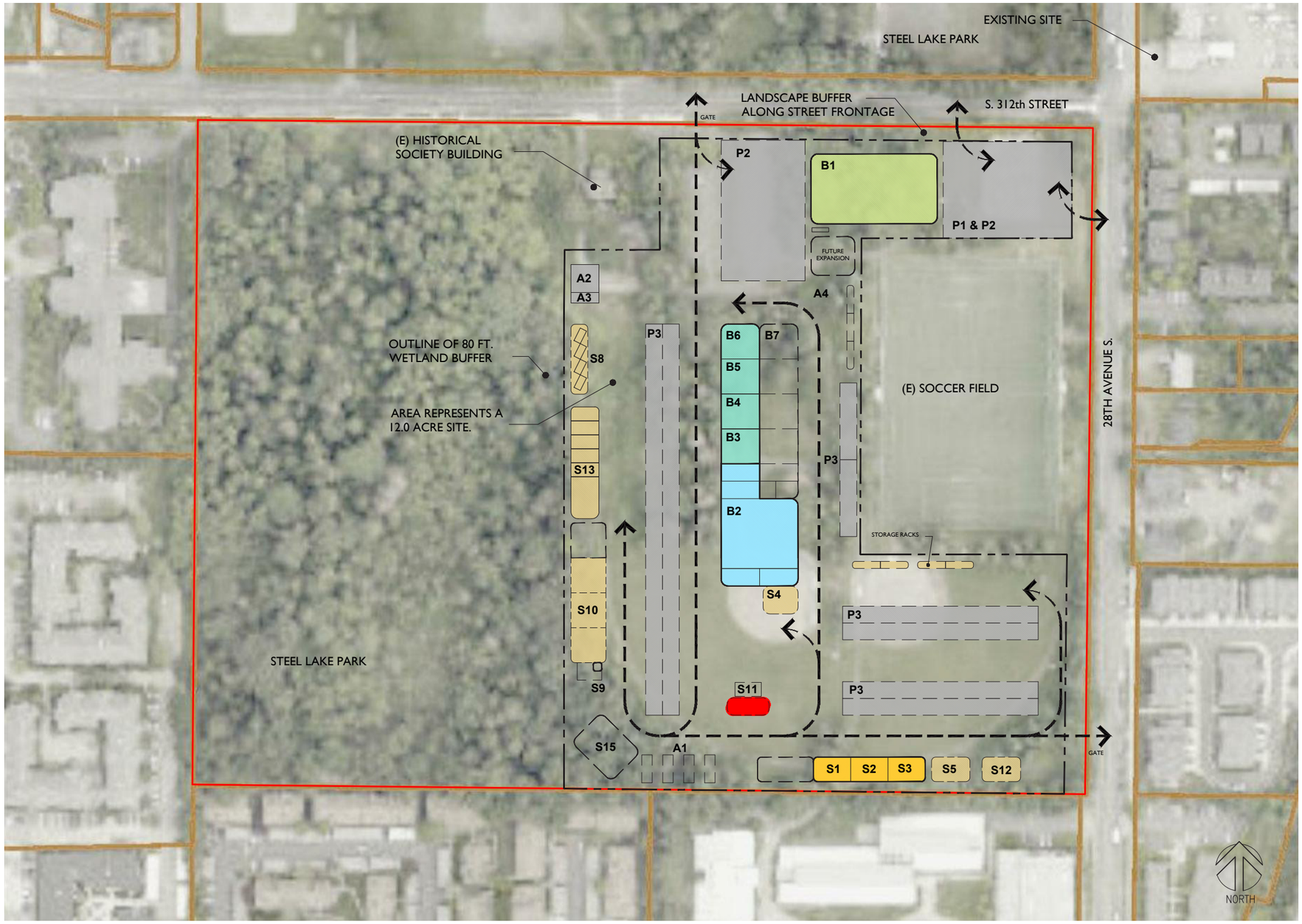


Figure 4.0 Critical Areas Map



Q:\2020\2200572\30_PLN\Deliverables_By_Date\To Helix 9-16-2021\20210916 Site 1- AHBL Feasibility Study Plng and Civil.docx



Site Two

Concept Two would utilize the Steel Lake Park property diagonally across the street from the existing facility. The new facility could be built in a single phase while the exiting site is fully occupied and functional with limited impacts to operation. The new facility would replace the existing skate park, parking lot, rest rooms and baseball field but would retain the existing soccer field. The U shaped arrangement is slightly less efficient but still fairly compact with good traffic flow for both on and off the site. Due to grade changes some regrading and retaining walls will be need but not to the extent of the existing site. The location of the administrative building near the intersection allows for good facility identification and would provide after hour parking for the sports field. An existing wetland is located on the western half of the site, but the proposed facility would not impact or be impacted by the wetland. In this concept, the full maintenance facility would be constructed in a single phase without disruption to the existing facility or its operations.

Pros:

- Property currently owned by City.
- Close to current location and use.
- Would allow for future expansion as needed.
- Minimal adjacent neighboring properties or incompatible uses.
- Visitor and staff parking lot could be utilized by soccer field during off hours.
- Good traffic flow on and off site, separation of parking and drive lanes clear separation of staff, visitors and heavy equipment.

Cons:

- Loss or relocation of skate park.
- Loss of baseball fields, restrooms and parking lot.
- Grade changes on site will cause some additional land development costs.

Site Two Evaluation Matrix

Site Ratings	2	1	-2	U			
	Preferred	Acceptable	Undesirable	Unacceptable	Total Score	Comments	Lead
1. SITE CHARACTERISTICS							
Natural Environment Features							
1.1 Wetlands and streams	x				2	No wetlands or streams are present in the project area	L Klein
1.2 Fish and Wildlife Habitat Conservation Areas	x				2	May be located to the west but does not impact site development	L Klein
1.3 Priority Habitat Areas	x				2	not present in the project area	L Klein
1.4 Floodplain	x				2	not present	L Klein
1.5 Designated shorelines	x				2	not present	L Klein
Total Natural Environment Features					10		
Geologic Hazards							
1.6 Topography	x				2	The property is relatively flat	W Fierst
1.7 Critical aquifer recharge areas	x				2	not present	L Klein
1.8 Geology (soils and bedrock)		x			1		W Fierst
1.9 Known or suspected soil or groundwater contamination		x			1	None known. Not mapped for arsenic and lead. There is a contamination site within .5 miles.	L Klein
Total Geological Hazards					6		
Other Site Characteristics							
1.10 Existing Improvements		x			1	Remove baseball field, retain soccer and historic building	Team
1.11 Buildable area		x			1		Team
1.12 Other site constraints _____		X			1		Team
Total Other Site Characteristics					3		
Total Site Characteristics					**19**		
2. SITE PROXIMITY/LOCATION							
2.1 Proximity to City Services		x			1	On the eastern edge of the city but close to downtown, 1.8 miles to City Hall	all
2.2 Within 15 minute walk to future Sound Transit Center?	x				2		L Klein
2.3 Ability to screen adjacent properties beyond code requirements	x				2		Helix
2.4 Ability to secure the property		x			1		Helix
2.5 Surrounding land use compatibility		x			1	Intervening frontage streets, undeveloped area to the west. Truman HS to the south.	L Klein
Total Site Proximity/Location					**7**		
3. SITE SERVICES							
Fire Flow							
3.1 Fire Flow (GPM) and residual pressure (psi)		x			1	LUD did not provide flow and pressure information and there is no modeling in this area. However, LUD noted flow and pressure should be acceptabel for the project.	W Fierst
Total Fire Flow					1		
Domestic Water							
3.2 Flow (gallons per day) available		x			1	LUD did not provide flow and pressure information and there is no modeling in this area. However, LUD noted flow and pressure should be acceptabel for the project.	W Fierst
3.3 Cost of connection to local water purveyors		x			1		W Fierst
Total Domestic Water					2		
Sewer							
3.4 Location of point of connection		x			1	Two sewer connections may be required with connections to offsite locations.	W Fierst
3.5 Capacity and method of connection		x			1		W Fierst
Total Sewer					2		
Electrical							
3.6 Location of point of connection		x			1	Power is available. However, adequacy needs to be determined by the eletrical eng.	W Fierst
Total Electrical					1		
Natural Gas							
3.7 Location and capacity of nearest connection		x			1	Gas is available in S. 312th Street. However, the pipe is only 2-inch in size.	W Fierst
Total Natural Gas					1		
Stormwater Managment							
3.8 Availability of stormwater main for connection		x			1	Stormwater discharge to wetland to the west and roadside ditches	W Fierst
Total Stormwater Management					1		
Total Site Services					**8**		
4. LAND USE AND REGULATORY COMPLIANCE							
4.1 Zoning - allowed use		x			1	The use is allowed, but with a locational restriction to be confirmed by planning staff.	L Klein
4.2 Land use approval process		x			1	administrative approval, Type III process requires more noticing than Type II	L Klein
4.3 Site development standards		x			1	Acceptable	L Klein
Total Land Use and Regulatory Compliance					**3**		
5. COMMUNITY ACCEPTANCE							
5.1 Loss of opportunity costs for higher/better use on the site	x				2		Helix
5.2 Impacts to Community Assets			x		-2	Loss of baseball field	Helix
5.3 Likelihood for community support			x		-2	Loss of baseball field	Team
Total Community Acceptance					**-2**		
6. ACQUISITION CONSIDERATIONS							
6.1 Ease of Acquisition	x				2	City ownership	Helix
6.2 Acquisition Costs	x				2		Helix
6.3 Willing Seller	x				2	City ownership	Helix
Total Acquisition Considerations					**6**		
7. CONSTRUCTION CONSIDERATIONS							
7.1 Adequacy for construction staging		x			1	only issue is maintaining use of existing soccer field and working around historic building	W Fierst
7.2 Construction Costs		x			1		Helix
Total Construction Considerations					**2**		
GRAND TOTAL					**43**		

FEASIBILITY STUDY

TO:	Jeff Ryan and Lowell Cate, Helix Design Group	**DATE:**	Sept. 16, 2021
		FROM:	Lisa Klein, AICP Bill Fierst, P.E.
		PROJECT NO.:	2200572.10 / .30
PROJECT NAME:	Federal Way O & M Building – Feasibility Site #2		

This memorandum summarizes our feasibility evaluation of Site #2 for potential use as a future Operations & Maintenance Facility for the City of Federal Way.

The following maps and documents are attached:

1. Site 2 Vicinity Map
2. Site 2 Parcel Map
3. Federal Way Critical Areas Map
4. Zoning Map
5. Wetland/ Stream Map
6. Critical Areas Reconnaissance Letter
7. Site 2 Conceptual Site Plan
8. Site 2 Detailed Site Plan

EXECUTIVE SUMMARY

Site 2 is located south of South 312th Street and Steel Lake Park and west of 28th Ave South in Federal Way. The site is owned by the City of Federal Way and is part of a larger parcel that contains Steel Lake Park. The location for development is approximately 12 acres and currently contains baseball and soccer fields, a historic society building, and approximately 51 parking spaces. Should the site be selected it is anticipated that the historic society building and soccer field would remain, and some the parking will need to be retained or relocated for the soccer field users. There is additional undeveloped property to the west that is not being considered for development and contains critical areas and forested conditions. The grade is generally flat with slopes to the west at 6 – 8 percent.

All parcels are zoned RS7.2 – 1 Unit/7,200 SF. This zoning designation allows for a “government facility” use, but “only if locating this use in the immediate area of the subject property is necessary to permit effective service to the area to be served.”

Surrounding uses are generally compatible considering the intervening frontage streets (So 312th and 28th Ave South) and large area to remain undeveloped to the west. To the south is the Truman High School Campus. A 10-foot perimeter landscape buffer is required on all sides, it is anticipated that the use may require additional buffering from the frontage streets and the Truman High School Campus.

A critical areas reconnaissance was completed to determine the eastern edge of the critical areas located on the western portion of the property and the likely buffer width; see the critical areas and buffers on the site plan. The critical areas should not impact site development. The City may require a full critical areas delineation report with a future land use application.

The City's site and architectural design requirements do not appear to be problematic. Parking is required to be located behind or beside the buildings, which may require some reconfiguration of the site plan.

Existing site soils are not compatible with infiltration. Therefore, the stormwater system to control runoff will likely require underground detention. Due to the limited space, the systems to provide water quality to stormwater runoff will likely be in the form of Filterra units. Additional exploratory investigation including site survey is needed to determine the exact location(s) of surface runoff discharge points and to determine whether the runoff location(s) in the proposed design are feasible. The storm system will provide detention and water quality in accordance with the 2016 King County Surface Water Design Manual and with the City of Federal Way Addendum to the KCSWDM. A Geotechnical investigation will be required to provide recommendations for long term infiltration rates, as well as pavement section recommendations and soil bearing capacity.

Water availability appears adequate at the site within the adjacent roadways. A water main loop through the site will likely be required, connecting to the existing system beneath South 312 Street to the north and to the existing system beneath 28th Avenue to the east. Performing a flow test on the nearest hydrant would be needed to determine the actual flow rate and available pressure since the Purveyor does not have existing data or modeling in the area.

Existing sanitary sewer utility is relatively close to the site. Depending on available capacity and pipe invert elevations, there are two potential connection points. The first connection point is at the existing O&M Facility, located to the east of 28th Avenue South. The second connection point is located near the southeastern corner of the parcel, at the entrance drive to Kandila Townhomes, 31408 28th Avenue South. It is anticipated that connecting to the existing sanitary sewer system is feasible.

The site can be accessed from either South 312th or 28th Avenue South. Half street improvements would likely include improvements to both South 312th and 28th Avenue South, as well as the intersection between them. The exact extent of the City required road improvement needs to be determined to more accurately estimate the cost of the off-site improvements. A Transportation Impact Analysis will need to be conducted for accurate average daily traffic counts and noise expectations.

The use would require the following permits/approvals:

- Type III Land Use Approval (approximately 120-day approval, approval by Director)
- SEPA Environmental Review
- Critical Areas Review (potential)
- Demolition Permits
- PSCAA Air Permits for demolition (potential)
- Site Development, grading and drainage permits

- Right-of-way permit
- Building Permit
- Ecology Construction Stormwater Permit

RECOMMENDATIONS AND NEXT STEPS

It is unclear if the a "government facility" use can be located in this area of the city. Per FWMC 19.200.150 government facilities can be located in the RS7.2 zoning district "only if locating this use in the immediate area of the subject property is necessary to permit effective service to the area to be served." We recommend confirmation with the City planning department that the use will be allowed in this location.

Reconfigure the site plan to provide parking behind or beside buildings per FWMC Chapter 19.

Prior to final site selection, we recommend a pre-application meeting be held with City staff to review the findings.

Existing Conditions	
ADDRESS	• 31201 28th Ave S, Federal Way, WA 98003
PARCEL NUMBER	• Parcel: 0921049026
LOCATION DESCRIPTION	• Parent parcel: 63.62 acres • Subject site (south of 312th): 24.82 acres • Steel Lake Park, south of South 312th Street and west of 28th Avenue South
EXISTING USES	• Steel Lake Park – historic society building, parking, soccer and baseball fields on the eastern half, undeveloped on the western half
VEGETATION	• Flat and developed on the eastern half, heavily vegetated on the western half
TOPOGRAPHY	• Generally flat on the eastern half of the site. The property slopes to the west at 6-8 percent. The western portion of the site has a no-name creek running north-south through the site and a wetland indicated at the southwestern corner of the property.
DISCUSSION	• There are currently 51 parking spaces. The soccer field is going to need some of their parking replaced. • The historical society building will stay.

Land Use and Zoning Analysis	
LAND USE DESIGNATION	Parks and Open Space (designation allows for a variety of compatible zoning)
ZONING DISTRICT	Zoning: RS7.2 – 1 unit / 7,200 SF
ALLOWED USES FWMC 19.200.150	• Government Facility* • May be permitted only if locating this use in the immediate area of the subject property is necessary to permit effective service to the area to be served.

ADJACENT USES/ ZONING	• North: Steel Lake and Steel Lake Park / RS7.2 • East: Residential (multifamily and single family) / RM2400 • South: Truman Campus / CF • West: Steel Lake Park and Senior Living (apartments) / RS7.2 and CF • Northwest: Steel Lake Maintenance Facility / RS7.2
SETBACKS / YARDS FWMC 19.200.150	• Front: 20 feet • Side: 10 feet • Rear: 10 feet
BULK REQUIREMENTS FWMC 19.200.150	• Lot coverage*: 75% • Height: 30 feet above average building elevation 1. If any portion of a structure on the subject property is within 100 ft. of a low-density use, then either: ▪ The height of that structure shall not exceed 15 ft. above average building elevation; or ▪ The facade of that portion of the structure parallel to the low-density use shall not exceed 50 ft. in length. *As currently drawn, no part of the structure is within 100 feet of a low-density use.*
LANDSCAPING REQUIREMENTS FWMC 19.115 FWMC 19.125	• Type III landscaping 10 feet in width shall be provided along all property lines of nonresidential uses in the RS zoning districts. • Landscaped yards shall be provided between building(s) and public street(s). • All portions of a lot not used for buildings, future buildings, parking, storage or accessory uses, and proposed landscaped areas shall be retained in a “native” or predeveloped state. • All outside storage areas shall be fully screened by Type I landscaping a minimum of five feet in width • Building walls which are uninterrupted by window, door, or other architectural feature(s) that are 240 square feet or greater in area, and not located on a property line, shall be screened by landscaping. • Parking areas adjacent to public right-of-way shall incorporate berms at least three feet in height within perimeter landscape areas; or alternatively, add substantial shrub plantings to the required perimeter landscape type
TREE RETENTION FWRC 19.120.020	• No person shall remove any trees on a site without first obtaining approval of a tree retention plan by the director; except for those activities that are exempt as described in FWRC 19.120.030. Tree and vegetation removal may also require Class IV – General forest practices application approval as administered by the city of Federal Way per FWRC 19.120.180 et seq. • Required minimum tree unit density for SF zones: 25 tree units/acre (see Table 19.120.130-2 – Tree Unit Credits for more information) • Where an applicant cannot provide for the minimum required tree units per acre on site, off-site mitigation or a fee-in-lieu payment into the city’s urban forestry account may be approved by the director.
PARKING REQUIREMENTS FWMC 19.115 FWMC 19.130	• Required parking is determined on a case-by-case basis. The director shall base this determination on review of an applicant’s written narrative of expected parking need, comparison of similar uses, a thorough parking study in accordance with FWRC 19.130.080(2), or other means. • Parking lots should be beside or behind buildings that front upon streets.

	• Parking lots should be broken up into rows containing no more than 10 adjacent stalls, separated by planting areas. • Vehicle turning movements shall be minimized. Parking aisles without loop access are discouraged. • The applicant may develop and designate up to 25 percent of the number of parking spaces for compact cars.
SITE DESIGN REQUIREMENTS FWMC 19.200.150 FWMC 19.215 FWMC 19.115 FWMC 19.125	• Pedestrian walkways (minimum six feet wide) shall be provided between the interior of the project and the public sidewalk. • Lighting fixtures should not exceed 20 feet in height and include cutoff shields. • Principal entries to buildings shall be highlighted with plaza or garden areas containing planting, lighting, seating, trellises and other features. • Appear to have a roof pitch ranging from at least 4:12 to a maximum of 12:12. • Building facades that exceed 120 feet in length and are visible from an adjacent residential zone, right-of-way, public park, or recreation area shall incorporate a significant structural modulation (offset). The minimum depth of the modulation shall be approximately equal to 10 percent of the total length of the subject facade and the minimum width shall be approximately twice the minimum depth. The modulation shall be integral to the building structure from base to roofline. • Buildings should be designed to have a distinct base, middle and top. • Residential design features, including but not limited to entry porches, projecting window bays, balconies or decks, individual windows (rather than strip windows), offsets and cascading or stepped roof forms, shall be incorporated into all buildings. Window openings shall have visible trim material or painted detailing that resembles trim. • Multiple buildings on the same site should incorporate public spaces (formal or informal) • Barbed wire is permitted only atop a fence or a wall at least six feet in height, razor wire fences are prohibited. • Fences and railings not over six feet in height may be located in required yards subject to FWMC 19.125.
CONCLUSION / RECOMMENDATION	• All sites need to take into consideration additional buffering of adjacent uses (more than code)

Critical Areas	
FEMA FLOOD ZONE	• Per the FIRM map number 53033C1235G dated 8/19/2020, the area lies within an “Area of Minimal Flood Hazard”.
WETLANDS/STREAMS FWMC 19.145.160	• The Federal Way Environmentally Sensitive Areas Map indicates a stream extending into the northern portion of the site that feeds into a wetland (mapped in 1998) on the western third of the site. • According to Ecological Land Services the Wetland on site is a Category III wetland with an 80-foot buffer. • Unless otherwise provided, structures shall be set back a distance of five feet from the edges of a critical area buffer. The following may be allowed in the building setback area: 1. Landscaping; 2. Building overhangs; and 3. Fences and railings six feet and less in height.
SHORELINES	• The northern portion of the parent parcel is designated Urban Conservancy (near Steel Lake), the subject parcel does not contain any shorelines.
GEOLOGIC HAZARDS	• Per the King County imap, there are none. No City of Federal Way maps indicate a geologic hazard on site.

CRITICAL AQUIFER RECHARGE AREA	• The Federal Way Critical Areas Map indicates the site is in the Lower Green River drainage basin. Per the King County Aquifer Recharge Map, dated April 2003, from the Department of Natural Resources and Parks, the site does not appear to be within a critical aquifer recharge area.
WELLHEAD PROTECTION AREA	• Per the King County imap, there are none
FISH/ WILDLIFE CONSERVATION AREA	• Per WAC 365-190-130 and available mapping the adjacent wetland area of the site maybe considered a fish and wildlife conservation area due to the wetlands and drainage in that location. It is unlikely it affects site development.
PRIORITY HABITAT AREA	• Department of Fish and Wildlife Priority Habitat Species mapping did not identify any on site.
CONCLUSION / RECOMMENDATION	• Wetland and stream and associated buffers have been mapped. There is currently no development within the buffers.

Soils	
SOIL TYPE	• Per USDA, soils in the area are approximately 85% Alderwood gravelly sandy loam with shallow depth to ground water, typically 1-3 feet.
INFILTRATION RATE	• Poor
CONTAMINATION	Department of Ecology mapping indicates two contamination is the vicinity: • The site is in the Tacoma Smelter Plume Area-Wide Contamination with under 20 ppm or arsenic/ lead • A drycleaners place located approximately 1,300 feet south of the site is indicated to have halogenated solvents above clean-up levels in the soil and groundwater. Clean-up has started.
CONCLUSION / RECOMMENDATION	• A Geotechnical investigation and study to provide recommendations for long term infiltration rates, pavement section recommendations and soil bearing capacity.

Stormwater	
STORM MANUAL / REQUIREMENTS	• 2016 King County Surface Water Design Manual, with the City of Federal Way Addendum to the KCSWDM
TYPE OF RETENTION / DETENTION	• The existing storm conveyance system is limited, consisting of culverts in ditches along 28th Avenue South to the west of the site and surface conveyance to the east. Site runoff is proposed to be detained with an underground system such as Stormtech Chambers or vaults, located below the fleet parking area. • The street runoff will be detained with a separate underground detention system, located near 28th Ave South. All developed discharge is to match predeveloped discharge rates from 50% of the 2-year peak flow up to the full 50-year peak flow. Developed peak discharge rates shall also match predeveloped peak discharge rates for the 2- and 10-year return periods. All runoff is proposed to discharge to the west in the existing surface conveyance system.
PERMITTING REQUIREMENTS	• Full Drainage Review per Section 1.1.2-4 with all core and special requirements of the 2016 KCSWDM and City of Federal Way Addendum.
CONCLUSIONS / RECOMMENDATIONS	• Additional exploratory investigation including site survey is needed to determine the exact location(s) of surface runoff discharge points and to determine whether the runoff location(s) in the proposed design are feasible. If the surface conveyance is not feasible, a new piped system will be required.

Water	
LOCATION OF / DISTANCE TO CONNECTION POINT	• An AC water main is currently in operation beneath South 312th Street and a 12" AC water main beneath 28th Avenue South. Lakehaven does not have as-built information on the water main beneath South 312th Street, however there are fire hydrants along the road. There are also existing fire hydrants along 28th Avenue South. The distance to the water main service is approximately 83'.
LOOP REQUIREMENTS	• An 8" loop is proposed through the site, both ends to be connected to the existing system beneath South 312th Street and 28th Avenue South.
SYSTEM CAPACITY	• It is anticipated that the existing system has capacity.
FIRE HYDRANT SPACING	• There are currently 7 existing fire hydrants on properties directly adjacent to the site. Commercial fire spacing shall be located no closer than 50' to the building and no further than 150' from the building. All measurements as vehicular travel distance. The existing fire hydrants meet these requirements.
FIRE FLOW	• Static pressure about 90+/- psi. • There are no system hydraulic models (or other info) specific to this area. • With surrounding 12" and 10" water mains, a hydraulic model will definitely indicate more than 2,500 GPM of available 'fire flow' at a minimum 20 psi (likely results would indicate something in the 3,000-4,000 GPM range).
CONCLUSIONS / RECOMMENDATIONS	• Water availability appears adequate. Performing a flow test on the nearest hydrant would determine the flow rate and available pressure.

Sewer	
LOCATION OF / DISTANCE TO CONNECTION POINT	• There are two possible locations for the proposed sanitary sewer for the Maintenance and Shops buildings. The first connection is located to the east at the current facilities connection point at the existing O&M Facility connection. An alternative connection is located at the southeastern corner of the parcel, at the entrance drive to Kandila Townhomes, 31408 28th Avenue South. It is anticipated that a connection to the second option will be employed, creating only one trenching operation across 28th Avenue South. A sewer line extension will be constructed for the Maintenance building. An oil/water separator will be required for the fueling station. A connection to the sewer may be required for the Sumped Refuse Area, depending on whether the Refuse Area is covered.
SYSTEM CAPACITY	• The existing system is an 8". The capacity should be sufficient.
CONCLUSIONS / RECOMMENDATIONS	• It is anticipated that connecting to the existing system is feasible.

Transportation	
CURRENT ACCESS	• The site is currently accessed from South 312th Street with street parking along 28th Avenue South.
ACCESS REQUIREMENTS	• Four access points for the proposed facility are proposed. Two at the eastern end of South 312th Street and two along the eastern side of the site, one at the northeastern corner and one at the southeastern corner.
FRONTAGE IMPROVEMENTS	• Half street improvement will be required, with improvements to the 28th Avenue South and South 312th Street intersection likely.

OFFSITE IMPROVEMENTS	• 28th Avenue South is classified as a type K. Half street improvements include a 78' ROW, consisting of 44' pavement with 6' planter, 8' sidewalk and 3' utility strip. • South 312th Street is classified as a type M. Half street improvements include a 70' ROW, consisting of 36' pavement with 6' planter, 8' sidewalk and 3' utility strip. • Right-of-way dedication will likely have to be made to the City. Current pavement width is approximately 35'. Widening would trigger overhead and water utility relocations, grading, tree, sign and mailbox removal/replacement. The impervious area for the half street improvement is approximately 60,500 SF. A detention and water quality system to detain and treat street runoff would be required.
PERMITTING REQUIREMENTS	• Right-of-way permits. Transportation Impact Analysis for accurate average daily traffic counts and noise expectations.
CONCLUSIONS / RECOMMENDATIONS	• The exact extent of the required road improvement needs to be determined to more accurately estimate the cost of the off-site improvements.

Permitting Requirements	
LAND USE PERMITS	• Type III process • 120-day time period • The Director will make the initial land use decision and the decision on the community design guidelines based on written comments and information. Any appeals of either decision will be decided by the hearing examiner after a public hearing.
SEPA ENVIRONMENTAL REVIEW	• SEPA will be required
SITE DEVELOPMENT PERMITS	• Site development, demolition, grading and drainage permits, right-of-way permits, water and sewer permits.
CRITICAL AREAS PERMITS	• A wetland exists on-site but should not be impacted. The City may require submittal and review of a Critical Areas Delineation Report.
DESIGN REVIEW	• Required
BUILDING PERMITS	• Building, plumbing, fire protection, sanitary sewer, gas and electrical permits.

***Definitions:**

- "Government facility" means a use consisting of services and facilities operated by any level of government, excluding those uses listed separately in this title.
- "Maximum lot coverage" means the maximum percentage of the surface of the subject property that may be covered with materials which will not allow for the percolation of water into the underlying soils. See FWRC 19.110.020 et seq. for further details.
    - The area of all structures, pavement and any other impervious surface on the subject property will be calculated as a percentage of total lot area, exclusive of the area of any recorded access easements, in determining compliance with maximum lot coverage required in this title. If the subject property contains more than one use, the maximum lot coverage requirements for the predominant use will apply to the entire development.

Figure 1.0: Vicinity Map

Figure 2.0: Parent Parcel and Subject Site

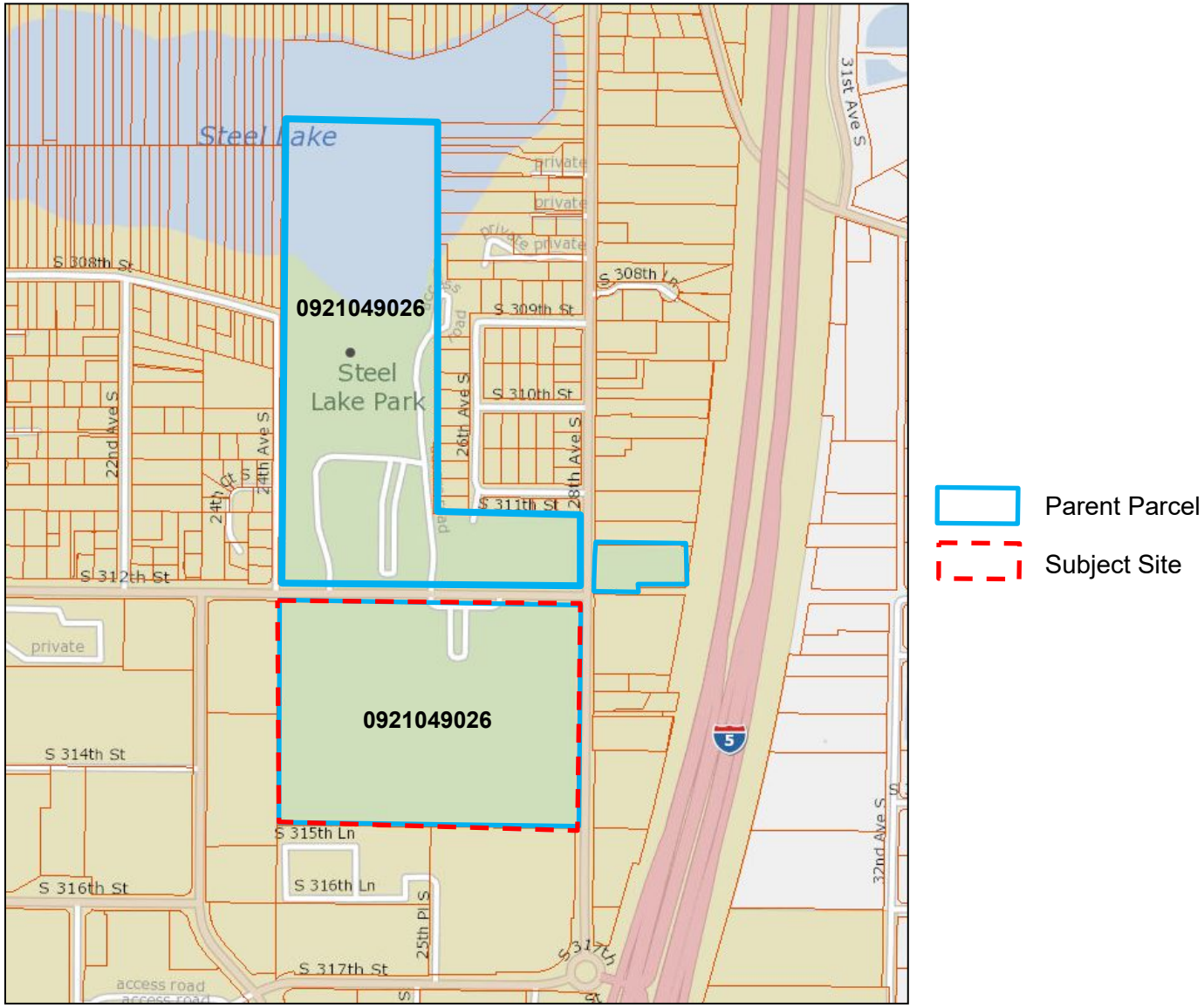


Figure 3.0: Zoning Map

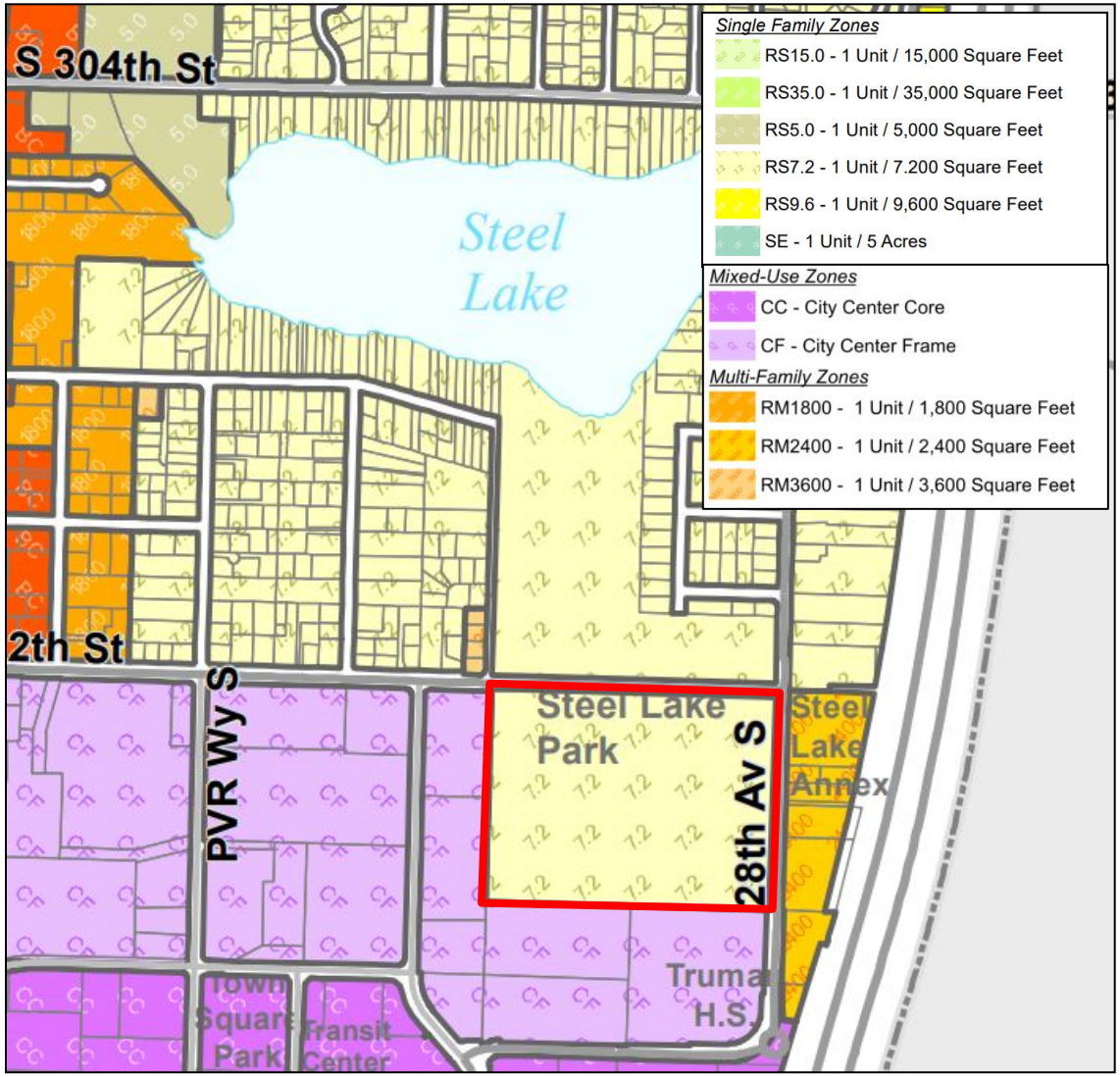
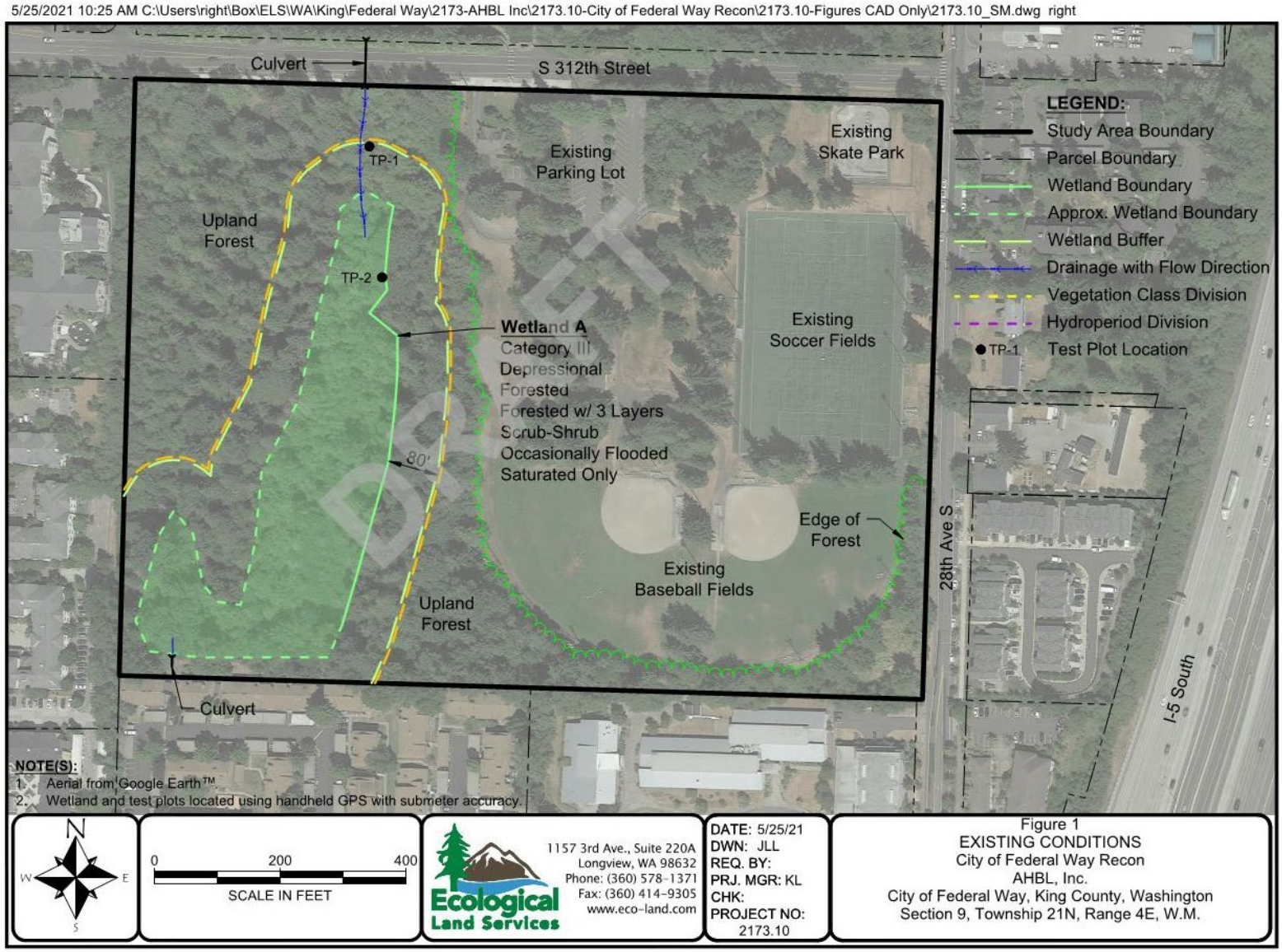
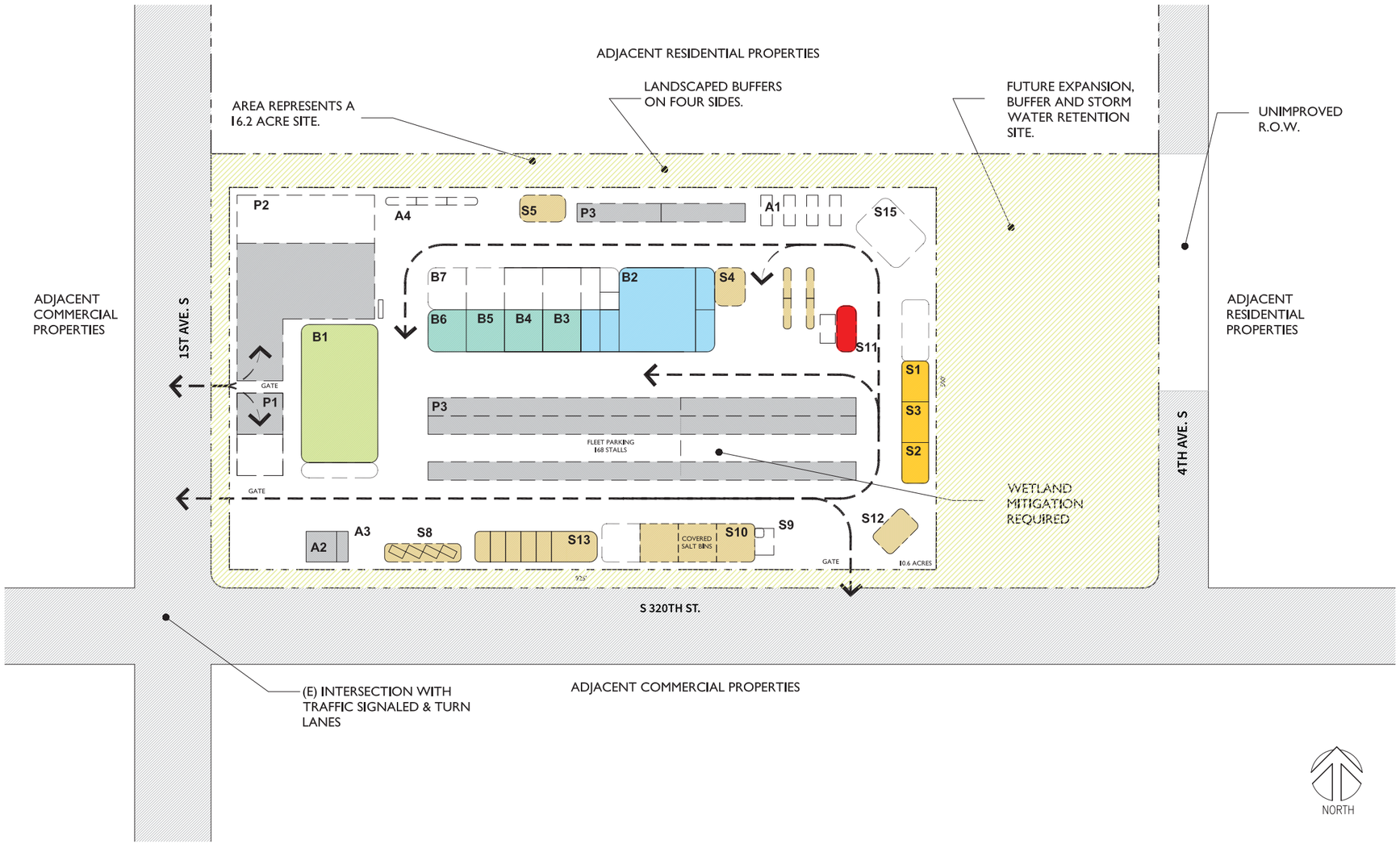


Figure 4.0 Critical Areas Map

Figure 5.0: Wetland and Stream Mapping



Q:\2020\2200572\30_PLN\Deliverables_By_Date\To Helix 9-16-2021\20210916 Site 2 - AHBL Feasibility Study Plng and Civil.docx



Site Three

Concept three is located on an undeveloped forested site near a maJor Intersection that Is currently not owned by the city. As an undeveloped site it requires no demolition of existing structures or displacement of current uses, but would be a new use within this neighborhood. The size of the site would allow for additional landscape buffer along its edges if needed and possible expansion space or resale of portions of the site. The large size of the site and existing grade will allow for the most efficient site layout. The site would also allow for good traffic circulation onto two adjacent roadways. The site does have some designated wetland areas that will require remediation and additional site development costs.

Pros:

- Undeveloped forested site, no demo cost for buildings or structures
- Relatively flat site with room for expansion and buffers between site and other uses.
- Large rectangular site allows for the most efficient layout of buildings, parking and issues, based on layout of Conceptual site plan.

Cons:

- Some wetland issues that will require remediation and increases site development costs.
- Not currently owned by city.
- Located near residential properties.

Site Three Evaluation Matrix

	Site Ratings	2	1	-2	U			
		Preferred	Acceptable	Undesirable	Unacceptable	Total Score	Comments	Lead
1. SITE CHARACTERISTICS								
Natural Environment Features								
1.1 Wetlands and streams				x		-2	Wetlands require mitigation and extra costs	L Klein
1.2 Fish and Wildlife Habitat Conservation Areas			x			1	The site is assumed to not be a Fish & Wildlife Area. Requires a biologist to confirm	L Klein
1.3 Priority Habitat Areas		x				2	not present in the project area	L Klein
1.4 Floodplain		x				2	not present	L Klein
1.5 Designated shorelines		x				2	not present	L Klein
Total Natural Environment Features						5		
Geologic Hazards								
1.6 Topography			x			1	Slopes are not consistent throughout the site.	W Fierst
1.7 Critical aquifer recharge areas		x				2	not present	L Klein
1.8 Geology (soils and bedrock)			x			1		W Fierst
1.9 Known or suspected soil or groundwater contamination			x			1	None known. Not mapped for arsenic and lead. There is a contamination site within .5 miles.	L Klein
Total Geological Hazards						5		
Other Site Characteristics								
1.10 Existing Improvements		x				2	Site is undeveloped	Team
1.11 Buildable area				x		-2	will require some work around for the wetlands, and wetland mitigation	Team
1.12 Other site constraints _____				x		-2	Wetlands will limit developable area	Team
Total Other Site Characteristics						-2		
Total Site Characteristics						**8**		
2. SITE PROXIMITY/LOCATION								
2.1 Proximity to City Services		x				2	Centrally located and 0.8 miles from City hall	all
2.2 Within 15 minute walk to future Sound Transit Center?				x		-2	30 minute walk	L Klein
2.3 Ability to screen adjacent properties beyond code requirements			x			1	screening likely but extensive	Helix
2.4 Ability to secure the property			x			1		Helix
2.5 Surrounding land use compatibility					x	**U**	Adjacent single family uses present an incompatibility issue	L Klein
Total Site Proximity/Location						**2**		
3. SITE SERVICES								
Fire Flow								
3.1 Fire Flow (GPM) and residual pressure (psi)			x			1	LUD did not provide flow and pressure information and there is no modeling in this area. However, LUD noted flow and pressure should be acceptabel for the project.	W Fierst
Total Fire Flow						1		
Domestic Water								
3.2 Flow (gallons per day) available			x			1	LUD did not provide flow and pressure information and there is no modeling in this area. However, LUD noted flow and pressure should be acceptabel for the project.	W Fierst
3.3 Cost of connection to local water purveyors			x			1		W Fierst
Total Domestic Water						2		
Sewer								
3.4 Location of point of connection			x			1		W Fierst
3.5 Capacity and method of connection			x			1		W Fierst
Total Sewer						2		
Electrical								
3.6 Location of point of connection			x			1	Power is available. However, adequacy needs to be determined by the eletrical eng.	W Fierst
Total Electrical						1		
Natural Gas								
3.7 Location and capacity of nearest connection			x			1	Gas Main is located beneath south and west frontage roads.	W Fierst
Total Natural Gas						1		
Stormwater Managment								
3.8 Availability of stormwater main for connection				x		-2	Stormwater outfalls to wetlands, and the site is low in elevation to offsite stormwater discharges	W Fierst
Total Stormwater Management						-2		
Total Site Services						**5**		
4. LAND USE AND REGULATORY COMPLIANCE								
4.1 Zoning - allowed use		x				2	Op Zoning allows the use outright without further stipulation/restriction.	L Klein
4.2 Land use approval process		x				2	administrative approval, Type II process	L Klein
4.3 Site development standards			x			1	Acceptable	L Klein
Total Land Use and Regulatory Compliance						**5**		
5. COMMUNITY ACCEPTANCE								
5.1 Loss of opportunity costs for higher/better use on the site		x				2		Helix
5.2 Impacts to Community Assets				x		-2	Potential removal of a wetland	Helix
5.3 Likelihood for community support			x			1		Team
Total Community Acceptance						**1**		
6. ACQUISITION CONSIDERATIONS								
6.1 Ease of Acquisition			x			1	Single owner, property is listed for sale	Helix
6.2 Acquisition Costs			x			1		Helix
6.3 Willing Seller			x			1	Property is listed for sale	Helix
Total Acquisition Considerations						**3**		
7. CONSTRUCTION CONSIDERATIONS								
7.1 Adequacy for construction staging			x				will need to work around/protect wetlands	W Fierst
7.2 Construction Costs			x					Helix
Total Construction Considerations						**0**		
GRAND TOTAL						**24**		

FEASIBILITY STUDY

TO:	Jeff Ryan and Lowell Cate, Helix Design Group	**DATE:**	September 16, 2021
		FROM:	Lisa Klein, AICP Bill Fierst, P.E.
		PROJECT NO.:	2200572.10 / .30
PROJECT NAME:	Federal Way O & M Building – Feasibility Site #3		

This memorandum summarizes our feasibility evaluation of Site #3 for potential use as a future Operations & Maintenance Facility for the City of Federal Way.

The following maps and documents are attached:

1. Site 3 Vicinity Map
2. Site 3 Parcel Map
3. Zoning Map
4. Critical Areas Map
5. Springwood Park Plat map
6. Site 3 Conceptual Site Plan
7. Site 3 Detailed Site Plan

EXECUTIVE SUMMARY

The site is one tax parcel owned by a private party. The site is vacant land and is approximately 16 acres. The property is adjacent to single family residential uses to the north and east, commercial uses to the east, and a commercial use and multi-family use to the west. The site has existing roadways on the east, west and south sides.

The property is zoned Office Park (OP) and the government facility use is allowed without any stipulations or restrictions.

The site appears to be part of a larger surrounding neighborhood. Research on the County's mapping, assessor, and recorder's site did not reveal any findings of restrictions the plat may have on the site. A 10-foot perimeter landscape buffer is required on all sides; it is anticipated that the use may require additional buffering from the frontage streets and the adjacent residential uses.

Federal Way mapping identifies three wetlands located centrally on the site. The wetland has not been physically confirmed or delineated, however for feasibility purposes it is assumed to be present in the mapped location and require a buffer of 80 feet. Unless otherwise provided, structures shall be set back five feet from the edges of a critical area buffer. Avoiding and/or mitigating the wetlands will be required.

The City's site and architectural design requirements do not appear to be problematic. A 10-foot perimeter landscape buffer is required on all sides, it is anticipated that the use will require additional buffering from adjacent residential uses. Parking is required to be located behind or beside the buildings, which may require some reconfiguration of the site plan.

Existing site soils are not compatible with infiltration. Therefore, the stormwater system to control runoff will likely require detention. A detention pond is anticipated for the site. However, due to the anticipated volume of runoff to detain and the limited change in elevation across the site, pumps will likely need to be used to get the surface runoff to the pond and also to get the pond to fully drain to the existing site wetlands. Due to the limited available site space, the systems to provide water quality to stormwater runoff will likely be in the form of Filterra units. Existing surface drainage features convey runoff across the site. Additional exploratory investigation including site survey is needed to determine the exact location(s) of surface runoff discharge points and to determine whether the runoff location(s) in the proposed design are feasible. The storm system will provide detention and water quality in accordance with the 2016 King County Surface Water Design Manual and with the City of Federal Way Addendum to the KCSWDM. A Geotechnical investigation will be required to provide recommendations for long term infiltration rates, as well as pavement section recommendations and soil bearing capacity.

Water availability appears adequate at the site within the adjacent roadways. A water main loop through the site will likely be required, connecting to the existing system beneath the frontage road to the east and to the existing system beneath the frontage road to the south. Performing a flow test on the nearest hydrant would be needed to determine the actual flow rate and available pressure since the Purveyor does not have existing data or modeling in the area.

Existing sanitary sewer utility is available to the site, beneath the frontage road to the south. It is anticipated that connecting to the existing sanitary sewer system is feasible.

The site can be accessed from either frontage. Half street improvements would likely include improvements to the frontage roads as well as the intersections between them. The exact extent of the City required road improvement needs to be determined to more accurately estimate the cost of the off-site improvements. A Transportation Impact Analysis will need to be conducted for accurate average daily traffic counts and noise expectations.

The use would require the following permits/approvals:

- Type II Land Use Approval (approximately 120-day approval, approval by Director)
- SEPA Environmental Review
- Critical Areas Review (potential)
- Demolition Permits
- PSCAA Air Permits for demolition (potential)
- Site Development, grading and drainage permits
- Right-of-way permit
- Building Permit
- Ecology Construction Stormwater Permit

RECOMMENDATIONS AND NEXT STEPS

If the site is considered for the City's proposed use, we recommend the critical areas be delineated and surveyed and consultation with a biologist ensue to discuss all options for wetland impacts and mitigation. If the wetlands are to be filled, the replacement ratio is likely 1.5 or 2:1, which will reduce the available developable area and increase costs. City will require completion of a critical areas delineation report and preparation of detailed mitigation plans should replacement or reduction of the critical areas be proposed. Impacts to wetlands may also trigger the requirement for permits from the US Army Corps of Engineers and WA Department of Ecology, which could extend the permitting timeline.

The adjacent residential uses present a potential incompatibility issue. If the site is selected there may be a need for significant buffering by incorporating sound walls and/or dense/large landscape buffers. Lighting will need to be downcast and shielded to avoid impacts.

Reconfigure the site plan to provide parking behind or beside buildings per FWMC Chapter 19.

Prior to final site selection, we recommend a pre-application meeting be held with City staff to review the findings.

Existing Conditions	
LOCATION DESCRIPTION	Parcel size: 16.25 acres North of SW 320th Street, east of 1st Avenue South and west of 4th Avenue South.
EXISTING USES	Vacant
VEGETATION	Site is heavily vegetated
TOPOGRAPHY	From flat to 8% slopes. There are 3 wetlands centrally located on the site and a creek conveying surface runoff from the east and south frontage streets.
SURROUNDING PLAT	The site appears to be part of a larger surrounding neighborhood plat. Research on the County's mapping, assessor, and recorder's site did not reveal any findings of impacts the plat may have on the site.
DISCUSSION	Avoiding and/or mitigating the wetlands will be required to accommodate the layout.

Land Use and Zoning Analysis	
LAND USE DESIGNATION	Single Family, High Density
ZONING DISTRICT	Office Park (OP)
ALLOWED USES FWMC 19.235.080	Government Facility* without restrictions
ADJACENT USES/ ZONING	• North: Single family residential/ RS7.2 • East: Single family residential; office; commercial/ RS7.2, PO • South: Medical, office/, multi-family residential/ OP, PO, RM1800 • West: Multi-family residential / PO, RM3600
SETBACKS / YARDS	• Front: 25 feet

FWMC 19.235.080	• Side: 0 feet • Rear: 0 feet
BULK REQUIREMENTS FWMC 19.235	Height: 35 ft. above average building elevation • If any portion of a structure on the subject property is within 100 ft. of a residential zone, then that portion of the structure shall not exceed 30 ft. above average building elevation and the structure shall be set back a minimum of 20 ft. from the property line of the residential zone. No maximum lot coverage is established. Instead, the buildable area will be determined by other site development requirements, i.e., required buffers, parking lot landscaping, surface water facilities, etc.
LANDSCAPING REQUIREMENTS FWMC 19.115 FWMC 19.125	• Landscaped yards shall be provided between building(s) and public street(s). Parking lots should be beside or behind buildings that front upon streets. • All portions of a lot not used for buildings, future buildings, parking, storage or accessory uses, and proposed landscaped areas shall be retained in a “native” or predeveloped state • All outside storage areas shall be fully screened by Type I landscaping a minimum of five feet in width • Building walls which are uninterrupted by window, door, or other architectural feature(s) that are 240 square feet or greater in area, and not located on a property line, shall be screened by landscaping. • Parking areas adjacent to public right-of-way shall incorporate berms at least three feet in height within perimeter landscape areas; or alternatively, add substantial shrub plantings to the required perimeter landscape type, • Type III landscaping 10 feet in width shall be provided along all property lines abutting public rights-of-way and access easements. • Type I landscaping 15 feet in width shall be provided along the perimeter of property abutting a residential zoning district. • Type III landscaping five feet in width shall be provided along all perimeter lot lines, except as noted above.
TREE RETENTION FWRC 19.120.020	• No person shall remove any trees on a site without first obtaining approval of a tree retention plan by the director; except for those activities that are exempt as described in FWRC 19.120.030. Tree and vegetation removal may also require Class IV – General forest practices application approval as administered by the city of Federal Way per FWRC 19.120.180 et seq. • Required minimum tree unit density for OP: 20 tree units/acre (see Table 19.120.130-2 – Tree Unit Credits for more information) • Where an applicant cannot provide for the minimum required tree units per acre on site, off-site mitigation or a fee-in-lieu payment into the city’s urban forestry account may be approved by the director.
PARKING REQUIREMENTS FWMC 19.115 FWMC 19.130	• Number of spaces is determined on a case-by-case basis. The director shall base this determination on review of an applicant’s written narrative of expected parking need, comparison of similar uses • Vehicle turning movements shall be minimized. Parking aisles without loop access are discouraged. • Surface parking may be located behind the building, to the side(s) of the building, or adjacent to the right-of-way; provided, however, that parking located adjacent to the right-of-way maximizes pedestrian access and circulation pursuant to FWRC 19.115.050(4). • Parking lots should be broken up into rows containing no more than 10 adjacent stalls, separated by planting areas.

	• Up to 25 percent of the number of parking spaces may be designated for compact cars.
SITE DESIGN REQUIREMENTS FWMC 19.115 FWMC 19.215 FWMC 19.125	• All building facades that are both longer than 60 feet and are visible from either a right-of-way or residential use or zone shall incorporate at least two of the four facade treatment options according to FWMC 19.115.060(2). • Multiple buildings on the same site should incorporate public spaces (formal or informal) • Entrance facades shall front on, face, or be clearly recognizable from the right-of-way. • Building entrances shall be architecturally emphasized and shall incorporate transparent glass • Principal entries to buildings shall be highlighted with plaza or garden areas containing planting, lighting, seating, trellises and other features. Such areas shall be located and designed so windows overlook them. • Ground-level mirrored or reflective glass is not allowed adjacent to a public right-of-way or pedestrian area. • Chain-link fences visible from public rights-of-way or adjacent properties, and not screened by Type I landscaping, shall utilize vinyl-coated mesh, powder-coated poles, dark color(s), and architectural element(s) such as pole caps and/or decorative grid pattern. • Barbed wire is permitted only atop a fence or a wall at least six feet in height, razor wire fences are prohibited. • Fences and railings not over six feet in height may be located in required yards subject to FWRC 19.125.
CONCLUSION / RECOMMENDATION	• All sites need to take into consideration additional buffering of adjacent uses (more than code)

Critical Areas	
FEMA FLOOD ZONE	• Per the FIRM map number 53033C1230G dated 8/19/2020, the area lies within an “Area of Minimal Flood Hazard”.
WETLANDS/STREAMS FWMC 19.145.160	• Federal Way mapping identifies three wetlands located centrally on the site. A 1999 delineation indicated there were three wetlands onsite, two identified as Category III and the southernly wetland was unclassified, however no wetland analysis was completed, only a determination and potential categorization. For feasibility purposes assumed to be present in the mapped location and require a buffer of 80 feet. • Unless otherwise provided, structures shall be set back a distance of five feet from the edges of a critical area buffer. The following may be allowed in the building setback area: 1. Landscaping; 2. Building overhangs; and 3. Fences and railings six feet and less in height. • If the wetlands are to be filled, the replacement ratio is likely 1.5 or 2:1.
SHORELINES	• Per the King County imap and City of Federal Way mapping, there are none
GEOLOGIC HAZARDS	• Per the King County imap and City of Federal Way mapping, there are none
CRITICAL AQUIFER RECHARGE AREA	• The site is located in the Hylebos Creek and Lower Puget Sound drainage basin. Per the King County Aquifer Recharge Map, dated April 2003, from the Department of Natural Resources and Parks, the site does not appear to be within a critical aquifer recharge area.
WELLHEAD PROTECTION AREA	• Per the King County imap, there are none
FISH/ WILDLIFE CONSERVATION AREA	• Per WAC 365-190-130 and available mapping the site may be considered a fish and wildlife conservation area due to the wetlands on site, however no waters of the state are known to be present. This is deemed unlikely.
PRIORITY HABITAT AREA	• Department of Fish and Wildlife Priority Habitat Species mapping did not identify any on site.

CONCLUSION / RECOMMENDATION	• Avoiding and/or mitigating the wetlands will be required. The City will require completion of a critical areas delineation report and preparation of detailed mitigation plans should replacement or reduction of the critical areas be proposed. Impacts to wetlands may also trigger the requirement for permits from the US Army Corps of Engineers and WA Department of Ecology.

Soils	
SOIL TYPE	• Per USDA, soils in the area are Alderwood gravelly sandy loam with shallow depth to ground water, typically 1-3 feet.
INFILTRATION RATE	• Poor
CONTAMINATION	Department of Ecology mapping indicates two contamination sites in the vicinity: • The site is in the Tacoma Smelter Plume Area-Wide Contamination with under 20 ppm or arsenic/ lead • The King County Fire District #39 building located approximately 400 feet northwest of the site is awaiting cleanup for contaminated soil from petroleum and possibly benzene.
CONCLUSION / RECOMMENDATION	• A Geotechnical investigation and study to provide recommendations for long term infiltration rates, pavement section recommendations and soil bearing capacity will be required.

Stormwater	
STORM MANUAL / REQUIREMENTS	• 2016 King County Surface Water Design Manual, with the City of Federal Way Addendum to the KCSWDM
TYPE OF RETENTION / DETENTION	• The existing storm conveyance system is limited, consisting of culverts in ditches along 28th Avenue South to the west of the site and surface conveyance to the east. Site runoff is proposed to be detained with an underground system such as Stormtech Chambers or vaults, located below the fleet parking area. • The street runoff will be detained with a separate underground detention system. All developed discharge is to match predeveloped discharge rates from 50% of the 2-year peak flow up to the full 50-year peak flow. Developed peak discharge rates shall also match predeveloped peak discharge rates for the 2- and 10-year return periods. All runoff is proposed to discharge to the west in the existing surface conveyance system.
PERMITTING REQUIREMENTS	• Full Drainage Review per Section 1.1.2-4 with all core and special requirements of the 2016 KCSWDM and City of Federal Way Addendum.
CONCLUSIONS / RECOMMENDATIONS	• Additional exploratory investigation including site survey is needed to determine the exact location(s) of surface runoff discharge points and to determine whether the runoff location(s) in the proposed design are feasible. If the surface conveyance is not feasible, a new piped system will be required.

Water	
LOCATION OF / DISTANCE TO CONNECTION POINT	• A 12” AC water main is currently in operation beneath the south and west frontage streets. Fire hydrants are visible along the surrounding roads. The distance to the water main service is approximately 200’.
LOOP REQUIREMENTS	• An 8” loop is proposed through the site, with one end to be connected to the existing system beneath 1st Avenue South and the other to connect to the existing system beneath the south frontage.
SYSTEM CAPACITY	• It is anticipated that the existing system has capacity.

FIRE HYDRANT SPACING	• There are currently 7 existing fire hydrants on properties directly adjacent to the site. Commercial fire spacing shall be located no closer than 50' to the building and no further than 150' from the building. All measurements as vehicular travel distance. The existing fire hydrants meet these requirements.
FIRE FLOW	• Static pressure about 90+/- psi. • There are no system hydraulic models (or other info) specific to this area. • With surrounding 8" and 12" water mains, a hydraulic model will definitely indicate more than 2,500 GPM of available 'fire flow' at a minimum 20 psi (likely results would indicate something in the 3,000-4,000 GPM range).
CONCLUSIONS / RECOMMENDATIONS	• Water availability appears adequate. Performing a flow test on the nearest hydrant would determine the flow rate and available pressure.

Sewer	
LOCATION OF / DISTANCE TO CONNECTION POINT	• As existing sanitary sewer main is located beneath the south frontage road. The sanitary sewer connection for the M&O Facility will be to this main. A sewer line extension will be constructed for the shops building. An oil/water separator will be required for the fueling station. A connection to the sewer may be required for the Sumped Refuse Area, depending on whether the Refuse Area is covered.
SYSTEM CAPACITY	• The existing system is a 12" gravity system. The capacity should be sufficient.
CONCLUSIONS / RECOMMENDATIONS	• It is anticipated that the connection is feasible.

Transportation	
CURRENT ACCESS	• The site is currently accessed from the south frontage road for pedestrian use only.
ACCESS REQUIREMENTS	• Three access points for the proposed facility are proposed. A fourth access road would be required for the pond maintenance. Two of the access points are along the eastern side of the western frontage and one is along the northern side of the south frontage. Improvements to the intersection of the eastern frontage road may also be required. The access drive for pond would likely be near the northeastern corner of the site.
FRONTAGE IMPROVEMENTS	• Half street improvement will be required on west and south frontages and likely required on the east frontage. A full street improvement to connect the east frontage to the south frontage could be required.
OFFSITE IMPROVEMENTS	• The south frontage is classified as a type A street. Half street improvements include a 120' ROW, consisting of 86' pavement with 6' median, 6' planter, 8' sidewalk and 3' utility strip. The street is currently improved on approximately 75% of the length with the exception of the 14-foot HOV lanes. • The west frontage is classified as a type G. Half street improvements include a 100' ROW, consisting of 66' pavement with 6' planter, 8' sidewalk and 3' utility strip. • Right-of-way dedication will likely have to be made to the City. Current pavement width is approximately 56' along the portion of the south frontage without a median. Widening would trigger overhead and water utility relocations, grading, tree, sign and mailbox removal/replacement. The total impervious area for all half street improvements is approximately 111,500 SF. A detention and water quality system to detain and treat street runoff would be required. The systems are likely not feasible along each of the streets and a pumping system would likely be required to convey the runoff to the detention pond. A second pumping system may be required to convey the runoff from the pond to the existing wetland.

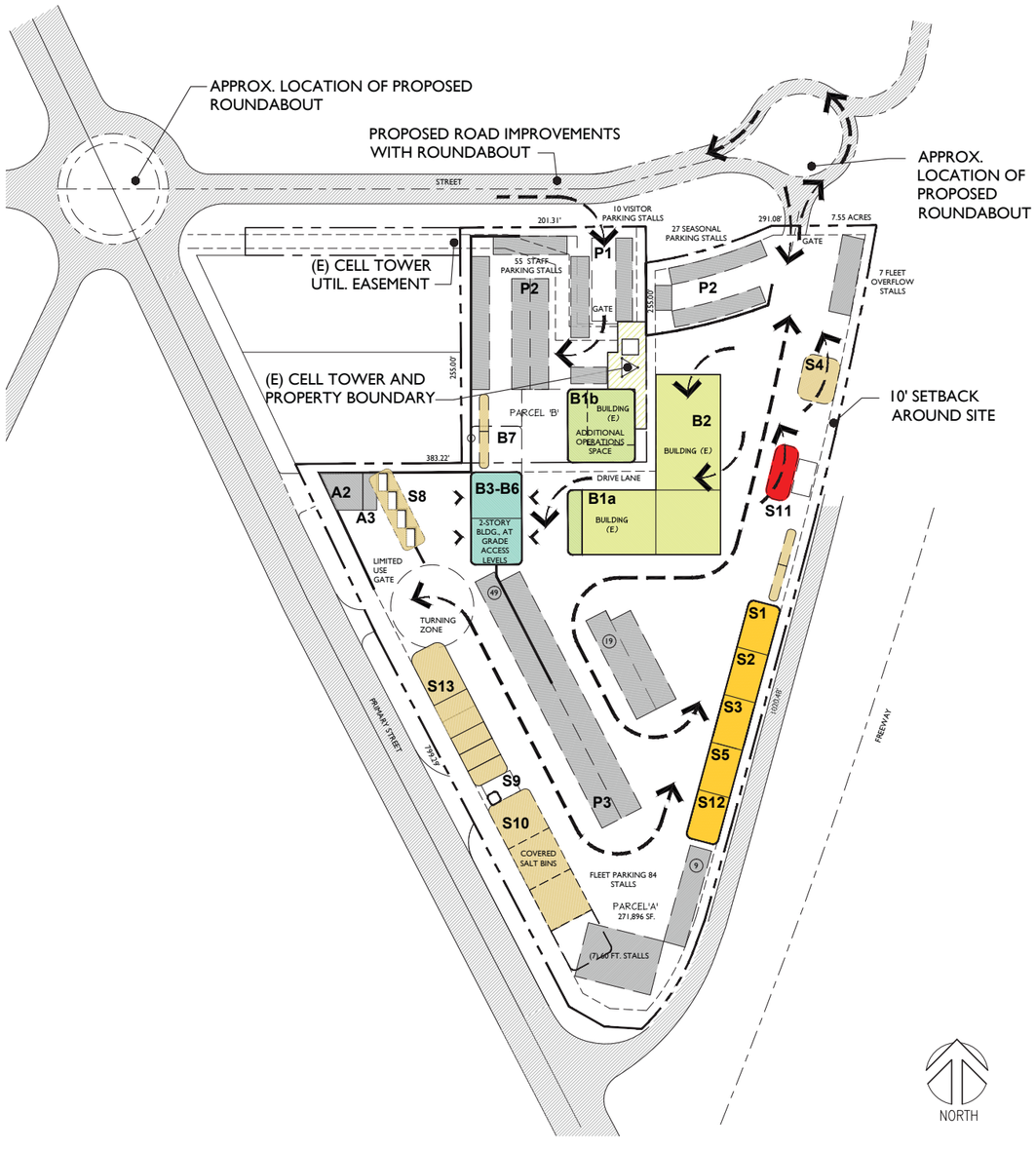
PERMITTING REQUIREMENTS	• Right-of-way permits. Transportation Impact Analysis for accurate average daily traffic counts and noise expectations.
CONCLUSIONS / RECOMMENDATIONS	• The exact extent of the required road improvement needs to be determined to more accurately estimate the cost of the off-site improvements.

Permitting Requirements	
LAND USE PERMITS	• Process II, site plan review • The director will make the initial land use decision and the decision on the community design guidelines. Any appeals of either decision will be decided by the hearing examiner after a public hearing.
SEPA ENVIRONMENTAL REVIEW	• SEPA review will be required
SITE DEVELOPMENT PERMITS	• Site development, demolition, grading and drainage permits, right-of-way permits, water and sewer permits.
CRITICAL AREAS PERMITS	• Multiple wetlands exist on-site that may be impacted. Additional land will likely be required if the wetlands are to be filled and mitigated. The City will require Critical Area Report, Mitigation Plan and other permits may be required from US Army Corps of Engineers and WA Department of Ecology.
DESIGN REVIEW	• Required
BUILDING PERMITS	• Building, plumbing, fire protection, sanitary sewer, gas and electrical permits.

Definitions:

- "Government facility" means a use consisting of services and facilities operated by any level of government, excluding those uses listed separately in this title.

Q:\2020\2200572\30_PLN\Deliverables_By_Date\To Helix 9-16-2021\20210916 Site 3 - AHBL Feasibility Study Plng and Civil.docx



Site Four

Concept four is located on a developed site will exiting buildings that could be adoptively redesigned to accommodate some of the program needs for the facility. The site would meet all current programing needs but would represent a smaller building program area then the prototype design. The site is rectangular in shape with a steep slope to the west that will be challenging and will require retaining walls, sloped parking areas and two story facilities to accommodate the needs of the facility. Site access for staff and fleet operations would be via an existing signaled intersection. Improvements to the site would not impact current fleet operations. Site could limit future expansion without the addition of multi-story structures, including parking.

Pros:

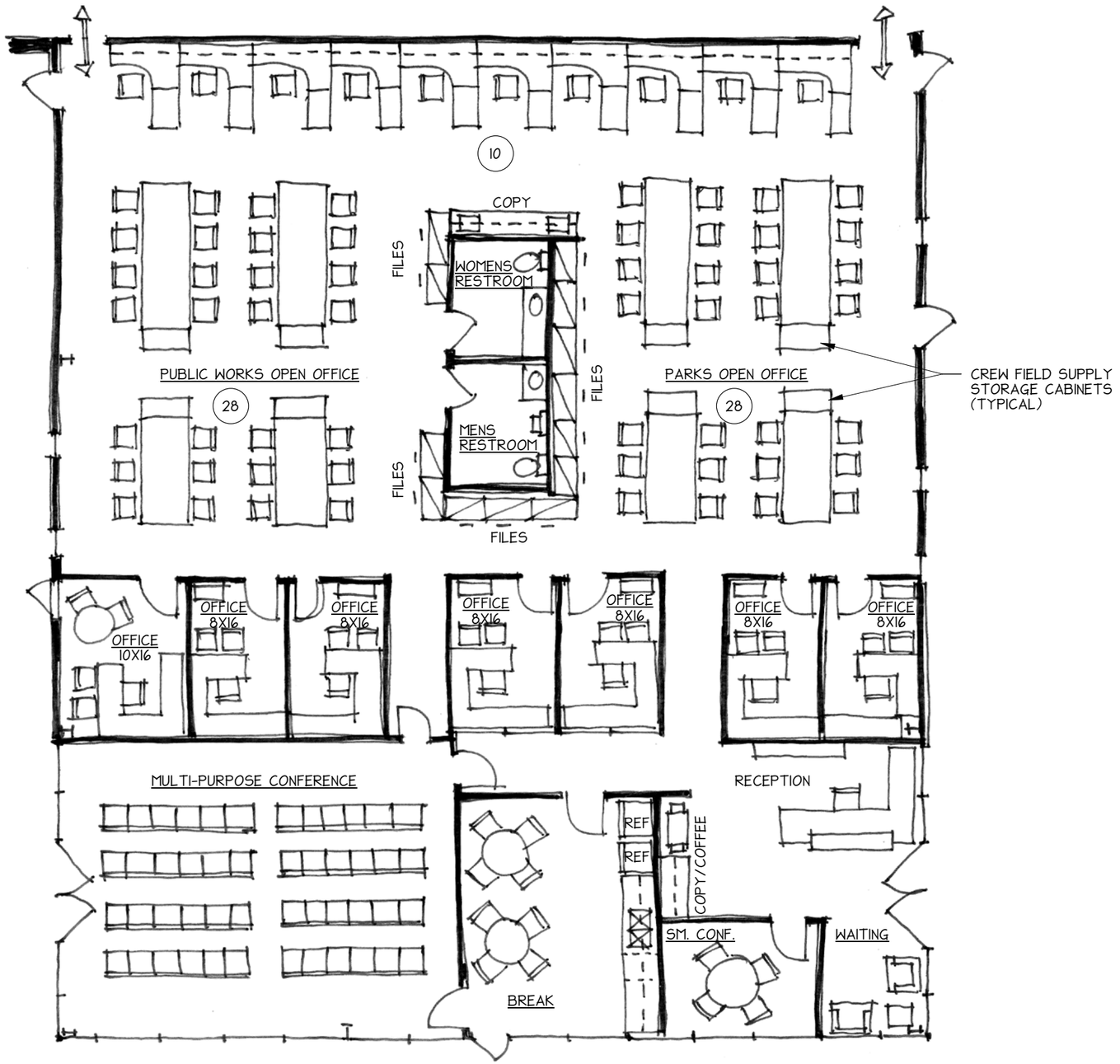
- Existing paved commercial site.
- Potential for reuse of existing buildings.
- Cross slope would allow for stacked uses with grade access at multiple levels

Cons:

- Not Currently Owned by city.
- Steep site grades will require retaining walls and parking on slopes.
- Cell Tower in middle of site
- Limited future expansion without acquiring additional property in future or stacking of uses.

Alternates:

- Multi-Story Building B1b
- Structured Parking (100 stalls) along western street frontage in order to reduce cross slope of site.



Site Four - Operations Building Concept Plan

Site Four Evaluation Matrix

Site Ratings	2	1	-2	U			
	Preferred	Acceptable	Undesirable	Unacceptable	Total Score	Comments	Lead
1. SITE CHARACTERISTICS							
Natural Environment Features							
1.1 Wetlands and streams	X				2	nearby creek does not impact developable area	L Klein
1.2 Fish and Wildlife Habitat Conservation Areas	X				2	Due to existing developed nature, should not need confirmation.	L Klein
1.3 Priority Habitat Areas	x				2	not present in the project area	L Klein
1.4 Floodplain	x				2	not present	L Klein
1.5 Designated shorelines	x				2	not present	L Klein
Total Natural Environment Features					10		
Geologic Hazards							
1.6 Topography		x			1	Slopes are not consistent throughout the site.	W Fierst
1.7 Critical aquifer recharge areas	x				2	not present	L Klein
1.8 Geology (soils and bedrock)		x			1		W Fierst
1.9 Known or suspected soil or groundwater contamination			x		-2	None known. Not mapped for arsenic and lead. Due to prior and current use a Ph I And II ESA is recommended	L Klein
Total Geological Hazards					2		
Other Site Characteristics							
1.10 Existing Improvements	x				2	Site is fully developed, some buildings are reusable but need renovation, some to be removed. Cell tower to remain requires some workaround. Retaining walls impact existing utilities. Existing utilities will require relocation in the future if all proposed buildings are constructed.	Team
1.11 Buildable area		x			1	Adequate for now but no room for expansion	Team
1.12 Other site constraints _____		x			1	WSDOT project could limit access in the future. An approved variance will be required to avoid half street improvements along the western access road.	Team
Total Other Site Characteristics					4		
Total Site Characteristics					**16**		
2. SITE PROXIMITY/LOCATION							
2.1 Proximity to City Services		x			1	The site is 2.2 miles from City hall	all
2.2 Within 15 minute walk to future Sound Transit Center?			x		-2	The site is 2.9 miles to the future transit Center (which google maps indicates as a 57 minute walk).	L Klein
2.3 Ability to screen adjacent properties beyond code requirements			x		-2	The site is on a hill so screening may be ineffective	Helix
2.4 Ability to secure the property		x			1	wall from I-5 helps with security. Fencing otherwise should work.	Helix
2.5 Surrounding land use compatibility		x			1	Multifamily across western frontage road has its own screening.	L Klein
Total Site Proximity/Location					**-1**		
3. SITE SERVICES							
Fire Flow							
3.1 Fire Flow (GPM) and residual pressure (psi)		x			1	LUD did not provide flow and pressure information and there is no modeling in this area. However, LUD noted flow and pressure should be acceptable for the project.	W Fierst
Total Fire Flow					1		
Domestic Water							
3.2 Flow (gallons per day) available		x			1	LUD did not provide flow and pressure information and there is no modeling in this area. However, LUD noted flow and pressure should be acceptable for the project.	W Fierst
3.3 Cost of connection to local water purveyors		x			1	Same for all properties	W Fierst
Total Domestic Water					2		
Sewer							
3.4 Location of point of connection	x				2	Existing connections but may need to be moved in the future.	W Fierst
3.5 Capacity and method of connection		x			1	Capacity available.	W Fierst
Total Sewer					3		
Electrical							
3.6 Location of point of connection		x			1	Power is available. However, adequacy needs to be determined by the eletrical eng.	W Fierst
Total Electrical					1		
Natural Gas							
3.7 Location and capacity of nearest connection	x				2	Gas Main is available but likely needs to be moved in the future.	W Fierst
Total Natural Gas					2		
Stormwater Managment							
3.8 Availability of stormwater main for connection	x				2	No detention systems needed assuming the site will stay under the stormwater area thresholds. In the future, due to the steep site slopes stormwater improvements will require deep systems and will need to upgrade and fill in two existing ponds.	W Fierst
Total Stormwater Management					2		
Total Site Services					**11**		
4. LAND USE AND REGULATORY COMPLIANCE							
4.1 Zoning - allowed use	x				2	CE Zoning allows the use outright without further stipulation/restriction.	L Klein
4.2 Land use approval process		x			1	Administrative approval, Type III process, 120-day process (guideline)	L Klein
4.3 Site development standards		x			1	Acceptable	L Klein
Total Land Use and Regulatory Compliance					**4**		
5. COMMUNITY ACCEPTANCE							
5.1 Loss of opportunity costs for higher/better use on the site	x				2		Helix
5.2 Impacts to Community Assets		x			1		Helix
5.3 Likelihood for community support		x			1	Anticipate support, location is good for the use.	Team
Total Community Acceptance					**4**		
6. ACQUISITION CONSIDERATIONS							
6.1 Ease of Acquisition	x				2		Helix
6.2 Acquisition Costs		x			1		Helix
6.3 Willing Seller	x				2	Willing seller	Helix
Total Acquisition Considerations					**5**		
7. CONSTRUCTION CONSIDERATIONS							
7.1 Adequacy for construction staging		x			1	Not much room. May need to acquire use of other properties for staging.	W Fierst
7.2 Construction Costs	x				2		Helix
Total Construction Considerations					**3**		
GRAND TOTAL					**42**		

FEASIBILITY STUDY

TO:	Jeff Ryan and Lowell Cate, Helix Design Group	**DATE:**	September 17, 2021
		FROM:	Lisa Klein, AICP Bill Fierst, P.E.
		PROJECT NO.:	2200572.10 / .30
PROJECT NAME:	Federal Way O & M Building – Feasibility Site #4		

This memorandum summarizes our feasibility evaluation of Site #4 for potential use as a future Operations & Maintenance Facility for the City of Federal Way.

The following maps and documents are attached:

1. Site 4 Vicinity Map
2. Site 4 Parcel Map
3. Zoning Map
4. Critical Areas Map

EXECUTIVE SUMMARY

Site 4 is comprised of two tax parcels and is approximately 7.55 acres. The site is developed with buildings and parking areas and there is an existing cell tower on site. The property is adjacent to a state highway along the east and south boundary; a state route on the west and commercial uses to the north. Multifamily housing is located across the state route to the west.

The property is zoned Commercial Enterprise (CE) and the government facility use is allowed without any stipulations or restrictions.

Federal Way and King County mapping do not identify any critical areas on site. A fish bearing stream is located off site across the highway, to the east, and approximately 120 feet to the north. We do not anticipate a buffer or setback from the creek will impact site improvements, however protection of water quality will be important.

The site will need to be designed so any truck parking, loading, and maneuvering areas; areas where noise generating outdoor uses and activities may occur; and vents and similar features are located as far as possible from any residential zone or use. The multifamily use across the west frontage road is the nearest residential zone and use.

The Department of Ecology's "What's in my Neighborhood" identifies contaminated/ cleanup sites throughout the state. There are no active cleanup projects onsite; a previous "no further action" status was issued for the site in 2001 for metal pollutants. Tacoma Smelter Plume predicted arsenic contamination for the area the site is located is under 20 ppm (below state cleanup levels). The Department of Ecology Underground Storage Tank database indicates there were three underground storage tanks installed on site in 1987, all have since been removed. On a site visit an approximate

1,000 gallon above ground storage tank was observed onsite. Soil testing will be necessary, and is recommended given the type of existing use, to determine any soil contamination.

Per the TIR obtained for the gas station site to the north, nine test pits were dug, and no ground water seepage was encountered, as deep as nine feet below ground surface. The site currently has two detention ponds approved in 1986. The storm system will provide detention and water quality in accordance with the 2016 King County Surface Water Design Manual and with the City of Federal Way Addendum to the KCSWDM. A Geotechnical investigation and study to provide recommendations for long term infiltration rates. If future building additions are anticipated, pavement section recommendations and soil bearing capacity will be required.

Water availability appears adequate at the site within the adjacent roadways and a loop exists on site, there are also existing fire hydrants on site. Performing a flow test on the nearest hydrant would determine the flow rate and available pressure.

Existing sanitary sewer utility is available to the site, beneath the western frontage road. It is anticipated that connecting to the existing 8" sanitary sewer system is feasible.

The site is currently accessed from the western frontage with parking on site. The exact extent of the required road improvement needs to be determined to more accurately estimate any future cost of the off-site improvements. A Transportation Impact Analysis will need to be conducted for accurate average daily traffic counts and noise expectations. In addition, a future WSDOT project plans to build a roundabout to the northwest of the site with a highway offramp project north of the site.

The use would require the following permits/approvals:

- Type III Land Use Approval (approximately 120-day approval, approval by Director)
- SEPA Environmental Review
- Demolition Permits
- PSCAA Air Permits for demolition (potential)
- Site Development, grading and drainage permits
- Right-of-way permit, including permits from WSDOT
- Building Permit
- Ecology Construction Stormwater Permit

RECOMMENDATIONS AND NEXT STEPS

Prior to final site selection, we recommend a pre-application meeting be held with City staff to review the findings.

Prior to purchase of the property we recommend completion of a Phase 1 and Phase 2 Environmental Site Assessment and evaluation of any onsite contamination that may be present from prior uses.

Existing Conditions	
EXISTING USES	The site is developed with parking and buildings and also contains a cell tower
VEGETATION	The majority of the site is developed/ paved with minimal vegetation.
TOPOGRAPHY	The site is generally sloped with isolated steep slopes along the western property line. The existing building sits near the approximate high point of the site. There exists a grade change with the northern, smaller, parcel of approximately 3 feet where an existing retaining wall is located between the two parcels. A much higher retaining wall of approximately twelve feet exists between the northern, smaller, parcel and the neighboring parcels to the west. The site slopes away from the building in all directions, with the exception of directly north where the site is relatively flat.

Land Use and Zoning Analysis	
LAND USE DESIGNATION	Commercial
ZONING DISTRICT	CE – Commercial Enterprise
ALLOWED USES FWMC 19.240.130	Government facility
ADJACENT USES/ ZONING	• North: gas station, restaurant with drive through lane and big box commercial / CE • East: Highway / City limits • South: Highway and City limits and OP4 • West: auto repair and a former paint supply building / CE
SETBACKS / YARDS FWMC 19. 240.130	• Front: 20 feet • Side: 10 feet • Rear: 10 feet • Except 20 ft. along residential zones

BULK REQUIREMENTS
FWMC 19.240.130
	Height: 40 ft. above average building elevation (AABE) to 55 ft. AABE
	• If approved by the director of community development services, the height of a structure may exceed 40 ft. above average building elevation (AABE), to a maximum of 55 ft. AABE, if all of the following criteria are met:
	  • The increased height is necessary to accommodate the structural, equipment, or operational needs of the use conducted in the building, and/or all ground floor spaces have a minimum floor-to-ceiling height of 13 ft. and a minimum depth of 15 ft.;
	  • Height complies with note 2;
	  • Height over 40 ft. is set back from nonresidential zones by one additional ft. for each one ft. of height over 40 ft.; and
	  • Rooflines are designed to avoid a predominantly flat and featureless appearance through variations in roof height, forms, angles, and materials.
	• Building height may not exceed 30 ft. AABE when located within 100 ft. of a residential zone.

	No maximum lot coverage is established. Instead, the buildable area will be determined by other site development requirements, i.e., required buffers, parking lot landscaping, surface water facilities, etc.
LANDSCAPING REQUIREMENTS FWMC 19.125	• Landscaped yards shall be provided between building(s) and public street(s). Parking lots should be beside or behind buildings that front upon streets. • All portions of a lot not used for buildings, future buildings, parking, storage or accessory uses, and proposed landscaped areas shall be retained in a “native” or predeveloped state • All outside storage areas shall be fully screened by Type I landscaping a minimum of five feet in width • Building walls which are uninterrupted by window, door, or other architectural feature(s) that are 240 square feet or greater in area, and not located on a property line, shall be screened by landscaping. • Parking areas adjacent to public right-of-way shall incorporate berms at least three feet in height within perimeter landscape areas; or alternatively, add substantial shrub plantings to the required perimeter landscape type, • Type III landscaping five feet in width shall be provided along all property lines abutting public rights-of-way and access easements, except industrial uses shall provide Type II landscaping 10 feet in width along such property lines. • Type III landscaping five feet in width shall be provided along the perimeter of the property abutting a nonresidential zoning district, except industrial uses shall provide Type II landscaping 10 feet in width along such property lines.
TREE RETENTION FWRC 19.120.020	• No person shall remove any trees on a site without first obtaining approval of a tree retention plan by the director; except for those activities that are exempt as described in FWRC 19.120.030. Tree and vegetation removal may also require Class IV – General forest practices application approval as administered by the city of Federal Way per FWRC 19.120.180 et seq. • Required minimum tree unit density for CE zones: 20 tree units/acre (see Table 19.120.130-2 – Tree Unit Credits for more information) • Where an applicant cannot provide for the minimum required tree units per acre on site, off-site mitigation or a fee-in-lieu payment into the city’s urban forestry account may be approved by the director.
PARKING REQUIREMENTS FWMC 19.115 FWMC 19.130	• Number of spaces is determined on a case-by-case basis. The director shall base this determination on review of an applicant’s written narrative of expected parking need, comparison of similar uses • Vehicle turning movements shall be minimized. Parking aisles without loop access are discouraged. • Surface parking may be located behind the building, to the side(s) of the building, or adjacent to the right-of-way; provided, however, that parking located adjacent to the right-of-way maximizes pedestrian access and circulation pursuant to FWRC 19.115.050(4). • Parking lots should be broken up into rows containing no more than 10 adjacent stalls, separated by planting areas. • Up to 25 percent of the number of parking spaces may be designated for compact cars.
SITE DESIGN REQUIREMENTS FWMC 19.115 FWMC 19.125 FWMC 19.240	• All building facades that are both longer than 60 feet and are visible from either a right-of-way or residential use or zone shall incorporate at least two of the four facade treatment options according to FWMC 19.115.060(2). • Multiple buildings on the same site should incorporate public spaces (formal or informal) • Entrance facades shall front on, face, or be clearly recognizable from the right-of-way. • Building entrances shall be architecturally emphasized and shall incorporate transparent glass

	• Ground-level mirrored or reflective glass is not allowed adjacent to a public right-of-way or pedestrian area. • Chain-link fences visible from public rights-of-way or adjacent properties, and not screened by Type I landscaping, shall utilize vinyl-coated mesh, powder-coated poles, dark color(s), and architectural element(s) such as pole caps and/or decorative grid pattern. • Barbed wire is permitted only atop a fence or a wall at least six feet in height, razor wire fences are prohibited. • Fences and railings not over six feet in height may be located in required yards subject to FWMC 19.125. • The subject property must be designed so that truck parking, loading, and maneuvering areas; areas where noise generating outdoor uses and activities may occur; and vents and similar features are located as far as possible from any residential zone, conforming residential use, natural systems, and public rights-of-way.
CONCLUSION / RECOMMENDATION	• All sites should take into consideration additional buffering of adjacent uses (more than code)

Critical Areas	
FEMA FLOOD ZONE	• Per the FIRM map number 53033C1250G dated 8/19/2020, the site is not within a floodplain.
WETLANDS/STREAMS	• Federal Way mapping does not identify any wetlands or streams on site. • A fish bearing stream is located off site across the highway to the east, and approximately 120 feet to the north.
SHORELINES	• Per the King County imap and City of Federal Way mapping, there are none
GEOLOGIC HAZARDS	• Per the King County imap and City of Federal Way mapping, there are none
CRITICAL AQUIFER RECHARGE AREA	• The site is located in the Hylebos Creek drainage basin. Per the Federal Way Comprehensive Plan, the site appears to be within the Redondo/ Milton Channel Aquifer.
WELLHEAD PROTECTION AREA	• Per Department of Health, the site is within the 10-year time of Travel for Well 5 in the Fife Dept of Public Works.
FISH/ WILDLIFE CONSERVATION AREA	• No fish and wildlife conservation areas are identified on site with King County or City mapping.
PRIORITY HABITAT AREA	• Department of Fish and Wildlife Priority Habitat Species mapping did not identify any on site.
CONCLUSION / RECOMMENDATION	• No critical area requirements are anticipated.

Soils	
SOIL TYPE	• Per USDA, soils in the area are approximately 97% Alderwood gravelly sandy loam. Per the TIR obtained for the adjacent gas station site to the north, nine test pits were dug, and no ground water seepage was encountered, as deep as 9 feet below ground surface.
INFILTRATION RATE	• Information not available.
FOUNDATION TYPE	• The current building (built in 1987) has a concrete slab. Based upon available information it is anticipated that spread footings will be adequate for new buildings.
CONTAMINATION	• The Department of Ecology's "What's in my Neighborhood" identifies contaminated/ cleanup sites throughout the state. There are no active cleanup projects onsite; a previous "no further action" status was issued for the site in 2001 for metal pollutants. The Department of Ecology Underground Storage Tank database indicates there were three underground storage tanks installed on site in 1987, all have since been removed. • On a site visit an approximate 1,000 gallon above ground storage tank was observed on site. • A 1992 King County Surface Water Manage Division letter to the existing user/owner states:

	"Control structure is so full of sediment that restrictor is probably not functioning". • A 1997 City of Federal Way Surface Water Management Inspection Checklist notes: "Oil/Gas/Grease Pollutants in Basins" and "Oil Separator Not Installed". Comments include "Clean MH#1 control Structure, CB #3, 4, &6". • A 2002 Inspection Results of the Storm and Surface Water Drainage Facilities letter states: "…your drainage facilities meet the City of Federal Way's minimum maintenance standards". • A 2003 and 2006 City of Federal Way Surface Water Management Maintenance Correction List states: Control Structure/Oil Separator/Catch Basins "Excessive Silt/Sediment in Basin – Please remove excessive sediment in Catch Basins #1, 2, 3, 4, 5 and 6 with an approved Vactor Service. • A 2008 Disposal Tracking Form states that the system was cleaned, and the sediment disposed in King County.
CONCLUSION / RECOMMENDATION	• A Geotechnical investigation and study to provide recommendations for long term infiltration rates will be required if building additions are anticipated, pavement section recommendations and soil bearing capacity will also be required. • Soil testing will be necessary to determine any site contamination. A Phase I and possibly a Phase II Environmental Site Assessment is recommended.

Stormwater	
STORM MANUAL / REQUIREMENTS	• 2016 King County Surface Water Design Manual, with the City of Federal Way Addendum to the KCSWDM
TYPE OF RETENTION / DETENTION	• The site currently has two detention ponds approved in 1986. • To reduce overall project costs, each of the two parcels will create no more than 5,000 square feet of new plus replaced hard surfaces. At 5,000 square feet, the threshold will be triggered for water quality and storm detention improvements to the entire site. • It is assumed that access from the public right-of-way to the north to the northern parking area will be achievable by paving less than the threshold. • It is assumed that the necessary ADA parking stalls at any building can be supplied at locations where a simple asphalt overlay can be placed to achieve ADA compliant slopes and no pavement removal and replacement will occur. • No work will occur to the south of the southern site driveway. Any paving will be considered to be "future work" and the existing gravel surface will remain and be considered as pervious surface.
PERMITTING REQUIREMENTS	• Full Drainage Review per Section 1.1.2-4 with all core and special requirements of the 2016 KCSWDM and City of Federal Way Addendum.
CONCLUSIONS / RECOMMENDATIONS	• The existing two ponds will continue to be used and it is assumed no more than 5,000 square feet of new plus replaced impervious surfaces are to be created for each of the two parcels. • The existing locations of surface runoff discharge remain in the proposed design.

Water	
LOCATION OF / DISTANCE TO CONNECTION POINT	• Per the Lakehaven Utility map, the site is currently connected to water. An 8" AC pipe is located beneath the frontage to the north and connects to a 12" DI pipe to the east, running parallel to the highway. A 10" DI pipe

	runs through the approximate center of the site and connects to a 10” located on the eastern side of the western frontage road and to the 12” along the highway.
LOOP REQUIREMENTS	• An existing water main loop exists on site and will remain in the proposed condition. The water main vary in size between 8-inch and 12-inch. The acceptable range for depth of pipe cover is between 3.5 and 6 feet allowed by Lakehaven Water and Sewer.
SYSTEM CAPACITY	• It is anticipated that the existing domestic system to B1a and B2 have capacity. A sprinkler system is not currently installed. The number of restrooms may be increased. The existing building B1b is anticipated to be demolished and replaced at a future date. A new system for B1b and B3-B6 will be required at that time.
FIRE HYDRANT SPACING	• There are existing fire hydrants on site.
FIRE FLOW	• Static pressure about 90+/- psi. • There are no system hydraulic models (or other info) specific to this area. • Per the Lakehaven Water & Sewer District, because there are surrounding 8” and 12” water mains, there should be a minimum of 2,500 GPM of ‘available fire flow’ in the existing 8” water main/system in the north frontage road.
CONCLUSIONS / RECOMMENDATIONS	• Water availability appears to be adequate to the site. Performing a flow test on the nearest hydrant would determine the flow rate and available pressure. The services to existing buildings will require replacement and or upgrades. Domestic water services and fire flow will be provided to new buildings. The future water distribution system will likely require replacement in the future due to its location under proposed buildings and due to the anticipated site grading, which will likely prevent it from remaining within the narrow-acceptable range for depth of cover.

Sewer	
LOCATION OF / DISTANCE TO CONNECTION POINT	• The existing sanitary sewer main is an 8” gravity system located beneath the west frontage road and an 8” gravity system located beneath the north frontage road. An 8” sewer utility exists on site.
SYSTEM CAPACITY	• It is anticipated that the existing system has capacity for Buildings B1a and B2. However, its current location will likely not be conducive to the proposed future design due to its being under proposed buildings and due to the anticipated site grading requiring retaining walls.
CONCLUSIONS / RECOMMENDATIONS	• It is anticipated that the existing system will be feasible for Buildings B1a and B2. The proposed future retaining wall will likely force the sanitary sewer main to be relocated. A sewer line extension will be provided to all future new buildings including the fueling station and the car wash, which will both drain through an oil/water separator prior to discharging to the sanitary sewer system located beneath the north frontage road.

Transportation	
CURRENT ACCESS	• The site is currently accessed from a state route to the west and an unclassified road to the north with parking on site.
ACCESS REQUIREMENTS	• The site will continue to use the same existing access points.

	• Three revised access points for the facility are proposed in the future. Two of the access points will likely be along the southern side of the north frontage road and one along the eastern side of the west frontage road. Improvements to the intersections on the west frontage road may also be required in the future.
FRONTAGE IMPROVEMENTS	• The existing frontage to the west is in conformance to the City's roadway classification G requirements with the exception that no landscape strip exists. It is assumed street improvements will be minimized by obtaining a variance. Improvements to the west frontage road will consist of painting the existing asphalt to include a bike lane and possibly adding some landscape behind the existing sidewalk. The existing sidewalk will remain, and no landscape strip will be added. • No improvements are anticipated to be made to the northern frontage road at this time, with the minor exception of possibly a driveway entrance. • WSDOT has plans to eventually create two roundabouts on the north frontage road. One at the end of the new off-ramp from the highway and one at the intersection of the west and north frontages. Depending on the final elevation of the highway off ramp, substantial regrading of the northern end of the site could be necessary in the future or access may be limited.
OFFSITE IMPROVEMENTS	• The western frontage is classified as a type G street. Type G consists of a 100' ROW, including 66' pavement with 6' planter, 8' sidewalk and 3' utility strip. Depending on the status of the variance, a detention and water quality system to detain and treat street runoff would be required in the future. At present, with an approved variance, the western frontage road will remain as it currently is with the exception of adding a bike lane and possibly adding minor amounts of additional landscape. • The north frontage road is not currently classified. The anticipated future section type would be a type M, with three lanes and a design speed of 40 mph. Type M consists of 70' ROW, including 36' pavement with 6' planter, 8' sidewalk and 3' utility strip. It is assumed that WSDOT would be responsible for all the north frontage road improvements. Current pavement width is approximately 40' at the western frontage. Widening would trigger overhead and water utility relocations, grading, and tree removal. A detention and water quality system to detain and treat street runoff would be required. It is assumed that WSDOT would be responsible for all the improvements within the right-of-way to the north.
PERMITTING REQUIREMENTS	• Right-of-way permits. Transportation Impact Analysis for accurate average daily traffic counts and noise expectations.
CONCLUSIONS / RECOMMENDATIONS	• The exact extent of the required road improvement needs to be determined to more accurately estimate the cost of any future off-site improvements. The roundabouts for the WSDOT improvements on the north frontage are not part of this study.

Permitting Requirements	

LAND USE PERMITS	• Process III, since SEPA is required
	  • Director's decision
	  • 120 days following notice of complete

SEPA ENVIRONMENTAL REVIEW	• SEPA review will be required
SITE DEVELOPMENT PERMITS	• Site development, demolition, grading and drainage permits, right-of-way permits, water and sewer permits.
CRITICAL AREAS PERMITS	• n/a

DESIGN REVIEW	• Required
BUILDING PERMITS	• Building, plumbing, fire protection, sanitary sewer, gas and electrical permits.

Definitions:

- "Government facility" means a use consisting of services and facilities operated by any level of government, excluding those uses listed separately in this title.

II. Design Narrative

Conceptual Design Narrative

Site Selection

The following section discusses the selection criterion that was applied to prospective sites in order to determine the suitability of each for use for the new facility. The process involved development of a general, programmatic concept site plan that contained all function elements for testing and evaluation of each candidate property to determine if the site was adaptable to the required layout. Each candidate property, as noted below, required some compromise with regard to the ideal concept configuration which we have outlined in the following summary along with the costs associated with their development.

The principal objectives of this report are as follows:

- Search for properties within the city for availability whether they were currently listed for sale or might be available as discovered through other resources.
- Investigate four sites that satisfy programmatic requirements.
- Review costs and challenges of development for each site.
- Modify and test fit the general concept site plan to each site to ensure the suitability.
- Develop evaluation matrix for scoring each property to help determine the preferred option.

Final site selection process:

- Development cost
- Property size and configuration.
- Zoning
- Access from public streets to all parts of the city
- Land use on and around site
- Topography
- Utility availability and offsite costs.

Site development costs were evaluated from available information such as: stormwater requirements, utility availability, street lighting, critical areas report and street frontage improvement issues. Drawings are included in the report for design alternatives considered for each site to test possible layouts and associated costs.

Concept Site Design Considerations:

- Existing conditions base map from King County GIS
- Concept site plan adaptations
- Vehicle turning movement and site vehicle circulation patterns.
- Concept level civil plans including grading, drainage, storm system sizing, and water/sewer utilities
- Concept plans for frontage improvement requirements

Conceptual Design

The project program shown in the Needs Assessment section of this report, was used to determine the minimum project requirements in order to establish a budget. Objectives of the Needs Assessment were:

- Requirements for building space needs for office, maintenance and storage.
- Establish minimum vehicle circulation storage requirements.
- Incorporate security and safety considerations.
- Establish project quality and durability requirements.
- Establish construction budget.

The information gathered at the initial programming phase was used to evaluate potential sites during the site selection process as well as to develop and refine future project development. As each new site was investigated, further discussion and refinement of initial concepts was necessary as the project took shape in order to accommodate limitations and opportunities encountered.

The site layouts provided are for the purpose of testing and exploring building locations with regard to efficient site zoning, vehicle movement and safety. Basic concepts include the concentration of built area within a compact zone and the interface of potential public, staff and fleet traffic to control security and safety. The layouts presented account for many factors that need to be considered but is not intended to be a final design. Each potential site will be examined to evaluate how well it responds to the established site objectives.

To fully understand the departmental requirements and to determine spatial requirements, the existing facilities were toured and programming information was gathered though staff questionnaires and meetings. Interviews were also conducted to establish adjacency requirements and overlapping or shared space possibilities between multiple departments that might jointly occupy the buildings and site.

Detailed programming information can be found in each section of this report in the form of tables and spreadsheets that lists each area by space, room, general function and list each area requirements in square feet. Though all individual staff are accounted for, occupant names are not listed to preserve flexibility during final planning development. Spaces are listed by department & function only. Furniture and functional layouts are provided for scale and to show options for room functions. The conceptual floor plans are provided as a starting point as we build more understanding of requirements throughout the design process.

In the Site Selection phase, each potential site was evaluated based on a variety of issues specific to that site as compared to the prototype concept layout. These include the availability of utilities, the condition of existing stormwater systems, the characteristics of the site soils and other environmental conditions. Each site was evaluated and reviewed to determine potential impacts on site use and building placement.

Concept Design Criteria

Site

1. Safety and Security
   a. Well-lit parking and pedestrian areas.
   b. Gated parking for staff personal vehicles for security during after-hours work assignments.
   c. Pedestrian paths separated from vehicle circulation.
   d. Provision of secure walking trail systems adjacent to parks, and or woodland/ wetland areas not otherwise usable for the new facility.

2. Operational Efficiency and Safety
   a. Vehicle Parking Efficiency and Safety help to lower daily operating costs.
   b. Site planning for optimum work flow
   c. Quick access to stored materials and vehicles
   d. Adequate maneuver space and well-organized site to help control equipment/material storage sprawl
   e. Safety; yard turning movements should be left turns where possible to maximize visibility to obstructions.
   f. Centrally located Fuel Station for ease of access and site surveillance by Police Department during off hours.

3. Vehicles: Staff Personal Vehicles / City Operational Vehicles / Private Public Vehicles
   a. Provide efficient vehicular routines around buildings, minimize crossings and need for back movements of large trucks and equipment into circulation pathways.
   b. Public, personal and operational vehicles separated to prevent collisions and pedestrian hazards.
   c. EV Charging Stations: planning considerations for future EV charging stations
   d. Adequate parking for existing vehicles along with space for future growth.
   e. Accommodate max anticipated visitor parking requirements in an open lot. At this time no public event space is anticipate within the design.

4. Stormwater and Floodwater Systems
   a. An underground storm water detention structure is to be used on site to maximize available land and it will be included within the budget projection. Where possible, place the stormwater facility will be placed in a non-buildable site location or utilize existing systems if possible, to reduce costs.
   b. The facility will not be constructed within Flood Water zones.

5. Additional Site Consideration and Characteristics to consider during the site selection process. While the potential sites for the new facility will be reviewed in the next phase of work, the following are general characteristics for an ideal site:
    a. Response time: Is the site centrally located for easy and timely access to all parts of the City.
    b. A site that has not previously been developed.
    c. Have no critical areas on or adjacent to the site (wetlands, streams, floodplains, steep slopes, well recharge areas, etc.).
    d. Be clean with no environmental contamination concerns.
    e. Have adequate vehicular access to the site (near arterial roads, other City operations, and potential for multiple driveways to the site).
    f. Have appropriate adjacent site uses, is within an industrial area, and the adjacent properties will not be impacted by the proposed use.
    g. Have availability of existing utilities and services:
        i. Water mains, within the frontage road with adequate fire flow.
        ii. Sewer mains, within the frontage road with adequate capacity.
        iii. Storm drainage mains, within the frontage with adequate capacity.
        iv. Natural gas and electrical services, within the frontage.
    h. Have site zoning which allows the intended use.
    i. Have minimal frontage road improvements which are required.
    j. Have site soils which allow infiltration of on-site storm water.

Building

1. Sustainable
    a. Utilize daylighting for office areas.
    b. Consider efficient HVAC systems for long term value and energy conservation.
    c. Provide outdoor gathering space adjacent to break areas.
2. Safety and Security
    a. Review and incorporate security for building operations spaces. Control public access but also present a friendly, welcoming appearance.
    b. Provide public parking that is separated from operational vehicle circulation and also separated from staff parking which needs afterhours security.
3. Cost
    a. Consider sustainability and energy conservation with all designs for both Shops and Office facilities.
    b. Utilize daylighting where possible.
    c. Evaluate building cost with regard to first cost and long-term value.
    d. Evaluate potential sharing of spaces where possible and times of use do not overlap.

Maintenance & Operations Facility Matrix

Program Analysis		Initial Program					Conceptual Program - Site 1-3					Conceptual Program - Site 4 Existing Buildings						
Function	Tag	Net Area (Sq. Ft.)	Dimensions RFP ft. x ft.	Quantity #	Total Area (Sq. Ft.)	Occupant Count	Net Area (Sq. Ft.)	Dimensions ft. x ft.	Quantity #	Total Area (Sq. Ft.)	Scope of Work	Net Area (Sq. Ft.)	Dimensions ft. x ft.	Quantity #	Total Area (Sq. Ft.)	Scope of Work	Conditioned Space	Notes
Buildings + Structures Summary																		
Operations Building - Offices and Crew Spaces	B1	*13,500*	*54 x 250*	1	13,500	*119 [1] [2]*	*18,000*	*100 x 180*	1	18,000	New Building	*9,300* *12,000*		1 1	9,300 0	Existing Building Future Structure	Heated	One-Story. Mechanical Mezzanine. Primary Building (add 828 sf 2nd story services) Two-Story 6,000 sf per floor (Site 4 only)
Fleet Maintenance Shop	B2	*2,400*	*40 x 60*	1	2,400		*11,000*	*125 x 110*	1	11,000	New Building	*10,000*		1	10,000	Existing Building	Heated	One-Story.
Vactor Truck Parking							*1,375*	*25 x 55*	1	1,375		*0*		1	0			Pull thru bay with room for future Truck
Metal Fabrication and Welding shop							*1,375*	*25 x 55*	1	1,375		*0*		1	0			
Carpentry Stop							*0*		1	0		*0*		1	0			
Maintenance Shop Subtotal					2,400					13,750					10,000			
Surface Water Management - Vehicle Bays	B3	*5,280*	*40 x 132*	1	5,280		*2,750*	*50 x 55*	1	2,750	New Building	*2,750*	*50 x 55*	1	2,750	New Building	Heated	One-Story.
Streets - Vehicle Bays	B4	*5,280*	*40 x 132*	1	5,280		*2,750*	*50 x 55*	1	2,750	New Building	*2,750*	*50 x 55*	1	2,750	New Building	Heated	One-Story.
Parks - Vehicle Bays	B5	*5,280*	*40 x 132*	1	5,280		*2,750*	*50 x 55*	1	2,750	New Building	*2,750*	*50 x 55*	1	2,750	New Building	Heated	One-Story.
Sign Shop & Storage Structure	B6	*2,800*	*35 x 80*	1	2,800		*2,750*	*50 x 55*	1	2,750	New Structure	*2,750*	*50 x 55*	1	2,750	New Structure	Heated	One-Story.
Traffic Signal Shop & Storage Structure (Future)	B7	*2,800*	*35 x 80*	1	2,800		*0*	*x*	1	0	Future Structure	*0*	*x*	1	0	Future Structure	Heated	One-Story.
Subtotal					37,340					42,750					30,300			
Surface Water Management - Covered Storage	S1	*2,800*	*35 x 80*	1	2,800		*1,890*	*35 x 54*	1	1,890	New Structure	*1,890*	*35 x 54*	1	1,890	New Structure	Unheated	One-Story. Roof Structure, enclosed three sides only no doors
Streets - Covered Storage	S2	*2,800*	*35 x 80*	1	2,800		*1,890*	*35 x 54*	1	1,890	New Structure	*1,890*	*35 x 54*	1	1,890	New Structure	Unheated	One-Story. Roof Structure, enclosed three sides only no doors
Parks - Covered Storage	S3	*2,800*	*35 x 80*	1	2,800		*1,890*	*35 x 54*	1	1,890	New Structure	*1,890*	*35 x 54*	1	1,890	New Structure	Unheated	One-Story. Roof Structure, enclosed three sides only no doors
Vehicle Wash Rack Structure	S4	*2,400*	*40 x 60*	1	2,400		*2,240*	*40 x 56*	1	2,240	New Structure	*2,240*	*40 x 56*	1	2,240	New Structure	~	One-Story. Covered wash bay 20' clr ht., Roof structure over concrete pad with drain.
Equipment Storage Structure (Generator)	S5	*2,100*	*35 x 60*	1	2100		*2,100*	*35 x 60*	1	2,100	New Structure	*2,100*	*35 x 60*	1	2,100	New Structure	Unheated	One-Story. Covered, concrete pad.
Subtotal					12,900					10,010					10,010			
Waste + Recycle Enclosure	S8	*0*	*x*	1	0		*2,400*	*24 x 100*	1	2,400	New Structure	*2,400*	*24 x 100*	1	2,400	New Structure	~	Covered Enclosed Dumpsters; 40 yard Organic;(2) 20 yard Garbage
Brine Tanks (Shed + Pad)	S9	*875*	*25 x 35*	1	875		*875*	*25 x 35*	1	875	New(Shed+Pad)	*875*	*25 x 35*	1	875	New(Shed+Pad)	~	Brine tanks + Shed + Containment Area. (reuse of € equipment and tanks)
Covered Salt Binds	S10	*2,500*	*50 x 50*	4	10,000		*2,500*	*50 x 50*	4	10,000	(E) Fab. Structures	*2,500*	*50 x 50*	4	10,000	(E) Fabric Structures	~	Covered Salt Bins and pads. (1) site for future bin - Relocate existing structures
Fueling Station	S11	*3,200*	*40 x 80*	1	3,200		*1,505*	*35 x 43*	1	1,505	New Structure	*1,505*	*35 x 43*	1	1,505	New Structure	~	Covered Fueling Island; (2) above ground tanks on pad; for both Large Equip.& Veh's.
Equipment Storage - Snow Ice Fleet	S12	*1,925*	*35 x 55*	1	1,925		*1,925*	*35 x 55*	1	1,925	New Structure	*1,925*	*35 x 55*	1	1,925	New Structure	~	One-Story Structure. Roof structure over concrete pad
Storage Binds	S13	*800*	*20 x 40*	8	6,400		*800*	*20 x 40*	8	6,400	New	*800*	*20 x 40*	8	6,400	New	~	Crusted Rock; Quarry Sand; Eng. Wood Fiber; Beauty Bark;Soil;Waste. - Bunkers
Storage Racks	S14	*400*	*10 x 40*	4	1,600		*400*	*10 x 40*	4	1,600	New	*400*	*10 x 40*	4	1,600	New	~	(3) sites for future racks
Decant Facility - (Future)	S15	*21,000*	*140 x 150*	1	21,000		*4,800*	*60 x 80*	1	4,800	Future Structure	*4,800*	*60 x 80*	0	0	Future Structure	~	Future Facility, One-Story with open sides (*60'x80' three bay facility)*
Subtotal					45,000					29,505					24,705			
Grand Total					95,240					82,265					65,015			
Sumped Refuse Area	A1	600	15 x 40	4	2400		600	15 x 40	4	2,400		600	15 x 40	4	2,400			Ramped between to allow loading.- See Waste + Recycle structure above.
Shopping Cart Storage Area	A2	*1,600*	*40 x 40*	1	1600		*1,600*	*40 x 40*	1	1,600		*1,600*	*40 x 40*	1	1,600			Fenced in area with gate
Toter Storage Area for 80	A3	*600*	*15 x 40*	1	600		*600*	*15 x 40*	1	600		*600*	*15 x 40*	1	600			Fenced in area with gate
Laydown and circulation	A4																	
On-site structured Storm Water System	A5									TBD					TBD			
Trail to Steel Lake Park and SWM Demonstration Area	A6									TBD								

Site & Site Circulation			Stalls		Stalls		
Parking Stalls - Visitors [3]	P1						
Standard (9'x18' Stall + circulation)		275	4	1,100	8	0	
Accessibility		300	2	600	2	0	
			6	1,700	10	0	[3]
Parking Stalls - Personal Vehicles [2]	P2						
Standard (9'x18' Stall + circulation)		275	125	34,375	78	0	
Accessibility		300	7	2,100	4	0	
			132	36,475	82	0	[1] [2] To accommodate current, future and seasonal staff
Parking Fleet - Equipment	P3						
Parks							
Standard *(10'x24' + circulation)*		390	66	25,740	28	0	
Oversized		700	3	2,100	2	0	
			69	27,840	30	0	Based on current equipment count
Public Works							
Standard *(10'x24' + circulation)*		390	101	39,390	56	0	
Oversized		700	6	4,200	5	0	
			107	43,590	61	0	Based on current equipment count
Site Concept - Total Proposed Fleet Parking Count			176 [4]		91 [4]		

Footnotes:

[1] 43 Daily Full time Crew (FTE), additional 34 in future. Total 77 FTE.
[2] 33 Seasonal - Summer time Crew, additional 9 in future. Total 42
[3] Public + Visitors; 10 total parking stalls. (2) EVA charging station,[(2) ADA stalls]
[4] Parking Stall Count varies by Site

III. Cost Estimate

Budget Summaries

City of Federal Way Operations & Maintainance Facility

Budget Estimate

	Description	Design Phase	Conceptual Design Budget	Site One - Existing	Site Two - Park	Site Three - Undeveloped	Site Four - Developed
			Budget	Site	Site	Site	Site
HARD COST							
8	Site Work		$6,500,000	$9,060,250	$11,518,901	$11,998,846	$4,842,269
		Site Work Subtotal	$6,500,000	$9,060,250	$11,518,901	$11,998,846	$4,842,269
1	Operations Building - B1		$6,880,000	$8,215,287	$8,040,175	$8,040,175	$3,802,048
3	Shop and Storage Bay Building - B3 - B6		$3,000,000	$2,977,778	$2,977,778	$2,977,778	$2,940,563
4	Enclosed Storage Buildings - S1 - S5		$1,305,000	$1,070,343	$1,070,343	$1,070,343	$1,056,989
5	Covered Mateial Storage Structures - S8, S10, S12 & S13		$990,000	$1,023,141	$1,023,141	$1,023,141	$1,010,365
6	Brine Buidling - S9		$0	$280,470	$280,470	$280,470	$276,966
9	Salt / Sand Covered Storage			$86,414	$86,414	$86,414	$85,417
		Subtotal	$12,175,000	$13,653,433	$13,478,321	$13,478,321	$9,172,348
2	Fleet Maintenance B2		$4,020,000	$4,021,804	$4,021,804	$4,021,804	$1,815,437
7	Fueling Station - S11		$300,000	$332,139	$332,139	$332,139	$328,004
	Traffic Signal Shop - B7 - Future		$720,000				
		Subtotal	$5,040,000	$4,353,943	$4,353,943	$4,353,943	$2,143,441
		Building Subtotal	$17,215,000	$18,007,376	$17,832,264	$17,832,264	$11,315,789
	Estimate Maximum Construction Cost (MACC)		**$23,715,000**	**$27,067,626**	**$29,351,165**	**$29,831,110**	**$16,158,058**
	Washington State Sales Tax (10.1%) - City of Federal Way		$2,395,215	$2,733,830	$2,964,468	$3,012,942	$1,631,964
		Subtotal - Buildings & Site plus tax	$26,110,215	$29,801,456	$32,315,633	$32,844,052	$17,790,022
SOFT COST							
	Furniture & Equipment (4% budget)		948,600	1,082,705	1,174,047	1,193,244	646,322
	Design & Professional Fees (15% budget)		3,557,250	4,060,144	4,402,675	4,474,667	2,423,709
	Utility Assessments & Fee (1% budget)		237,150	270,676	293,512	298,311	161,581
	Permits & Fee (3% budget)		711,450	812,029	880,535	894,933	484,742
	Construction Contingency (5% of MACC)		$1,185,750	$1,353,381	$1,467,558	$1,491,556	$807,903
		subtotal	$6,640,200	$7,578,935	$8,218,326	$8,352,711	$4,524,256
		Total	$32,750,415	$37,380,392	$40,533,959	$41,196,763	$22,314,278

Notes:
1 Maximum Anticipated Construction Cost (MACC) includes 15% Design Contingency
2 Construction Contingency is based on MACC before sales tax
3 Furniture and Equipment are not included in this estimate.
4 Off site Utility Extensions not covered
5 Site Four costs are based on a 25 yr life span, based on the reuse of existing buildings

Individual Cost Estimates by Site

City of Federal Way
Operations and Maintenance Facility Development

Federal Way, WA

Helix Design Group
FEASIBILITY STUDY COST ESTIMATE - SITE #1
OCMI JOB #: 20379.000
17 September 2021

OC INSIGHT

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

COST ESTIMATE

INTRODUCTORY NOTES

This estimate is based on verbal direction from the client and the following items, received 09 June 2021

Feasibility Report - Site 01 21 sheets

The following items are excluded from this estimate:

- Professional fees.
- Building permits and fees.
- Inspections and tests.
- Installation of owner furnished equipment.
- Construction change order contingency.
- Overtime.
- Hazardous material abatement/removal.
- Items referenced as NOT INCLUDED or NIC in estimate.

The midpoint of construction of February 2023 is based on:

- Construction start date of May 2022
- Estimated construction duration of 18 months

- This estimate is based on a Design-Bid-Build delivery method.
- This estimate is based on prevailing wage labor rates.
- This estimate is based on a detailed measurement of quantities. We have made allowances for items that were not clearly defined in the drawings. The client should verify these allowances.
- This estimate is based on a minimum of four competitive bids and a stable bidding market.
- This estimate should be updated if more definitive information becomes available, or if there is any change in scope.
- We strongly advise the client to review this estimate in detail. If any interpretations in this estimate appear to differ from those intended by the design documents, they should be addressed immediately.

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

PROJECT SUMMARY

ELEMENT	TOTAL COST	GFA	$/SF AREA
01. OPERATIONS BUILDING - B1	$8,014,741	18,000	$445.26
02. FLEET MAINTENANCE - B2	$3,972,993	16,523	$240.45
03. BAYS BUILDING - B3-B6	$2,934,967	11,000	$266.82
04. ENCLOSED STORAGE BUILDINGS - S1-S5	$1,053,989	10,010	$105.29
05. COVERED MATERIAL STORAGE STRUCTURES - S8, S12 & S13	$983,870	9,100	$108.12
06. BRINE BUILDING - S9	$269,182	868	$310.12
07. FUELING STATION - S11	$325,147	1,600	$203.22
08. SITE WORK	$8,852,967	460,500	$19.22
08. SALT SAND BINS - S10, ASPHALT SLAB ONLY	$85,417	7,600	$11.24
TOTAL CONSTRUCTION COST	**$26,493,273**		

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED PROJECT SUMMARY

ELEMENT	TOTAL COST	GFA	$/SF AREA
01. OPERATIONS BUILDING - B1	$5,348,377	18,000	$297.13
02. FLEET MAINTENANCE - B2	$2,651,248	16,523	$160.46
03. BAYS BUILDING - B3-B6	$1,958,555	11,000	$178.05
04. ENCLOSED STORAGE BUILDINGS - S1-S5	$703,345	10,010	$70.26
05. COVERED MATERIAL STORAGE STRUCTURES - S8, S12 & S13	$656,554	9,100	$72.15
06. BRINE BUILDING - S9	$179,630	868	$206.95
07. FUELING STATION - S11	$216,976	1,600	$135.61
08. SITE WORK	$5,907,740	460,500	$12.83
08. SALT SAND BINS - S10, ASPHALT SLAB ONLY	$57,000	7,600	$7.50
TOTAL NET DIRECT COST	**$17,679,425**		

GENERAL MARKUPS

DESIGN CONTINGENCY	15.00%	$2,651,914
ESCALATION TO MIDPOINT 02/2023	7.08%	$1,440,136
GENERAL REQUIREMENTS	12.00%	$2,612,577
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$1,463,043
INSURANCE & BONDS	2.50%	$646,177

TOTAL CONSTRUCTION COST **$26,493,273**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$308,947	$17.16
B SHELL		$1,758,164	$97.68
C INTERIORS		$936,216	$52.01
D SERVICES		$2,049,181	$113.84
E EQUIPMENT AND FURNISHINGS		$97,595	$5.42
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$198,274	$11.02
NET DIRECT BUILDING COST		$5,348,377	$297.13
DESIGN CONTINGENCY	15.00%	$802,257	$44.57
SUBTOTAL		$6,150,634	$341.70
ESCALATION TO MIDPOINT 02/2023	7.08%	$435,670	$24.20
SUBTOTAL		$6,586,303	$365.91
GENERAL REQUIREMENTS	12.00%	$790,356	$43.91
SUBTOTAL		$7,376,660	$409.81
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$442,600	$24.59
SUBTOTAL		$7,819,259	$434.40
INSURANCE & BONDS	2.50%	$195,481	$10.86
TOTAL BUILDING COST		**$8,014,741**	**$445.26**

GROSS FLOOR AREA: 18,000 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$308,947	$17.16
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$735,631	$40.87
B20 EXTERIOR CLOSURE		$743,896	$41.33
B30 ROOFING		$278,637	$15.48
C10 INTERIOR CONSTRUCTION		$459,204	$25.51
C20 STAIRWAYS		$4,102	$0.23
C30 INTERIOR FINISHES		$472,910	$26.27
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$261,980	$14.55
D30 HVAC SYSTEMS		$742,030	$41.22
D40 FIRE PROTECTION SYSTEMS		$83,653	$4.65
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$840,315	$46.68
D5050 TELECOM		$121,203	$6.73
E10 EQUIPMENT			
E20 FURNISHINGS		$97,595	$5.42
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$198,274	$11.02
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$5,348,377	$297.13
DESIGN CONTINGENCY	15.00%	$802,257	$44.57
SUBTOTAL		$6,150,634	$341.70
ESCALATION TO MIDPOINT 02/2023	7.08%	$435,670	$24.20
SUBTOTAL		$6,586,303	$365.91
GENERAL REQUIREMENTS	12.00%	$790,356	$43.91
SUBTOTAL		$7,376,660	$409.81
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$442,600	$24.59
SUBTOTAL		$7,819,259	$434.40
INSURANCE & BONDS	2.50%	$195,481	$10.86
TOTAL BUILDING COST		**$8,014,741**	**$445.26**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	91	CY	707.77	$64,490
Spread footing, assembly	33	CY	643.15	$20,962
Special foundation				
Grade beam, assembly	5	CY	821.04	$3,801
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	18,000	SF	11.35	$204,265
Topping slab	900	SF	7.23	$6,506
Miscellaneous				
Concrete curb	558	LF	15.08	$8,413
Control joint	558	LF	0.91	$510
A10 FOUNDATIONS				**$308,947**
A SUBSTRUCTURE				**$308,947**
B SHELL				
B10 SUPERSTRUCTURE				
Floor construction				
Structural steel				
Wide flange	57	TON	4,647.38	$264,552
Piping and tube steel	17	TON	5,680.13	$98,408
Miscellaneous steel, including angles and channels	12	TON	9,036.56	$110,709
Fire protection	87	TON	309.83	$26,800
Moment connection, Allowance	1	LS	25,000.00	$25,000
Anchor and baseplate	25	EA	609.15	$15,229
Roof construction				
Structural steel				
Wide flange	12	TON	4,647.38	$57,511
Piping and tube steel	3	TON	5,680.13	$16,870
Miscellaneous steel, including angles and channels	3	TON	9,036.56	$22,880
Fire protection	18	TON	309.83	$5,539
Moment connection, Allowance	1	LS	25,818.75	$25,819
Anchors and baseplates, Allowance	1	LS	10,327.50	$10,328
Metal deck, 1 1/2"	18,000	SF	3.11	$55,986
B10 SUPERSTRUCTURE				**$735,631**
B20 EXTERIOR CLOSURE				
Exterior walls				

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Framing, metal stud	16,180	SF	8.26	$133,679
Insulation, batt	16,180	SF	1.59	$25,733
Exterior sheathing	16,180	SF	2.58	$41,775
Exterior wall finish				
Metal panel siding	10,598	SF	21.60	$228,877
CMU wainscot	4,045	SF	16.55	$66,964
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	18,000	SF	2.87	$51,638
Exterior windows				
Storefront	1,537	SF	87.96	$135,201
Exterior doors				
Aluminum fully glazed including frame and hardware				
Double	3	PR	5,155.19	$15,466
Hollow metal including frame and hardware				
Single	8	EA	1,794.03	$14,352
Miscellaneous				
Closer	14	EA	332.12	$4,650
Panic hardware	14	EA	754.33	$10,561
Miscellaneous work, Allowance	1	LS	15,000.00	$15,000
B20 EXTERIOR CLOSURE				**$743,896**
B30 ROOFING				
Roof coverings				
TPO roofing	18,000	SF	5.72	$103,025
Membrane underlayment	18,000	SF	3.08	$55,367
Rigid insulation	18,000	SF	4.08	$73,465
Tapered premium	5,940	SF	2.16	$12,844
Cant strip	558	LF	2.43	$1,356
Walk pad, assume 5% of roof area	900	SF	5.76	$5,180
Flashing and sheet metal				
Reglet	558	LF	5.19	$2,897
Flashing	558	LF	8.20	$4,574
Coping, aluminum	558	LF	21.83	$12,183
Roof openings				
Access hatch/skylights, Allowance	1	LS	7,745.63	$7,746
B30 ROOFING				**$278,637**
B - SHELL				**$1,758,164**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	19,252	SF	6.71	$129,240
Furring	481	SF	3.87	$1,864
Cementitious backerboard	682	SF	3.87	$2,636
Insulation, batt	19,734	SF	1.59	$31,385
Gypsum board				
Taped and finished	39,468	SF	2.88	$113,623
Underlayment	5,920	SF	1.63	$9,679
Inside face of exterior wall, taped and finished	16,180	SF	4.06	$65,670
Interior doors				
Hollow metal including frame and hardware				
Single	27	EA	1,933.12	$52,194
Double	3	PR	3,293.99	$9,882
Restroom accessories				
Partition	9	EA	1,054.05	$9,486
Partition, ADA	2	EA	1,367.90	$2,736
Urinal screen	2	EA	495.36	$991
Grab bar set	3	EA	216.89	$651
Paper towel dispenser	5	EA	739.46	$3,697
Soap dispenser	7	EA	89.08	$624
Toilet tissue, seat cover dispenser	12	EA	401.52	$4,818
Napkin disposal	6	EA	361.46	$2,169
Mirror	7	EA	73.99	$518
Coat hook, 48"	12	EA	139.42	$1,673
Fire extinguisher and cabinet	6	EA	397.77	$2,387
Miscellaneous				
Locker	20	EA	235.80	$4,716
Signage	18,000	SF	0.48	$8,565
C10 INTERIOR CONSTRUCTION				**$459,204**
C20 STAIRS				
Metal ladder				
Roof access ladder, Allowance	24	VLF	170.91	$4,102
C20 STAIRS				**$4,102**
C30 INTERIOR FINISHES				
Wall finishes				
Paint	50,083	SF	1.11	$55,392
Porcelain tile	682	SF	17.74	$12,099
Floor finishes				

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Polished concrete	5,200	SF	8.47	$44,058
Porcelain tile	1,754	SF	19.31	$33,868
Concrete, sealer	2,080	SF	1.51	$3,131
Resilient flooring	8,966	SF	6.22	$55,756
Base				
Rubber	1,187	LF	2.19	$2,602
Porcelain tile	69	LF	13.98	$965
Ceiling finishes				
ACT, including grid system	594	SF	6.15	$3,656
Hard lid	17,406	SF	10.85	$188,840
Water resistant	1,579	SF	15.43	$24,350
Soffit	1,273	SF	21.63	$27,534
Paint	18,679	SF	1.11	$20,659
C30 INTERIOR FINISHES				**$472,910**
C INTERIORS				**$936,216**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	18,000	SF	0.70	$12,548
Garbage disposal	2	EA	297.43	$595
Fixture including rough-in				
Water closet	9	EA	1,779.02	$16,011
Water closet (ADA)	4	EA	2,027.18	$8,109
Lavatory, wall mounted	8	EA	1,872.89	$14,983
Urinal	2	EA	2,201.00	$4,402
Service sink	2	EA	3,419.54	$6,839
Sink, single basin	5	EA	1,807.83	$9,039
Drinking fountain	2	EA	2,745.67	$5,491
Trench drain	150	LF	52.82	$7,923
Automatic sensor			457.30	
Water closet	13	EA	466.60	$6,066
Urinal	2	EA	469.38	$939
Lavatory, not used		NIC		
Miscellaneous fittings	18,000	SF	0.70	$12,548
Domestic water system				
Building entrance	1	LS	6,750.00	$6,750
Cold water piping, fittings and accessories	18,000	SF	1.58	$28,442
Hot water piping and fittings, insulation	18,000	SF	0.74	$13,384
Valve	18,000	SF	0.09	$1,673
Sanitary waste system, includes clean-outs	18,000	SF	1.53	$27,605

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sanitary vent system, includes vent through roofs	18,000	SF	1.35	$24,259
Roof drainage system	18,000	SF	1.16	$20,913
Indirect condensate drain system	18,000	SF	0.28	$5,019
Natural gas system	18,000	SF	0.93	$16,731
Commissioning, by owner		NOTE		
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	18,000	SF	0.65	$11,711
D20 PLUMBING SYSTEMS				**$261,980**
D30 HVAC SYSTEMS				
Equipment				
Heat and cool generating equipment	1	EA	11,618.44	$11,618
Air handling unit	20,250	CFM	5.53	$111,990
Dedicated AC units				
Computer/data room	1	EA	6,971.06	$6,971
Electrical/mechanical room	1	EA	3,717.90	$3,718
VAV terminals	20	EA	1,477.87	$29,557
Exhaust fans				
Building	18,000	SF	0.19	$3,346
Sound attenuation	18,000	SF	0.46	$8,365
Air distribution system				
Sheet metal ductwork, supports	19,800	LB	8.91	$176,365
Duct insulation	18,000	SF	2.32	$41,826
Flexible duct, supports	18,000	SF	0.46	$8,365
Chilled water distribution system	18,000	SF	3.49	$62,740
Hot water distribution system	18,000	SF	3.72	$66,922
Refrigeration piping system, specialties	1	LS	19,518.98	$19,519
Air inlets and outlets	18,000	SF	1.67	$30,115
Fire, smoke and manual dampers	18,000	SF	1.16	$20,913
Duct smoke detectors	18,000	SF	0.14	$2,510
Automatic temperature controls	18,000	SF	5.34	$96,201
Air/water balance, by an independent contractor	18,000	SF	1.07	$19,240

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Start-up, commission major equipment	18,000	SF	0.46	$8,365
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, duct	18,000	SF	0.74	$13,384
D30 HVAC SYSTEMS				**$742,030**
D40 FIRE PROTECTION SYSTEMS				
Automatic reprotection systems	18,000	SF	4.65	$83,653
D40 FIRE PROTECTION SYSTEMS				**$83,653**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	33,254.55	$33,255
Distribution board	18,000	SF	1.66	$29,929
Panel board	18,000	SF	3.52	$63,279
Transformer	18,000	SF	2.38	$42,756
Digital metering/surge protection	18,000	SF	1.19	$21,378
Building feeder	18,000	SF	3.80	$68,409
Emergency power	18,000	SF	1.43	$25,654
Building grounding system	18,000	SF	0.48	$8,551
Equipment connection including disconnect switch, conduit and conductors	18,000	SF	3.09	$55,583
Lighting system				
Fixtures	18,000	SF	10.45	$188,126
Branch wiring	18,000	SF	3.80	$68,409
Convenience power including branch wiring	18,000	SF	8.55	$153,921
Fire alarm system	18,000	SF	3.80	$68,409
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	18,000	SF	0.04	$684
Security system, no work anticipated		NOTE		
Commissioning, by owner				

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Miscellaneous including seismic bracing, identification and fire stop	18,000	SF	0.67	$11,972
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$840,315**
D5050 TELECOM				
Telephone and data system	18,000	SF	3.22	$57,999
Fiber optic system	18,000	SF	1.24	$22,307
Common raceway system	18,000	SF	2.27	$40,897
D5050 TELECOM				**$121,203**
D SERVICES				**$2,049,181**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				
Casework	18,000	SF	5.42	$97,595
E20 FURNISHINGS				**$97,595**
E EQUIPMENT AND FURNISHINGS				**$97,595**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	4,167	CY	12.33	$51,365
Backfill and compact	1,042	CY	13.03	$13,575
Engineered fill, backfill and compact, assumed 75%	3,125	CY	27.21	$85,043
Haul	3,125	CY	15.45	$48,291
G10 SITE PREPARATION				**$198,274**
G BUILDING SITEWORK				**$198,274**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$273,009	$16.52
B SHELL		$797,549	$48.27
C INTERIORS		$298,618	$18.07
D SERVICES		$1,166,610	$70.61
E EQUIPMENT AND FURNISHINGS		$42,660	$2.58
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$72,802	$4.41
NET DIRECT BUILDING COST		$2,651,248	$160.46
DESIGN CONTINGENCY	15.00%	$397,687	$24.07
SUBTOTAL		$3,048,935	$184.53
ESCALATION TO MIDPOINT 02/2023	7.08%	$215,966	$13.07
SUBTOTAL		$3,264,901	$197.60
GENERAL REQUIREMENTS	12.00%	$391,788	$23.71
SUBTOTAL		$3,656,690	$221.31
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$219,401	$13.28
SUBTOTAL		$3,876,091	$234.59
INSURANCE & BONDS	2.50%	$96,902	$5.86
TOTAL BUILDING COST		**$3,972,993**	**$240.45**

GROSS FLOOR AREA: 16,523 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$273,009	$16.52
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$458,667	$27.76
B20 EXTERIOR CLOSURE		$338,882	$20.51
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$207,055	$12.53
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$91,563	$5.54
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$133,594	$8.09
D30 HVAC SYSTEMS		$194,275	$11.76
D40 FIRE PROTECTION SYSTEMS		$76,789	$4.65
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$706,259	$42.74
D5050 TELECOM		$55,693	$3.37
E10 EQUIPMENT			
E20 FURNISHINGS		$42,660	$2.58
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$72,802	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$2,651,248	$160.46
DESIGN CONTINGENCY	15.00%	$397,687	$24.07
SUBTOTAL		$3,048,935	$184.53
ESCALATION TO MIDPOINT 02/2023	7.08%	$215,966	$13.07
SUBTOTAL		$3,264,901	$197.60
GENERAL REQUIREMENTS	12.00%	$391,788	$23.71
SUBTOTAL		$3,656,690	$221.31
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$219,401	$13.28
SUBTOTAL		$3,876,091	$234.59
INSURANCE & BONDS	2.50%	$96,902	$5.86
TOTAL BUILDING COST		**$3,972,993**	**$240.45**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	108	CY	707.77	$76,518
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	16,523	SF	11.35	$187,504
Miscellaneous				
Concrete curb	562	LF	15.08	$8,473
Control joint	562	LF	0.91	$514
A10 FOUNDATIONS				**$273,009**
A SUBSTRUCTURE				**$273,009**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
B2	16,523	SF	26.85	$443,667
Roof construction				
Fire protection, Allowance	1	LS	15,000.00	$15,000
B10 SUPERSTRUCTURE				**$458,667**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	7,860	SF	8.26	$64,939
Insulation, batt	7,860	SF	1.59	$12,501
Exterior sheathing	7,860	SF	2.58	$20,294
Exterior wall finish				
Metal panel siding	5,695	SF	21.60	$122,992
CMU wainscot	1,965	SF	16.55	$32,530
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	16,523	SF	1.55	$25,596
Exterior windows				
Storefront	200	SF	87.96	$17,592
Exterior doors				
Hollow metal including frame and hardware				
Single	3	EA	1,794.03	$5,382
Double	1	PR	3,293.99	$3,294

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sectional door	2	EA	6,582.59	$13,165
Motor operation	2	EA	2,581.88	$5,164
Miscellaneous				
Closer	5	EA	332.12	$1,661
Panic hardware	5	EA	754.33	$3,772
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$338,882**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building		NOTE		
B30 ROOFING				
B - SHELL				**$797,549**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	9,638	SF	6.71	$64,701
Furring	241	SF	3.87	$933
Insulation, batt	9,879	SF	1.59	$15,713
Gypsum board				
Taped and finished	19,759	SF	2.88	$56,884
Underlayment	2,964	SF	1.63	$4,846
Inside face of exterior wall, taped and finished	7,860	SF	4.06	$31,901
Interior doors				
Hollow metal including frame and hardware				
Single	9	EA	1,933.12	$17,398
Double	1	PR	3,293.99	$3,294
Miscellaneous				
Restroom accessories				
Partition, ADA	1	EA	1,367.90	$1,368
Urinal screen	1	EA	495.36	$495
Grab bar set	1	EA	216.89	$217
Paper towel dispenser	1	EA	739.46	$739
Soap dispenser	1	EA	89.08	$89
Toilet tissue, seat cover dispenser	1	EA	401.52	$402
Mirror	1	EA	73.99	$74
Coat hook, 48"	1	EA	139.42	$139
Signage	16,523	SF	0.48	$7,862
C10 INTERIOR CONSTRUCTION				**$207,055**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
C30 INTERIOR FINISHES				
Wall finishes				
Porcelain tile	690	SF	17.74	$12,252
Paint	23,476	SF	1.11	$25,965
Floor finishes				
Porcelain tile	261	SF	19.31	$5,040
Concrete, sealer	16,262	SF	1.51	$24,481
Ceiling finishes				
Hard lid	261	SF	10.85	$2,832
Exposed structure, paint	16,262	SF	1.29	$20,993
C30 INTERIOR FINISHES				**$91,563**
C INTERIORS				**$298,618**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	16,523	SF	0.70	$11,518
Fixture including rough-in				
Water closet (ADA)	1	EA	2,027.18	$2,027
Lavatory, wall mounted	1	EA	1,872.89	$1,873
Urinal	1	EA	2,201.00	$2,201
Service sink	1	EA	3,419.54	$3,420
Sink, single basin	2	EA	1,807.83	$3,616
Drinking fountain	1	EA	2,745.67	$2,746
Trench drain	85	LF	52.82	$4,490
Automatic sensor				
Water closet	1	EA	466.60	$467
Urinal	1	EA	469.38	$469
Lavatory, not used		NIC		
Miscellaneous fittings	16,523	SF	0.46	$7,679
Hose bibb	10	EA	297.24	$2,972
Domestic water system				
Building entrance	1	LS	3,600.00	$3,600
Cold water piping, fittings and accessories	16,523	SF	0.88	$14,590
Hot water piping and fittings, insulation	16,523	SF	0.51	$8,447
Valve	16,523	SF	0.09	$1,536
Sanitary waste system, includes clean-outs	16,523	SF	0.74	$12,286
Natural gas system	16,523	SF	1.70	$28,156

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sanitary vent system, includes vent through roofs	16,523	SF	0.84	$13,822
Commissioning, by owner				
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	16,523	SF	0.46	$7,679
D20 PLUMBING SYSTEMS				**$133,594**
D30 HVAC SYSTEMS				
Equipment				
Heaters, infrared	41	EA	2,044.85	$84,467
Exhaust fans				
Building	16,523	SF	0.19	$3,072
Sound attenuation	16,523	SF	0.46	$7,679
Air distribution system				
Flexible duct, exhaust fans	16,523	SF	0.46	$7,679
Air inlets and outlets, exhaust fans	16,523	SF	0.74	$12,286
Automatic temperature controls	16,523	SF	3.72	$61,431
Start-up, commission major equipment	16,523	SF	0.33	$5,375
Commissioning, by the owner		NOTE		
Miscellaneous including seismic bracing, duct	16,523	SF	0.74	$12,286
D30 HVAC SYSTEMS				**$194,275**
D40 FIRE PROTECTION SYSTEMS				
Wet systems	16,523	SF	4.65	$76,789
D40 FIRE PROTECTION SYSTEMS				**$76,789**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	30,940.58	$30,941
Distribution board	16,523	SF	1.69	$27,847
Panel board	16,523	SF	3.56	$58,876
Transformer	16,523	SF	2.41	$39,781
Digital metering/surge protection	16,523	SF	1.20	$19,890
Building feeder	16,523	SF	3.85	$63,649
Emergency power	16,523	SF	1.44	$23,868

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Building grounding system	16,523	SF	0.48	$7,956
Equipment connection including disconnect switch, conduit and conductors	16,523	SF	2.41	$39,781
Lighting system				
Fixtures	16,523	SF	8.19	$135,255
Branch wiring	16,523	SF	3.61	$59,671
Convenience power including branch wiring	16,523	SF	7.46	$123,320
Fire alarm system	16,523	SF	3.85	$63,649
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	16,523	SF	0.04	$636
Security system, no work anticipated		NOTE		
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, identification and fire stop	16,523	SF	0.67	$11,139
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$706,259**
D5050 TELECOM				
Telephone and data system	16,523	SF	2.41	$39,781
Fiber optic system	16,523	SF	0.96	$15,912
D5050 TELECOM				**$55,693**
D SERVICES				**$1,166,610**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				
Casework	16,523	SF	2.58	$42,660
E20 FURNISHINGS				**$42,660**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
E EQUIPMENT AND FURNISHINGS				**$42,660**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	1,530	CY	12.33	$18,860
Backfill and compact	382	CY	13.03	$4,985
Engineered fill, backfill and compact, assumed 75%	1,147	CY	27.21	$31,226
Haul	1,147	CY	15.45	$17,731
G10 SITE PREPARATION				**$72,802**
G BUILDING SITEWORK				**$72,802**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$209,293	$19.03
B SHELL		$665,613	$60.51
C INTERIORS		$223,254	$20.30
D SERVICES		$783,528	$71.23
E EQUIPMENT AND FURNISHINGS		$28,401	$2.58
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$48,466	$4.41
NET DIRECT BUILDING COST		$1,958,555	$178.05
DESIGN CONTINGENCY	15.00%	$293,783	$26.71
SUBTOTAL		$2,252,338	$204.76
ESCALATION TO MIDPOINT 02/2023	7.08%	$159,541	$14.50
SUBTOTAL		$2,411,879	$219.26
GENERAL REQUIREMENTS	12.00%	$289,425	$26.31
SUBTOTAL		$2,701,304	$245.57
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$162,078	$14.73
SUBTOTAL		$2,863,383	$260.31
INSURANCE & BONDS	2.50%	$71,585	$6.51
TOTAL BUILDING COST		**$2,934,967**	**$266.82**

GROSS FLOOR AREA: 11,000 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$209,293	$19.03
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$328,088	$29.83
B20 EXTERIOR CLOSURE		$337,525	$30.68
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$156,358	$14.21
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$66,896	$6.08
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$95,810	$8.71
D30 HVAC SYSTEMS		$129,335	$11.76
D40 FIRE PROTECTION SYSTEMS		$51,121	$4.65
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$470,185	$42.74
D5050 TELECOM		$37,077	$3.37
E10 EQUIPMENT			
E20 FURNISHINGS		$28,401	$2.58
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$48,466	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$1,958,555	$178.05
DESIGN CONTINGENCY	15.00%	$293,783	$26.71
SUBTOTAL		$2,252,338	$204.76
ESCALATION TO MIDPOINT 02/2023	7.08%	$159,541	$14.50
SUBTOTAL		$2,411,879	$219.26
GENERAL REQUIREMENTS	12.00%	$289,425	$26.31
SUBTOTAL		$2,701,304	$245.57
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$162,078	$14.73
SUBTOTAL		$2,863,383	$260.31
INSURANCE & BONDS	2.50%	$71,585	$6.51
TOTAL BUILDING COST		**$2,934,967**	**$266.82**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	108	CY	707.77	$76,518
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	11,000	SF	11.35	$124,828
Miscellaneous				
Concrete curb	497	LF	15.08	$7,493
Control joint	497	LF	0.91	$454
A10 FOUNDATIONS				**$209,293**
A SUBSTRUCTURE				**$209,293**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
B3	2,750	SF	28.92	$79,522
B4	2,750	SF	28.92	$79,522
B5	2,750	SF	28.92	$79,522
B6	2,750	SF	28.92	$79,522
B7, future work		NIC		
Roof construction				
Fire protection, Allowance	1	LS	10,000.00	$10,000
B10 SUPERSTRUCTURE				**$328,088**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	7,800	SF	8.26	$64,444
Insulation, batt	7,800	SF	1.59	$12,405
Exterior sheathing	7,800	SF	2.58	$20,139
Exterior wall finish				
Metal panel siding	5,650	SF	21.60	$122,020
CMU wainscot	1,950	SF	16.55	$32,282
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	11,000	SF	1.55	$17,040
Exterior windows				
Storefront	200	SF	87.96	$17,592

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Exterior doors				
Hollow metal including frame and hardware				
Single	3	EA	1,794.03	$5,382
Double	1	PR	3,293.99	$3,294
Sectional door	3	EA	6,582.59	$19,748
Motor operation	3	EA	2,581.88	$7,746
Miscellaneous				
Closer	5	EA	332.12	$1,661
Panic hardware	5	EA	754.33	$3,772
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$337,525**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building		NOTE		
B30 ROOFING				
B - SHELL				**$665,613**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	6,417	SF	6.71	$43,074
Furring	160	SF	3.87	$621
Insulation, batt	6,577	SF	1.59	$10,460
Gypsum board				
Taped and finished	13,154	SF	2.88	$37,870
Underlayment	1,973	SF	1.63	$3,226
Inside face of exterior wall, taped and finished	7,800	SF	4.06	$31,658
Interior doors				
Hollow metal including frame and hardware				
Single	9	EA	1,933.12	$17,398
Double	1	PR	3,293.99	$3,294
Miscellaneous				
Restroom accessories				
Partition, ADA	1	EA	1,367.90	$1,368
Urinal screen	1	EA	495.36	$495
Grab bar set	1	EA	216.89	$217
Paper towel dispenser	1	EA	739.46	$739
Soap dispenser	1	EA	89.08	$89
Toilet tissue, seat cover dispenser	1	EA	401.52	$402
Mirror	1	EA	73.99	$74

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Coat hook, 48"	1	EA	139.42	$139
Signage	11,000	SF	0.48	$5,234
C10 INTERIOR CONSTRUCTION				**$156,358**
C30 INTERIOR FINISHES				
Wall finishes				
Porcelain tile	524	SF	17.74	$9,295
Paint	17,811	SF	1.11	$19,699
Floor finishes				
Porcelain tile	261	SF	19.31	$5,040
Concrete, sealer	10,739	SF	1.51	$16,167
Ceiling finishes				
Hard lid	261	SF	10.85	$2,832
Exposed structure, paint	10,739	SF	1.29	$13,863
C30 INTERIOR FINISHES				**$66,896**
C INTERIORS				**$223,254**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	11,000	SF	0.70	$7,668
Fixture including rough-in				
Water closet (ADA)	1	EA	2,027.18	$2,027
Lavatory, wall mounted	1	EA	1,872.89	$1,873
Urinal	1	EA	2,201.00	$2,201
Service sink	1	EA	3,419.54	$3,420
Sink, single basin	3	EA	1,807.83	$5,423
Trench drain	65	LF	52.82	$3,433
Automatic sensor				
Water closet	1	EA	466.60	$467
Urinal	1	EA	469.38	$469
Lavatory, not used		NIC		
Miscellaneous fittings	11,000	SF	0.46	$5,112
Hose bibb	10	EA	297.24	$2,972
Domestic water system				
Building entrance	1	LS	3,150.00	$3,150
Cold water piping, fittings and accessories	11,000	SF	0.88	$9,713
Hot water piping and fittings, insulation	11,000	SF	0.51	$5,623
Valve	11,000	SF	0.09	$1,022

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sanitary waste system, includes clean-outs	11,000	SF	0.74	$8,179
Natural gas system	11,000	SF	1.70	$18,744
Sanitary vent system, includes vent through roofs	11,000	SF	0.84	$9,202
Commissioning, by owner				
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	11,000	SF	0.46	$5,112
D20 PLUMBING SYSTEMS				**$95,810**
D30 HVAC SYSTEMS				
Equipment				
Heaters, infrared	28	EA	2,044.85	$56,233
Exhaust fans				
Building	11,000	SF	0.19	$2,045
Sound attenuation	11,000	SF	0.46	$5,112
Air distribution system				
Flexible duct, exhaust fans	11,000	SF	0.46	$5,112
Air inlets and outlets, exhaust fans	11,000	SF	0.74	$8,179
Automatic temperature controls	11,000	SF	3.72	$40,897
Start-up, commission major equipment	11,000	SF	0.33	$3,578
Commissioning, by the owner		NOTE		
Miscellaneous including seismic bracing, duct	11,000	SF	0.74	$8,179
D30 HVAC SYSTEMS				**$129,335**
D40 FIRE PROTECTION SYSTEMS				
Wet systems	11,000	SF	4.65	$51,121
D40 FIRE PROTECTION SYSTEMS				**$51,121**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	20,598.34	$20,598
Distribution board	11,000	SF	1.69	$18,539
Panel board	11,000	SF	3.56	$39,196
Transformer	11,000	SF	2.41	$26,484
Digital metering/surge protection	11,000	SF	1.20	$13,242

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Building feeder	11,000	SF	3.85	$42,374
Emergency power	11,000	SF	1.44	$15,890
Building grounding system	11,000	SF	0.48	$5,297
Equipment connection including disconnect switch, conduit and conductors	11,000	SF	2.41	$26,484
Lighting system				
Fixtures	11,000	SF	8.19	$90,044
Branch wiring	11,000	SF	3.61	$39,725
Convenience power including branch wiring	11,000	SF	7.46	$82,099
Fire alarm system	11,000	SF	3.85	$42,374
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	11,000	SF	0.04	$424
Security system, no work anticipated		NOTE		
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, identification and fire stop	11,000	SF	0.67	$7,415
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$470,185**
D5050 TELECOM				
Telephone and data system	11,000	SF	2.41	$26,484
Fiber optic system	11,000	SF	0.96	$10,593
D5050 TELECOM				**$37,077**
D SERVICES				**$783,528**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Casework	11,000	SF	2.58	$28,401
E20 FURNISHINGS				**$28,401**
E EQUIPMENT AND FURNISHINGS				**$28,401**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	1,019	CY	12.33	$12,556
Backfill and compact	255	CY	13.03	$3,318
Engineered fill, backfill and compact, assumed 75%	764	CY	27.21	$20,788
Haul	764	CY	15.45	$11,804
G10 SITE PREPARATION				**$48,466**
G BUILDING SITEWORK				**$48,466**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$212,070	$21.19
B SHELL		$389,014	$38.86
C INTERIORS		$6,466	$0.65
D SERVICES		$51,690	$5.16
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$44,105	$4.41
NET DIRECT BUILDING COST		$703,345	$70.26
DESIGN CONTINGENCY	15.00%	$105,502	$10.54
SUBTOTAL		$808,847	$80.80
ESCALATION TO MIDPOINT 02/2023	7.08%	$57,293	$5.72
SUBTOTAL		$866,140	$86.53
GENERAL REQUIREMENTS	12.00%	$103,937	$10.38
SUBTOTAL		$970,077	$96.91
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$58,205	$5.81
SUBTOTAL		$1,028,281	$102.73
INSURANCE & BONDS	2.50%	$25,707	$2.57
TOTAL BUILDING COST		**$1,053,989**	**$105.29**

GROSS FLOOR AREA: 10,010 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$212,070	$21.19
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$301,959	$30.17
B20 EXTERIOR CLOSURE		$87,055	$8.70
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$6,466	$0.65
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$51,690	$5.16
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$44,105	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$703,345	$70.26
DESIGN CONTINGENCY	15.00%	$105,502	$10.54
SUBTOTAL		$808,847	$80.80
ESCALATION TO MIDPOINT 02/2023	7.08%	$57,293	$5.72
SUBTOTAL		$866,140	$86.53
GENERAL REQUIREMENTS	12.00%	$103,937	$10.38
SUBTOTAL		$970,077	$96.91
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$58,205	$5.81
SUBTOTAL		$1,028,281	$102.73
INSURANCE & BONDS	2.50%	$25,707	$2.57
TOTAL BUILDING COST		**$1,053,989**	**$105.29**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	119	CY	707.77	$83,989
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	10,010	SF	11.35	$113,594
Miscellaneous				
Concrete curb	906	LF	15.08	$13,659
Control joint	906	LF	0.91	$828
A10 FOUNDATIONS				**$212,070**
A SUBSTRUCTURE				**$212,070**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
S1	1,890	SF	28.92	$54,653
S2	1,890	SF	28.92	$54,653
S3	1,890	SF	28.92	$54,653
S4	2,240	SF	28.92	$64,774
S5	2,100	SF	28.92	$60,726
Roof construction				
Fire protection, Allowance	1	LS	12,500.00	$12,500
B10 SUPERSTRUCTURE				**$301,959**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	1,593	SF	8.26	$13,161
Exterior wall finish				
Vertical metal siding	1,593	SF	30.37	$48,387
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	10,010	SF	1.55	$15,507
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$87,055**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered		NOTE		

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
building				
B30 ROOFING				
B - SHELL				**$389,014**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Gypsum board				
Inside face of exterior wall, taped and finished	1,593	SF	4.06	$6,466
C10 INTERIOR CONSTRUCTION				**$6,466**
C INTERIORS				**$6,466**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	10,010	SF	2.58	$25,845
Branch wiring	10,010	SF	1.03	$10,338
Convenience power connections including branch wiring	10,010	SF	1.55	$15,507
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$51,690**
D SERVICES				**$51,690**
E EQUIPMENT AND FURNISHINGS				

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	927	CY	12.33	$11,426
Backfill and compact	232	CY	13.03	$3,020
Engineered fill, backfill and compact, assumed 75%	695	CY	27.21	$18,917
Haul	695	CY	15.45	$10,742
G10 SITE PREPARATION				**$44,105**
G BUILDING SITEWORK				**$44,105**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$164,399	$18.07
B SHELL		$375,317	$41.24
C INTERIORS		$25,447	$2.80
D SERVICES		$46,990	$5.16
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$44,401	$4.88
NET DIRECT BUILDING COST		$656,554	$72.15
DESIGN CONTINGENCY	15.00%	$98,483	$10.82
SUBTOTAL		$755,037	$82.97
ESCALATION TO MIDPOINT 02/2023	7.08%	$53,482	$5.88
SUBTOTAL		$808,519	$88.85
GENERAL REQUIREMENTS	12.00%	$97,022	$10.66
SUBTOTAL		$905,541	$99.51
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$54,332	$5.97
SUBTOTAL		$959,874	$105.48
INSURANCE & BONDS	2.50%	$23,997	$2.64
TOTAL BUILDING COST		**$983,870**	**$108.12**

GROSS FLOOR AREA: 9,100 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$164,399	$18.07
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$89,571	$9.84
B20 EXTERIOR CLOSURE		$111,784	$12.28
B30 ROOFING		$173,962	$19.12
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$25,447	$2.80
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$46,990	$5.16
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$40,095	$4.41
G20 SITE IMPROVEMENTS		$4,306	$0.47
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$656,554	$72.15
DESIGN CONTINGENCY	15.00%	$98,483	$10.82
SUBTOTAL		$755,037	$82.97
ESCALATION TO MIDPOINT 02/2023	7.08%	$53,482	$5.88
SUBTOTAL		$808,519	$88.85
GENERAL REQUIREMENTS	12.00%	$97,022	$10.66
SUBTOTAL		$905,541	$99.51
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$54,332	$5.97
SUBTOTAL		$959,874	$105.48
INSURANCE & BONDS	2.50%	$23,997	$2.64
TOTAL BUILDING COST		**$983,870**	**$108.12**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	72	CY	707.77	$50,802
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	9,100	SF	11.35	$103,267
Miscellaneous				
Concrete curb	646	LF	15.08	$9,739
Control joint	646	LF	0.91	$591
A10 FOUNDATIONS				**$164,399**
A SUBSTRUCTURE				**$164,399**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
S8	900	SF	28.92	$26,025
Roof construction				
Fire protection, Allowance	1	LS	8,500.00	$8,500
Structural steel for S12 & S13	8,200	SF	6.71	$55,046
B10 SUPERSTRUCTURE				**$89,571**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	2,442	SF	8.26	$20,176
Insulation, batt	2,442	SF	1.59	$3,884
Exterior wall finish				
Vertical metal siding	2,442	SF	30.37	$74,175
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	9,100	SF	0.77	$7,049
Miscellaneous work, Allowance	1	LS	6,500.00	$6,500
B20 EXTERIOR CLOSURE				**$111,784**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building S8		NOTE		

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Roof covering for S12 & S13	8,200	SF	21.21	$173,962
B30 ROOFING				**$173,962**
B - SHELL				**$375,317**
C INTERIORS				
C30 INTERIOR FINISHES				
Floor finishes				
Concrete, sealer	9,100	SF	1.51	$13,699
Ceiling finishes				
Exposed structure, paint	9,100	SF	1.29	$11,748
C30 INTERIOR FINISHES				**$25,447**
C INTERIORS				**$25,447**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	9,100	SF	2.58	$23,495
Branch wiring	9,100	SF	1.03	$9,398
Convenience power connections including branch wiring	9,100	SF	1.55	$14,097
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$46,990**
D SERVICES				**$46,990**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	843	CY	12.33	$10,387
Backfill and compact	211	CY	13.03	$2,745
Engineered fill, backfill and compact, assumed 75%	632	CY	27.21	$17,198
Haul	632	CY	15.45	$9,765
G10 SITE PREPARATION				**$40,095**
G20 SITE IMPROVEMENTS				
Double leaf gates	2	EA	2,153.01	$4,306
G20 SITE IMPROVEMENTS				**$4,306**
G BUILDING SITEWORK				**$44,401**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$21,206	$24.43
B SHELL		$142,732	$164.44
C INTERIORS		$7,386	$8.51
D SERVICES		$4,482	$5.16
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$3,824	$4.41
NET DIRECT BUILDING COST		$179,630	$206.95
DESIGN CONTINGENCY	15.00%	$26,945	$31.04
SUBTOTAL		$206,575	$237.99
ESCALATION TO MIDPOINT 02/2023	7.08%	$14,632	$16.86
SUBTOTAL		$221,207	$254.85
GENERAL REQUIREMENTS	12.00%	$26,545	$30.58
SUBTOTAL		$247,752	$285.43
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$14,865	$17.13
SUBTOTAL		$262,617	$302.55
INSURANCE & BONDS	2.50%	$6,565	$7.56
TOTAL BUILDING COST		**$269,182**	**$310.12**

GROSS FLOOR AREA: 868 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$21,206	$24.43
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$27,285	$31.43
B20 EXTERIOR CLOSURE		$98,060	$112.97
B30 ROOFING		$17,387	$20.03
C10 INTERIOR CONSTRUCTION		$3,896	$4.49
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$3,490	$4.02
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$4,482	$5.16
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$3,824	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$179,630	$206.95
DESIGN CONTINGENCY	15.00%	$26,945	$31.04
SUBTOTAL		$206,575	$237.99
ESCALATION TO MIDPOINT 02/2023	7.08%	$14,632	$16.86
SUBTOTAL		$221,207	$254.85
GENERAL REQUIREMENTS	12.00%	$26,545	$30.58
SUBTOTAL		$247,752	$285.43
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$14,865	$17.13
SUBTOTAL		$262,617	$302.55
INSURANCE & BONDS	2.50%	$6,565	$7.56
TOTAL BUILDING COST		**$269,182**	**$310.12**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Footing, assembly	13	CY	707.77	$9,437
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	868	SF	11.35	$9,850
Miscellaneous				
Concrete curb	120	LF	15.08	$1,809
Control joint	120	LF	0.91	$110
A10 FOUNDATIONS				**$21,206**
A SUBSTRUCTURE				**$21,206**
B SHELL				
B10 SUPERSTRUCTURE				
Floor construction				
Structural steel				
Wide flange	2	TON	4,647.38	$9,295
Piping and tube steel	1	TON	5,680.13	$4,314
Fire protection	3	TON	309.83	$855
Connection, Allowance	1	LS	2,581.88	$2,582
Roof construction				
Structural steel				
Wide flange	1	TON	4,647.38	$4,647
Fire protection	1	TON	309.83	$310
Connection, Allowance	1	LS	2,581.88	$2,582
Metal deck, 1 1/2"	868	SF	3.11	$2,700
B10 SUPERSTRUCTURE				**$27,285**
B20 EXTERIOR CLOSURE				
Exterior walls				
Concrete reinforced wall, 8' high, assembly	960	SF	42.97	$41,248
Framing, metal stud	960	SF	8.26	$7,932
Insulation, batt	960	SF	1.32	$1,264
Exterior sheathing	960	SF	2.58	$2,479
Exterior wall finish				
Vertical metal siding	960	SF	30.37	$29,160
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	868	SF	1.55	$1,345
Exterior doors				

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Hollow metal including frame and hardware				
Double	1	PR	3,293.99	$3,294
Sectional door	1	EA	6,582.59	$6,583
Motor operation	1	EA	2,581.88	$2,582
Miscellaneous				
Closer	2	EA	332.12	$664
Panic hardware	2	EA	754.33	$1,509
B20 EXTERIOR CLOSURE				**$98,060**
B30 ROOFING				
Roof coverings				
TPO roofing	868	SF	5.72	$4,968
Membrane underlayment	868	SF	3.08	$2,670
Felt underlayment	868	SF	0.94	$818
Rigid insulation	868	SF	4.08	$3,543
Tapered premium	286	SF	2.16	$619
Cant strip	120	LF	2.43	$292
Walk pad, assume 5% of roof area	43	SF	5.76	$250
Flashing and sheet metal				
Reglet	120	LF	5.19	$623
Flashing	120	LF	8.20	$984
Coping, aluminum	120	LF	21.83	$2,620
B30 ROOFING				**$17,387**
B - SHELL				**$142,732**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Gypsum board				
Inside face of exterior wall, taped and finished	960	SF	4.06	$3,896
C10 INTERIOR CONSTRUCTION				**$3,896**
C30 INTERIOR FINISHES				
Wall finishes				
Paint	960	SF	1.11	$1,062
Floor finishes				
Concrete, sealer	868	SF	1.51	$1,307
Ceiling finishes				
Exposed structure, paint	868	SF	1.29	$1,121
C30 INTERIOR FINISHES				**$3,490**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
C INTERIORS				**$7,386**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	868	SF	2.58	$2,241
Branch wiring	868	SF	1.03	$896
Convenience power connections including branch wiring	868	SF	1.55	$1,345
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$4,482**
D SERVICES				**$4,482**
E EQUIPMENT AND FURNISHINGS				
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	80	CY	12.33	$991
Backfill and compact	20	CY	13.03	$262
Engineered fill, backfill and compact, assumed 75%	60	CY	27.21	$1,640
Haul	60	CY	15.45	$931
G10 SITE PREPARATION				**$3,824**
G BUILDING SITEWORK				**$3,824**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$20,891	$13.06
B SHELL		$59,209	$37.01
C INTERIORS			
D SERVICES		$91,089	$56.93
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$45,787	$28.62
NET DIRECT BUILDING COST		$216,976	$135.61
DESIGN CONTINGENCY	15.00%	$32,546	$20.34
SUBTOTAL		$249,522	$155.95
ESCALATION TO MIDPOINT 02/2023	7.08%	$17,675	$11.05
SUBTOTAL		$267,197	$167.00
GENERAL REQUIREMENTS	12.00%	$32,064	$20.04
SUBTOTAL		$299,261	$187.04
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$17,956	$11.22
SUBTOTAL		$317,216	$198.26
INSURANCE & BONDS	2.50%	$7,930	$4.96
TOTAL BUILDING COST		**$325,147**	**$203.22**

GROSS FLOOR AREA: 1,600 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$20,891	$13.06
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$24,941	$15.59
B20 EXTERIOR CLOSURE			
B30 ROOFING		$34,268	$21.42
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$67,129	$41.96
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$23,960	$14.98
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$7,050	$4.41
G20 SITE IMPROVEMENTS		$31,671	$19.79
G30 SITE CIVIL/MECHANICAL UTILITIES		$7,066	$4.42
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$216,976	$135.61
DESIGN CONTINGENCY	15.00%	$32,546	$20.34
SUBTOTAL		$249,522	$155.95
ESCALATION TO MIDPOINT 02/2023	7.08%	$17,675	$11.05
SUBTOTAL		$267,197	$167.00
GENERAL REQUIREMENTS	12.00%	$32,064	$20.04
SUBTOTAL		$299,261	$187.04
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$17,956	$11.22
SUBTOTAL		$317,216	$198.26
INSURANCE & BONDS	2.50%	$7,930	$4.96
TOTAL BUILDING COST		**$325,147**	**$203.22**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	1,600	SF	11.35	$18,157
Miscellaneous				
Concrete curb	171	LF	15.08	$2,578
Control joint	171	LF	0.91	$156
A10 FOUNDATIONS				**$20,891**
A SUBSTRUCTURE				**$20,891**
B SHELL				
B10 SUPERSTRUCTURE				
Free standing roof structure, including delivery, foundation, erection				
S11	1,600	SF	10.28	$16,441
Roof construction				
Fire protection, Allowance	1	LS	8,500.00	$8,500
B10 SUPERSTRUCTURE				**$24,941**
B30 ROOFING				
Roof coverings				
Standing seam metal roof, steel	1,600	SF	21.42	$34,268
B30 ROOFING				**$34,268**
B - SHELL				**$59,209**
D SERVICES				
D20 PLUMBING SYSTEMS				
Fuel tank, above ground				
Gasoline, 2,000 gallon	1	EA	25,818.75	$25,819
Diesel, 2,000 gallon	1	EA	25,818.75	$25,819
Pump	2	EA	7,745.63	$15,491
D20 PLUMBING SYSTEMS				**$67,129**
D30 HVAC SYSTEMS				

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	1,600	SF	2.58	$4,131
Branch wiring	1,600	SF	1.03	$1,652
Convenience power connections including cabling	1,600	SF	6.71	$10,741
Emergency power	1,600	SF	4.65	$7,436
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$23,960**
D SERVICES				**$91,089**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	148	CY	12.33	$1,826
Backfill and compact	37	CY	13.03	$483
Engineered fill, backfill and compact, assumed 75%	111	CY	27.21	$3,024
Haul	111	CY	15.45	$1,717
G10 SITE PREPARATION				**$7,050**
G20 SITE IMPROVEMENTS				
Hardscape				
Asphaltic concrete paving	4,350	SF	3.48	$15,138
Base	4,350	SF	2.25	$9,783
Concrete sidewalk	713	SF	7.22	$5,146
Base	713	SF	2.25	$1,604
G20 SITE IMPROVEMENTS				**$31,671**
G30 SITE CIVIL/MECHANICAL UTILITIES				
Storm water service, Allowance	1,600	SF	1.29	$2,066
Gas system	1	LS	5,000.00	$5,000
G30 SITE CIVIL/MECHANICAL UTILITIES				**$7,066**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				**$45,787**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

SITE SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE			
B SHELL			
C INTERIORS			
D SERVICES			
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$5,907,740	$12.83
NET DIRECT SITE COST		$5,907,740	$12.83
DESIGN CONTINGENCY	15.00%	$886,161	$1.92
SUBTOTAL		$6,793,901	$14.75
ESCALATION TO MIDPOINT 02/2023	7.08%	$481,235	$1.05
SUBTOTAL		$7,275,136	$15.80
GENERAL REQUIREMENTS	12.00%	$873,016	$1.90
SUBTOTAL		$8,148,152	$17.69
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$488,889	$1.06
SUBTOTAL		$8,637,041	$18.76
INSURANCE & BONDS	2.50%	$215,926	$0.47
TOTAL SITE COST		**$8,852,967**	**$19.22**

TOTAL SITE AREA: 460,500 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SITE SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS			
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE			
B20 EXTERIOR CLOSURE			
B30 ROOFING			
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)			
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$594,477	$1.29
G20 SITE IMPROVEMENTS		$3,447,865	$7.49
G30 SITE CIVIL/MECHANICAL UTILITIES		$987,672	$2.14
G40 SITE ELECTRICAL UTILITIES		$877,726	$1.91
G90 OTHER SITE CONSTRUCTION			
NET DIRECT SITE COST		$5,907,740	$12.83
DESIGN CONTINGENCY	15.00%	$886,161	$1.92
SUBTOTAL		$6,793,901	$14.75
ESCALATION TO MIDPOINT 02/2023	7.08%	$481,235	$1.05
SUBTOTAL		$7,275,136	$15.80
GENERAL REQUIREMENTS	12.00%	$873,016	$1.90
SUBTOTAL		$8,148,152	$17.69
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$488,889	$1.06
SUBTOTAL		$8,637,041	$18.76
INSURANCE & BONDS	2.50%	$215,926	$0.47
TOTAL SITE COST		**$8,852,967**	**$19.22**

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Site clearing, removal and disposal of bush, turf, trees	460,500	SF	1.29	$594,477
G10 SITE PREPARATION				**$594,477**
G20 SITE IMPROVEMENTS				
Site improvements				
Hardscape				
Asphaltic concrete paving				
Drive lanes	198,240	SF	6.43	$1,274,695
Parking lot	82,650	SF	3.48	$287,613
Lay down area and sumped refuse area	8,496	SF	2.45	$20,791
Base	289,386	SF	2.25	$650,824
Concrete sidewalk	13,447	SF	7.22	$97,059
Base	13,447	SF	2.25	$30,242
Ramp, premium	5,664	SF	11.54	$65,359
Generator pad	175	SF	20.66	$3,615
Concrete curb	7,125	LF	15.08	$107,418
Striped parking stall, standard	222	EA	15.40	$3,419
Landscape				
Landscape area	31,152	SF	5.10	$158,780
Irrigation, plant area	31,152	SF	3.25	$101,313
Mulch, wood chips	31,152	SF	0.59	$18,504
Generator and fuel tank enclosure				
Matt footing, assembly	8	CY	646.97	$5,176
Galvanized steel canopy	924	SF	25.82	$23,857
Chain link fence	248	LF	34.56	$8,571
Gate	2	EA	1,688.27	$3,377
Security fence, steel bar, 8'	2,550	LF	87.78	$223,849
Sliding gate	4	EA	9,811.13	$39,245
Card reader access	4	EA	2,581.88	$10,328
Architectural screen walls				
CMU, 8" thick, filled and reinforced	3,700	SF	17.48	$64,687
Continuous footing, assembly	67	CY	646.97	$43,131
Retaining wall, assembly	2,800	SF	42.97	$120,307
Monumental sign	1	EA	15,000.00	$15,000
Site signage	460,500	SF	0.05	$23,779

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Bicycle rack	2	EA	761.51	$1,523
Bench seat, including concrete footings	2	EA	1,549.13	$3,098
Concrete filled, steel bollard	50	EA	846.09	$42,305
G20 SITE IMPROVEMENTS				**$3,447,865**
G30 SITE CIVIL/MECHANICAL UTILITIES				
Fire water service				
Connect to existing service, at site	1	LS	1,685.45	$1,685
Fire hydrant	3	EA	6,989.65	$20,969
Post indicator valve, Allowance	1	EA	2,478.60	$2,479
Fire department connection	1	EA	3,532.01	$3,532
Pipe and fittings, including trench and backfill, PVC, C900	2,525	LF	80.68	$203,713
Thrust block	2	EA	724.21	$1,448
Domestic water service				
Connect to existing service, at site	1	LS	508.11	$508
Premium for hot tap	1	EA	2,738.85	$2,739
Water meter, assume by Utility Company		NIC		
Pipe and fittings, including trench and backfill, PVC, C900	1,724	LF	35.94	$61,955
Thrust block	2	EA	303.63	$607
Sanitary sewer service				
Connect to existing service, at site	1	LS	941.87	$942
Man hole	6	EA	5,886.68	$35,320
Pipe and fittings, including trench and backfill, cast iron	1,443	LF	127.03	$183,334
Storm water service				
Drain inlet				
Area drain inlet	15	EA	291.06	$4,366
Precast	1	EA	1,559.45	$1,559
Pipe and fittings, PVC SDR-35 , including trench and backfill				
12"	5,049	LF	82.84	$418,202
Clean-out	15	EA	691.94	$10,379
Natural gas system				
Connect to existing gas main at site	1	EA	743.58	$744
Pipe and fittings, Black steel, Sch. 40, 2", including trench and backfill	741	LF	44.79	$33,191
G30 SITE CIVIL/MECHANICAL UTILITIES				**$987,672**
G40 SITE ELECTRICAL UTILITIES				
Electrical				
Primary power				
Connect to existing MW/HV campus grid	1	LS	15,491.25	$15,491

FEASIBILITY STUDY COST ESTIMATE - SITE #1

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Duct bank	2,525	LF	62.27	$157,244
Conductor	2,525	LF	103.28	$260,769
Emergency generator	1	EA	63,627.73	$63,628
Grounding	1	EA	929.48	$929
Lighting system, including conduit and wire, trenching				
Parking lot light fixture, Allowance	30	EA	5,680.13	$170,404
Pedestal light	20	EA	2,581.88	$51,638
Wall mounted LED fixture	25	SF	1,549.13	$38,728
Miscellaneous site power	460,500	SF	0.26	$118,895
G40 SITE ELECTRICAL UTILITIES				**$877,726**
G BUILDING SITEWORK				**$5,907,740**

City of Federal Way
Operations and Maintenance Facility Development

Federal Way, WA

Helix Design Group
FEASIBILITY STUDY COST ESTIMATE - SITE #2
OCMI JOB #: 20379.000
17 September 2021

OC INSIGHT

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

COST ESTIMATE

INTRODUCTORY NOTES

This estimate is based on verbal direction from the client and the following items, received 09 June 2021

Feasibility Report - Site 02 21 sheets

The following items are excluded from this estimate:

- Professional fees.
- Building permits and fees.
- Inspections and tests.
- Installation of owner furnished equipment.
- Construction change order contingency.
- Overtime.
- Hazardous material abatement/removal.
- Items referenced as NOT INCLUDED or NIC in estimate.

The midpoint of construction of February 2023 is based on:

- Construction start date of May 2022
- Estimated construction duration of 18 months

- This estimate is based on a Design-Bid-Build delivery method.
- This estimate is based on prevailing wage labor rates.
- This estimate is based on a detailed measurement of quantities. We have made allowances for items that were not clearly defined in the drawings. The client should verify these allowances.
- This estimate is based on a minimum of four competitive bids and a stable bidding market.
- This estimate should be updated if more definitive information becomes available, or if there is any change in scope.
- We strongly advise the client to review this estimate in detail. If any interpretations in this estimate appear to differ from those intended by the design documents, they should be addressed immediately.

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

PROJECT SUMMARY

ELEMENT	TOTAL COST	GFA	$/SF AREA
01. OPERATIONS BUILDING - B1	$7,839,480	18,000	$435.53
02. FLEET MAINTENANCE - B2	$3,972,993	16,523	$240.45
03. BAYS BUILDING - B3-B6	$2,934,967	11,000	$266.82
04. ENCLOSED STORAGE BUILDINGS - S1-S5	$1,053,989	10,010	$105.29
05. COVERED MATERIAL STORAGE STRUCTURES - S8, S12 & S13	$983,870	9,100	$108.12
06. BRINE BUILDING - S9	$269,182	868	$310.12
07. FUELING STATION - S11	$325,147	1,600	$203.22
08. SITE WORK	$11,254,034	570,000	$19.74
08. SALT SAND BINS - S10, ASPHALT SLAB ONLY	$85,417	7,600	$11.24
TOTAL CONSTRUCTION COST	**$28,719,078**		

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED PROJECT SUMMARY

ELEMENT	TOTAL COST	GFA	$/SF AREA
01. OPERATIONS BUILDING - B1	$5,231,422	18,000	$290.63
02. FLEET MAINTENANCE - B2	$2,651,248	16,523	$160.46
03. BAYS BUILDING - B3-B6	$1,958,555	11,000	$178.05
04. ENCLOSED STORAGE BUILDINGS - S1-S5	$703,345	10,010	$70.26
05. COVERED MATERIAL STORAGE STRUCTURES - S8, S12 & S13	$656,554	9,100	$72.15
06. BRINE BUILDING - S9	$179,630	868	$206.95
07. FUELING STATION - S11	$216,976	1,600	$135.61
08. SITE WORK	$7,510,014	570,000	$13.18
08. SALT SAND BINS - S10, ASPHALT SLAB ONLY	$57,000	7,600	$7.50
TOTAL NET DIRECT COST	**$19,164,744**		

GENERAL MARKUPS

DESIGN CONTINGENCY	15.00%	$2,874,712
ESCALATION TO MIDPOINT 02/2023	7.08%	$1,561,128
GENERAL REQUIREMENTS	12.00%	$2,832,070
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$1,585,959
INSURANCE & BONDS	2.50%	$700,465
TOTAL CONSTRUCTION COST		**$28,719,078**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$301,178	$16.73
B SHELL		$1,648,978	$91.61
C INTERIORS		$936,216	$52.01
D SERVICES		$2,049,181	$113.84
E EQUIPMENT AND FURNISHINGS		$97,595	$5.42
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$198,274	$11.02
NET DIRECT BUILDING COST		$5,231,422	$290.63
DESIGN CONTINGENCY	15.00%	$784,713	$43.60
SUBTOTAL		$6,016,135	$334.23
ESCALATION TO MIDPOINT 02/2023	7.08%	$426,143	$23.67
SUBTOTAL		$6,442,278	$357.90
GENERAL REQUIREMENTS	12.00%	$773,073	$42.95
SUBTOTAL		$7,215,352	$400.85
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$432,921	$24.05
SUBTOTAL		$7,648,273	$424.90
INSURANCE & BONDS	2.50%	$191,207	$10.62
TOTAL BUILDING COST		**$7,839,480**	**$435.53**

GROSS FLOOR AREA: 18,000 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$301,178	$16.73
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$626,445	$34.80
B20 EXTERIOR CLOSURE		$743,896	$41.33
B30 ROOFING		$278,637	$15.48
C10 INTERIOR CONSTRUCTION		$459,204	$25.51
C20 STAIRWAYS		$4,102	$0.23
C30 INTERIOR FINISHES		$472,910	$26.27
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$261,980	$14.55
D30 HVAC SYSTEMS		$742,030	$41.22
D40 FIRE PROTECTION SYSTEMS		$83,653	$4.65
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$840,315	$46.68
D5050 TELECOM		$121,203	$6.73
E10 EQUIPMENT			
E20 FURNISHINGS		$97,595	$5.42
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$198,274	$11.02
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$5,231,422	$290.63
DESIGN CONTINGENCY	15.00%	$784,713	$43.60
SUBTOTAL		$6,016,135	$334.23
ESCALATION TO MIDPOINT 02/2023	7.08%	$426,143	$23.67
SUBTOTAL		$6,442,278	$357.90
GENERAL REQUIREMENTS	12.00%	$773,073	$42.95
SUBTOTAL		$7,215,352	$400.85
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$432,921	$24.05
SUBTOTAL		$7,648,273	$424.90
INSURANCE & BONDS	2.50%	$191,207	$10.62
TOTAL BUILDING COST		**$7,839,480**	**$435.53**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	83	CY	707.77	$58,627
Spread footing, assembly	30	CY	643.15	$19,056
Special foundation				
Grade beam, assembly	5	CY	821.04	$3,801
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	18,000	SF	11.35	$204,265
Topping slab	900	SF	7.23	$6,506
Miscellaneous				
Concrete curb	558	LF	15.08	$8,413
Control joint	558	LF	0.91	$510
A10 FOUNDATIONS				**$301,178**
A SUBSTRUCTURE				**$301,178**
B SHELL				
B10 SUPERSTRUCTURE				
Floor construction				
Structural steel				
Wide flange	45	TON	4,647.38	$209,132
Piping and tube steel	16	TON	5,680.13	$89,462
Miscellaneous steel, including angles and channels	9	TON	9,036.56	$82,346
Fire protection	70	TON	309.83	$21,645
Moment connection, Allowance	1	LS	25,000.00	$25,000
Anchor and baseplate	25	EA	609.15	$15,229
Roof construction				
Structural steel				
Wide flange	11	TON	4,647.38	$52,283
Piping and tube steel	3	TON	5,680.13	$15,336
Miscellaneous steel, including angles and channels	2	TON	9,036.56	$18,909
Fire protection	16	TON	309.83	$4,970
Moment connection, Allowance	1	LS	25,818.75	$25,819
Anchors and baseplates, Allowance	1	LS	10,327.50	$10,328
Metal deck, 1 1/2"	18,000	SF	3.11	$55,986
B10 SUPERSTRUCTURE				**$626,445**
B20 EXTERIOR CLOSURE				
Exterior walls				

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Framing, metal stud	16,180	SF	8.26	$133,679
Insulation, batt	16,180	SF	1.59	$25,733
Exterior sheathing	16,180	SF	2.58	$41,775
Exterior wall finish				
Metal panel siding	10,598	SF	21.60	$228,877
CMU wainscot	4,045	SF	16.55	$66,964
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	18,000	SF	2.87	$51,638
Exterior windows				
Storefront	1,537	SF	87.96	$135,201
Exterior doors				
Aluminum fully glazed including frame and hardware				
Double	3	PR	5,155.19	$15,466
Hollow metal including frame and hardware				
Single	8	EA	1,794.03	$14,352
Miscellaneous				
Closer	14	EA	332.12	$4,650
Panic hardware	14	EA	754.33	$10,561
Miscellaneous work, Allowance	1	LS	15,000.00	$15,000
B20 EXTERIOR CLOSURE				**$743,896**
B30 ROOFING				
Roof coverings				
TPO roofing	18,000	SF	5.72	$103,025
Membrane underlayment	18,000	SF	3.08	$55,367
Rigid insulation	18,000	SF	4.08	$73,465
Tapered premium	5,940	SF	2.16	$12,844
Cant strip	558	LF	2.43	$1,356
Walk pad, assume 5% of roof area	900	SF	5.76	$5,180
Flashing and sheet metal				
Reglet	558	LF	5.19	$2,897
Flashing	558	LF	8.20	$4,574
Coping, aluminum	558	LF	21.83	$12,183
Roof openings				
Access hatch/skylights, Allowance	1	LS	7,745.63	$7,746
B30 ROOFING				**$278,637**
B - SHELL				**$1,648,978**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	19,252	SF	6.71	$129,240
Furring	481	SF	3.87	$1,864
Cementitious backerboard	682	SF	3.87	$2,636
Insulation, batt	19,734	SF	1.59	$31,385
Gypsum board				
Taped and finished	39,468	SF	2.88	$113,623
Underlayment	5,920	SF	1.63	$9,679
Inside face of exterior wall, taped and finished	16,180	SF	4.06	$65,670
Interior doors				
Hollow metal including frame and hardware				
Single	27	EA	1,933.12	$52,194
Double	3	PR	3,293.99	$9,882
Restroom accessories				
Partition	9	EA	1,054.05	$9,486
Partition, ADA	2	EA	1,367.90	$2,736
Urinal screen	2	EA	495.36	$991
Grab bar set	3	EA	216.89	$651
Paper towel dispenser	5	EA	739.46	$3,697
Soap dispenser	7	EA	89.08	$624
Toilet tissue, seat cover dispenser	12	EA	401.52	$4,818
Napkin disposal	6	EA	361.46	$2,169
Mirror	7	EA	73.99	$518
Coat hook, 48"	12	EA	139.42	$1,673
Fire extinguisher and cabinet	6	EA	397.77	$2,387
Miscellaneous				
Locker	20	EA	235.80	$4,716
Signage	18,000	SF	0.48	$8,565
C10 INTERIOR CONSTRUCTION				**$459,204**
C20 STAIRS				
Metal ladder				
Roof access ladder, Allowance	24	VLF	170.91	$4,102
C20 STAIRS				**$4,102**
C30 INTERIOR FINISHES				
Wall finishes				
Paint	50,083	SF	1.11	$55,392
Porcelain tile	682	SF	17.74	$12,099
Floor finishes				

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Polished concrete	5,200	SF	8.47	$44,058
Porcelain tile	1,754	SF	19.31	$33,868
Concrete, sealer	2,080	SF	1.51	$3,131
Resilient flooring	8,966	SF	6.22	$55,756
Base				
Rubber	1,187	LF	2.19	$2,602
Porcelain tile	69	LF	13.98	$965
Ceiling finishes				
ACT, including grid system	594	SF	6.15	$3,656
Hard lid	17,406	SF	10.85	$188,840
Water resistant	1,579	SF	15.43	$24,350
Soffit	1,273	SF	21.63	$27,534
Paint	18,679	SF	1.11	$20,659
C30 INTERIOR FINISHES				**$472,910**
C INTERIORS				**$936,216**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	18,000	SF	0.70	$12,548
Garbage disposal	2	EA	297.43	$595
Fixture including rough-in				
Water closet	9	EA	1,779.02	$16,011
Water closet (ADA)	4	EA	2,027.18	$8,109
Lavatory, wall mounted	8	EA	1,872.89	$14,983
Urinal	2	EA	2,201.00	$4,402
Service sink	2	EA	3,419.54	$6,839
Sink, single basin	5	EA	1,807.83	$9,039
Drinking fountain	2	EA	2,745.67	$5,491
Trench drain	150	LF	52.82	$7,923
Automatic sensor			457.30	
Water closet	13	EA	466.60	$6,066
Urinal	2	EA	469.38	$939
Lavatory, not used		NIC		
Miscellaneous fittings	18,000	SF	0.70	$12,548
Domestic water system				
Building entrance	1	LS	6,750.00	$6,750
Cold water piping, fittings and accessories	18,000	SF	1.58	$28,442
Hot water piping and fittings, insulation	18,000	SF	0.74	$13,384
Valve	18,000	SF	0.09	$1,673
Sanitary waste system, includes clean-outs	18,000	SF	1.53	$27,605

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sanitary vent system, includes vent through roofs	18,000	SF	1.35	$24,259
Roof drainage system	18,000	SF	1.16	$20,913
Indirect condensate drain system	18,000	SF	0.28	$5,019
Natural gas system	18,000	SF	0.93	$16,731
Commissioning, by owner		NOTE		
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	18,000	SF	0.65	$11,711
D20 PLUMBING SYSTEMS				**$261,980**
D30 HVAC SYSTEMS				
Equipment				
Heat and cool generating equipment	1	EA	11,618.44	$11,618
Air handling unit	20,250	CFM	5.53	$111,990
Dedicated AC units				
Computer/data room	1	EA	6,971.06	$6,971
Electrical/mechanical room	1	EA	3,717.90	$3,718
VAV terminals	20	EA	1,477.87	$29,557
Exhaust fans				
Building	18,000	SF	0.19	$3,346
Sound attenuation	18,000	SF	0.46	$8,365
Air distribution system				
Sheet metal ductwork, supports	19,800	LB	8.91	$176,365
Duct insulation	18,000	SF	2.32	$41,826
Flexible duct, supports	18,000	SF	0.46	$8,365
Chilled water distribution system	18,000	SF	3.49	$62,740
Hot water distribution system	18,000	SF	3.72	$66,922
Refrigeration piping system, specialties	1	LS	19,518.98	$19,519
Air inlets and outlets	18,000	SF	1.67	$30,115
Fire, smoke and manual dampers	18,000	SF	1.16	$20,913
Duct smoke detectors	18,000	SF	0.14	$2,510
Automatic temperature controls	18,000	SF	5.34	$96,201
Air/water balance, by an independent contractor	18,000	SF	1.07	$19,240

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Start-up, commission major equipment	18,000	SF	0.46	$8,365
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, duct	18,000	SF	0.74	$13,384
D30 HVAC SYSTEMS				**$742,030**
D40 FIRE PROTECTION SYSTEMS				
Automatic reprotection systems	18,000	SF	4.65	$83,653
D40 FIRE PROTECTION SYSTEMS				**$83,653**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	33,254.55	$33,255
Distribution board	18,000	SF	1.66	$29,929
Panel board	18,000	SF	3.52	$63,279
Transformer	18,000	SF	2.38	$42,756
Digital metering/surge protection	18,000	SF	1.19	$21,378
Building feeder	18,000	SF	3.80	$68,409
Emergency power	18,000	SF	1.43	$25,654
Building grounding system	18,000	SF	0.48	$8,551
Equipment connection including disconnect switch, conduit and conductors	18,000	SF	3.09	$55,583
Lighting system				
Fixtures	18,000	SF	10.45	$188,126
Branch wiring	18,000	SF	3.80	$68,409
Convenience power including branch wiring	18,000	SF	8.55	$153,921
Fire alarm system	18,000	SF	3.80	$68,409
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	18,000	SF	0.04	$684
Security system, no work anticipated		NOTE		
Commissioning, by owner				

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Miscellaneous including seismic bracing, identification and fire stop	18,000	SF	0.67	$11,972
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$840,315**
D5050 TELECOM				
Telephone and data system	18,000	SF	3.22	$57,999
Fiber optic system	18,000	SF	1.24	$22,307
Common raceway system	18,000	SF	2.27	$40,897
D5050 TELECOM				**$121,203**
D SERVICES				**$2,049,181**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				
Casework	18,000	SF	5.42	$97,595
E20 FURNISHINGS				**$97,595**
E EQUIPMENT AND FURNISHINGS				**$97,595**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	4,167	CY	12.33	$51,365
Backfill and compact	1,042	CY	13.03	$13,575
Engineered fill, backfill and compact, assumed 75%	3,125	CY	27.21	$85,043
Haul	3,125	CY	15.45	$48,291
G10 SITE PREPARATION				**$198,274**
G BUILDING SITEWORK				**$198,274**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$273,009	$16.52
B SHELL		$797,549	$48.27
C INTERIORS		$298,618	$18.07
D SERVICES		$1,166,610	$70.61
E EQUIPMENT AND FURNISHINGS		$42,660	$2.58
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$72,802	$4.41
NET DIRECT BUILDING COST		$2,651,248	$160.46
DESIGN CONTINGENCY	15.00%	$397,687	$24.07
SUBTOTAL		$3,048,935	$184.53
ESCALATION TO MIDPOINT 02/2023	7.08%	$215,966	$13.07
SUBTOTAL		$3,264,901	$197.60
GENERAL REQUIREMENTS	12.00%	$391,788	$23.71
SUBTOTAL		$3,656,690	$221.31
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$219,401	$13.28
SUBTOTAL		$3,876,091	$234.59
INSURANCE & BONDS	2.50%	$96,902	$5.86
TOTAL BUILDING COST		**$3,972,993**	**$240.45**

GROSS FLOOR AREA: 16,523 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$273,009	$16.52
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$458,667	$27.76
B20 EXTERIOR CLOSURE		$338,882	$20.51
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$207,055	$12.53
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$91,563	$5.54
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$133,594	$8.09
D30 HVAC SYSTEMS		$194,275	$11.76
D40 FIRE PROTECTION SYSTEMS		$76,789	$4.65
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$706,259	$42.74
D5050 TELECOM		$55,693	$3.37
E10 EQUIPMENT			
E20 FURNISHINGS		$42,660	$2.58
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$72,802	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$2,651,248	$160.46
DESIGN CONTINGENCY	15.00%	$397,687	$24.07
SUBTOTAL		$3,048,935	$184.53
ESCALATION TO MIDPOINT 02/2023	7.08%	$215,966	$13.07
SUBTOTAL		$3,264,901	$197.60
GENERAL REQUIREMENTS	12.00%	$391,788	$23.71
SUBTOTAL		$3,656,690	$221.31
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$219,401	$13.28
SUBTOTAL		$3,876,091	$234.59
INSURANCE & BONDS	2.50%	$96,902	$5.86
TOTAL BUILDING COST		**$3,972,993**	**$240.45**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	108	CY	707.77	$76,518
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	16,523	SF	11.35	$187,504
Miscellaneous				
Concrete curb	562	LF	15.08	$8,473
Control joint	562	LF	0.91	$514
A10 FOUNDATIONS				**$273,009**
A SUBSTRUCTURE				**$273,009**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
B2	16,523	SF	26.85	$443,667
Roof construction				
Fire protection, Allowance	1	LS	15,000.00	$15,000
B10 SUPERSTRUCTURE				**$458,667**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	7,860	SF	8.26	$64,939
Insulation, batt	7,860	SF	1.59	$12,501
Exterior sheathing	7,860	SF	2.58	$20,294
Exterior wall finish				
Metal panel siding	5,695	SF	21.60	$122,992
CMU wainscot	1,965	SF	16.55	$32,530
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	16,523	SF	1.55	$25,596
Exterior windows				
Storefront	200	SF	87.96	$17,592
Exterior doors				
Hollow metal including frame and hardware				
Single	3	EA	1,794.03	$5,382
Double	1	PR	3,293.99	$3,294

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sectional door	2	EA	6,582.59	$13,165
Motor operation	2	EA	2,581.88	$5,164
Miscellaneous				
Closer	5	EA	332.12	$1,661
Panic hardware	5	EA	754.33	$3,772
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$338,882**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building		NOTE		
B30 ROOFING				
B - SHELL				**$797,549**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	9,638	SF	6.71	$64,701
Furring	241	SF	3.87	$933
Insulation, batt	9,879	SF	1.59	$15,713
Gypsum board				
Taped and finished	19,759	SF	2.88	$56,884
Underlayment	2,964	SF	1.63	$4,846
Inside face of exterior wall, taped and finished	7,860	SF	4.06	$31,901
Interior doors				
Hollow metal including frame and hardware				
Single	9	EA	1,933.12	$17,398
Double	1	PR	3,293.99	$3,294
Miscellaneous				
Restroom accessories				
Partition, ADA	1	EA	1,367.90	$1,368
Urinal screen	1	EA	495.36	$495
Grab bar set	1	EA	216.89	$217
Paper towel dispenser	1	EA	739.46	$739
Soap dispenser	1	EA	89.08	$89
Toilet tissue, seat cover dispenser	1	EA	401.52	$402
Mirror	1	EA	73.99	$74
Coat hook, 48"	1	EA	139.42	$139
Signage	16,523	SF	0.48	$7,862
C10 INTERIOR CONSTRUCTION				**$207,055**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
C30 INTERIOR FINISHES				
Wall finishes				
Porcelain tile	690	SF	17.74	$12,252
Paint	23,476	SF	1.11	$25,965
Floor finishes				
Porcelain tile	261	SF	19.31	$5,040
Concrete, sealer	16,262	SF	1.51	$24,481
Ceiling finishes				
Hard lid	261	SF	10.85	$2,832
Exposed structure, paint	16,262	SF	1.29	$20,993
C30 INTERIOR FINISHES				**$91,563**
C INTERIORS				**$298,618**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	16,523	SF	0.70	$11,518
Fixture including rough-in				
Water closet (ADA)	1	EA	2,027.18	$2,027
Lavatory, wall mounted	1	EA	1,872.89	$1,873
Urinal	1	EA	2,201.00	$2,201
Service sink	1	EA	3,419.54	$3,420
Sink, single basin	2	EA	1,807.83	$3,616
Drinking fountain	1	EA	2,745.67	$2,746
Trench drain	85	LF	52.82	$4,490
Automatic sensor				
Water closet	1	EA	466.60	$467
Urinal	1	EA	469.38	$469
Lavatory, not used		NIC		
Miscellaneous fittings	16,523	SF	0.46	$7,679
Hose bibb	10	EA	297.24	$2,972
Domestic water system				
Building entrance	1	LS	3,600.00	$3,600
Cold water piping, fittings and accessories	16,523	SF	0.88	$14,590
Hot water piping and fittings, insulation	16,523	SF	0.51	$8,447
Valve	16,523	SF	0.09	$1,536
Sanitary waste system, includes clean-outs	16,523	SF	0.74	$12,286
Natural gas system	16,523	SF	1.70	$28,156

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sanitary vent system, includes vent through roofs	16,523	SF	0.84	$13,822
Commissioning, by owner				
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	16,523	SF	0.46	$7,679
D20 PLUMBING SYSTEMS				**$133,594**
D30 HVAC SYSTEMS				
Equipment				
Heaters, infrared	41	EA	2,044.85	$84,467
Exhaust fans				
Building	16,523	SF	0.19	$3,072
Sound attenuation	16,523	SF	0.46	$7,679
Air distribution system				
Flexible duct, exhaust fans	16,523	SF	0.46	$7,679
Air inlets and outlets, exhaust fans	16,523	SF	0.74	$12,286
Automatic temperature controls	16,523	SF	3.72	$61,431
Start-up, commission major equipment	16,523	SF	0.33	$5,375
Commissioning, by the owner		NOTE		
Miscellaneous including seismic bracing, duct	16,523	SF	0.74	$12,286
D30 HVAC SYSTEMS				**$194,275**
D40 FIRE PROTECTION SYSTEMS				
Wet systems	16,523	SF	4.65	$76,789
D40 FIRE PROTECTION SYSTEMS				**$76,789**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	30,940.58	$30,941
Distribution board	16,523	SF	1.69	$27,847
Panel board	16,523	SF	3.56	$58,876
Transformer	16,523	SF	2.41	$39,781
Digital metering/surge protection	16,523	SF	1.20	$19,890
Building feeder	16,523	SF	3.85	$63,649
Emergency power	16,523	SF	1.44	$23,868

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Building grounding system	16,523	SF	0.48	$7,956
Equipment connection including disconnect switch, conduit and conductors	16,523	SF	2.41	$39,781
Lighting system				
Fixtures	16,523	SF	8.19	$135,255
Branch wiring	16,523	SF	3.61	$59,671
Convenience power including branch wiring	16,523	SF	7.46	$123,320
Fire alarm system	16,523	SF	3.85	$63,649
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	16,523	SF	0.04	$636
Security system, no work anticipated		NOTE		
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, identification and fire stop	16,523	SF	0.67	$11,139
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$706,259**
D5050 TELECOM				
Telephone and data system	16,523	SF	2.41	$39,781
Fiber optic system	16,523	SF	0.96	$15,912
D5050 TELECOM				**$55,693**
D SERVICES				**$1,166,610**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				
Casework	16,523	SF	2.58	$42,660
E20 FURNISHINGS				**$42,660**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
E EQUIPMENT AND FURNISHINGS				**$42,660**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	1,530	CY	12.33	$18,860
Backfill and compact	382	CY	13.03	$4,985
Engineered fill, backfill and compact, assumed 75%	1,147	CY	27.21	$31,226
Haul	1,147	CY	15.45	$17,731
G10 SITE PREPARATION				**$72,802**
G BUILDING SITEWORK				**$72,802**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$209,293	$19.03
B SHELL		$665,613	$60.51
C INTERIORS		$223,254	$20.30
D SERVICES		$783,528	$71.23
E EQUIPMENT AND FURNISHINGS		$28,401	$2.58
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$48,466	$4.41
NET DIRECT BUILDING COST		$1,958,555	$178.05
DESIGN CONTINGENCY	15.00%	$293,783	$26.71
SUBTOTAL		$2,252,338	$204.76
ESCALATION TO MIDPOINT 02/2023	7.08%	$159,541	$14.50
SUBTOTAL		$2,411,879	$219.26
GENERAL REQUIREMENTS	12.00%	$289,425	$26.31
SUBTOTAL		$2,701,304	$245.57
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$162,078	$14.73
SUBTOTAL		$2,863,383	$260.31
INSURANCE & BONDS	2.50%	$71,585	$6.51
TOTAL BUILDING COST		**$2,934,967**	**$266.82**

GROSS FLOOR AREA: 11,000 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$209,293	$19.03
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$328,088	$29.83
B20 EXTERIOR CLOSURE		$337,525	$30.68
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$156,358	$14.21
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$66,896	$6.08
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$95,810	$8.71
D30 HVAC SYSTEMS		$129,335	$11.76
D40 FIRE PROTECTION SYSTEMS		$51,121	$4.65
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$470,185	$42.74
D5050 TELECOM		$37,077	$3.37
E10 EQUIPMENT			
E20 FURNISHINGS		$28,401	$2.58
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$48,466	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$1,958,555	$178.05
DESIGN CONTINGENCY	15.00%	$293,783	$26.71
SUBTOTAL		$2,252,338	$204.76
ESCALATION TO MIDPOINT 02/2023	7.08%	$159,541	$14.50
SUBTOTAL		$2,411,879	$219.26
GENERAL REQUIREMENTS	12.00%	$289,425	$26.31
SUBTOTAL		$2,701,304	$245.57
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$162,078	$14.73
SUBTOTAL		$2,863,383	$260.31
INSURANCE & BONDS	2.50%	$71,585	$6.51
TOTAL BUILDING COST		**$2,934,967**	**$266.82**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	108	CY	707.77	$76,518
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	11,000	SF	11.35	$124,828
Miscellaneous				
Concrete curb	497	LF	15.08	$7,493
Control joint	497	LF	0.91	$454
A10 FOUNDATIONS				**$209,293**
A SUBSTRUCTURE				**$209,293**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
B3	2,750	SF	28.92	$79,522
B4	2,750	SF	28.92	$79,522
B5	2,750	SF	28.92	$79,522
B6	2,750	SF	28.92	$79,522
B7, future work		NIC		
Roof construction				
Fire protection, Allowance	1	LS	10,000.00	$10,000
B10 SUPERSTRUCTURE				**$328,088**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	7,800	SF	8.26	$64,444
Insulation, batt	7,800	SF	1.59	$12,405
Exterior sheathing	7,800	SF	2.58	$20,139
Exterior wall finish				
Metal panel siding	5,650	SF	21.60	$122,020
CMU wainscot	1,950	SF	16.55	$32,282
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	11,000	SF	1.55	$17,040
Exterior windows				
Storefront	200	SF	87.96	$17,592

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Exterior doors				
Hollow metal including frame and hardware				
Single	3	EA	1,794.03	$5,382
Double	1	PR	3,293.99	$3,294
Sectional door	3	EA	6,582.59	$19,748
Motor operation	3	EA	2,581.88	$7,746
Miscellaneous				
Closer	5	EA	332.12	$1,661
Panic hardware	5	EA	754.33	$3,772
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$337,525**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building		NOTE		
B30 ROOFING				
B - SHELL				**$665,613**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	6,417	SF	6.71	$43,074
Furring	160	SF	3.87	$621
Insulation, batt	6,577	SF	1.59	$10,460
Gypsum board				
Taped and finished	13,154	SF	2.88	$37,870
Underlayment	1,973	SF	1.63	$3,226
Inside face of exterior wall, taped and finished	7,800	SF	4.06	$31,658
Interior doors				
Hollow metal including frame and hardware				
Single	9	EA	1,933.12	$17,398
Double	1	PR	3,293.99	$3,294
Miscellaneous				
Restroom accessories				
Partition, ADA	1	EA	1,367.90	$1,368
Urinal screen	1	EA	495.36	$495
Grab bar set	1	EA	216.89	$217
Paper towel dispenser	1	EA	739.46	$739
Soap dispenser	1	EA	89.08	$89
Toilet tissue, seat cover dispenser	1	EA	401.52	$402
Mirror	1	EA	73.99	$74

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Coat hook, 48"	1	EA	139.42	$139
Signage	11,000	SF	0.48	$5,234
C10 INTERIOR CONSTRUCTION				**$156,358**
C30 INTERIOR FINISHES				
Wall finishes				
Porcelain tile	524	SF	17.74	$9,295
Paint	17,811	SF	1.11	$19,699
Floor finishes				
Porcelain tile	261	SF	19.31	$5,040
Concrete, sealer	10,739	SF	1.51	$16,167
Ceiling finishes				
Hard lid	261	SF	10.85	$2,832
Exposed structure, paint	10,739	SF	1.29	$13,863
C30 INTERIOR FINISHES				**$66,896**
C INTERIORS				**$223,254**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	11,000	SF	0.70	$7,668
Fixture including rough-in				
Water closet (ADA)	1	EA	2,027.18	$2,027
Lavatory, wall mounted	1	EA	1,872.89	$1,873
Urinal	1	EA	2,201.00	$2,201
Service sink	1	EA	3,419.54	$3,420
Sink, single basin	3	EA	1,807.83	$5,423
Trench drain	65	LF	52.82	$3,433
Automatic sensor				
Water closet	1	EA	466.60	$467
Urinal	1	EA	469.38	$469
Lavatory, not used		NIC		
Miscellaneous fittings	11,000	SF	0.46	$5,112
Hose bibb	10	EA	297.24	$2,972
Domestic water system				
Building entrance	1	LS	3,150.00	$3,150
Cold water piping, fittings and accessories	11,000	SF	0.88	$9,713
Hot water piping and fittings, insulation	11,000	SF	0.51	$5,623
Valve	11,000	SF	0.09	$1,022

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sanitary waste system, includes clean-outs	11,000	SF	0.74	$8,179
Natural gas system	11,000	SF	1.70	$18,744
Sanitary vent system, includes vent through roofs	11,000	SF	0.84	$9,202
Commissioning, by owner				
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	11,000	SF	0.46	$5,112
D20 PLUMBING SYSTEMS				**$95,810**
D30 HVAC SYSTEMS				
Equipment				
Heaters, infrared	28	EA	2,044.85	$56,233
Exhaust fans				
Building	11,000	SF	0.19	$2,045
Sound attenuation	11,000	SF	0.46	$5,112
Air distribution system				
Flexible duct, exhaust fans	11,000	SF	0.46	$5,112
Air inlets and outlets, exhaust fans	11,000	SF	0.74	$8,179
Automatic temperature controls	11,000	SF	3.72	$40,897
Start-up, commission major equipment	11,000	SF	0.33	$3,578
Commissioning, by the owner		NOTE		
Miscellaneous including seismic bracing, duct	11,000	SF	0.74	$8,179
D30 HVAC SYSTEMS				**$129,335**
D40 FIRE PROTECTION SYSTEMS				
Wet systems	11,000	SF	4.65	$51,121
D40 FIRE PROTECTION SYSTEMS				**$51,121**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	20,598.34	$20,598
Distribution board	11,000	SF	1.69	$18,539
Panel board	11,000	SF	3.56	$39,196
Transformer	11,000	SF	2.41	$26,484
Digital metering/surge protection	11,000	SF	1.20	$13,242

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Building feeder	11,000	SF	3.85	$42,374
Emergency power	11,000	SF	1.44	$15,890
Building grounding system	11,000	SF	0.48	$5,297
Equipment connection including disconnect switch, conduit and conductors	11,000	SF	2.41	$26,484
Lighting system				
Fixtures	11,000	SF	8.19	$90,044
Branch wiring	11,000	SF	3.61	$39,725
Convenience power including branch wiring	11,000	SF	7.46	$82,099
Fire alarm system	11,000	SF	3.85	$42,374
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	11,000	SF	0.04	$424
Security system, no work anticipated		NOTE		
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, identification and fire stop	11,000	SF	0.67	$7,415
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$470,185**
D5050 TELECOM				
Telephone and data system	11,000	SF	2.41	$26,484
Fiber optic system	11,000	SF	0.96	$10,593
D5050 TELECOM				**$37,077**
D SERVICES				**$783,528**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Casework	11,000	SF	2.58	$28,401
E20 FURNISHINGS				**$28,401**
E EQUIPMENT AND FURNISHINGS				**$28,401**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	1,019	CY	12.33	$12,556
Backfill and compact	255	CY	13.03	$3,318
Engineered fill, backfill and compact, assumed 75%	764	CY	27.21	$20,788
Haul	764	CY	15.45	$11,804
G10 SITE PREPARATION				**$48,466**
G BUILDING SITEWORK				**$48,466**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$212,070	$21.19
B SHELL		$389,014	$38.86
C INTERIORS		$6,466	$0.65
D SERVICES		$51,690	$5.16
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$44,105	$4.41
NET DIRECT BUILDING COST		$703,345	$70.26
DESIGN CONTINGENCY	15.00%	$105,502	$10.54
SUBTOTAL		$808,847	$80.80
ESCALATION TO MIDPOINT 02/2023	7.08%	$57,293	$5.72
SUBTOTAL		$866,140	$86.53
GENERAL REQUIREMENTS	12.00%	$103,937	$10.38
SUBTOTAL		$970,077	$96.91
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$58,205	$5.81
SUBTOTAL		$1,028,281	$102.73
INSURANCE & BONDS	2.50%	$25,707	$2.57
TOTAL BUILDING COST		**$1,053,989**	**$105.29**

GROSS FLOOR AREA: 10,010 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$212,070	$21.19
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$301,959	$30.17
B20 EXTERIOR CLOSURE		$87,055	$8.70
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$6,466	$0.65
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$51,690	$5.16
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$44,105	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$703,345	$70.26
DESIGN CONTINGENCY	15.00%	$105,502	$10.54
SUBTOTAL		$808,847	$80.80
ESCALATION TO MIDPOINT 02/2023	7.08%	$57,293	$5.72
SUBTOTAL		$866,140	$86.53
GENERAL REQUIREMENTS	12.00%	$103,937	$10.38
SUBTOTAL		$970,077	$96.91
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$58,205	$5.81
SUBTOTAL		$1,028,281	$102.73
INSURANCE & BONDS	2.50%	$25,707	$2.57
TOTAL BUILDING COST		**$1,053,989**	**$105.29**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	119	CY	707.77	$83,989
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	10,010	SF	11.35	$113,594
Miscellaneous				
Concrete curb	906	LF	15.08	$13,659
Control joint	906	LF	0.91	$828
A10 FOUNDATIONS				**$212,070**
A SUBSTRUCTURE				**$212,070**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
S1	1,890	SF	28.92	$54,653
S2	1,890	SF	28.92	$54,653
S3	1,890	SF	28.92	$54,653
S4	2,240	SF	28.92	$64,774
S5	2,100	SF	28.92	$60,726
Roof construction				
Fire protection, Allowance	1	LS	12,500.00	$12,500
B10 SUPERSTRUCTURE				**$301,959**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	1,593	SF	8.26	$13,161
Exterior wall finish				
Vertical metal siding	1,593	SF	30.37	$48,387
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	10,010	SF	1.55	$15,507
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$87,055**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered		NOTE		

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
building				
B30 ROOFING				
B - SHELL				**$389,014**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Gypsum board				
Inside face of exterior wall, taped and finished	1,593	SF	4.06	$6,466
C10 INTERIOR CONSTRUCTION				**$6,466**
C INTERIORS				**$6,466**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	10,010	SF	2.58	$25,845
Branch wiring	10,010	SF	1.03	$10,338
Convenience power connections including branch wiring	10,010	SF	1.55	$15,507
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$51,690**
D SERVICES				**$51,690**
E EQUIPMENT AND FURNISHINGS				

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	927	CY	12.33	$11,426
Backfill and compact	232	CY	13.03	$3,020
Engineered fill, backfill and compact, assumed 75%	695	CY	27.21	$18,917
Haul	695	CY	15.45	$10,742
G10 SITE PREPARATION				**$44,105**
G BUILDING SITEWORK				**$44,105**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$164,399	$18.07
B SHELL		$375,317	$41.24
C INTERIORS		$25,447	$2.80
D SERVICES		$46,990	$5.16
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$44,401	$4.88
NET DIRECT BUILDING COST		$656,554	$72.15
DESIGN CONTINGENCY	15.00%	$98,483	$10.82
SUBTOTAL		$755,037	$82.97
ESCALATION TO MIDPOINT 02/2023	7.08%	$53,482	$5.88
SUBTOTAL		$808,519	$88.85
GENERAL REQUIREMENTS	12.00%	$97,022	$10.66
SUBTOTAL		$905,541	$99.51
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$54,332	$5.97
SUBTOTAL		$959,874	$105.48
INSURANCE & BONDS	2.50%	$23,997	$2.64
TOTAL BUILDING COST		**$983,870**	**$108.12**

GROSS FLOOR AREA: 9,100 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$164,399	$18.07
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$89,571	$9.84
B20 EXTERIOR CLOSURE		$111,784	$12.28
B30 ROOFING		$173,962	$19.12
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$25,447	$2.80
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$46,990	$5.16
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$40,095	$4.41
G20 SITE IMPROVEMENTS		$4,306	$0.47
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$656,554	$72.15
DESIGN CONTINGENCY	15.00%	$98,483	$10.82
SUBTOTAL		$755,037	$82.97
ESCALATION TO MIDPOINT 02/2023	7.08%	$53,482	$5.88
SUBTOTAL		$808,519	$88.85
GENERAL REQUIREMENTS	12.00%	$97,022	$10.66
SUBTOTAL		$905,541	$99.51
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$54,332	$5.97
SUBTOTAL		$959,874	$105.48
INSURANCE & BONDS	2.50%	$23,997	$2.64
TOTAL BUILDING COST		**$983,870**	**$108.12**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	72	CY	707.77	$50,802
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	9,100	SF	11.35	$103,267
Miscellaneous				
Concrete curb	646	LF	15.08	$9,739
Control joint	646	LF	0.91	$591
A10 FOUNDATIONS				**$164,399**
A SUBSTRUCTURE				**$164,399**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
S8	900	SF	28.92	$26,025
Roof construction				
Fire protection, Allowance	1	LS	8,500.00	$8,500
Structural steel for S12 & S13	8,200	SF	6.71	$55,046
B10 SUPERSTRUCTURE				**$89,571**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	2,442	SF	8.26	$20,176
Insulation, batt	2,442	SF	1.59	$3,884
Exterior wall finish				
Vertical metal siding	2,442	SF	30.37	$74,175
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	9,100	SF	0.77	$7,049
Miscellaneous work, Allowance	1	LS	6,500.00	$6,500
B20 EXTERIOR CLOSURE				**$111,784**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building S8		NOTE		

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Roof covering for S12 & S13	8,200	SF	21.21	$173,962
B30 ROOFING				**$173,962**
B - SHELL				**$375,317**
C INTERIORS				
C30 INTERIOR FINISHES				
Floor finishes				
Concrete, sealer	9,100	SF	1.51	$13,699
Ceiling finishes				
Exposed structure, paint	9,100	SF	1.29	$11,748
C30 INTERIOR FINISHES				**$25,447**
C INTERIORS				**$25,447**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	9,100	SF	2.58	$23,495
Branch wiring	9,100	SF	1.03	$9,398
Convenience power connections including branch wiring	9,100	SF	1.55	$14,097
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$46,990**
D SERVICES				**$46,990**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	843	CY	12.33	$10,387
Backfill and compact	211	CY	13.03	$2,745
Engineered fill, backfill and compact, assumed 75%	632	CY	27.21	$17,198
Haul	632	CY	15.45	$9,765
G10 SITE PREPARATION				**$40,095**
G20 SITE IMPROVEMENTS				
Double leaf gates	2	EA	2,153.01	$4,306
G20 SITE IMPROVEMENTS				**$4,306**
G BUILDING SITEWORK				**$44,401**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$21,206	$24.43
B SHELL		$142,732	$164.44
C INTERIORS		$7,386	$8.51
D SERVICES		$4,482	$5.16
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$3,824	$4.41
NET DIRECT BUILDING COST		$179,630	$206.95
DESIGN CONTINGENCY	15.00%	$26,945	$31.04
SUBTOTAL		$206,575	$237.99
ESCALATION TO MIDPOINT 02/2023	7.08%	$14,632	$16.86
SUBTOTAL		$221,207	$254.85
GENERAL REQUIREMENTS	12.00%	$26,545	$30.58
SUBTOTAL		$247,752	$285.43
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$14,865	$17.13
SUBTOTAL		$262,617	$302.55
INSURANCE & BONDS	2.50%	$6,565	$7.56
TOTAL BUILDING COST		**$269,182**	**$310.12**

GROSS FLOOR AREA: 868 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$21,206	$24.43
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$27,285	$31.43
B20 EXTERIOR CLOSURE		$98,060	$112.97
B30 ROOFING		$17,387	$20.03
C10 INTERIOR CONSTRUCTION		$3,896	$4.49
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$3,490	$4.02
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$4,482	$5.16
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$3,824	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$179,630	$206.95
DESIGN CONTINGENCY	15.00%	$26,945	$31.04
SUBTOTAL		$206,575	$237.99
ESCALATION TO MIDPOINT 02/2023	7.08%	$14,632	$16.86
SUBTOTAL		$221,207	$254.85
GENERAL REQUIREMENTS	12.00%	$26,545	$30.58
SUBTOTAL		$247,752	$285.43
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$14,865	$17.13
SUBTOTAL		$262,617	$302.55
INSURANCE & BONDS	2.50%	$6,565	$7.56
TOTAL BUILDING COST		**$269,182**	**$310.12**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Footing, assembly	13	CY	707.77	$9,437
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	868	SF	11.35	$9,850
Miscellaneous				
Concrete curb	120	LF	15.08	$1,809
Control joint	120	LF	0.91	$110
A10 FOUNDATIONS				**$21,206**
A SUBSTRUCTURE				**$21,206**
B SHELL				
B10 SUPERSTRUCTURE				
Floor construction				
Structural steel				
Wide flange	2	TON	4,647.38	$9,295
Piping and tube steel	1	TON	5,680.13	$4,314
Fire protection	3	TON	309.83	$855
Connection, Allowance	1	LS	2,581.88	$2,582
Roof construction				
Structural steel				
Wide flange	1	TON	4,647.38	$4,647
Fire protection	1	TON	309.83	$310
Connection, Allowance	1	LS	2,581.88	$2,582
Metal deck, 1 1/2"	868	SF	3.11	$2,700
B10 SUPERSTRUCTURE				**$27,285**
B20 EXTERIOR CLOSURE				
Exterior walls				
Concrete reinforced wall, 8' high, assembly	960	SF	42.97	$41,248
Framing, metal stud	960	SF	8.26	$7,932
Insulation, batt	960	SF	1.32	$1,264
Exterior sheathing	960	SF	2.58	$2,479
Exterior wall finish				
Vertical metal siding	960	SF	30.37	$29,160
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	868	SF	1.55	$1,345
Exterior doors				

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Hollow metal including frame and hardware				
Double	1	PR	3,293.99	$3,294
Sectional door	1	EA	6,582.59	$6,583
Motor operation	1	EA	2,581.88	$2,582
Miscellaneous				
Closer	2	EA	332.12	$664
Panic hardware	2	EA	754.33	$1,509
B20 EXTERIOR CLOSURE				**$98,060**
B30 ROOFING				
Roof coverings				
TPO roofing	868	SF	5.72	$4,968
Membrane underlayment	868	SF	3.08	$2,670
Felt underlayment	868	SF	0.94	$818
Rigid insulation	868	SF	4.08	$3,543
Tapered premium	286	SF	2.16	$619
Cant strip	120	LF	2.43	$292
Walk pad, assume 5% of roof area	43	SF	5.76	$250
Flashing and sheet metal				
Reglet	120	LF	5.19	$623
Flashing	120	LF	8.20	$984
Coping, aluminum	120	LF	21.83	$2,620
B30 ROOFING				**$17,387**
B - SHELL				**$142,732**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Gypsum board				
Inside face of exterior wall, taped and finished	960	SF	4.06	$3,896
C10 INTERIOR CONSTRUCTION				**$3,896**
C30 INTERIOR FINISHES				
Wall finishes				
Paint	960	SF	1.11	$1,062
Floor finishes				
Concrete, sealer	868	SF	1.51	$1,307
Ceiling finishes				
Exposed structure, paint	868	SF	1.29	$1,121
C30 INTERIOR FINISHES				**$3,490**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
C INTERIORS				**$7,386**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	868	SF	2.58	$2,241
Branch wiring	868	SF	1.03	$896
Convenience power connections including branch wiring	868	SF	1.55	$1,345
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$4,482**
D SERVICES				**$4,482**
E EQUIPMENT AND FURNISHINGS				
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	80	CY	12.33	$991
Backfill and compact	20	CY	13.03	$262
Engineered fill, backfill and compact, assumed 75%	60	CY	27.21	$1,640
Haul	60	CY	15.45	$931
G10 SITE PREPARATION				**$3,824**
G BUILDING SITEWORK				**$3,824**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$20,891	$13.06
B SHELL		$59,209	$37.01
C INTERIORS			
D SERVICES		$91,089	$56.93
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$45,787	$28.62
NET DIRECT BUILDING COST		$216,976	$135.61
DESIGN CONTINGENCY	15.00%	$32,546	$20.34
SUBTOTAL		$249,522	$155.95
ESCALATION TO MIDPOINT 02/2023	7.08%	$17,675	$11.05
SUBTOTAL		$267,197	$167.00
GENERAL REQUIREMENTS	12.00%	$32,064	$20.04
SUBTOTAL		$299,261	$187.04
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$17,956	$11.22
SUBTOTAL		$317,216	$198.26
INSURANCE & BONDS	2.50%	$7,930	$4.96
TOTAL BUILDING COST		**$325,147**	**$203.22**

GROSS FLOOR AREA: 1,600 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$20,891	$13.06
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$24,941	$15.59
B20 EXTERIOR CLOSURE			
B30 ROOFING		$34,268	$21.42
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$67,129	$41.96
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$23,960	$14.98
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$7,050	$4.41
G20 SITE IMPROVEMENTS		$31,671	$19.79
G30 SITE CIVIL/MECHANICAL UTILITIES		$7,066	$4.42
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$216,976	$135.61
DESIGN CONTINGENCY	15.00%	$32,546	$20.34
SUBTOTAL		$249,522	$155.95
ESCALATION TO MIDPOINT 02/2023	7.08%	$17,675	$11.05
SUBTOTAL		$267,197	$167.00
GENERAL REQUIREMENTS	12.00%	$32,064	$20.04
SUBTOTAL		$299,261	$187.04
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$17,956	$11.22
SUBTOTAL		$317,216	$198.26
INSURANCE & BONDS	2.50%	$7,930	$4.96
TOTAL BUILDING COST		**$325,147**	**$203.22**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	1,600	SF	11.35	$18,157
Miscellaneous				
Concrete curb	171	LF	15.08	$2,578
Control joint	171	LF	0.91	$156
A10 FOUNDATIONS				**$20,891**
A SUBSTRUCTURE				**$20,891**
B SHELL				
B10 SUPERSTRUCTURE				
Free standing roof structure, including delivery, foundation, erection				
S11	1,600	SF	10.28	$16,441
Roof construction				
Fire protection, Allowance	1	LS	8,500.00	$8,500
B10 SUPERSTRUCTURE				**$24,941**
B30 ROOFING				
Roof coverings				
Standing seam metal roof, steel	1,600	SF	21.42	$34,268
B30 ROOFING				**$34,268**
B - SHELL				**$59,209**
D SERVICES				
D20 PLUMBING SYSTEMS				
Fuel tank, above ground				
Gasoline, 2,000 gallon	1	EA	25,818.75	$25,819
Diesel, 2,000 gallon	1	EA	25,818.75	$25,819
Pump	2	EA	7,745.63	$15,491
D20 PLUMBING SYSTEMS				**$67,129**
D30 HVAC SYSTEMS				

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	1,600	SF	2.58	$4,131
Branch wiring	1,600	SF	1.03	$1,652
Convenience power connections including cabling	1,600	SF	6.71	$10,741
Emergency power	1,600	SF	4.65	$7,436
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$23,960**
D SERVICES				**$91,089**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	148	CY	12.33	$1,826
Backfill and compact	37	CY	13.03	$483
Engineered fill, backfill and compact, assumed 75%	111	CY	27.21	$3,024
Haul	111	CY	15.45	$1,717
G10 SITE PREPARATION				**$7,050**
G20 SITE IMPROVEMENTS				
Hardscape				
Asphaltic concrete paving	4,350	SF	3.48	$15,138
Base	4,350	SF	2.25	$9,783
Concrete sidewalk	713	SF	7.22	$5,146
Base	713	SF	2.25	$1,604
G20 SITE IMPROVEMENTS				**$31,671**
G30 SITE CIVIL/MECHANICAL UTILITIES				
Storm water service, Allowance	1,600	SF	1.29	$2,066
Gas system	1	LS	5,000.00	$5,000
G30 SITE CIVIL/MECHANICAL UTILITIES				**$7,066**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				**$45,787**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

SITE SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE			
B SHELL			
C INTERIORS			
D SERVICES			
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$7,510,014	$13.18
NET DIRECT SITE COST		$7,510,014	$13.18
DESIGN CONTINGENCY	15.00%	$1,126,502	$1.98
SUBTOTAL		$8,636,516	$15.15
ESCALATION TO MIDPOINT 02/2023	7.08%	$611,753	$1.07
SUBTOTAL		$9,248,269	$16.23
GENERAL REQUIREMENTS	12.00%	$1,109,792	$1.95
SUBTOTAL		$10,358,062	$18.17
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$621,484	$1.09
SUBTOTAL		$10,979,545	$19.26
INSURANCE & BONDS	2.50%	$274,489	$0.48
TOTAL SITE COST		**$11,254,034**	**$19.74**

TOTAL SITE AREA: 570,000 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SITE SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS			
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE			
B20 EXTERIOR CLOSURE			
B30 ROOFING			
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)			
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$735,834	$1.29
G20 SITE IMPROVEMENTS		$4,319,018	$7.58
G30 SITE CIVIL/MECHANICAL UTILITIES		$1,444,660	$2.53
G40 SITE ELECTRICAL UTILITIES		$1,010,502	$1.77
G90 OTHER SITE CONSTRUCTION			
NET DIRECT SITE COST		$7,510,014	$13.18
DESIGN CONTINGENCY	15.00%	$1,126,502	$1.98
SUBTOTAL		$8,636,516	$15.15
ESCALATION TO MIDPOINT 02/2023	7.08%	$611,753	$1.07
SUBTOTAL		$9,248,269	$16.23
GENERAL REQUIREMENTS	12.00%	$1,109,792	$1.95
SUBTOTAL		$10,358,062	$18.17
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$621,484	$1.09
SUBTOTAL		$10,979,545	$19.26
INSURANCE & BONDS	2.50%	$274,489	$0.48
TOTAL SITE COST		**$11,254,034**	**$19.74**

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Site clearing, removal and disposal of bush, turf, trees	570,000	SF	1.29	$735,834
G10 SITE PREPARATION				**$735,834**
G20 SITE IMPROVEMENTS				
Site improvements				
Hardscape				
Asphaltic concrete paving				
Drive lanes	274,890	SF	6.43	$1,767,559
Parking lot	82,650	SF	3.48	$287,613
Lay down area and sumped refuse area	11,781	SF	2.45	$28,830
Base	369,321	SF	2.25	$830,597
Concrete sidewalk	18,922	SF	7.22	$136,577
Base	18,922	SF	2.25	$42,555
Ramp, premium	7,854	SF	11.54	$90,630
Generator pad	175	SF	20.66	$3,615
Concrete curb	7,125	LF	15.08	$107,418
Striped parking stall, standard	222	EA	15.40	$3,419
Landscape				
Landscape area	43,197	SF	5.10	$220,173
Irrigation, plant area	43,197	SF	3.25	$140,486
Mulch, wood chips	43,197	SF	0.59	$25,659
Generator and fuel tank enclosure				
Matt footing, assembly	8	CY	646.97	$5,176
Galvanized steel canopy	924	SF	25.82	$23,857
Chain link fence	248	LF	34.56	$8,571
Gate	2	EA	1,688.27	$3,377
Security fence, steel bar, 8'	2,550	LF	87.78	$223,849
Sliding gate	4	EA	9,811.13	$39,245
Card reader access	4	EA	2,581.88	$10,328
Architectural screen walls				
CMU, 8" thick, filled and reinforced	3,700	SF	17.48	$64,687
Continuous footing, assembly	67	CY	646.97	$43,131
Retaining wall, assembly	2,800	SF	42.97	$120,307
Monumental sign	1	EA	15,000.00	$15,000
Site signage	570,000	SF	0.05	$29,433

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Bicycle rack	2	EA	761.51	$1,523
Bench seat, including concrete footings	2	EA	1,549.13	$3,098
Concrete filled, steel bollard	50	EA	846.09	$42,305
G20 SITE IMPROVEMENTS				**$4,319,018**
G30 SITE CIVIL/MECHANICAL UTILITIES				
Fire water service				
Connect to existing service, at site	1	LS	1,685.45	$1,685
Fire hydrant	5	EA	6,989.65	$34,948
Post indicator valve, Allowance	1	EA	2,478.60	$2,479
Fire department connection	1	EA	3,532.01	$3,532
Pipe and fittings, including trench and backfill, PVC, C900	3,156	LF	80.68	$254,641
Thrust block	2	EA	724.21	$1,448
Domestic water service				
Connect to existing service, at site	1	LS	508.11	$508
Premium for hot tap	1	EA	2,738.85	$2,739
Water meter, assume by Utility Company		NIC		
Pipe and fittings, including trench and backfill, PVC, C900	1,984	LF	35.94	$71,295
Thrust block	2	EA	303.63	$607
Sanitary sewer service				
Connect to existing service, at site	1	LS	941.87	$942
Man hole	6	EA	5,886.68	$35,320
Pipe and fittings, including trench and backfill, cast iron	3,180	LF	127.03	$403,918
Storm water service				
Drain inlet				
Area drain inlet	20	EA	291.06	$5,821
Precast	1	EA	1,559.45	$1,559
Pipe and fittings, PVC SDR-35 , including trench and backfill				
12"	7,239	LF	82.84	$599,677
Clean-out	20	EA	691.94	$13,839
Natural gas system				
Connect to existing gas main at site	1	EA	743.58	$744
Pipe and fittings, Black steel, Sch. 40, 2", including trench and backfill	200	LF	44.79	$8,958
G30 SITE CIVIL/MECHANICAL UTILITIES				**$1,444,660**
G40 SITE ELECTRICAL UTILITIES				
Electrical				
Primary power				
Connect to existing MW/HV campus grid	1	LS	15,491.25	$15,491

FEASIBILITY STUDY COST ESTIMATE - SITE #2

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Duct bank	3,156	LF	62.27	$196,555
Conductor	3,156	LF	103.28	$325,962
Emergency generator	1	EA	63,627.73	$63,628
Grounding	1	EA	929.48	$929
Lighting system, including conduit and wire, trenching				
Parking lot light fixture, Allowance	30	EA	5,680.13	$170,404
Pedestal light	20	EA	2,581.88	$51,638
Wall mounted LED fixture	25	SF	1,549.13	$38,728
Miscellaneous site power	570,000	SF	0.26	$147,167
G40 SITE ELECTRICAL UTILITIES				**$1,010,502**
G BUILDING SITEWORK				**$7,510,014**

City of Federal Way
Operations and Maintenance Facility Development

Federal Way, WA

Helix Design Group
FEASIBILITY STUDY COST ESTIMATE - SITE #3
OCMI JOB #: 20379.000
17 September 2021

OC INSIGHT

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

COST ESTIMATE

INTRODUCTORY NOTES

This estimate is based on verbal direction from the client and the following items, received 09 June 2021

Feasibility Report - Site 03 21 sheets

The following items are excluded from this estimate:

- Professional fees.
- Building permits and fees.
- Inspections and tests.
- Installation of owner furnished equipment.
- Construction change order contingency.
- Overtime.
- Hazardous material abatement/removal.
- Items referenced as NOT INCLUDED or NIC in estimate.

The midpoint of construction of February 2023 is based on:

- Construction start date of May 2022
- Estimated construction duration of 18 months

- This estimate is based on a Design-Bid-Build delivery method.
- This estimate is based on prevailing wage labor rates.
- This estimate is based on a detailed measurement of quantities. We have made allowances for items that were not clearly defined in the drawings. The client should verify these allowances.
- This estimate is based on a minimum of four competitive bids and a stable bidding market.
- This estimate should be updated if more definitive information becomes available, or if there is any change in scope.
- We strongly advise the client to review this estimate in detail. If any interpretations in this estimate appear to differ from those intended by the design documents, they should be addressed immediately.

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

PROJECT SUMMARY

ELEMENT	TOTAL COST	GFA	$/SF AREA
01. OPERATIONS BUILDING - B1	$7,839,480	18,000	$435.53
02. FLEET MAINTENANCE - B2	$3,972,993	16,523	$240.45
03. BAYS BUILDING - B3-B6	$2,934,967	11,000	$266.82
04. ENCLOSED STORAGE BUILDINGS - S1-S5	$1,053,989	10,010	$105.29
05. COVERED MATERIAL STORAGE STRUCTURES - S8, S12 & S13	$983,870	9,100	$108.12
06. BRINE BUILDING - S9	$269,182	868	$310.12
07. FUELING STATION - S11	$325,147	1,600	$203.22
08. SITE WORK	$11,734,176	545,000	$21.53
08. SALT SAND BINS - S10, ASPHALT SLAB ONLY	$85,417	7,600	$11.24
TOTAL CONSTRUCTION COST	**$29,199,220**		

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED PROJECT SUMMARY

ELEMENT	TOTAL COST	GFA	$/SF AREA
01. OPERATIONS BUILDING - B1	$5,231,422	18,000	$290.63
02. FLEET MAINTENANCE - B2	$2,651,248	16,523	$160.46
03. BAYS BUILDING - B3-B6	$1,958,555	11,000	$178.05
04. ENCLOSED STORAGE BUILDINGS - S1-S5	$703,345	10,010	$70.26
05. COVERED MATERIAL STORAGE STRUCTURES - S8, S12 & S13	$656,554	9,100	$72.15
06. BRINE BUILDING - S9	$179,630	868	$206.95
07. FUELING STATION - S11	$216,976	1,600	$135.61
08. SITE WORK	$7,830,421	545,000	$14.37
08. SALT SAND BINS - S10, ASPHALT SLAB ONLY	$57,000	7,600	$7.50
TOTAL NET DIRECT COST	**$19,485,151**		

GENERAL MARKUPS

DESIGN CONTINGENCY	15.00%	$2,922,773
ESCALATION TO MIDPOINT 02/2023	7.08%	$1,587,228
GENERAL REQUIREMENTS	12.00%	$2,879,418
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$1,612,474
INSURANCE & BONDS	2.50%	$712,176
TOTAL CONSTRUCTION COST		**$29,199,220**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$301,178	$16.73
B SHELL		$1,648,978	$91.61
C INTERIORS		$936,216	$52.01
D SERVICES		$2,049,181	$113.84
E EQUIPMENT AND FURNISHINGS		$97,595	$5.42
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$198,274	$11.02
NET DIRECT BUILDING COST		$5,231,422	$290.63
DESIGN CONTINGENCY	15.00%	$784,713	$43.60
SUBTOTAL		$6,016,135	$334.23
ESCALATION TO MIDPOINT 02/2023	7.08%	$426,143	$23.67
SUBTOTAL		$6,442,278	$357.90
GENERAL REQUIREMENTS	12.00%	$773,073	$42.95
SUBTOTAL		$7,215,352	$400.85
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$432,921	$24.05
SUBTOTAL		$7,648,273	$424.90
INSURANCE & BONDS	2.50%	$191,207	$10.62
TOTAL BUILDING COST		**$7,839,480**	**$435.53**

GROSS FLOOR AREA: 18,000 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$301,178	$16.73
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$626,445	$34.80
B20 EXTERIOR CLOSURE		$743,896	$41.33
B30 ROOFING		$278,637	$15.48
C10 INTERIOR CONSTRUCTION		$459,204	$25.51
C20 STAIRWAYS		$4,102	$0.23
C30 INTERIOR FINISHES		$472,910	$26.27
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$261,980	$14.55
D30 HVAC SYSTEMS		$742,030	$41.22
D40 FIRE PROTECTION SYSTEMS		$83,653	$4.65
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$840,315	$46.68
D5050 TELECOM		$121,203	$6.73
E10 EQUIPMENT			
E20 FURNISHINGS		$97,595	$5.42
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$198,274	$11.02
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$5,231,422	$290.63
DESIGN CONTINGENCY	15.00%	$784,713	$43.60
SUBTOTAL		$6,016,135	$334.23
ESCALATION TO MIDPOINT 02/2023	7.08%	$426,143	$23.67
SUBTOTAL		$6,442,278	$357.90
GENERAL REQUIREMENTS	12.00%	$773,073	$42.95
SUBTOTAL		$7,215,352	$400.85
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$432,921	$24.05
SUBTOTAL		$7,648,273	$424.90
INSURANCE & BONDS	2.50%	$191,207	$10.62
TOTAL BUILDING COST		**$7,839,480**	**$435.53**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	83	CY	707.77	$58,627
Spread footing, assembly	30	CY	643.15	$19,056
Special foundation				
Grade beam, assembly	5	CY	821.04	$3,801
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	18,000	SF	11.35	$204,265
Topping slab	900	SF	7.23	$6,506
Miscellaneous				
Concrete curb	558	LF	15.08	$8,413
Control joint	558	LF	0.91	$510
A10 FOUNDATIONS				**$301,178**
A SUBSTRUCTURE				**$301,178**
B SHELL				
B10 SUPERSTRUCTURE				
Floor construction				
Structural steel				
Wide flange	45	TON	4,647.38	$209,132
Piping and tube steel	16	TON	5,680.13	$89,462
Miscellaneous steel, including angles and channels	9	TON	9,036.56	$82,346
Fire protection	70	TON	309.83	$21,645
Moment connection, Allowance	1	LS	25,000.00	$25,000
Anchor and baseplate	25	EA	609.15	$15,229
Roof construction				
Structural steel				
Wide flange	11	TON	4,647.38	$52,283
Piping and tube steel	3	TON	5,680.13	$15,336
Miscellaneous steel, including angles and channels	2	TON	9,036.56	$18,909
Fire protection	16	TON	309.83	$4,970
Moment connection, Allowance	1	LS	25,818.75	$25,819
Anchors and baseplates, Allowance	1	LS	10,327.50	$10,328
Metal deck, 1 1/2"	18,000	SF	3.11	$55,986
B10 SUPERSTRUCTURE				**$626,445**
B20 EXTERIOR CLOSURE				
Exterior walls				

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Framing, metal stud	16,180	SF	8.26	$133,679
Insulation, batt	16,180	SF	1.59	$25,733
Exterior sheathing	16,180	SF	2.58	$41,775
Exterior wall finish				
Metal panel siding	10,598	SF	21.60	$228,877
CMU wainscot	4,045	SF	16.55	$66,964
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	18,000	SF	2.87	$51,638
Exterior windows				
Storefront	1,537	SF	87.96	$135,201
Exterior doors				
Aluminum fully glazed including frame and hardware				
Double	3	PR	5,155.19	$15,466
Hollow metal including frame and hardware				
Single	8	EA	1,794.03	$14,352
Miscellaneous				
Closer	14	EA	332.12	$4,650
Panic hardware	14	EA	754.33	$10,561
Miscellaneous work, Allowance	1	LS	15,000.00	$15,000
B20 EXTERIOR CLOSURE				**$743,896**
B30 ROOFING				
Roof coverings				
TPO roofing	18,000	SF	5.72	$103,025
Membrane underlayment	18,000	SF	3.08	$55,367
Rigid insulation	18,000	SF	4.08	$73,465
Tapered premium	5,940	SF	2.16	$12,844
Cant strip	558	LF	2.43	$1,356
Walk pad, assume 5% of roof area	900	SF	5.76	$5,180
Flashing and sheet metal				
Reglet	558	LF	5.19	$2,897
Flashing	558	LF	8.20	$4,574
Coping, aluminum	558	LF	21.83	$12,183
Roof openings				
Access hatch/skylights, Allowance	1	LS	7,745.63	$7,746
B30 ROOFING				**$278,637**
B - SHELL				**$1,648,978**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	19,252	SF	6.71	$129,240
Furring	481	SF	3.87	$1,864
Cementitious backerboard	682	SF	3.87	$2,636
Insulation, batt	19,734	SF	1.59	$31,385
Gypsum board				
Taped and finished	39,468	SF	2.88	$113,623
Underlayment	5,920	SF	1.63	$9,679
Inside face of exterior wall, taped and finished	16,180	SF	4.06	$65,670
Interior doors				
Hollow metal including frame and hardware				
Single	27	EA	1,933.12	$52,194
Double	3	PR	3,293.99	$9,882
Restroom accessories				
Partition	9	EA	1,054.05	$9,486
Partition, ADA	2	EA	1,367.90	$2,736
Urinal screen	2	EA	495.36	$991
Grab bar set	3	EA	216.89	$651
Paper towel dispenser	5	EA	739.46	$3,697
Soap dispenser	7	EA	89.08	$624
Toilet tissue, seat cover dispenser	12	EA	401.52	$4,818
Napkin disposal	6	EA	361.46	$2,169
Mirror	7	EA	73.99	$518
Coat hook, 48"	12	EA	139.42	$1,673
Fire extinguisher and cabinet	6	EA	397.77	$2,387
Miscellaneous				
Locker	20	EA	235.80	$4,716
Signage	18,000	SF	0.48	$8,565
C10 INTERIOR CONSTRUCTION				**$459,204**
C20 STAIRS				
Metal ladder				
Roof access ladder, Allowance	24	VLF	170.91	$4,102
C20 STAIRS				**$4,102**
C30 INTERIOR FINISHES				
Wall finishes				
Paint	50,083	SF	1.11	$55,392
Porcelain tile	682	SF	17.74	$12,099
Floor finishes				

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Polished concrete	5,200	SF	8.47	$44,058
Porcelain tile	1,754	SF	19.31	$33,868
Concrete, sealer	2,080	SF	1.51	$3,131
Resilient flooring	8,966	SF	6.22	$55,756
Base				
Rubber	1,187	LF	2.19	$2,602
Porcelain tile	69	LF	13.98	$965
Ceiling finishes				
ACT, including grid system	594	SF	6.15	$3,656
Hard lid	17,406	SF	10.85	$188,840
Water resistant	1,579	SF	15.43	$24,350
Soffit	1,273	SF	21.63	$27,534
Paint	18,679	SF	1.11	$20,659
C30 INTERIOR FINISHES				**$472,910**
C INTERIORS				**$936,216**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	18,000	SF	0.70	$12,548
Garbage disposal	2	EA	297.43	$595
Fixture including rough-in				
Water closet	9	EA	1,779.02	$16,011
Water closet (ADA)	4	EA	2,027.18	$8,109
Lavatory, wall mounted	8	EA	1,872.89	$14,983
Urinal	2	EA	2,201.00	$4,402
Service sink	2	EA	3,419.54	$6,839
Sink, single basin	5	EA	1,807.83	$9,039
Drinking fountain	2	EA	2,745.67	$5,491
Trench drain	150	LF	52.82	$7,923
Automatic sensor			457.30	
Water closet	13	EA	466.60	$6,066
Urinal	2	EA	469.38	$939
Lavatory, not used		NIC		
Miscellaneous fittings	18,000	SF	0.70	$12,548
Domestic water system				
Building entrance	1	LS	6,750.00	$6,750
Cold water piping, fittings and accessories	18,000	SF	1.58	$28,442
Hot water piping and fittings, insulation	18,000	SF	0.74	$13,384
Valve	18,000	SF	0.09	$1,673
Sanitary waste system, includes clean-outs	18,000	SF	1.53	$27,605

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sanitary vent system, includes vent through roofs	18,000	SF	1.35	$24,259
Roof drainage system	18,000	SF	1.16	$20,913
Indirect condensate drain system	18,000	SF	0.28	$5,019
Natural gas system	18,000	SF	0.93	$16,731
Commissioning, by owner		NOTE		
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	18,000	SF	0.65	$11,711
D20 PLUMBING SYSTEMS				**$261,980**
D30 HVAC SYSTEMS				
Equipment				
Heat and cool generating equipment	1	EA	11,618.44	$11,618
Air handling unit	20,250	CFM	5.53	$111,990
Dedicated AC units				
Computer/data room	1	EA	6,971.06	$6,971
Electrical/mechanical room	1	EA	3,717.90	$3,718
VAV terminals	20	EA	1,477.87	$29,557
Exhaust fans				
Building	18,000	SF	0.19	$3,346
Sound attenuation	18,000	SF	0.46	$8,365
Air distribution system				
Sheet metal ductwork, supports	19,800	LB	8.91	$176,365
Duct insulation	18,000	SF	2.32	$41,826
Flexible duct, supports	18,000	SF	0.46	$8,365
Chilled water distribution system	18,000	SF	3.49	$62,740
Hot water distribution system	18,000	SF	3.72	$66,922
Refrigeration piping system, specialties	1	LS	19,518.98	$19,519
Air inlets and outlets	18,000	SF	1.67	$30,115
Fire, smoke and manual dampers	18,000	SF	1.16	$20,913
Duct smoke detectors	18,000	SF	0.14	$2,510
Automatic temperature controls	18,000	SF	5.34	$96,201
Air/water balance, by an independent contractor	18,000	SF	1.07	$19,240

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Start-up, commission major equipment	18,000	SF	0.46	$8,365
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, duct	18,000	SF	0.74	$13,384
D30 HVAC SYSTEMS				**$742,030**
D40 FIRE PROTECTION SYSTEMS				
Automatic reprotection systems	18,000	SF	4.65	$83,653
D40 FIRE PROTECTION SYSTEMS				**$83,653**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	33,254.55	$33,255
Distribution board	18,000	SF	1.66	$29,929
Panel board	18,000	SF	3.52	$63,279
Transformer	18,000	SF	2.38	$42,756
Digital metering/surge protection	18,000	SF	1.19	$21,378
Building feeder	18,000	SF	3.80	$68,409
Emergency power	18,000	SF	1.43	$25,654
Building grounding system	18,000	SF	0.48	$8,551
Equipment connection including disconnect switch, conduit and conductors	18,000	SF	3.09	$55,583
Lighting system				
Fixtures	18,000	SF	10.45	$188,126
Branch wiring	18,000	SF	3.80	$68,409
Convenience power including branch wiring	18,000	SF	8.55	$153,921
Fire alarm system	18,000	SF	3.80	$68,409
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	18,000	SF	0.04	$684
Security system, no work anticipated		NOTE		
Commissioning, by owner				

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Miscellaneous including seismic bracing, identification and fire stop	18,000	SF	0.67	$11,972
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$840,315**
D5050 TELECOM				
Telephone and data system	18,000	SF	3.22	$57,999
Fiber optic system	18,000	SF	1.24	$22,307
Common raceway system	18,000	SF	2.27	$40,897
D5050 TELECOM				**$121,203**
D SERVICES				**$2,049,181**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				
Casework	18,000	SF	5.42	$97,595
E20 FURNISHINGS				**$97,595**
E EQUIPMENT AND FURNISHINGS				**$97,595**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	4,167	CY	12.33	$51,365
Backfill and compact	1,042	CY	13.03	$13,575
Engineered fill, backfill and compact, assumed 75%	3,125	CY	27.21	$85,043
Haul	3,125	CY	15.45	$48,291
G10 SITE PREPARATION				**$198,274**
G BUILDING SITEWORK				**$198,274**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$273,009	$16.52
B SHELL		$797,549	$48.27
C INTERIORS		$298,618	$18.07
D SERVICES		$1,166,610	$70.61
E EQUIPMENT AND FURNISHINGS		$42,660	$2.58
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$72,802	$4.41
NET DIRECT BUILDING COST		$2,651,248	$160.46
DESIGN CONTINGENCY	15.00%	$397,687	$24.07
SUBTOTAL		$3,048,935	$184.53
ESCALATION TO MIDPOINT 02/2023	7.08%	$215,966	$13.07
SUBTOTAL		$3,264,901	$197.60
GENERAL REQUIREMENTS	12.00%	$391,788	$23.71
SUBTOTAL		$3,656,690	$221.31
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$219,401	$13.28
SUBTOTAL		$3,876,091	$234.59
INSURANCE & BONDS	2.50%	$96,902	$5.86
TOTAL BUILDING COST		**$3,972,993**	**$240.45**

GROSS FLOOR AREA: 16,523 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$273,009	$16.52
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$458,667	$27.76
B20 EXTERIOR CLOSURE		$338,882	$20.51
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$207,055	$12.53
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$91,563	$5.54
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$133,594	$8.09
D30 HVAC SYSTEMS		$194,275	$11.76
D40 FIRE PROTECTION SYSTEMS		$76,789	$4.65
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$706,259	$42.74
D5050 TELECOM		$55,693	$3.37
E10 EQUIPMENT			
E20 FURNISHINGS		$42,660	$2.58
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$72,802	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$2,651,248	$160.46
DESIGN CONTINGENCY	15.00%	$397,687	$24.07
SUBTOTAL		$3,048,935	$184.53
ESCALATION TO MIDPOINT 02/2023	7.08%	$215,966	$13.07
SUBTOTAL		$3,264,901	$197.60
GENERAL REQUIREMENTS	12.00%	$391,788	$23.71
SUBTOTAL		$3,656,690	$221.31
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$219,401	$13.28
SUBTOTAL		$3,876,091	$234.59
INSURANCE & BONDS	2.50%	$96,902	$5.86
TOTAL BUILDING COST		**$3,972,993**	**$240.45**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	108	CY	707.77	$76,518
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	16,523	SF	11.35	$187,504
Miscellaneous				
Concrete curb	562	LF	15.08	$8,473
Control joint	562	LF	0.91	$514
A10 FOUNDATIONS				**$273,009**
A SUBSTRUCTURE				**$273,009**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
B2	16,523	SF	26.85	$443,667
Roof construction				
Fire protection, Allowance	1	LS	15,000.00	$15,000
B10 SUPERSTRUCTURE				**$458,667**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	7,860	SF	8.26	$64,939
Insulation, batt	7,860	SF	1.59	$12,501
Exterior sheathing	7,860	SF	2.58	$20,294
Exterior wall finish				
Metal panel siding	5,695	SF	21.60	$122,992
CMU wainscot	1,965	SF	16.55	$32,530
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	16,523	SF	1.55	$25,596
Exterior windows				
Storefront	200	SF	87.96	$17,592
Exterior doors				
Hollow metal including frame and hardware				
Single	3	EA	1,794.03	$5,382
Double	1	PR	3,293.99	$3,294

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sectional door	2	EA	6,582.59	$13,165
Motor operation	2	EA	2,581.88	$5,164
Miscellaneous				
Closer	5	EA	332.12	$1,661
Panic hardware	5	EA	754.33	$3,772
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$338,882**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building		NOTE		
B30 ROOFING				
B - SHELL				**$797,549**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	9,638	SF	6.71	$64,701
Furring	241	SF	3.87	$933
Insulation, batt	9,879	SF	1.59	$15,713
Gypsum board				
Taped and finished	19,759	SF	2.88	$56,884
Underlayment	2,964	SF	1.63	$4,846
Inside face of exterior wall, taped and finished	7,860	SF	4.06	$31,901
Interior doors				
Hollow metal including frame and hardware				
Single	9	EA	1,933.12	$17,398
Double	1	PR	3,293.99	$3,294
Miscellaneous				
Restroom accessories				
Partition, ADA	1	EA	1,367.90	$1,368
Urinal screen	1	EA	495.36	$495
Grab bar set	1	EA	216.89	$217
Paper towel dispenser	1	EA	739.46	$739
Soap dispenser	1	EA	89.08	$89
Toilet tissue, seat cover dispenser	1	EA	401.52	$402
Mirror	1	EA	73.99	$74
Coat hook, 48"	1	EA	139.42	$139
Signage	16,523	SF	0.48	$7,862
C10 INTERIOR CONSTRUCTION				**$207,055**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
C30 INTERIOR FINISHES				
Wall finishes				
Porcelain tile	690	SF	17.74	$12,252
Paint	23,476	SF	1.11	$25,965
Floor finishes				
Porcelain tile	261	SF	19.31	$5,040
Concrete, sealer	16,262	SF	1.51	$24,481
Ceiling finishes				
Hard lid	261	SF	10.85	$2,832
Exposed structure, paint	16,262	SF	1.29	$20,993
C30 INTERIOR FINISHES				**$91,563**
C INTERIORS				**$298,618**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	16,523	SF	0.70	$11,518
Fixture including rough-in				
Water closet (ADA)	1	EA	2,027.18	$2,027
Lavatory, wall mounted	1	EA	1,872.89	$1,873
Urinal	1	EA	2,201.00	$2,201
Service sink	1	EA	3,419.54	$3,420
Sink, single basin	2	EA	1,807.83	$3,616
Drinking fountain	1	EA	2,745.67	$2,746
Trench drain	85	LF	52.82	$4,490
Automatic sensor				
Water closet	1	EA	466.60	$467
Urinal	1	EA	469.38	$469
Lavatory, not used		NIC		
Miscellaneous fittings	16,523	SF	0.46	$7,679
Hose bibb	10	EA	297.24	$2,972
Domestic water system				
Building entrance	1	LS	3,600.00	$3,600
Cold water piping, fittings and accessories	16,523	SF	0.88	$14,590
Hot water piping and fittings, insulation	16,523	SF	0.51	$8,447
Valve	16,523	SF	0.09	$1,536
Sanitary waste system, includes clean-outs	16,523	SF	0.74	$12,286
Natural gas system	16,523	SF	1.70	$28,156

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sanitary vent system, includes vent through roofs	16,523	SF	0.84	$13,822
Commissioning, by owner				
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	16,523	SF	0.46	$7,679
D20 PLUMBING SYSTEMS				**$133,594**
D30 HVAC SYSTEMS				
Equipment				
Heaters, infrared	41	EA	2,044.85	$84,467
Exhaust fans				
Building	16,523	SF	0.19	$3,072
Sound attenuation	16,523	SF	0.46	$7,679
Air distribution system				
Flexible duct, exhaust fans	16,523	SF	0.46	$7,679
Air inlets and outlets, exhaust fans	16,523	SF	0.74	$12,286
Automatic temperature controls	16,523	SF	3.72	$61,431
Start-up, commission major equipment	16,523	SF	0.33	$5,375
Commissioning, by the owner		NOTE		
Miscellaneous including seismic bracing, duct	16,523	SF	0.74	$12,286
D30 HVAC SYSTEMS				**$194,275**
D40 FIRE PROTECTION SYSTEMS				
Wet systems	16,523	SF	4.65	$76,789
D40 FIRE PROTECTION SYSTEMS				**$76,789**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	30,940.58	$30,941
Distribution board	16,523	SF	1.69	$27,847
Panel board	16,523	SF	3.56	$58,876
Transformer	16,523	SF	2.41	$39,781
Digital metering/surge protection	16,523	SF	1.20	$19,890
Building feeder	16,523	SF	3.85	$63,649
Emergency power	16,523	SF	1.44	$23,868

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Building grounding system	16,523	SF	0.48	$7,956
Equipment connection including disconnect switch, conduit and conductors	16,523	SF	2.41	$39,781
Lighting system				
Fixtures	16,523	SF	8.19	$135,255
Branch wiring	16,523	SF	3.61	$59,671
Convenience power including branch wiring	16,523	SF	7.46	$123,320
Fire alarm system	16,523	SF	3.85	$63,649
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	16,523	SF	0.04	$636
Security system, no work anticipated		NOTE		
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, identification and fire stop	16,523	SF	0.67	$11,139
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$706,259**
D5050 TELECOM				
Telephone and data system	16,523	SF	2.41	$39,781
Fiber optic system	16,523	SF	0.96	$15,912
D5050 TELECOM				**$55,693**
D SERVICES				**$1,166,610**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				
Casework	16,523	SF	2.58	$42,660
E20 FURNISHINGS				**$42,660**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
E EQUIPMENT AND FURNISHINGS				**$42,660**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	1,530	CY	12.33	$18,860
Backfill and compact	382	CY	13.03	$4,985
Engineered fill, backfill and compact, assumed 75%	1,147	CY	27.21	$31,226
Haul	1,147	CY	15.45	$17,731
G10 SITE PREPARATION				**$72,802**
G BUILDING SITEWORK				**$72,802**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$209,293	$19.03
B SHELL		$665,613	$60.51
C INTERIORS		$223,254	$20.30
D SERVICES		$783,528	$71.23
E EQUIPMENT AND FURNISHINGS		$28,401	$2.58
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$48,466	$4.41
NET DIRECT BUILDING COST		$1,958,555	$178.05
DESIGN CONTINGENCY	15.00%	$293,783	$26.71
SUBTOTAL		$2,252,338	$204.76
ESCALATION TO MIDPOINT 02/2023	7.08%	$159,541	$14.50
SUBTOTAL		$2,411,879	$219.26
GENERAL REQUIREMENTS	12.00%	$289,425	$26.31
SUBTOTAL		$2,701,304	$245.57
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$162,078	$14.73
SUBTOTAL		$2,863,383	$260.31
INSURANCE & BONDS	2.50%	$71,585	$6.51
TOTAL BUILDING COST		**$2,934,967**	**$266.82**

GROSS FLOOR AREA: 11,000 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$209,293	$19.03
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$328,088	$29.83
B20 EXTERIOR CLOSURE		$337,525	$30.68
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$156,358	$14.21
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$66,896	$6.08
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$95,810	$8.71
D30 HVAC SYSTEMS		$129,335	$11.76
D40 FIRE PROTECTION SYSTEMS		$51,121	$4.65
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$470,185	$42.74
D5050 TELECOM		$37,077	$3.37
E10 EQUIPMENT			
E20 FURNISHINGS		$28,401	$2.58
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$48,466	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$1,958,555	$178.05
DESIGN CONTINGENCY	15.00%	$293,783	$26.71
SUBTOTAL		$2,252,338	$204.76
ESCALATION TO MIDPOINT 02/2023	7.08%	$159,541	$14.50
SUBTOTAL		$2,411,879	$219.26
GENERAL REQUIREMENTS	12.00%	$289,425	$26.31
SUBTOTAL		$2,701,304	$245.57
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$162,078	$14.73
SUBTOTAL		$2,863,383	$260.31
INSURANCE & BONDS	2.50%	$71,585	$6.51
TOTAL BUILDING COST		**$2,934,967**	**$266.82**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	108	CY	707.77	$76,518
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	11,000	SF	11.35	$124,828
Miscellaneous				
Concrete curb	497	LF	15.08	$7,493
Control joint	497	LF	0.91	$454
A10 FOUNDATIONS				**$209,293**
A SUBSTRUCTURE				**$209,293**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
B3	2,750	SF	28.92	$79,522
B4	2,750	SF	28.92	$79,522
B5	2,750	SF	28.92	$79,522
B6	2,750	SF	28.92	$79,522
B7, future work		NIC		
Roof construction				
Fire protection, Allowance	1	LS	10,000.00	$10,000
B10 SUPERSTRUCTURE				**$328,088**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	7,800	SF	8.26	$64,444
Insulation, batt	7,800	SF	1.59	$12,405
Exterior sheathing	7,800	SF	2.58	$20,139
Exterior wall finish				
Metal panel siding	5,650	SF	21.60	$122,020
CMU wainscot	1,950	SF	16.55	$32,282
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	11,000	SF	1.55	$17,040
Exterior windows				
Storefront	200	SF	87.96	$17,592

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Exterior doors				
Hollow metal including frame and hardware				
Single	3	EA	1,794.03	$5,382
Double	1	PR	3,293.99	$3,294
Sectional door	3	EA	6,582.59	$19,748
Motor operation	3	EA	2,581.88	$7,746
Miscellaneous				
Closer	5	EA	332.12	$1,661
Panic hardware	5	EA	754.33	$3,772
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$337,525**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building		NOTE		
B30 ROOFING				
B - SHELL				**$665,613**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	6,417	SF	6.71	$43,074
Furring	160	SF	3.87	$621
Insulation, batt	6,577	SF	1.59	$10,460
Gypsum board				
Taped and finished	13,154	SF	2.88	$37,870
Underlayment	1,973	SF	1.63	$3,226
Inside face of exterior wall, taped and finished	7,800	SF	4.06	$31,658
Interior doors				
Hollow metal including frame and hardware				
Single	9	EA	1,933.12	$17,398
Double	1	PR	3,293.99	$3,294
Miscellaneous				
Restroom accessories				
Partition, ADA	1	EA	1,367.90	$1,368
Urinal screen	1	EA	495.36	$495
Grab bar set	1	EA	216.89	$217
Paper towel dispenser	1	EA	739.46	$739
Soap dispenser	1	EA	89.08	$89
Toilet tissue, seat cover dispenser	1	EA	401.52	$402
Mirror	1	EA	73.99	$74

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Coat hook, 48"	1	EA	139.42	$139
Signage	11,000	SF	0.48	$5,234
C10 INTERIOR CONSTRUCTION				**$156,358**
C30 INTERIOR FINISHES				
Wall finishes				
Porcelain tile	524	SF	17.74	$9,295
Paint	17,811	SF	1.11	$19,699
Floor finishes				
Porcelain tile	261	SF	19.31	$5,040
Concrete, sealer	10,739	SF	1.51	$16,167
Ceiling finishes				
Hard lid	261	SF	10.85	$2,832
Exposed structure, paint	10,739	SF	1.29	$13,863
C30 INTERIOR FINISHES				**$66,896**
C INTERIORS				**$223,254**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	11,000	SF	0.70	$7,668
Fixture including rough-in				
Water closet (ADA)	1	EA	2,027.18	$2,027
Lavatory, wall mounted	1	EA	1,872.89	$1,873
Urinal	1	EA	2,201.00	$2,201
Service sink	1	EA	3,419.54	$3,420
Sink, single basin	3	EA	1,807.83	$5,423
Trench drain	65	LF	52.82	$3,433
Automatic sensor				
Water closet	1	EA	466.60	$467
Urinal	1	EA	469.38	$469
Lavatory, not used		NIC		
Miscellaneous fittings	11,000	SF	0.46	$5,112
Hose bibb	10	EA	297.24	$2,972
Domestic water system				
Building entrance	1	LS	3,150.00	$3,150
Cold water piping, fittings and accessories	11,000	SF	0.88	$9,713
Hot water piping and fittings, insulation	11,000	SF	0.51	$5,623
Valve	11,000	SF	0.09	$1,022

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sanitary waste system, includes clean-outs	11,000	SF	0.74	$8,179
Natural gas system	11,000	SF	1.70	$18,744
Sanitary vent system, includes vent through roofs	11,000	SF	0.84	$9,202
Commissioning, by owner				
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	11,000	SF	0.46	$5,112
D20 PLUMBING SYSTEMS				**$95,810**
D30 HVAC SYSTEMS				
Equipment				
Heaters, infrared	28	EA	2,044.85	$56,233
Exhaust fans				
Building	11,000	SF	0.19	$2,045
Sound attenuation	11,000	SF	0.46	$5,112
Air distribution system				
Flexible duct, exhaust fans	11,000	SF	0.46	$5,112
Air inlets and outlets, exhaust fans	11,000	SF	0.74	$8,179
Automatic temperature controls	11,000	SF	3.72	$40,897
Start-up, commission major equipment	11,000	SF	0.33	$3,578
Commissioning, by the owner		NOTE		
Miscellaneous including seismic bracing, duct	11,000	SF	0.74	$8,179
D30 HVAC SYSTEMS				**$129,335**
D40 FIRE PROTECTION SYSTEMS				
Wet systems	11,000	SF	4.65	$51,121
D40 FIRE PROTECTION SYSTEMS				**$51,121**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	20,598.34	$20,598
Distribution board	11,000	SF	1.69	$18,539
Panel board	11,000	SF	3.56	$39,196
Transformer	11,000	SF	2.41	$26,484
Digital metering/surge protection	11,000	SF	1.20	$13,242

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Building feeder	11,000	SF	3.85	$42,374
Emergency power	11,000	SF	1.44	$15,890
Building grounding system	11,000	SF	0.48	$5,297
Equipment connection including disconnect switch, conduit and conductors	11,000	SF	2.41	$26,484
Lighting system				
Fixtures	11,000	SF	8.19	$90,044
Branch wiring	11,000	SF	3.61	$39,725
Convenience power including branch wiring	11,000	SF	7.46	$82,099
Fire alarm system	11,000	SF	3.85	$42,374
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	11,000	SF	0.04	$424
Security system, no work anticipated		NOTE		
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, identification and fire stop	11,000	SF	0.67	$7,415
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$470,185**
D5050 TELECOM				
Telephone and data system	11,000	SF	2.41	$26,484
Fiber optic system	11,000	SF	0.96	$10,593
D5050 TELECOM				**$37,077**
D SERVICES				**$783,528**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Casework	11,000	SF	2.58	$28,401
E20 FURNISHINGS				**$28,401**
E EQUIPMENT AND FURNISHINGS				**$28,401**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	1,019	CY	12.33	$12,556
Backfill and compact	255	CY	13.03	$3,318
Engineered fill, backfill and compact, assumed 75%	764	CY	27.21	$20,788
Haul	764	CY	15.45	$11,804
G10 SITE PREPARATION				**$48,466**
G BUILDING SITEWORK				**$48,466**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$212,070	$21.19
B SHELL		$389,014	$38.86
C INTERIORS		$6,466	$0.65
D SERVICES		$51,690	$5.16
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$44,105	$4.41
NET DIRECT BUILDING COST		$703,345	$70.26
DESIGN CONTINGENCY	15.00%	$105,502	$10.54
SUBTOTAL		$808,847	$80.80
ESCALATION TO MIDPOINT 02/2023	7.08%	$57,293	$5.72
SUBTOTAL		$866,140	$86.53
GENERAL REQUIREMENTS	12.00%	$103,937	$10.38
SUBTOTAL		$970,077	$96.91
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$58,205	$5.81
SUBTOTAL		$1,028,281	$102.73
INSURANCE & BONDS	2.50%	$25,707	$2.57
TOTAL BUILDING COST		**$1,053,989**	**$105.29**

GROSS FLOOR AREA: 10,010 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$212,070	$21.19
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$301,959	$30.17
B20 EXTERIOR CLOSURE		$87,055	$8.70
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$6,466	$0.65
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$51,690	$5.16
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$44,105	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$703,345	$70.26
DESIGN CONTINGENCY	15.00%	$105,502	$10.54
SUBTOTAL		$808,847	$80.80
ESCALATION TO MIDPOINT 02/2023	7.08%	$57,293	$5.72
SUBTOTAL		$866,140	$86.53
GENERAL REQUIREMENTS	12.00%	$103,937	$10.38
SUBTOTAL		$970,077	$96.91
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$58,205	$5.81
SUBTOTAL		$1,028,281	$102.73
INSURANCE & BONDS	2.50%	$25,707	$2.57
TOTAL BUILDING COST		**$1,053,989**	**$105.29**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	119	CY	707.77	$83,989
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	10,010	SF	11.35	$113,594
Miscellaneous				
Concrete curb	906	LF	15.08	$13,659
Control joint	906	LF	0.91	$828
A10 FOUNDATIONS				**$212,070**
A SUBSTRUCTURE				**$212,070**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
S1	1,890	SF	28.92	$54,653
S2	1,890	SF	28.92	$54,653
S3	1,890	SF	28.92	$54,653
S4	2,240	SF	28.92	$64,774
S5	2,100	SF	28.92	$60,726
Roof construction				
Fire protection, Allowance	1	LS	12,500.00	$12,500
B10 SUPERSTRUCTURE				**$301,959**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	1,593	SF	8.26	$13,161
Exterior wall finish				
Vertical metal siding	1,593	SF	30.37	$48,387
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	10,010	SF	1.55	$15,507
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$87,055**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered		NOTE		

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
building				
B30 ROOFING				
B - SHELL				**$389,014**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Gypsum board				
Inside face of exterior wall, taped and finished	1,593	SF	4.06	$6,466
C10 INTERIOR CONSTRUCTION				**$6,466**
C INTERIORS				**$6,466**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	10,010	SF	2.58	$25,845
Branch wiring	10,010	SF	1.03	$10,338
Convenience power connections including branch wiring	10,010	SF	1.55	$15,507
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$51,690**
D SERVICES				**$51,690**
E EQUIPMENT AND FURNISHINGS				

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	927	CY	12.33	$11,426
Backfill and compact	232	CY	13.03	$3,020
Engineered fill, backfill and compact, assumed 75%	695	CY	27.21	$18,917
Haul	695	CY	15.45	$10,742
G10 SITE PREPARATION				**$44,105**
G BUILDING SITEWORK				**$44,105**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$164,399	$18.07
B SHELL		$375,317	$41.24
C INTERIORS		$25,447	$2.80
D SERVICES		$46,990	$5.16
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$44,401	$4.88
NET DIRECT BUILDING COST		$656,554	$72.15
DESIGN CONTINGENCY	15.00%	$98,483	$10.82
SUBTOTAL		$755,037	$82.97
ESCALATION TO MIDPOINT 02/2023	7.08%	$53,482	$5.88
SUBTOTAL		$808,519	$88.85
GENERAL REQUIREMENTS	12.00%	$97,022	$10.66
SUBTOTAL		$905,541	$99.51
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$54,332	$5.97
SUBTOTAL		$959,874	$105.48
INSURANCE & BONDS	2.50%	$23,997	$2.64
TOTAL BUILDING COST		**$983,870**	**$108.12**

GROSS FLOOR AREA: 9,100 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$164,399	$18.07
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$89,571	$9.84
B20 EXTERIOR CLOSURE		$111,784	$12.28
B30 ROOFING		$173,962	$19.12
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$25,447	$2.80
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$46,990	$5.16
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$40,095	$4.41
G20 SITE IMPROVEMENTS		$4,306	$0.47
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$656,554	$72.15
DESIGN CONTINGENCY	15.00%	$98,483	$10.82
SUBTOTAL		$755,037	$82.97
ESCALATION TO MIDPOINT 02/2023	7.08%	$53,482	$5.88
SUBTOTAL		$808,519	$88.85
GENERAL REQUIREMENTS	12.00%	$97,022	$10.66
SUBTOTAL		$905,541	$99.51
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$54,332	$5.97
SUBTOTAL		$959,874	$105.48
INSURANCE & BONDS	2.50%	$23,997	$2.64
TOTAL BUILDING COST		**$983,870**	**$108.12**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	72	CY	707.77	$50,802
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	9,100	SF	11.35	$103,267
Miscellaneous				
Concrete curb	646	LF	15.08	$9,739
Control joint	646	LF	0.91	$591
A10 FOUNDATIONS				**$164,399**
A SUBSTRUCTURE				**$164,399**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
S8	900	SF	28.92	$26,025
Roof construction				
Fire protection, Allowance	1	LS	8,500.00	$8,500
Structural steel for S12 & S13	8,200	SF	6.71	$55,046
B10 SUPERSTRUCTURE				**$89,571**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	2,442	SF	8.26	$20,176
Insulation, batt	2,442	SF	1.59	$3,884
Exterior wall finish				
Vertical metal siding	2,442	SF	30.37	$74,175
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	9,100	SF	0.77	$7,049
Miscellaneous work, Allowance	1	LS	6,500.00	$6,500
B20 EXTERIOR CLOSURE				**$111,784**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building S8		NOTE		

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Roof covering for S12 & S13	8,200	SF	21.21	$173,962
B30 ROOFING				**$173,962**
B - SHELL				**$375,317**
C INTERIORS				
C30 INTERIOR FINISHES				
Floor finishes				
Concrete, sealer	9,100	SF	1.51	$13,699
Ceiling finishes				
Exposed structure, paint	9,100	SF	1.29	$11,748
C30 INTERIOR FINISHES				**$25,447**
C INTERIORS				**$25,447**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	9,100	SF	2.58	$23,495
Branch wiring	9,100	SF	1.03	$9,398
Convenience power connections including branch wiring	9,100	SF	1.55	$14,097
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$46,990**
D SERVICES				**$46,990**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	843	CY	12.33	$10,387
Backfill and compact	211	CY	13.03	$2,745
Engineered fill, backfill and compact, assumed 75%	632	CY	27.21	$17,198
Haul	632	CY	15.45	$9,765
G10 SITE PREPARATION				**$40,095**
G20 SITE IMPROVEMENTS				
Double leaf gates	2	EA	2,153.01	$4,306
G20 SITE IMPROVEMENTS				**$4,306**
G BUILDING SITEWORK				**$44,401**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$21,206	$24.43
B SHELL		$142,732	$164.44
C INTERIORS		$7,386	$8.51
D SERVICES		$4,482	$5.16
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$3,824	$4.41
NET DIRECT BUILDING COST		$179,630	$206.95
DESIGN CONTINGENCY	15.00%	$26,945	$31.04
SUBTOTAL		$206,575	$237.99
ESCALATION TO MIDPOINT 02/2023	7.08%	$14,632	$16.86
SUBTOTAL		$221,207	$254.85
GENERAL REQUIREMENTS	12.00%	$26,545	$30.58
SUBTOTAL		$247,752	$285.43
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$14,865	$17.13
SUBTOTAL		$262,617	$302.55
INSURANCE & BONDS	2.50%	$6,565	$7.56
TOTAL BUILDING COST		**$269,182**	**$310.12**

GROSS FLOOR AREA: 868 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$21,206	$24.43
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$27,285	$31.43
B20 EXTERIOR CLOSURE		$98,060	$112.97
B30 ROOFING		$17,387	$20.03
C10 INTERIOR CONSTRUCTION		$3,896	$4.49
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$3,490	$4.02
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$4,482	$5.16
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$3,824	$4.41
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$179,630	$206.95
DESIGN CONTINGENCY	15.00%	$26,945	$31.04
SUBTOTAL		$206,575	$237.99
ESCALATION TO MIDPOINT 02/2023	7.08%	$14,632	$16.86
SUBTOTAL		$221,207	$254.85
GENERAL REQUIREMENTS	12.00%	$26,545	$30.58
SUBTOTAL		$247,752	$285.43
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$14,865	$17.13
SUBTOTAL		$262,617	$302.55
INSURANCE & BONDS	2.50%	$6,565	$7.56
TOTAL BUILDING COST		**$269,182**	**$310.12**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Footing, assembly	13	CY	707.77	$9,437
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	868	SF	11.35	$9,850
Miscellaneous				
Concrete curb	120	LF	15.08	$1,809
Control joint	120	LF	0.91	$110
A10 FOUNDATIONS				**$21,206**
A SUBSTRUCTURE				**$21,206**
B SHELL				
B10 SUPERSTRUCTURE				
Floor construction				
Structural steel				
Wide flange	2	TON	4,647.38	$9,295
Piping and tube steel	1	TON	5,680.13	$4,314
Fire protection	3	TON	309.83	$855
Connection, Allowance	1	LS	2,581.88	$2,582
Roof construction				
Structural steel				
Wide flange	1	TON	4,647.38	$4,647
Fire protection	1	TON	309.83	$310
Connection, Allowance	1	LS	2,581.88	$2,582
Metal deck, 1 1/2"	868	SF	3.11	$2,700
B10 SUPERSTRUCTURE				**$27,285**
B20 EXTERIOR CLOSURE				
Exterior walls				
Concrete reinforced wall, 8' high, assembly	960	SF	42.97	$41,248
Framing, metal stud	960	SF	8.26	$7,932
Insulation, batt	960	SF	1.32	$1,264
Exterior sheathing	960	SF	2.58	$2,479
Exterior wall finish				
Vertical metal siding	960	SF	30.37	$29,160
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	868	SF	1.55	$1,345
Exterior doors				

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Hollow metal including frame and hardware				
Double	1	PR	3,293.99	$3,294
Sectional door	1	EA	6,582.59	$6,583
Motor operation	1	EA	2,581.88	$2,582
Miscellaneous				
Closer	2	EA	332.12	$664
Panic hardware	2	EA	754.33	$1,509
B20 EXTERIOR CLOSURE				**$98,060**
B30 ROOFING				
Roof coverings				
TPO roofing	868	SF	5.72	$4,968
Membrane underlayment	868	SF	3.08	$2,670
Felt underlayment	868	SF	0.94	$818
Rigid insulation	868	SF	4.08	$3,543
Tapered premium	286	SF	2.16	$619
Cant strip	120	LF	2.43	$292
Walk pad, assume 5% of roof area	43	SF	5.76	$250
Flashing and sheet metal				
Reglet	120	LF	5.19	$623
Flashing	120	LF	8.20	$984
Coping, aluminum	120	LF	21.83	$2,620
B30 ROOFING				**$17,387**
B - SHELL				**$142,732**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Gypsum board				
Inside face of exterior wall, taped and finished	960	SF	4.06	$3,896
C10 INTERIOR CONSTRUCTION				**$3,896**
C30 INTERIOR FINISHES				
Wall finishes				
Paint	960	SF	1.11	$1,062
Floor finishes				
Concrete, sealer	868	SF	1.51	$1,307
Ceiling finishes				
Exposed structure, paint	868	SF	1.29	$1,121
C30 INTERIOR FINISHES				**$3,490**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
C INTERIORS				**$7,386**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	868	SF	2.58	$2,241
Branch wiring	868	SF	1.03	$896
Convenience power connections including branch wiring	868	SF	1.55	$1,345
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$4,482**
D SERVICES				**$4,482**
E EQUIPMENT AND FURNISHINGS				
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	80	CY	12.33	$991
Backfill and compact	20	CY	13.03	$262
Engineered fill, backfill and compact, assumed 75%	60	CY	27.21	$1,640
Haul	60	CY	15.45	$931
G10 SITE PREPARATION				**$3,824**
G BUILDING SITEWORK				**$3,824**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$20,891	$13.06
B SHELL		$59,209	$37.01
C INTERIORS			
D SERVICES		$91,089	$56.93
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$45,787	$28.62
NET DIRECT BUILDING COST		$216,976	$135.61
DESIGN CONTINGENCY	15.00%	$32,546	$20.34
SUBTOTAL		$249,522	$155.95
ESCALATION TO MIDPOINT 02/2023	7.08%	$17,675	$11.05
SUBTOTAL		$267,197	$167.00
GENERAL REQUIREMENTS	12.00%	$32,064	$20.04
SUBTOTAL		$299,261	$187.04
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$17,956	$11.22
SUBTOTAL		$317,216	$198.26
INSURANCE & BONDS	2.50%	$7,930	$4.96
TOTAL BUILDING COST		**$325,147**	**$203.22**

GROSS FLOOR AREA: 1,600 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$20,891	$13.06
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$24,941	$15.59
B20 EXTERIOR CLOSURE			
B30 ROOFING		$34,268	$21.42
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$67,129	$41.96
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$23,960	$14.98
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$7,050	$4.41
G20 SITE IMPROVEMENTS		$31,671	$19.79
G30 SITE CIVIL/MECHANICAL UTILITIES		$7,066	$4.42
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$216,976	$135.61
DESIGN CONTINGENCY	15.00%	$32,546	$20.34
SUBTOTAL		$249,522	$155.95
ESCALATION TO MIDPOINT 02/2023	7.08%	$17,675	$11.05
SUBTOTAL		$267,197	$167.00
GENERAL REQUIREMENTS	12.00%	$32,064	$20.04
SUBTOTAL		$299,261	$187.04
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$17,956	$11.22
SUBTOTAL		$317,216	$198.26
INSURANCE & BONDS	2.50%	$7,930	$4.96
TOTAL BUILDING COST		**$325,147**	**$203.22**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	1,600	SF	11.35	$18,157
Miscellaneous				
Concrete curb	171	LF	15.08	$2,578
Control joint	171	LF	0.91	$156
A10 FOUNDATIONS				**$20,891**
A SUBSTRUCTURE				**$20,891**
B SHELL				
B10 SUPERSTRUCTURE				
Free standing roof structure, including delivery, foundation, erection				
S11	1,600	SF	10.28	$16,441
Roof construction				
Fire protection, Allowance	1	LS	8,500.00	$8,500
B10 SUPERSTRUCTURE				**$24,941**
B30 ROOFING				
Roof coverings				
Standing seam metal roof, steel	1,600	SF	21.42	$34,268
B30 ROOFING				**$34,268**
B - SHELL				**$59,209**
D SERVICES				
D20 PLUMBING SYSTEMS				
Fuel tank, above ground				
Gasoline, 2,000 gallon	1	EA	25,818.75	$25,819
Diesel, 2,000 gallon	1	EA	25,818.75	$25,819
Pump	2	EA	7,745.63	$15,491
D20 PLUMBING SYSTEMS				**$67,129**
D30 HVAC SYSTEMS				

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	1,600	SF	2.58	$4,131
Branch wiring	1,600	SF	1.03	$1,652
Convenience power connections including cabling	1,600	SF	6.71	$10,741
Emergency power	1,600	SF	4.65	$7,436
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$23,960**
D SERVICES				**$91,089**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	148	CY	12.33	$1,826
Backfill and compact	37	CY	13.03	$483
Engineered fill, backfill and compact, assumed 75%	111	CY	27.21	$3,024
Haul	111	CY	15.45	$1,717
G10 SITE PREPARATION				**$7,050**
G20 SITE IMPROVEMENTS				
Hardscape				
Asphaltic concrete paving	4,350	SF	3.48	$15,138
Base	4,350	SF	2.25	$9,783
Concrete sidewalk	713	SF	7.22	$5,146
Base	713	SF	2.25	$1,604
G20 SITE IMPROVEMENTS				**$31,671**
G30 SITE CIVIL/MECHANICAL UTILITIES				
Storm water service, Allowance	1,600	SF	1.29	$2,066
Gas system	1	LS	5,000.00	$5,000
G30 SITE CIVIL/MECHANICAL UTILITIES				**$7,066**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				**$45,787**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

SITE SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE			
B SHELL			
C INTERIORS			
D SERVICES			
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$7,830,421	$14.37
NET DIRECT SITE COST		$7,830,421	$14.37
DESIGN CONTINGENCY	15.00%	$1,174,563	$2.16
SUBTOTAL		$9,004,984	$16.52
ESCALATION TO MIDPOINT 02/2023	7.08%	$637,853	$1.17
SUBTOTAL		$9,642,837	$17.69
GENERAL REQUIREMENTS	12.00%	$1,157,140	$2.12
SUBTOTAL		$10,799,978	$19.82
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$647,999	$1.19
SUBTOTAL		$11,447,976	$21.01
INSURANCE & BONDS	2.50%	$286,199	$0.53
TOTAL SITE COST		**$11,734,176**	**$21.53**

TOTAL SITE AREA: 545,000 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SITE SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS			
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE			
B20 EXTERIOR CLOSURE			
B30 ROOFING			
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)			
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$1,374,849	$2.52
G20 SITE IMPROVEMENTS		$4,314,224	$7.92
G30 SITE CIVIL/MECHANICAL UTILITIES		$1,137,301	$2.09
G40 SITE ELECTRICAL UTILITIES		$1,004,047	$1.84
G90 OTHER SITE CONSTRUCTION			
NET DIRECT SITE COST		$7,830,421	$14.37
DESIGN CONTINGENCY	15.00%	$1,174,563	$2.16
SUBTOTAL		$9,004,984	$16.52
ESCALATION TO MIDPOINT 02/2023	7.08%	$637,853	$1.17
SUBTOTAL		$9,642,837	$17.69
GENERAL REQUIREMENTS	12.00%	$1,157,140	$2.12
SUBTOTAL		$10,799,978	$19.82
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$647,999	$1.19
SUBTOTAL		$11,447,976	$21.01
INSURANCE & BONDS	2.50%	$286,199	$0.53
TOTAL SITE COST		**$11,734,176**	**$21.53**

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Site clearing, removal and disposal of bush, turf, trees	545,000	SF	1.29	$703,561
Wetland removal, including mitigation	65,000	SF	10.33	$671,288
G10 SITE PREPARATION				**$1,374,849**
G20 SITE IMPROVEMENTS				
Site improvements				
Hardscape				
Asphaltic concrete paving				
Drive lanes	275,775	SF	6.43	$1,773,250
Parking lot	82,650	SF	3.48	$287,613
Lay down area and sumped refuse area	18,385	SF	2.45	$44,991
Base	376,810	SF	2.25	$847,439
Concrete sidewalk	17,672	SF	7.22	$127,555
Base	17,672	SF	2.25	$39,744
Ramp, premium	7,354	SF	11.54	$84,860
Generator pad	175	SF	20.66	$3,615
Concrete curb	7,125	LF	15.08	$107,418
Striped parking stall, standard	222	EA	15.40	$3,419
Landscape				
Landscape area	40,447	SF	5.10	$206,156
Irrigation, plant area	40,447	SF	3.25	$131,542
Mulch, wood chips	40,447	SF	0.59	$24,026
Generator and fuel tank enclosure				
Matt footing, assembly	8	CY	646.97	$5,176
Galvanized steel canopy	924	SF	25.82	$23,857
Chain link fence	248	LF	34.56	$8,571
Gate	2	EA	1,688.27	$3,377
Security fence, steel bar, 8'	2,550	LF	87.78	$223,849
Sliding gate	4	EA	9,811.13	$39,245
Card reader access	4	EA	2,581.88	$10,328
Architectural screen walls				
CMU, 8" thick, filled and reinforced	3,700	SF	17.48	$64,687
Continuous footing, assembly	67	CY	646.97	$43,131
Retaining wall, assembly	2,800	SF	42.97	$120,307
Monumental sign	1	EA	15,000.00	$15,000
Site signage	545,000	SF	0.05	$28,142

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Bicycle rack	2	EA	761.51	$1,523
Bench seat, including concrete footings	2	EA	1,549.13	$3,098
Concrete filled, steel bollard	50	EA	846.09	$42,305
G20 SITE IMPROVEMENTS				**$4,314,224**
G30 SITE CIVIL/MECHANICAL UTILITIES				
Fire water service				
Connect to existing service, at site	1	LS	1,685.45	$1,685
Fire hydrant	5	EA	6,989.65	$34,948
Post indicator valve, Allowance	1	EA	2,478.60	$2,479
Fire department connection	1	EA	3,532.01	$3,532
Pipe and fittings, including trench and backfill, PVC, C900	3,283	LF	80.68	$264,827
Thrust block	2	EA	724.21	$1,448
Domestic water service				
Connect to existing service, at site	1	LS	508.11	$508
Premium for hot tap	1	EA	2,738.85	$2,739
Water meter, assume by Utility Company		NIC		
Pipe and fittings, including trench and backfill, PVC, C900	1,766	LF	35.94	$63,484
Thrust block	2	EA	303.63	$607
Sanitary sewer service				
Connect to existing service, at site	1	LS	941.87	$942
Man hole	6	EA	5,886.68	$35,320
Pipe and fittings, including trench and backfill, cast iron	1,322	LF	127.03	$167,982
Storm water service				
Drain inlet				
Area drain inlet	20	EA	291.06	$5,821
Precast	1	EA	1,559.45	$1,559
Pipe and fittings, PVC SDR-35 , including trench and backfill				
12"	4,324	LF	82.84	$358,154
Clean-out	20	EA	691.94	$13,839
Natural gas system				
Connect to existing gas main at site	1	EA	743.58	$744
Pipe and fittings, Black steel, Sch. 40, 2", including trench and backfill	450	LF	44.79	$20,157
Wet weather ditch	1,213	LF	129.09	$156,526
G30 SITE CIVIL/MECHANICAL UTILITIES				**$1,137,301**
G40 SITE ELECTRICAL UTILITIES				

FEASIBILITY STUDY COST ESTIMATE - SITE #3

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Electrical				
Primary power				
Connect to existing MW/HV campus grid	1	LS	15,491.25	$15,491
Duct bank	3,156	LF	62.27	$196,555
Conductor	3,156	LF	103.28	$325,962
Emergency generator	1	EA	63,627.73	$63,628
Grounding	1	EA	929.48	$929
Lighting system, including conduit and wire, trenching				
Parking lot light fixture, Allowance	30	EA	5,680.13	$170,404
Pedestal light	20	EA	2,581.88	$51,638
Wall mounted LED fixture	25	SF	1,549.13	$38,728
Miscellaneous site power	545,000	SF	0.26	$140,712
G40 SITE ELECTRICAL UTILITIES				**$1,004,047**
G BUILDING SITEWORK				**$7,830,421**

City of Federal Way
Operations and Maintenance Facility Development

Federal Way, WA

Helix Design Group
FEASIBILITY STUDY COST ESTIMATE - SITE #4
OCMI JOB #: 20379.000
17 September 2021

OC INSIGHT

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

COST ESTIMATE

INTRODUCTORY NOTES

This estimate is based on verbal direction from the client and the following items, received 30 August 2021

Feasibility Report - Site 04

The following items are excluded from this estimate:

- Professional fees.
- Building permits and fees.
- Inspections and tests.
- Installation of owner furnished equipment.
- Construction change order contingency.
- Overtime.
- Hazardous material abatement/removal.
- Items referenced as NOT INCLUDED or NIC in estimate.

The midpoint of construction of February 2023 is based on:

- Construction start date of May 2022
- Estimated construction duration of 18 months

- This estimate is based on a Design-Bid-Build delivery method.
- This estimate is based on prevailing wage labor rates.
- This estimate is based on a detailed measurement of quantities. We have made allowances for items that were not clearly defined in the drawings. The client should verify these allowances.
- This estimate is based on a minimum of four competitive bids and a stable bidding market.
- This estimate should be updated if more definitive information becomes available, or if there is any change in scope.
- We strongly advise the client to review this estimate in detail. If any interpretations in this estimate appear to differ from those intended by the design documents, they should be addressed immediately.

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

PROJECT SUMMARY

ELEMENT	TOTAL COST	GFA	$/SF AREA
01. OPERATIONS BUILDING - B1A	$3,802,048	12,000	$316.84
02. BAYS BUILDING - B3-B6	$2,940,563	11,000	$267.32
03. ENCLOSED STORAGE BUILDINGS - S1-S5	$1,056,989	10,010	$105.59
04. COVERED MATERIAL STORAGE STRUCTURES - S8, S12 & S13	$1,010,365	9,100	$111.03
05. BRINE BUILDING - S9	$276,966	868	$319.08
06. SITE WORK	$4,842,269	328,878	$14.72
10. SALT SAND BINS - S10, ASPHALT SLAB ONLY	$85,417	7,600	$11.24
TOTAL CONSTRUCTION COST	**$14,014,615**		

ALTERNATES	TOTAL COST	GFA	$/SF AREA
01. OPERATIONS BUILDING - B1B - SINGLE STORY	$3,020,135	6,000	$503.36
02. FLEET MAINTENANCE - B2	$1,815,437	9,500	$191.10
03. FUELING STATION - S11	$328,004	1,600	$205.00
04. FUTURE SITE WORK	$2,000,000		

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED PROJECT SUMMARY

ELEMENT	TOTAL COST	GFA	$/SF AREA
01. OPERATIONS BUILDING - B1A	$2,537,173	12,000	$211.43
02. BAYS BUILDING - B3-B6	$1,962,289	11,000	$178.39
03. ENCLOSED STORAGE BUILDINGS - S1-S5	$705,347	10,010	$70.46
04. COVERED MATERIAL STORAGE STRUCTURES - S8, S12 & S13	$674,234	9,100	$74.09
05. BRINE BUILDING - S9	$184,824	868	$212.93
06. SITE WORK	$3,231,331	328,878	$9.83
10. SALT SAND BINS - S10, ASPHALT SLAB ONLY	$57,000	7,600	$7.50

TOTAL NET DIRECT COST	$9,352,198

GENERAL MARKUPS

DESIGN CONTINGENCY	15.00%	$1,402,830
ESCALATION TO MIDPOINT 02/2023	7.08%	$761,814
GENERAL REQUIREMENTS	12.00%	$1,382,021
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$773,932
INSURANCE & BONDS	2.50%	$341,820

TOTAL CONSTRUCTION COST	$14,014,615

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE			
B SHELL		$354,550	$29.55
C INTERIORS		$657,117	$54.76
D SERVICES		$1,400,169	$116.68
E EQUIPMENT AND FURNISHINGS		$64,197	$5.35
F OTHER BUILDING CONSTRUCTION		$61,140	$5.10
G BUILDING SITEWORK			
NET DIRECT BUILDING COST		$2,537,173	$211.43
DESIGN CONTINGENCY	15.00%	$380,576	$31.71
SUBTOTAL		$2,917,749	$243.15
ESCALATION TO MIDPOINT 02/2023	7.08%	$206,674	$17.22
SUBTOTAL		$3,124,423	$260.37
GENERAL REQUIREMENTS	12.00%	$374,931	$31.24
SUBTOTAL		$3,499,354	$291.61
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$209,961	$17.50
SUBTOTAL		$3,709,315	$309.11
INSURANCE & BONDS	2.50%	$92,733	$7.73
TOTAL BUILDING COST		**$3,802,048**	**$316.84**

GROSS FLOOR AREA: 12,000 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS			
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$68,783	$5.73
B20 EXTERIOR CLOSURE		$285,767	$23.81
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$317,002	$26.42
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$340,115	$28.34
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$201,084	$16.76
D30 HVAC SYSTEMS		$511,581	$42.63
D40 FIRE PROTECTION SYSTEMS		$55,026	$4.59
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$552,751	$46.06
D5050 TELECOM		$79,727	$6.64
E10 EQUIPMENT			
E20 FURNISHINGS		$64,197	$5.35
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)		$61,140	$5.10
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION			
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$2,537,173	$211.43
DESIGN CONTINGENCY	15.00%	$380,576	$31.71
SUBTOTAL		$2,917,749	$243.15
ESCALATION TO MIDPOINT 02/2023	7.08%	$206,674	$17.22
SUBTOTAL		$3,124,423	$260.37
GENERAL REQUIREMENTS	12.00%	$374,931	$31.24
SUBTOTAL		$3,499,354	$291.61
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$209,961	$17.50
SUBTOTAL		$3,709,315	$309.11
INSURANCE & BONDS	2.50%	$92,733	$7.73
TOTAL BUILDING COST		**$3,802,048**	**$316.84**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
B SHELL				
B10 SUPERSTRUCTURE				
Floor construction, structural steel upgrades	11	TON	4,585.50	$48,148
Roof construction, structural steel upgrades	5	TON	4,585.50	$20,635
B10 SUPERSTRUCTURE				**$68,783**
B20 EXTERIOR CLOSURE				
Exterior walls				
Exterior sheathing	6,220	SF	2.55	$15,845
Exterior wall finish				
Metal panel siding	5,770	SF	23.09	$133,205
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	12,000	SF	4.31	$51,720
Exterior windows				
Storefront	450	SF	93.29	$41,982
Exterior doors				
Aluminum fully glazed including frame and hardware				
Double	2	PR	5,545.58	$11,091
Hollow metal including frame and hardware				
Single	4	EA	1,917.27	$7,669
Miscellaneous				
Closer	8	EA	349.10	$2,793
Panic hardware	8	EA	807.77	$6,462
Miscellaneous work, Allowance	1	LS	15,000.00	$15,000
B20 EXTERIOR CLOSURE				**$285,767**
B - SHELL				**$354,550**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	12,835	SF	6.62	$85,013
Furring	321	SF	3.82	$1,226
Cementitious backerboard	455	SF	3.91	$1,776
Insulation, batt	13,156	SF	0.97	$12,736
Gypsum board				
Taped and finished	26,312	SF	2.89	$75,915
Underlayment	3,947	SF	1.65	$6,529
Inside face of exterior wall, taped and finished	6,220	SF	4.00	$24,909

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Interior doors				
Hollow metal including frame and hardware				
Single	27	EA	2,067.13	$55,813
Double	3	PR	3,533.38	$10,600
Restroom accessories				
Partition	9	EA	1,118.98	$10,071
Partition, ADA	2	EA	1,459.93	$2,920
Urinal screen	2	EA	518.81	$1,038
Grab bar set	3	EA	223.56	$671
Paper towel dispenser	5	EA	796.07	$3,980
Soap dispenser	7	EA	92.91	$650
Toilet tissue, seat cover dispenser	12	EA	433.29	$5,200
Napkin disposal	6	EA	356.65	$2,140
Mirror	7	EA	79.52	$557
Coat hook, 48"	12	EA	137.57	$1,651
Fire extinguisher and cabinet	6	EA	421.58	$2,529
Miscellaneous				
Locker	20	EA	249.65	$4,993
Signage	12,000	SF	0.51	$6,085
C10 INTERIOR CONSTRUCTION				**$317,002**
C20 STAIRS				
C20 STAIRS				
C30 INTERIOR FINISHES				
Wall finishes				
Paint	29,279	SF	1.11	$32,499
Porcelain tile	455	SF	18.22	$8,280
Floor finishes				
Polished concrete	5,200	SF	8.67	$45,101
Porcelain tile	1,754	SF	20.07	$35,199
Concrete, sealer	2,080	SF	1.50	$3,125
Resilient flooring	2,966	SF	6.57	$19,501
Base				
Rubber	1,187	LF	2.23	$2,652
Porcelain tile	69	LF	14.25	$983
Ceiling finishes				
ACT, including grid system	396	SF	6.53	$2,585
Hard lid	11,604	SF	11.31	$131,184
Water resistant	1,052	SF	15.82	$16,649
Soffit	1,273	SF	22.05	$28,064

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Paint	12,877	SF	1.11	$14,293
C30 INTERIOR FINISHES				**$340,115**
C INTERIORS				**$657,117**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	12,000	SF	0.69	$8,254
Garbage disposal	2	EA	293.47	$587
Fixture including rough-in				
Water closet	9	EA	1,755.33	$15,798
Water closet (ADA)	4	EA	2,000.20	$8,001
Lavatory, wall mounted	8	EA	1,847.96	$14,784
Urinal	2	EA	2,171.69	$4,343
Service sink	2	EA	3,374.01	$6,748
Sink, single basin	5	EA	1,783.76	$8,919
Drinking fountain	2	EA	2,709.11	$5,418
Trench drain	150	LF	52.12	$7,818
Automatic sensor			451.21	
Water closet	13	EA	460.38	$5,985
Urinal	2	EA	463.14	$926
Lavatory, not used		NIC		
Miscellaneous fittings	12,000	SF	0.69	$8,254
Domestic water system				
Building entrance	1	LS	6,750.00	$6,750
Cold water piping, fittings and accessories	12,000	SF	1.56	$18,709
Hot water piping and fittings, insulation	12,000	SF	0.73	$8,804
Valve	12,000	SF	0.09	$1,101
Sanitary waste system, includes clean-outs	12,000	SF	1.51	$18,159
Sanitary vent system, includes vent through roofs	12,000	SF	1.33	$15,958
Roof drainage system	12,000	SF	1.15	$13,757
Indirect condensate drain system	12,000	SF	0.28	$3,302
Natural gas system	12,000	SF	0.92	$11,005
Commissioning, by owner		NOTE		
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	12,000	SF	0.64	$7,704

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
D20 PLUMBING SYSTEMS				**$201,084**
D30 HVAC SYSTEMS				
Equipment				
Heat and cool generating equipment	1	EA	11,463.75	$11,464
Air handling unit	13,500	CFM	5.46	$73,666
Dedicated AC units				
Computer/data room	1	EA	6,878.25	$6,878
Electrical/mechanical room	1	EA	3,668.40	$3,668
VAV terminals	20	EA	1,458.19	$29,164
Exhaust fans				
Building	12,000	SF	0.18	$2,201
Sound attenuation	12,000	SF	0.46	$5,503
Air distribution system				
Sheet metal ductwork, supports	13,200	LB	8.79	$116,011
Duct insulation	12,000	SF	2.29	$27,513
Flexible duct, supports	12,000	SF	0.46	$5,503
Chilled water distribution system	12,000	SF	3.44	$41,270
Hot water distribution system	12,000	SF	3.67	$44,021
Refrigeration piping system, specialties	1	LS	19,259.10	$19,259
Air inlets and outlets	12,000	SF	1.65	$19,809
Fire, smoke and manual dampers	12,000	SF	1.15	$13,757
Duct smoke detectors	12,000	SF	0.14	$1,651
Automatic temperature controls	12,000	SF	5.27	$63,280
Air/water balance, by an independent contractor	12,000	SF	1.05	$12,656
Start-up, commission major equipment	12,000	SF	0.46	$5,503
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, duct	12,000	SF	0.73	$8,804
D30 HVAC SYSTEMS				**$511,581**
D40 FIRE PROTECTION SYSTEMS				
Automatic reprotection systems	12,000	SF	4.59	$55,026
D40 FIRE PROTECTION SYSTEMS				**$55,026**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	21,874.53	$21,875
Distribution board	12,000	SF	1.64	$19,687
Panel board	12,000	SF	3.47	$41,624
Transformer	12,000	SF	2.34	$28,124
Digital metering/surge protection	12,000	SF	1.17	$14,062
Building feeder	12,000	SF	3.75	$44,999
Emergency power	12,000	SF	1.41	$16,875
Building grounding system	12,000	SF	0.47	$5,625
Equipment connection including disconnect switch, conduit and conductors	12,000	SF	3.05	$36,562
Lighting system				
Fixtures	12,000	SF	10.31	$123,747
Branch wiring	12,000	SF	3.75	$44,999
Convenience power including branch wiring	12,000	SF	8.44	$101,248
Fire alarm system	12,000	SF	3.75	$44,999
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	12,000	SF	0.04	$450
Security system, no work anticipated		NOTE		
Commissioning, by owner				
Miscellaneous including seismic bracing, identification and fire stop	12,000	SF	0.66	$7,875
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$552,751**
D5050 TELECOM				
Telephone and data system	12,000	SF	3.18	$38,151
Fiber optic system	12,000	SF	1.22	$14,674
Common raceway system	12,000	SF	2.24	$26,902
D5050 TELECOM				**$79,727**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
D SERVICES				**$1,400,169**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				
Casework	12,000	SF	5.35	$64,197
E20 FURNISHINGS				**$64,197**
E EQUIPMENT AND FURNISHINGS				**$64,197**
F SPECIAL CONSTRUCTION AND DEMOLITION				
F10 SPECIAL CONSTRUCTION				
F10 SPECIAL CONSTRUCTION				
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)				
Miscellaneous demolition	12,000	SF	5.10	$61,140
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)				**$61,140**
F SPECIAL CONSTRUCTION AND DEMOLITION				**$61,140**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$214,233	$19.48
B SHELL		$674,033	$61.28
C INTERIORS		$224,659	$20.42
D SERVICES		$773,140	$70.29
E EQUIPMENT AND FURNISHINGS		$28,023	$2.55
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$48,201	$4.38
NET DIRECT BUILDING COST		$1,962,289	$178.39
DESIGN CONTINGENCY	15.00%	$294,343	$26.76
SUBTOTAL		$2,256,632	$205.15
ESCALATION TO MIDPOINT 02/2023	7.08%	$159,845	$14.53
SUBTOTAL		$2,416,477	$219.68
GENERAL REQUIREMENTS	12.00%	$289,977	$26.36
SUBTOTAL		$2,706,454	$246.04
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$162,387	$14.76
SUBTOTAL		$2,868,842	$260.80
INSURANCE & BONDS	2.50%	$71,721	$6.52
TOTAL BUILDING COST		**$2,940,563**	**$267.32**

GROSS FLOOR AREA: 11,000 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$214,233	$19.48
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$323,852	$29.44
B20 EXTERIOR CLOSURE		$350,181	$31.83
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$157,345	$14.30
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$67,314	$6.12
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$94,578	$8.60
D30 HVAC SYSTEMS		$127,614	$11.60
D40 FIRE PROTECTION SYSTEMS		$50,441	$4.59
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$463,924	$42.17
D5050 TELECOM		$36,583	$3.33
E10 EQUIPMENT			
E20 FURNISHINGS		$28,023	$2.55
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$48,201	$4.38
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$1,962,289	$178.39
DESIGN CONTINGENCY	15.00%	$294,343	$26.76
SUBTOTAL		$2,256,632	$205.15
ESCALATION TO MIDPOINT 02/2023	7.08%	$159,845	$14.53
SUBTOTAL		$2,416,477	$219.68
GENERAL REQUIREMENTS	12.00%	$289,977	$26.36
SUBTOTAL		$2,706,454	$246.04
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$162,387	$14.76
SUBTOTAL		$2,868,842	$260.80
INSURANCE & BONDS	2.50%	$71,721	$6.52
TOTAL BUILDING COST		**$2,940,563**	**$267.32**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	108	CY	698.35	$75,500
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	11,000	SF	11.85	$130,391
Miscellaneous				
Concrete curb	497	LF	15.87	$7,889
Control joint	497	LF	0.91	$453
A10 FOUNDATIONS				**$214,233**
A SUBSTRUCTURE				**$214,233**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
B3	2,750	SF	28.53	$78,463
B4	2,750	SF	28.53	$78,463
B5	2,750	SF	28.53	$78,463
B6	2,750	SF	28.53	$78,463
B7, future work		NIC		
Roof construction				
Fire protection, Allowance	1	LS	10,000.00	$10,000
B10 SUPERSTRUCTURE				**$323,852**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	7,800	SF	8.15	$63,586
Insulation, batt	7,800	SF	1.57	$12,240
Exterior sheathing	7,800	SF	2.55	$19,871
Exterior wall finish				
Metal panel siding	5,650	SF	23.34	$131,874
CMU wainscot	1,950	SF	17.31	$33,748
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	11,000	SF	1.53	$16,814
Exterior windows				
Storefront	200	SF	93.29	$18,659

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Exterior doors				
Hollow metal including frame and hardware				
Single	3	EA	1,917.27	$5,752
Double	1	PR	3,533.38	$3,533
Sectional door	3	EA	6,892.09	$20,676
Motor operation	3	EA	2,547.50	$7,643
Miscellaneous				
Closer	5	EA	349.10	$1,746
Panic hardware	5	EA	807.77	$4,039
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$350,181**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building		NOTE		
B30 ROOFING				
B - SHELL				**$674,033**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	6,417	SF	6.62	$42,501
Furring	160	SF	3.82	$613
Insulation, batt	6,577	SF	1.57	$10,321
Gypsum board				
Taped and finished	13,154	SF	2.89	$37,952
Underlayment	1,973	SF	1.65	$3,264
Inside face of exterior wall, taped and finished	7,800	SF	4.00	$31,236
Interior doors				
Hollow metal including frame and hardware				
Single	9	EA	2,067.13	$18,604
Double	1	PR	3,533.38	$3,533
Miscellaneous				
Restroom accessories				
Partition, ADA	1	EA	1,459.93	$1,460
Urinal screen	1	EA	518.81	$519
Grab bar set	1	EA	223.56	$224
Paper towel dispenser	1	EA	796.07	$796
Soap dispenser	1	EA	92.91	$93
Toilet tissue, seat cover dispenser	1	EA	433.29	$433
Mirror	1	EA	79.52	$80

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Coat hook, 48"	1	EA	137.57	$138
Signage	11,000	SF	0.51	$5,578
C10 INTERIOR CONSTRUCTION				**$157,345**
C30 INTERIOR FINISHES				
Wall finishes				
Porcelain tile	524	SF	18.22	$9,543
Paint	17,811	SF	1.11	$19,770
Floor finishes				
Porcelain tile	261	SF	20.07	$5,238
Concrete, sealer	10,739	SF	1.50	$16,133
Ceiling finishes				
Hard lid	261	SF	11.31	$2,951
Exposed structure, paint	10,739	SF	1.27	$13,679
C30 INTERIOR FINISHES				**$67,314**
C INTERIORS				**$224,659**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	11,000	SF	0.69	$7,566
Fixture including rough-in				
Water closet (ADA)	1	EA	2,000.20	$2,000
Lavatory, wall mounted	1	EA	1,847.96	$1,848
Urinal	1	EA	2,171.69	$2,172
Service sink	1	EA	3,374.01	$3,374
Sink, single basin	3	EA	1,783.76	$5,351
Trench drain	65	LF	52.12	$3,388
Automatic sensor				
Water closet	1	EA	460.38	$460
Urinal	1	EA	463.14	$463
Lavatory, not used		NIC		
Miscellaneous fittings	11,000	SF	0.46	$5,044
Hose bibb	10	EA	293.28	$2,933
Domestic water system				
Building entrance	1	LS	3,150.00	$3,150
Cold water piping, fittings and accessories	11,000	SF	0.87	$9,584
Hot water piping and fittings, insulation	11,000	SF	0.50	$5,548
Valve	11,000	SF	0.09	$1,009

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sanitary waste system, includes clean-outs	11,000	SF	0.73	$8,070
Natural gas system	11,000	SF	1.68	$18,495
Sanitary vent system, includes vent through roofs	11,000	SF	0.83	$9,079
Commissioning, by owner				
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	11,000	SF	0.46	$5,044
D20 PLUMBING SYSTEMS				**$94,578**
D30 HVAC SYSTEMS				
Equipment				
Heaters, infrared	28	EA	2,017.62	$55,485
Exhaust fans				
Building	11,000	SF	0.18	$2,018
Sound attenuation	11,000	SF	0.46	$5,044
Air distribution system				
Flexible duct, exhaust fans	11,000	SF	0.46	$5,044
Air inlets and outlets, exhaust fans	11,000	SF	0.73	$8,070
Automatic temperature controls	11,000	SF	3.67	$40,352
Start-up, commission major equipment	11,000	SF	0.32	$3,531
Commissioning, by the owner		NOTE		
Miscellaneous including seismic bracing, duct	11,000	SF	0.73	$8,070
D30 HVAC SYSTEMS				**$127,614**
D40 FIRE PROTECTION SYSTEMS				
Wet systems	11,000	SF	4.59	$50,441
D40 FIRE PROTECTION SYSTEMS				**$50,441**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	20,324.10	$20,324
Distribution board	11,000	SF	1.66	$18,292
Panel board	11,000	SF	3.52	$38,674
Transformer	11,000	SF	2.38	$26,131
Digital metering/surge protection	11,000	SF	1.19	$13,065

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Building feeder	11,000	SF	3.80	$41,810
Emergency power	11,000	SF	1.43	$15,679
Building grounding system	11,000	SF	0.48	$5,226
Equipment connection including disconnect switch, conduit and conductors	11,000	SF	2.38	$26,131
Lighting system				
Fixtures	11,000	SF	8.08	$88,845
Branch wiring	11,000	SF	3.56	$39,196
Convenience power including branch wiring	11,000	SF	7.36	$81,006
Fire alarm system	11,000	SF	3.80	$41,810
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	11,000	SF	0.04	$418
Security system, no work anticipated		NOTE		
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, identification and fire stop	11,000	SF	0.67	$7,317
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$463,924**
D5050 TELECOM				
Telephone and data system	11,000	SF	2.38	$26,131
Fiber optic system	11,000	SF	0.95	$10,452
D5050 TELECOM				**$36,583**
D SERVICES				**$773,140**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Casework	11,000	SF	2.55	$28,023
E20 FURNISHINGS				**$28,023**
E EQUIPMENT AND FURNISHINGS				**$28,023**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	1,019	CY	12.16	$12,389
Backfill and compact	255	CY	12.86	$3,274
Engineered fill, backfill and compact, assumed 75%	764	CY	27.35	$20,891
Haul	764	CY	15.25	$11,647
G10 SITE PREPARATION				**$48,201**
G BUILDING SITEWORK				**$48,201**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$216,735	$21.65
B SHELL		$387,369	$38.70
C INTERIORS		$6,379	$0.64
D SERVICES		$51,000	$5.09
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$43,864	$4.38
NET DIRECT BUILDING COST		$705,347	$70.46
DESIGN CONTINGENCY	15.00%	$105,802	$10.57
SUBTOTAL		$811,149	$81.03
ESCALATION TO MIDPOINT 02/2023	7.08%	$57,456	$5.74
SUBTOTAL		$868,605	$86.77
GENERAL REQUIREMENTS	12.00%	$104,233	$10.41
SUBTOTAL		$972,838	$97.19
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$58,370	$5.83
SUBTOTAL		$1,031,208	$103.02
INSURANCE & BONDS	2.50%	$25,780	$2.58
TOTAL BUILDING COST		**$1,056,989**	**$105.59**

GROSS FLOOR AREA: 10,010 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$216,735	$21.65
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$298,104	$29.78
B20 EXTERIOR CLOSURE		$89,265	$8.92
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$6,379	$0.64
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$51,000	$5.09
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$43,864	$4.38
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$705,347	$70.46
DESIGN CONTINGENCY	15.00%	$105,802	$10.57
SUBTOTAL		$811,149	$81.03
ESCALATION TO MIDPOINT 02/2023	7.08%	$57,456	$5.74
SUBTOTAL		$868,605	$86.77
GENERAL REQUIREMENTS	12.00%	$104,233	$10.41
SUBTOTAL		$972,838	$97.19
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$58,370	$5.83
SUBTOTAL		$1,031,208	$103.02
INSURANCE & BONDS	2.50%	$25,780	$2.58
TOTAL BUILDING COST		**$1,056,989**	**$105.59**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	119	CY	698.35	$82,871
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	10,010	SF	11.85	$118,656
Miscellaneous				
Concrete curb	906	LF	15.87	$14,381
Control joint	906	LF	0.91	$827
A10 FOUNDATIONS				**$216,735**
A SUBSTRUCTURE				**$216,735**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
S1	1,890	SF	28.53	$53,925
S2	1,890	SF	28.53	$53,925
S3	1,890	SF	28.53	$53,925
S4	2,240	SF	28.53	$63,912
S5	2,100	SF	28.53	$59,917
Roof construction				
Fire protection, Allowance	1	LS	12,500.00	$12,500
B10 SUPERSTRUCTURE				**$298,104**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	1,593	SF	8.15	$12,986
Exterior wall finish				
Vertical metal siding	1,593	SF	32.00	$50,979
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	10,010	SF	1.53	$15,300
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$89,265**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered		NOTE		

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
building				
B30 ROOFING				
B - SHELL				**$387,369**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Gypsum board				
Inside face of exterior wall, taped and finished	1,593	SF	4.00	$6,379
C10 INTERIOR CONSTRUCTION				**$6,379**
C INTERIORS				**$6,379**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	10,010	SF	2.55	$25,500
Branch wiring	10,010	SF	1.02	$10,200
Convenience power connections including branch wiring	10,010	SF	1.53	$15,300
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$51,000**
D SERVICES				**$51,000**
E EQUIPMENT AND FURNISHINGS				

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	927	CY	12.16	$11,274
Backfill and compact	232	CY	12.86	$2,980
Engineered fill, backfill and compact, assumed 75%	695	CY	27.35	$19,011
Haul	695	CY	15.25	$10,599
G10 SITE PREPARATION				**$43,864**
G BUILDING SITEWORK				**$43,864**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$168,838	$18.55
B SHELL		$389,464	$42.80
C INTERIORS		$25,262	$2.78
D SERVICES		$46,364	$5.09
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$44,306	$4.87
NET DIRECT BUILDING COST		$674,234	$74.09
DESIGN CONTINGENCY	15.00%	$101,135	$11.11
SUBTOTAL		$775,369	$85.21
ESCALATION TO MIDPOINT 02/2023	7.08%	$54,922	$6.04
SUBTOTAL		$830,291	$91.24
GENERAL REQUIREMENTS	12.00%	$99,635	$10.95
SUBTOTAL		$929,926	$102.19
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$55,796	$6.13
SUBTOTAL		$985,722	$108.32
INSURANCE & BONDS	2.50%	$24,643	$2.71
TOTAL BUILDING COST		**$1,010,365**	**$111.03**

GROSS FLOOR AREA: 9,100 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$168,838	$18.55
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$88,492	$9.72
B20 EXTERIOR CLOSURE		$115,343	$12.68
B30 ROOFING		$185,629	$20.40
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$25,262	$2.78
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$46,364	$5.09
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$39,876	$4.38
G20 SITE IMPROVEMENTS		$4,430	$0.49
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$674,234	$74.09
DESIGN CONTINGENCY	15.00%	$101,135	$11.11
SUBTOTAL		$775,369	$85.21
ESCALATION TO MIDPOINT 02/2023	7.08%	$54,922	$6.04
SUBTOTAL		$830,291	$91.24
GENERAL REQUIREMENTS	12.00%	$99,635	$10.95
SUBTOTAL		$929,926	$102.19
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$55,796	$6.13
SUBTOTAL		$985,722	$108.32
INSURANCE & BONDS	2.50%	$24,643	$2.71
TOTAL BUILDING COST		**$1,010,365**	**$111.03**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	72	CY	698.35	$50,126
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	9,100	SF	11.85	$107,869
Miscellaneous				
Concrete curb	646	LF	15.87	$10,254
Control joint	646	LF	0.91	$589
A10 FOUNDATIONS				**$168,838**
A SUBSTRUCTURE				**$168,838**
B SHELL				
B10 SUPERSTRUCTURE				
Pre-engineered building, including delivery, foundation, erection, roofing assembly and metal flashing				
S8	900	SF	28.53	$25,679
Roof construction				
Fire protection, Allowance	1	LS	8,500.00	$8,500
Structural steel for S12 & S13	8,200	SF	6.62	$54,313
B10 SUPERSTRUCTURE				**$88,492**
B20 EXTERIOR CLOSURE				
Exterior walls				
Framing, metal stud	2,442	SF	8.15	$19,907
Insulation, batt	2,442	SF	1.57	$3,832
Exterior wall finish				
Vertical metal siding	2,442	SF	32.00	$78,149
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	9,100	SF	0.76	$6,955
Miscellaneous work, Allowance	1	LS	6,500.00	$6,500
B20 EXTERIOR CLOSURE				**$115,343**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building S8		NOTE		

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Roof covering for S12 & S13	8,200	SF	22.64	$185,629
B30 ROOFING				**$185,629**
B - SHELL				**$389,464**
C INTERIORS				
C30 INTERIOR FINISHES				
Floor finishes				
Concrete, sealer	9,100	SF	1.50	$13,671
Ceiling finishes				
Exposed structure, paint	9,100	SF	1.27	$11,591
C30 INTERIOR FINISHES				**$25,262**
C INTERIORS				**$25,262**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	9,100	SF	2.55	$23,182
Branch wiring	9,100	SF	1.02	$9,273
Convenience power connections including branch wiring	9,100	SF	1.53	$13,909
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$46,364**
D SERVICES				**$46,364**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	843	CY	12.16	$10,249
Backfill and compact	211	CY	12.86	$2,709
Engineered fill, backfill and compact, assumed 75%	632	CY	27.35	$17,283
Haul	632	CY	15.25	$9,635
G10 SITE PREPARATION				**$39,876**
G20 SITE IMPROVEMENTS				
Double leaf gates	2	EA	2,214.82	$4,430
G20 SITE IMPROVEMENTS				**$4,430**
G BUILDING SITEWORK				**$44,306**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$21,614	$24.90
B SHELL		$147,664	$170.12
C INTERIORS		$7,320	$8.43
D SERVICES		$4,422	$5.09
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$3,804	$4.38
NET DIRECT BUILDING COST		$184,824	$212.93
DESIGN CONTINGENCY	15.00%	$27,724	$31.94
SUBTOTAL		$212,548	$244.87
ESCALATION TO MIDPOINT 02/2023	7.08%	$15,055	$17.34
SUBTOTAL		$227,603	$262.22
GENERAL REQUIREMENTS	12.00%	$27,312	$31.47
SUBTOTAL		$254,915	$293.68
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$15,295	$17.62
SUBTOTAL		$270,210	$311.30
INSURANCE & BONDS	2.50%	$6,755	$7.78
TOTAL BUILDING COST		**$276,966**	**$319.08**

GROSS FLOOR AREA: 868 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$21,614	$24.90
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$27,129	$31.25
B20 EXTERIOR CLOSURE		$101,068	$116.44
B30 ROOFING		$19,467	$22.43
C10 INTERIOR CONSTRUCTION		$3,844	$4.43
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$3,476	$4.00
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$4,422	$5.09
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$3,804	$4.38
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$184,824	$212.93
DESIGN CONTINGENCY	15.00%	$27,724	$31.94
SUBTOTAL		$212,548	$244.87
ESCALATION TO MIDPOINT 02/2023	7.08%	$15,055	$17.34
SUBTOTAL		$227,603	$262.22
GENERAL REQUIREMENTS	12.00%	$27,312	$31.47
SUBTOTAL		$254,915	$293.68
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$15,295	$17.62
SUBTOTAL		$270,210	$311.30
INSURANCE & BONDS	2.50%	$6,755	$7.78
TOTAL BUILDING COST		**$276,966**	**$319.08**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Footing, assembly	13	CY	698.35	$9,311
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	868	SF	11.85	$10,289
Miscellaneous				
Concrete curb	120	LF	15.87	$1,905
Control joint	120	LF	0.91	$109
A10 FOUNDATIONS				**$21,614**
A SUBSTRUCTURE				**$21,614**
B SHELL				
B10 SUPERSTRUCTURE				
Floor construction				
Structural steel				
Wide flange	2	TON	4,585.50	$9,171
Piping and tube steel	1	TON	5,604.50	$4,257
Fire protection	3	TON	305.70	$844
Connection, Allowance	1	LS	2,547.50	$2,548
Roof construction				
Structural steel				
Wide flange	1	TON	4,585.50	$4,586
Fire protection	1	TON	305.70	$306
Connection, Allowance	1	LS	2,547.50	$2,548
Metal deck, 1 1/2"	868	SF	3.31	$2,869
B10 SUPERSTRUCTURE				**$27,129**
B20 EXTERIOR CLOSURE				
Exterior walls				
Concrete reinforced wall, 8' high, assembly	960	SF	43.92	$42,161
Framing, metal stud	960	SF	8.15	$7,826
Insulation, batt	960	SF	1.35	$1,299
Exterior sheathing	960	SF	2.55	$2,446
Exterior wall finish				
Vertical metal siding	960	SF	32.00	$30,722
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	868	SF	1.53	$1,327
Exterior doors				

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Hollow metal including frame and hardware				
Double	1	PR	3,533.38	$3,533
Sectional door	1	EA	6,892.09	$6,892
Motor operation	1	EA	2,547.50	$2,548
Miscellaneous				
Closer	2	EA	349.10	$698
Panic hardware	2	EA	807.77	$1,616
B20 EXTERIOR CLOSURE				**$101,068**
B30 ROOFING				
Roof coverings				
TPO roofing	868	SF	7.35	$6,382
Membrane underlayment	868	SF	3.50	$3,035
Felt underlayment	868	SF	0.95	$824
Rigid insulation	868	SF	4.31	$3,744
Tapered premium	286	SF	2.29	$655
Cant strip	120	LF	2.44	$293
Walk pad, assume 5% of roof area	43	SF	5.84	$253
Flashing and sheet metal				
Reglet	120	LF	5.32	$639
Flashing	120	LF	8.42	$1,010
Coping, aluminum	120	LF	21.93	$2,632
B30 ROOFING				**$19,467**
B - SHELL				**$147,664**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Gypsum board				
Inside face of exterior wall, taped and finished	960	SF	4.00	$3,844
C10 INTERIOR CONSTRUCTION				**$3,844**
C30 INTERIOR FINISHES				
Wall finishes				
Paint	960	SF	1.11	$1,066
Floor finishes				
Concrete, sealer	868	SF	1.50	$1,304
Ceiling finishes				
Exposed structure, paint	868	SF	1.27	$1,106
C30 INTERIOR FINISHES				**$3,476**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
C INTERIORS				**$7,320**
D SERVICES				
D20 PLUMBING SYSTEMS				
No work anticipated		NOTE		
D20 PLUMBING SYSTEMS				
D30 HVAC SYSTEMS				
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	868	SF	2.55	$2,211
Branch wiring	868	SF	1.02	$884
Convenience power connections including branch wiring	868	SF	1.53	$1,327
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$4,422**
D SERVICES				**$4,422**
E EQUIPMENT AND FURNISHINGS				
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	80	CY	12.16	$978
Backfill and compact	20	CY	12.86	$258
Engineered fill, backfill and compact, assumed 75%	60	CY	27.35	$1,649
Haul	60	CY	15.25	$919
G10 SITE PREPARATION				**$3,804**
G BUILDING SITEWORK				**$3,804**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

SITE SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE			
B SHELL			
C INTERIORS			
D SERVICES			
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$3,231,331	$9.83
NET DIRECT SITE COST		$3,231,331	$9.83
DESIGN CONTINGENCY	15.00%	$484,700	$1.47
SUBTOTAL		$3,716,031	$11.30
ESCALATION TO MIDPOINT 02/2023	7.08%	$263,219	$0.80
SUBTOTAL		$3,979,249	$12.10
GENERAL REQUIREMENTS	12.00%	$477,510	$1.45
SUBTOTAL		$4,456,759	$13.55
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$267,406	$0.81
SUBTOTAL		$4,724,165	$14.36
INSURANCE & BONDS	2.50%	$118,104	$0.36
TOTAL SITE COST		**$4,842,269**	**$14.72**

TOTAL SITE AREA: 328,878 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SITE SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS			
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE			
B20 EXTERIOR CLOSURE			
B30 ROOFING			
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS			
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)			
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$176,900	$0.54
G20 SITE IMPROVEMENTS		$1,126,126	$3.42
G30 SITE CIVIL/MECHANICAL UTILITIES		$951,437	$2.89
G40 SITE ELECTRICAL UTILITIES		$976,868	$2.97
G90 OTHER SITE CONSTRUCTION			
NET DIRECT SITE COST		$3,231,331	$9.83
DESIGN CONTINGENCY	15.00%	$484,700	$1.47
SUBTOTAL		$3,716,031	$11.30
ESCALATION TO MIDPOINT 02/2023	7.08%	$263,219	$0.80
SUBTOTAL		$3,979,249	$12.10
GENERAL REQUIREMENTS	12.00%	$477,510	$1.45
SUBTOTAL		$4,456,759	$13.55
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$267,406	$0.81
SUBTOTAL		$4,724,165	$14.36
INSURANCE & BONDS	2.50%	$118,104	$0.36
TOTAL SITE COST		**$4,842,269**	**$14.72**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Site clearing, removal and disposal of bush, turf, trees	80,000	SF	1.27	$101,900
Miscellaneous site demolition, Allowance	1	LS	75,000.00	$75,000
G10 SITE PREPARATION				**$176,900**
G20 SITE IMPROVEMENTS				
Site improvements				
Hardscape				
Asphaltic concrete paving				
Drive lanes	30,000	SF	6.64	$199,225
Parking lot	20,000	SF	3.59	$71,732
Lay down area and sumped refuse area	3,635	SF	2.57	$9,333
Base	50,000	SF	2.32	$115,838
Concrete sidewalk	2,922	SF	7.48	$21,851
Base	2,922	SF	2.32	$6,770
Ramp, premium	1,454	SF	11.39	$16,555
Generator pad	175	SF	20.38	$3,567
Concrete curb	2,500	LF	15.87	$39,682
Striped parking stall, standard	50	EA	15.33	$767
60' stall	7	EA	143.37	$1,004
Bunkers, S13	6,452	SF	41.40	$267,126
Landscape				
Landscape area	(10,703)	SF	5.40	($57,776)
Irrigation, plant area	(10,703)	SF	3.28	($35,135)
Mulch, wood chips	(10,703)	SF	0.62	($6,618)
Generator and fuel tank enclosure				
Matt footing, assembly	8	CY	673.99	$5,392
Galvanized steel canopy	924	SF	25.48	$23,539
Chain link fence	350	LF	35.50	$12,423
Gate	3	EA	1,756.27	$5,269
Security fence, steel bar, 8'	2,550	LF	86.62	$220,868
Sliding gate	4	EA	9,680.50	$38,722
Card reader access	4	EA	2,547.50	$10,190
Architectural screen walls				
CMU, 8" thick, filled and reinforced	3,700	SF	18.28	$67,623
Continuous footing, assembly	67	CY	673.99	$44,933
Monumental sign	1	EA	15,000.00	$15,000

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Site signage	328,878	SF	0.05	$16,756
Bicycle rack	2	EA	815.40	$1,631
Bench seat, including concrete footings	2	EA	1,528.50	$3,057
Concrete filled, steel bollard	8	EA	850.27	$6,802
G20 SITE IMPROVEMENTS				**$1,126,126**
G30 SITE CIVIL/MECHANICAL UTILITIES				
Fire water service				
Connect to existing service, at site	1	LS	1,663.01	$1,663
Fire hydrant	5	EA	6,896.59	$34,483
Post indicator valve, Allowance	1	EA	2,445.60	$2,446
Fire department connection	1	EA	3,484.98	$3,485
Pipe and fittings, including trench and backfill, PVC, C900	1,000	LF	79.60	$79,604
Thrust block	2	EA	714.57	$1,429
Domestic water service				
Connect to existing service, at site	1	LS	501.35	$501
Premium for hot tap	1	EA	2,702.39	$2,702
Water meter, assume by Utility Company		NIC		
Pipe and fittings, including trench and backfill, PVC, C900	650	LF	35.46	$23,050
Sanitary sewer service				
Connect to existing service, at site	3	LS	929.33	$2,788
Man hole	6	EA	5,808.30	$34,850
Oil water separator	3	EA	3,622.50	$10,868
Cleanout	6	EA	1,750.00	$10,500
Pipe and fittings, including trench and backfill, cast iron	450	LF	108.22	$48,698
Storm water service				
Drain inlet				
Area drain inlet	20	EA	287.18	$5,744
Precast	1	EA	1,538.69	$1,539
Pipe and fittings, PVC SDR-35 , including trench and backfill				
12"	1,200	LF	81.73	$98,081
Clean-out	20	EA	682.73	$13,655
Storm detention system, Allowance	1	LS	550,000.00	$550,000
Natural gas system				
Connect to existing gas main at site	1	EA	733.68	$734
Pipe and fittings, Black steel, Sch. 40, 2", including trench and backfill	557	LF	44.20	$24,617
G30 SITE CIVIL/MECHANICAL UTILITIES				**$951,437**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G40 SITE ELECTRICAL UTILITIES				
Electrical				
Primary power				
Connect to existing MW/HV campus grid	1	LS	15,285.00	$15,285
Duct bank	3,409	LF	61.45	$209,453
Conductor	3,409	LF	101.90	$347,352
Emergency generator	1	EA	62,780.59	$62,781
Grounding	1	EA	917.10	$917
Lighting system, including conduit and wire, trenching				
Parking lot light fixture, Allowance	30	EA	5,604.50	$168,135
Pedestal light	20	EA	2,547.50	$50,950
Wall mounted LED fixture	25	SF	1,528.50	$38,213
Miscellaneous site power	328,878	SF	0.25	$83,782
G40 SITE ELECTRICAL UTILITIES				**$976,868**
G BUILDING SITEWORK				**$3,231,331**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$109,428	$18.24
B SHELL		$641,399	$106.90
C INTERIORS		$397,592	$66.27
D SERVICES		$744,685	$124.11
E EQUIPMENT AND FURNISHINGS		$32,099	$5.35
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$90,186	$15.03
NET DIRECT BUILDING COST		$2,015,389	$335.90
DESIGN CONTINGENCY	15.00%	$302,308	$50.38
SUBTOTAL		$2,317,697	$386.28
ESCALATION TO MIDPOINT 02/2023	7.08%	$164,170	$27.36
SUBTOTAL		$2,481,868	$413.64
GENERAL REQUIREMENTS	12.00%	$297,824	$49.64
SUBTOTAL		$2,779,692	$463.28
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$166,782	$27.80
SUBTOTAL		$2,946,473	$491.08
INSURANCE & BONDS	2.50%	$73,662	$12.28
TOTAL BUILDING COST		**$3,020,135**	**$503.36**

GROSS FLOOR AREA: 6,000 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$109,428	$18.24
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$258,464	$43.08
B20 EXTERIOR CLOSURE		$266,185	$44.36
B30 ROOFING		$116,750	$19.46
C10 INTERIOR CONSTRUCTION		$200,683	$33.45
C20 STAIRWAYS		$4,207	$0.70
C30 INTERIOR FINISHES		$192,702	$32.12
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$120,014	$20.00
D30 HVAC SYSTEMS		$280,918	$46.82
D40 FIRE PROTECTION SYSTEMS		$27,513	$4.59
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$276,376	$46.06
D5050 TELECOM		$39,864	$6.64
E10 EQUIPMENT			
E20 FURNISHINGS		$32,099	$5.35
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$90,186	$15.03
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$2,015,389	$335.90
DESIGN CONTINGENCY	15.00%	$302,308	$50.38
SUBTOTAL		$2,317,697	$386.28
ESCALATION TO MIDPOINT 02/2023	7.08%	$164,170	$27.36
SUBTOTAL		$2,481,868	$413.64
GENERAL REQUIREMENTS	12.00%	$297,824	$49.64
SUBTOTAL		$2,779,692	$463.28
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$166,782	$27.80
SUBTOTAL		$2,946,473	$491.08
INSURANCE & BONDS	2.50%	$73,662	$12.28
TOTAL BUILDING COST		**$3,020,135**	**$503.36**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Continuous footing, assembly	28	CY	698.35	$19,282
Spread footing, assembly	10	CY	634.58	$6,267
Special foundation				
Grade beam, assembly	2	CY	810.11	$1,250
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	6,000	SF	11.85	$71,123
Topping slab	300	SF	7.13	$2,140
Miscellaneous				
Concrete curb	558	LF	15.87	$8,857
Control joint	558	LF	0.91	$509
A10 FOUNDATIONS				**$109,428**
A SUBSTRUCTURE				**$109,428**
B SHELL				
B10 SUPERSTRUCTURE				
Floor construction				
Structural steel				
Wide flange	15	TON	4,585.50	$68,783
Piping and tube steel	5	TON	5,604.50	$29,424
Miscellaneous steel, including angles and channels	3	TON	8,916.25	$27,083
Fire protection	23	TON	305.70	$7,119
Moment connection, Allowance	1	LS	25,000.00	$25,000
Anchor and baseplate	25	EA	618.48	$15,462
Roof construction				
Structural steel				
Wide flange	4	TON	4,585.50	$17,196
Piping and tube steel	1	TON	5,604.50	$5,044
Miscellaneous steel, including angles and channels	1	TON	8,916.25	$6,219
Fire protection	5	TON	305.70	$1,635
Moment connection, Allowance	1	LS	25,475.00	$25,475
Anchors and baseplates, Allowance	1	LS	10,190.00	$10,190
Metal deck, 1 1/2"	6,000	SF	3.31	$19,834
B10 SUPERSTRUCTURE				**$258,464**
B20 EXTERIOR CLOSURE				
Exterior walls				

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Framing, metal stud	3,732	SF	8.15	$30,423
Insulation, batt	3,732	SF	1.57	$5,856
Exterior sheathing	3,732	SF	2.55	$9,507
Exterior wall finish				
Metal panel siding	2,444	SF	23.34	$57,055
CMU wainscot	933	SF	17.31	$16,147
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	6,000	SF	8.49	$50,950
Exterior windows				
Storefront	355	SF	93.29	$33,076
Exterior doors				
Aluminum fully glazed including frame and hardware				
Double	3	PR	5,545.58	$16,637
Hollow metal including frame and hardware				
Single	8	EA	1,917.27	$15,338
Miscellaneous				
Closer	14	EA	349.10	$4,887
Panic hardware	14	EA	807.77	$11,309
Miscellaneous work, Allowance	1	LS	15,000.00	$15,000
B20 EXTERIOR CLOSURE				**$266,185**
B30 ROOFING				
Roof coverings				
TPO roofing	6,000	SF	7.35	$44,116
Membrane underlayment	6,000	SF	3.50	$20,982
Rigid insulation	6,000	SF	4.31	$25,878
Tapered premium	1,980	SF	2.29	$4,528
Cant strip	311	LF	2.44	$758
Walk pad, assume 5% of roof area	300	SF	5.84	$1,752
Flashing and sheet metal				
Reglet	311	LF	5.32	$1,655
Flashing	311	LF	8.42	$2,617
Coping, aluminum	311	LF	21.93	$6,821
Roof openings				
Access hatch/skylights, Allowance	1	LS	7,642.50	$7,643
B30 ROOFING				**$116,750**
B - SHELL				**$641,399**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	6,417	SF	6.62	$42,506
Furring	160	SF	3.82	$613
Cementitious backerboard	227	SF	3.91	$888
Insulation, batt	6,578	SF	1.57	$10,322
Gypsum board				
Taped and finished	13,156	SF	2.89	$37,957
Underlayment	1,973	SF	1.65	$3,264
Inside face of exterior wall, taped and finished	3,732	SF	4.00	$14,945
Interior doors				
Hollow metal including frame and hardware				
Single	27	EA	2,067.13	$55,813
Double	3	PR	3,533.38	$10,600
Restroom accessories				
Partition	4	EA	1,118.98	$4,476
Partition, ADA	1	EA	1,459.93	$1,460
Urinal screen	1	EA	518.81	$519
Grab bar set	2	EA	223.56	$447
Paper towel dispenser	3	EA	796.07	$2,388
Soap dispenser	4	EA	92.91	$372
Toilet tissue, seat cover dispenser	6	EA	433.29	$2,600
Napkin disposal	3	EA	356.65	$1,070
Mirror	4	EA	79.52	$318
Coat hook, 48"	6	EA	137.57	$825
Fire extinguisher and cabinet	3	EA	421.58	$1,265
Miscellaneous				
Locker	20	EA	249.65	$4,993
Signage	6,000	SF	0.51	$3,042
C10 INTERIOR CONSTRUCTION				**$200,683**
C20 STAIRS				
Metal ladder				
Roof access ladder, Allowance	24	VLF	175.30	$4,207
C20 STAIRS				**$4,207**
C30 INTERIOR FINISHES				
Wall finishes				
Paint	15,199	SF	1.11	$16,871
Porcelain tile	227	SF	18.22	$4,140
Floor finishes				

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Polished concrete	2,080	SF	8.67	$18,040
Porcelain tile	1,754	SF	20.07	$35,199
Concrete, sealer	2,080	SF	1.50	$3,125
Resilient flooring	86	SF	6.57	$565
Base				
Rubber	1,187	LF	2.23	$2,652
Porcelain tile	69	LF	14.25	$983
Ceiling finishes				
ACT, including grid system	198	SF	6.53	$1,293
Hard lid	5,802	SF	11.31	$65,592
Water resistant	526	SF	15.82	$8,325
Soffit	1,273	SF	22.05	$28,064
Paint	7,075	SF	1.11	$7,853
C30 INTERIOR FINISHES				**$192,702**
C INTERIORS				**$397,592**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	6,000	SF	0.69	$4,127
Garbage disposal	2	EA	293.47	$587
Fixture including rough-in				
Water closet	4	EA	1,755.33	$7,021
Water closet (ADA)	3	EA	2,000.20	$6,001
Lavatory, wall mounted	4	EA	1,847.96	$7,392
Urinal	1	EA	2,171.69	$2,172
Service sink	2	EA	3,374.01	$6,748
Sink, single basin	5	EA	1,783.76	$8,919
Drinking fountain	2	EA	2,709.11	$5,418
Trench drain	150	LF	52.12	$7,818
Automatic sensor			451.21	
Water closet	7	EA	460.38	$3,223
Urinal	1	EA	463.14	$463
Lavatory, not used		NIC		
Miscellaneous fittings	6,000	SF	0.69	$4,127
Domestic water system				
Building entrance	1	LS	6,750.00	$6,750
Cold water piping, fittings and accessories	6,000	SF	1.56	$9,354
Hot water piping and fittings, insulation	6,000	SF	0.73	$4,402
Valve	6,000	SF	0.09	$550
Sanitary waste system, includes clean-outs	6,000	SF	1.51	$9,079

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Sanitary vent system, includes vent through roofs	6,000	SF	1.33	$7,979
Roof drainage system	6,000	SF	1.15	$6,878
Indirect condensate drain system	6,000	SF	0.28	$1,651
Natural gas system	6,000	SF	0.92	$5,503
Commissioning, by owner		NOTE		
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	6,000	SF	0.64	$3,852
D20 PLUMBING SYSTEMS				**$120,014**
D30 HVAC SYSTEMS				
Equipment				
Heat and cool generating equipment	1	EA	11,463.75	$11,464
Air handling unit	6,750	CFM	5.46	$36,833
Dedicated AC units				
Computer/data room	1	EA	6,878.25	$6,878
Electrical/mechanical room	1	EA	3,668.40	$3,668
VAV terminals	20	EA	1,458.19	$29,164
Exhaust fans				
Building	6,000	SF	0.18	$1,101
Sound attenuation	6,000	SF	0.46	$2,751
Air distribution system				
Sheet metal ductwork, supports	6,600	LB	8.79	$58,006
Duct insulation	6,000	SF	2.29	$13,757
Flexible duct, supports	6,000	SF	0.46	$2,751
Chilled water distribution system	6,000	SF	3.44	$20,635
Hot water distribution system	6,000	SF	3.67	$22,010
Refrigeration piping system, specialties	1	LS	9,171.00	$9,171
Air inlets and outlets	6,000	SF	1.65	$9,905
Fire, smoke and manual dampers	6,000	SF	1.15	$6,878
Duct smoke detectors	6,000	SF	0.14	$825
Automatic temperature controls	6,000	SF	5.27	$31,640
Air/water balance, by an independent contractor	6,000	SF	1.05	$6,328

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Start-up, commission major equipment	6,000	SF	0.46	$2,751
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, duct	6,000	SF	0.73	$4,402
D30 HVAC SYSTEMS				**$280,918**
D40 FIRE PROTECTION SYSTEMS				
Automatic reprotection systems	6,000	SF	4.59	$27,513
D40 FIRE PROTECTION SYSTEMS				**$27,513**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	10,937.27	$10,937
Distribution board	6,000	SF	1.64	$9,844
Panel board	6,000	SF	3.47	$20,812
Transformer	6,000	SF	2.34	$14,062
Digital metering/surge protection	6,000	SF	1.17	$7,031
Building feeder	6,000	SF	3.75	$22,500
Emergency power	6,000	SF	1.41	$8,437
Building grounding system	6,000	SF	0.47	$2,812
Equipment connection including disconnect switch, conduit and conductors	6,000	SF	3.05	$18,281
Lighting system				
Fixtures	6,000	SF	10.31	$61,874
Branch wiring	6,000	SF	3.75	$22,500
Convenience power including branch wiring	6,000	SF	8.44	$50,624
Fire alarm system	6,000	SF	3.75	$22,500
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	6,000	SF	0.04	$225
Security system, no work anticipated		NOTE		
Commissioning, by owner				

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Miscellaneous including seismic bracing, identification and fire stop	6,000	SF	0.66	$3,937
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$276,376**
D5050 TELECOM				
Telephone and data system	6,000	SF	3.18	$19,076
Fiber optic system	6,000	SF	1.22	$7,337
Common raceway system	6,000	SF	2.24	$13,451
D5050 TELECOM				**$39,864**
D SERVICES				**$744,685**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				
Casework	6,000	SF	5.35	$32,099
E20 FURNISHINGS				**$32,099**
E EQUIPMENT AND FURNISHINGS				**$32,099**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Existing building demolition	3,200	SF	7.64	$24,456
Building footpad				
Over excavation	1,389	CY	12.16	$16,894
Backfill and compact	347	CY	12.86	$4,465
Engineered fill, backfill and compact, assumed 75%	1,042	CY	27.35	$28,488
Haul	1,042	CY	15.25	$15,883
G10 SITE PREPARATION				**$90,186**
G BUILDING SITEWORK				**$90,186**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE			
B SHELL		$264,085	$27.80
C INTERIORS		$201,227	$21.18
D SERVICES		$673,557	$70.90
E EQUIPMENT AND FURNISHINGS		$24,201	$2.55
F OTHER BUILDING CONSTRUCTION		$48,403	$5.10
G BUILDING SITEWORK			
NET DIRECT BUILDING COST		$1,211,473	$127.52
DESIGN CONTINGENCY	15.00%	$181,721	$19.13
SUBTOTAL		$1,393,194	$146.65
ESCALATION TO MIDPOINT 02/2023	7.08%	$98,685	$10.39
SUBTOTAL		$1,491,879	$157.04
GENERAL REQUIREMENTS	12.00%	$179,025	$18.84
SUBTOTAL		$1,670,904	$175.88
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$100,254	$10.55
SUBTOTAL		$1,771,158	$186.44
INSURANCE & BONDS	2.50%	$44,279	$4.66
TOTAL BUILDING COST		**$1,815,437**	**$191.10**

GROSS FLOOR AREA: 9,500 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS			
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE			
B20 EXTERIOR CLOSURE		$264,085	$27.80
B30 ROOFING			
C10 INTERIOR CONSTRUCTION		$140,503	$14.79
C20 STAIRWAYS			
C30 INTERIOR FINISHES		$60,724	$6.39
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$87,527	$9.21
D30 HVAC SYSTEMS		$110,211	$11.60
D40 FIRE PROTECTION SYSTEMS		$43,562	$4.59
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$400,662	$42.17
D5050 TELECOM		$31,595	$3.33
E10 EQUIPMENT			
E20 FURNISHINGS		$24,201	$2.55
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)		$48,403	$5.10
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION			
G20 SITE IMPROVEMENTS			
G30 SITE CIVIL/MECHANICAL UTILITIES			
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$1,211,473	$127.52
DESIGN CONTINGENCY	15.00%	$181,721	$19.13
SUBTOTAL		$1,393,194	$146.65
ESCALATION TO MIDPOINT 02/2023	7.08%	$98,685	$10.39
SUBTOTAL		$1,491,879	$157.04
GENERAL REQUIREMENTS	12.00%	$179,025	$18.84
SUBTOTAL		$1,670,904	$175.88
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$100,254	$10.55
SUBTOTAL		$1,771,158	$186.44
INSURANCE & BONDS	2.50%	$44,279	$4.66
TOTAL BUILDING COST		**$1,815,437**	**$191.10**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
B SHELL				
B20 EXTERIOR CLOSURE				
Exterior walls				
Exterior sheathing	7,860	SF	2.55	$20,023
Exterior wall finish				
Metal panel siding	5,695	SF	23.34	$132,925
CMU wainscot	1,965	SF	17.31	$34,008
Miscellaneous works, including caulking and sealant, weather barrier, louvers etc., Allowance	9,500	SF	1.53	$14,521
Exterior windows				
Storefront	200	SF	93.29	$18,659
Exterior doors				
Hollow metal including frame and hardware				
Single	3	EA	1,917.27	$5,752
Double	1	PR	3,533.38	$3,533
Sectional door	2	EA	6,892.09	$13,784
Motor operation	2	EA	2,547.50	$5,095
Miscellaneous				
Closer	5	EA	349.10	$1,746
Panic hardware	5	EA	807.77	$4,039
Miscellaneous work, Allowance	1	LS	10,000.00	$10,000
B20 EXTERIOR CLOSURE				**$264,085**
B30 ROOFING				
Roof coverings, included with the cost of pre-engineered building		NOTE		
B30 ROOFING				
B - SHELL				**$264,085**
C INTERIORS				
C10 INTERIOR CONSTRUCTION				
Partitions				
Framing, metal stud	5,542	SF	6.62	$36,705
Furring	139	SF	3.82	$529
Insulation, batt	5,680	SF	0.97	$5,499
Gypsum board				
Taped and finished	11,360	SF	2.89	$32,777
Underlayment	1,704	SF	1.65	$2,819
Inside face of exterior wall, taped and finished	7,860	SF	4.00	$31,477
Interior doors				

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Hollow metal including frame and hardware				
Single	9	EA	2,067.13	$18,604
Double	1	PR	3,533.38	$3,533
Miscellaneous				
Restroom accessories				
Partition, ADA	1	EA	1,459.93	$1,460
Urinal screen	1	EA	518.81	$519
Grab bar set	1	EA	223.56	$224
Paper towel dispenser	1	EA	796.07	$796
Soap dispenser	1	EA	92.91	$93
Toilet tissue, seat cover dispenser	1	EA	433.29	$433
Mirror	1	EA	79.52	$80
Coat hook, 48"	1	EA	137.57	$138
Signage	9,500	SF	0.51	$4,817
C10 INTERIOR CONSTRUCTION				**$140,503**
C30 INTERIOR FINISHES				
Wall finishes				
Porcelain tile	481	SF	18.22	$8,753
Paint	16,337	SF	1.11	$18,134
Floor finishes				
Porcelain tile	261	SF	20.07	$5,238
Concrete, sealer	9,239	SF	1.50	$13,880
Ceiling finishes				
Hard lid	261	SF	11.31	$2,951
Exposed structure, paint	9,239	SF	1.27	$11,768
C30 INTERIOR FINISHES				**$60,724**
C INTERIORS				**$201,227**
D SERVICES				
D20 PLUMBING SYSTEMS				
Equipment				
Water heating system	9,500	SF	0.69	$6,534
Fixture including rough-in				
Water closet (ADA)	1	EA	2,000.20	$2,000
Lavatory, wall mounted	1	EA	1,847.96	$1,848
Urinal	1	EA	2,171.69	$2,172
Service sink	1	EA	3,374.01	$3,374
Sink, single basin	2	EA	1,783.76	$3,568
Drinking fountain	1	EA	2,709.11	$2,709

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Trench drain	85	LF	52.12	$4,430
Automatic sensor				
Water closet	1	EA	460.38	$460
Urinal	1	EA	463.14	$463
Lavatory, not used		NIC		
Miscellaneous fittings	9,500	SF	0.46	$4,356
Hose bibb	10	EA	293.28	$2,933
Domestic water system				
Building entrance	1	LS	3,600.00	$3,600
Cold water piping, fittings and accessories	9,500	SF	0.87	$8,277
Hot water piping and fittings, insulation	9,500	SF	0.50	$4,792
Valve	9,500	SF	0.09	$871
Sanitary waste system, includes clean-outs	9,500	SF	0.73	$6,970
Natural gas system	9,500	SF	1.68	$15,973
Sanitary vent system, includes vent through roofs	9,500	SF	0.83	$7,841
Commissioning, by owner				
Miscellaneous including seismic control, system test, flush and chlorinate, identification and fire stop	9,500	SF	0.46	$4,356
D20 PLUMBING SYSTEMS				**$87,527**
D30 HVAC SYSTEMS				
Equipment				
Heaters, infrared	24	EA	2,017.62	$47,918
Exhaust fans				
Building	9,500	SF	0.18	$1,742
Sound attenuation	9,500	SF	0.46	$4,356
Air distribution system				
Flexible duct, exhaust fans	9,500	SF	0.46	$4,356
Air inlets and outlets, exhaust fans	9,500	SF	0.73	$6,970
Automatic temperature controls	9,500	SF	3.67	$34,850
Start-up, commission major equipment	9,500	SF	0.32	$3,049
Commissioning, by the owner		NOTE		
Miscellaneous including seismic bracing, duct	9,500	SF	0.73	$6,970
D30 HVAC SYSTEMS				**$110,211**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
D40 FIRE PROTECTION SYSTEMS				
Wet systems	9,500	SF	4.59	$43,562
D40 FIRE PROTECTION SYSTEMS				**$43,562**
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Service and distribution				
Normal power				
Main switch gear, < 3,000 amp	1	EA	17,552.63	$17,553
Distribution board	9,500	SF	1.66	$15,797
Panel board	9,500	SF	3.52	$33,400
Transformer	9,500	SF	2.38	$22,568
Digital metering/surge protection	9,500	SF	1.19	$11,284
Building feeder	9,500	SF	3.80	$36,108
Emergency power	9,500	SF	1.43	$13,541
Building grounding system	9,500	SF	0.48	$4,514
Equipment connection including disconnect switch, conduit and conductors	9,500	SF	2.38	$22,568
Lighting system				
Fixtures	9,500	SF	8.08	$76,730
Branch wiring	9,500	SF	3.56	$33,851
Convenience power including branch wiring	9,500	SF	7.36	$69,960
Fire alarm system	9,500	SF	3.80	$36,108
Audio visual system, not included		NOTE		
Public address system, not used		NOTE		
TV outlets and cabling	9,500	SF	0.04	$361
Security system, no work anticipated		NOTE		
Commissioning, by owner		NOTE		
Miscellaneous including seismic bracing, identification and fire stop	9,500	SF	0.67	$6,319
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$400,662**
D5050 TELECOM				
Telephone and data system	9,500	SF	2.38	$22,568

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
Fiber optic system	9,500	SF	0.95	$9,027
D5050 TELECOM				**$31,595**
D SERVICES				**$673,557**
E EQUIPMENT AND FURNISHINGS				
E10 EQUIPMENT				
Fixed furnishing and Equipment, OFOI		NOTE		
E10 EQUIPMENT				
E20 FURNISHINGS				
Casework	9,500	SF	2.55	$24,201
E20 FURNISHINGS				**$24,201**
E EQUIPMENT AND FURNISHINGS				**$24,201**
F SPECIAL CONSTRUCTION AND DEMOLITION				
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)				
Miscellaneous demolition	9,500	SF	5.10	$48,403
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)				**$48,403**
F SPECIAL CONSTRUCTION AND DEMOLITION				**$48,403**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

BUILDING SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A SUBSTRUCTURE		$21,836	$13.65
B SHELL		$60,458	$37.79
C INTERIORS			
D SERVICES		$89,876	$56.17
E EQUIPMENT AND FURNISHINGS			
F OTHER BUILDING CONSTRUCTION			
G BUILDING SITEWORK		$46,713	$29.20
NET DIRECT BUILDING COST		$218,883	$136.80
DESIGN CONTINGENCY	15.00%	$32,832	$20.52
SUBTOTAL		$251,715	$157.32
ESCALATION TO MIDPOINT 02/2023	7.08%	$17,830	$11.14
SUBTOTAL		$269,545	$168.47
GENERAL REQUIREMENTS	12.00%	$32,345	$20.22
SUBTOTAL		$301,891	$188.68
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$18,113	$11.32
SUBTOTAL		$320,004	$200.00
INSURANCE & BONDS	2.50%	$8,000	$5.00
TOTAL BUILDING COST		**$328,004**	**$205.00**

GROSS FLOOR AREA: 1,600 SF

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DETAILED SUMMARY

ELEMENT		TOTAL COST	$/SF AREA
A10 FOUNDATIONS		$21,836	$13.65
A20 BASEMENT CONSTRUCTION			
B10 SUPERSTRUCTURE		$24,722	$15.45
B20 EXTERIOR CLOSURE			
B30 ROOFING		$35,736	$22.34
C10 INTERIOR CONSTRUCTION			
C20 STAIRWAYS			
C30 INTERIOR FINISHES			
D10 CONVEYING SYSTEMS			
D20 PLUMBING SYSTEMS		$66,235	$41.40
D30 HVAC SYSTEMS			
D40 FIRE PROTECTION SYSTEMS			
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)		$23,641	$14.78
D5050 TELECOM			
E10 EQUIPMENT			
E20 FURNISHINGS			
F10 SPECIAL CONSTRUCTION			
F20 SELECTIVE DEMOLITION (OTHER THAN HAZMAT)			
F2020 HAZMAT ABATEMENT			
G10 SITE PREPARATION		$7,011	$4.38
G20 SITE IMPROVEMENTS		$32,664	$20.42
G30 SITE CIVIL/MECHANICAL UTILITIES		$7,038	$4.40
G40 SITE ELECTRICAL UTILITIES			
G90 OTHER SITE CONSTRUCTION			
NET DIRECT BUILDING COST		$218,883	$136.80
DESIGN CONTINGENCY	15.00%	$32,832	$20.52
SUBTOTAL		$251,715	$157.32
ESCALATION TO MIDPOINT 02/2023	7.08%	$17,830	$11.14
SUBTOTAL		$269,545	$168.47
GENERAL REQUIREMENTS	12.00%	$32,345	$20.22
SUBTOTAL		$301,891	$188.68
CONTRACTOR OVERHEAD AND PROFIT	6.00%	$18,113	$11.32
SUBTOTAL		$320,004	$200.00
INSURANCE & BONDS	2.50%	$8,000	$5.00
TOTAL BUILDING COST		**$328,004**	**$205.00**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
A SUBSTRUCTURE				
A10 FOUNDATIONS				
Standard foundation				
Matt footing, included with the cost of pre-engineered building		NOTE		
Slab on grade				
Reinforced concrete slab, including vapor barrier and float finish	1,600	SF	11.85	$18,966
Miscellaneous				
Concrete curb	171	LF	15.87	$2,714
Control joint	171	LF	0.91	$156
A10 FOUNDATIONS				**$21,836**
A SUBSTRUCTURE				**$21,836**
B SHELL				
B10 SUPERSTRUCTURE				
Free standing roof structure, including delivery, foundation, erection				
S11	1,600	SF	10.14	$16,222
Roof construction				
Fire protection, Allowance	1	LS	8,500.00	$8,500
B10 SUPERSTRUCTURE				**$24,722**
B30 ROOFING				
Roof coverings				
Standing seam metal roof, steel	1,600	SF	22.33	$35,736
B30 ROOFING				**$35,736**
B - SHELL				**$60,458**
D SERVICES				
D20 PLUMBING SYSTEMS				
Fuel tank, above ground				
Gasoline, 2,000 gallon	1	EA	25,475.00	$25,475
Diesel, 2,000 gallon	1	EA	25,475.00	$25,475
Pump	2	EA	7,642.50	$15,285
D20 PLUMBING SYSTEMS				**$66,235**
D30 HVAC SYSTEMS				

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
No work anticipated		NOTE		
D30 HVAC SYSTEMS				
D40 FIRE PROTECTION SYSTEMS				
No work anticipated		NOTE		
D40 FIRE PROTECTION SYSTEMS				
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				
Lighting system				
Fixtures	1,600	SF	2.55	$4,076
Branch wiring	1,600	SF	1.02	$1,630
Convenience power connections including cabling	1,600	SF	6.62	$10,598
Emergency power	1,600	SF	4.59	$7,337
D50 ELECTRICAL SYSTEMS (OTHER THAN TELECOM)				**$23,641**
D SERVICES				**$89,876**
G BUILDING SITEWORK				
G10 SITE PREPARATION				
Building footpad				
Over excavation	148	CY	12.16	$1,802
Backfill and compact	37	CY	12.86	$476
Engineered fill, backfill and compact, assumed 75%	111	CY	27.35	$3,039
Haul	111	CY	15.25	$1,694
G10 SITE PREPARATION				**$7,011**
G20 SITE IMPROVEMENTS				
Hardscape				
Asphaltic concrete paving	4,350	SF	3.59	$15,602
Base	4,350	SF	2.32	$10,078
Concrete sidewalk	713	SF	7.48	$5,332
Base	713	SF	2.32	$1,652
G20 SITE IMPROVEMENTS				**$32,664**
G30 SITE CIVIL/MECHANICAL UTILITIES				
Storm water service, Allowance	1,600	SF	1.27	$2,038
Gas system	1	LS	5,000.00	$5,000
G30 SITE CIVIL/MECHANICAL UTILITIES				**$7,038**

FEASIBILITY STUDY COST ESTIMATE - SITE #4

OCMI JOB #: 20379.000 | 17 September 2021

DESCRIPTION	QUANTITY	UNIT	UNIT RATE	ESTIMATED COST
G BUILDING SITEWORK				**$46,713**

IV. Buildings, Structures & Equipment Program

Operations Building Matrix

Space Analysis

Function	Net Area (Sq Ft)	Dimensions (ft x ft)	Clg Ht (ft)	Quantity #	Total Area (Sq Ft)	Occupant Total	Floor Level	Plumbing Fixtures	Equipment Furnishings	Notes
					CONCEPT 1					
HEADQUARTERS + OPERATION BUILDING EB1										
Operations + Crew Parks							**1st floor**			
Closed Office - Parks Manager	156	12'x13'	9'	1	156	3			desk + table	L' shape desk with two side chairs
Closed Office - Maintenance Supervisor	156	12'x13'	9'	1	156	3			desk + table	L' shape desk with two side chairs
Open Office - Parks Department	1,919	38'x50.5'	10'	1	1,919	60			workstations	(3) 6'x7' workstations + (6) 13'x8' flex workstations can double as conference tables + flex counter for (9)
Subtotal					**2,231**					
Operations + Crew Public Works										
Closed Office - Operations Manager	156	12'x13'	9'	1	156	3			desk + table	L' shape desk with two side chairs
Closed Office - Fleet Supervisor	156	12'x13'	9'	1	156	3			desk + table	L' shape desk with two side chairs
Closed Office - Traffic Supervisor	156	12'x13'	9'	1	156	3			desk + table	L' shape desk with two side chairs
Closed Office - Streets Supervisor	156	12'x13'	9'	1	156	3			desk + table	L' shape desk with two side chairs
Closed Office - SWM Supervisor	156	12'x13'	9'	1	156	3			desk + table	L' shape desk with two side chairs
Open Office - Public Works	2,058	49'x42'	10'	1	2,058	58			workstations	(13) 6'X7' workstation + (4) 13'x8' flex workstation can double as conference table + flex counter for (12)
Subtotal					**2,838**					
Common Areas										
Vestibule	80	8'x10'	10'	1	80					
Entry Lobby	150	10'x15'	10'	1	150				table + chairs	Seating Area.
Administrative Assistant	140	10'x14'	10'	1	140				workstation	
Kitchen / Lunch Room	2,668	46'x58'	10'	1	2,668			2 sinks, 1 DW	built-in casework	(1) dishwasher, (2) full size refrigerators, (4) microwaves, (2) vending
Work Room (Copy / Mail)	150	10'x15'	9'	1	150				built-in casework	Copier, printer, charging stations. Office supplies + storage. Mailboxes.
Storage (Table + Chairs)	80	8'x10'	9'	1	80					Stacking Chairs and Table carts. Adjacent to Crew multipurpose room.
Crew Field Supplies	60	6'x10'	9'	1	60					Built-in casework
Crew Multipurpose Room	768	24'x32'	12'	1	768				tables + chairs	No Public Use. Operable wall - divide space in half.
Large Conference Room	480	16'x30'	12'	1	480					Tables and chairs, credenza, flat screen monitor
Subtotal					**4,576**					
Restrooms + Locker Rooms							**1st floor**			
Mens Locker Room	1,000	20'x50'	9'	1	1,000	96		-	-	(96) 24"x24"x72" single tier lockers. Built-in Benches. (80% of total staff + future)
Mens Restroom + Showers	540	20'x27'	9'	1	540			4 wc / 4 u / 3 lav	-	(3) shower stalls
Womens Locker Room	378	21'x18'	9'	1	378	24		-	-	(24) 24"x24"x72" single tier lockers. Built-in Benches. (20% of total staff +future)
Workout Room	351	13'X27'	9'	1	351	1				(1) Treadmill, (1) Elliptical, (1) Bike, (1) Bench, Weight area, and Open mat area, mirrors on two walls
Womens Restroom + Showers	294	14'x21'	9'	1	294			3 wc / 3 lav	-	(3) shower stalls
Public Women Restroom	64	8'x8'	9'	1	64	-		1 wc / 1 lav	-	ADA compliant
Public Men Restroom	64	8'x8'	9'	1	64	-		1 wc / 1 lav	-	ADA compliant
Laundry Room	130	10'x13'	9'	1	130	-		1 utility sink		Residential grade (2) washers and (3)dryers. Adjacent Mud room.
Mud Room	260	13'x20'	9'	1	260	-		-	-	Exterior access. Adjacent Locker rooms. Coat drying racks, and boot warmers, gear storage cabinets, dehumidifier
Subtotal					**3,081**					

Operations Building Matrix - Site Four

Space Analysis

Function	Net Area (Sq Ft)	Dimensions (ft x ft)	Clg Ht (ft)	Quantity #	Total Area (Sq Ft)	Occupant Total	Floor Level	Plumbing Fixtures	Equipment Furnishings	Notes
					SITE 04					
HEADQUARTERS + OPERATION BUILDING EB1										
Operations + Crew Parks							**1st floor**			
Closed Office - Parks Manager	128	8'x16'	8'	1	128	3			desk + table	"U" shape desk with two side chairs + bookcase
Closed Office - Maintenance Supervisor	128	8'x16'	8'	1	128	3			desk + table	"U" shape desk with two side chairs + bookcase
Open Office - Parks Department	1,218	29'x42'	8'	1	1,218	33			workstations	(5) 6'x7' workstations + (2) 4'x12' and (2) 4'x8' flex workstations can double as conference tables
Subtotal					**1,474**					
Operations + Crew Public Works										
Closed Office - Operations Manager	160	10'x16'	8'	1	160	3			desk + table	"U" shape desk with two side chairs + round table with two additional side chairs
Closed Office - Fleet Supervisor	128	8'x16'	8'	1	128	3			desk + table	"U" shape desk with two side chairs + bookcase
Closed Office - Traffic Supervisor	128	8'x16'	8'	1	128	3			desk + table	"U" shape desk with two side chairs + bookcase
Closed Office - Streets Supervisor	128	8'x16'	8'	1	128	3			desk + table	"U" shape desk with two side chairs + bookcase
Closed Office - SWM Supervisor	128	8'x16'	8'	1	128	3			desk + table	"U" shape desk with two side chairs + bookcase
Open Office - Public Works	1,430	34'x42'	8'	1	1,430	33			workstations	(5) 6'x7' workstations + (2) 4'x12' and (2) 4'x8' flex workstations can double as conference tables
Subtotal					**2,102**					
Common Areas										
Vestibule	-	-	-	-	-					
Entry Lobby	40	8'x5'	11'-3"	1	40				table + chairs	Seating Area.
Administrative Assistant	128	8'x16'	11'-3"	1	128				workstation	
Kitchen / Lunch Room	285	15'x19'	11'-3"	1	285			2 sinks, 1 DW	built-in casework	(1) dishwasher, (2) full size refrigerators, (4) microwaves
Work Area (Copy / Mail)	90	9'x12'	11'-3"	1	90				built-in casework	Copier, printer, charging stations. Office supplies + storage. Mailboxes.
Storage (Table + Chairs)	-	-	-	-	-			-	-	Not available
Crew Field Supplies	-	-	-	-	-			-	-	End caps at open workstation tables
Crew Multipurpose Room	768	24'x32'	11'-3"	1	768				chairs	No Public Use.
Small Conference Room	108	9'x12'	11'-3"	1	108					Table and four chairs, flat screen monitor
Subtotal					**1,419**					
Restrooms + Locker Rooms							**1st floor**			
Mens Locker Room	-	-	-	-	-	-		-	-	future pad building
Mens Restroom + Showers	-	-	-	-	-	-		-	-	future pad building
Womens Locker Room	-	-	-	-	-	-		-	-	future pad building
Workout Room	-	-	-	-	-	-		-	-	future pad building
Womens Restroom + Showers	-	-	-	-	-	-		-	-	future pad building
Public Women Restroom	72	8'x9'	8'	1	72	-		1 wc / 1 lav	-	ADA compliant - existing
Public Men Restroom	72	8'x9'	8'	1	72	-		1 wc / 1 urinal / 1 lav	-	ADA compliant - existing
Laundry Room	-	-	-	-	-	-		-	-	future pad building
Mud Room	-	-	-	-	-	-		-	-	future pad building
Subtotal					**144**					

Current Vehicles and Equipment List

City of Federal Way - Public Works and Parks Equipment List 2020 Dec.

Currrent Equipment List	DISCREPTION	YEAR	Department	DIVISION LOCATION	Weather Rating (1-5)	Stack or rack storage	LIC#	VIN/SR #	EQ #	PURCHASE	.	Prefered parking Location per Index
Bobcat	T 595	2019	PK	SL / new shop	1	NO	N/A	B3NK32463	84131	3/20/2019	PK- Steel Lake, Skid-steer loader	M
Carryall	1500	2016	PK	SL Park	1	NO	N/A	RC1646-800080	91111	6/1/2016	PK, Steel Lake park	SL Park
Chevrolet	Passenger Van	2007	PK	FWCC	1	NO	45522D	1GAHG39U171249863	8116-1	2/8/2007	PK- City Hall, FWCC Pool Van	CH
Dodge	Ram 1500 4x4 SC	2012	PK		1	NO	53464D	1C6RD7FP6CS251789	8255-1	3/15/2012	PK - Pool	M
Echo	PB1000	1994	PK	SL / new shop	1	NO	N/A	S/N 12513	82070D	1/19/1994	PK, Steel Lake, Blower for tractor	M
Ford	E-250 Van	2003	PK	FWCC	1	NO	36244D	1FTNE24L13HB05306	8255	4/3/2003	FWCC Pool Vehicle. Stored at FWCC	CH
Ford	E-350 Clubwagon	2004	PK	FWCC	1	NO	38336D	1FDNE31L24HB40748	8111-1	4/22/2004	PK- City Hall, FWCC Pool Van	CH
Ford	E-450 Bus	2013	PK	FWCC	1	NO	53470D	1FDFE4FS9DDA26666	8115-1	1/8/2013	PK- City Hall, FWCC BusCDL	CH
Ford	F-150 P/U	2004	PK	SL	1	NO	37620D	2FTRX17W24CA51100	8118-1	2/26/2004	PK- Steel Lake, Pool,	M
Ford	F-150 P/U	2017	PK	SL	1	NO	61497D	1FTMF1C81HKC86433	81182	4/18/2017	PK-Steel Lake, Tony Collins, has liftgate	M
Ford	F-150 P/U	2017	PK	SL	1	NO	61498D	1FTMF1C81HKC86433	81212	4/18/2017	PK-Steel Lake, liftgate	M
Ford	F-150 XL 4 X 2	2004	PK	SL	1	NO	37621D	2FTRX17W44CA51101	8119-1	3/9/2004	PK- Steel Lake, Parks Pool	M
Ford	F-150 XL 4 X 2	2004	PK	CH	1	NO	37622D	2FTRX17W64CA51102	8120-1	3/9/2004	PK- City Hall Ali	CH
Ford	F-150 XL 4x4	2004	PK	SL / new shop	1	NO	37678D	2FTRX18W84CA53805	8228-1	3/16/2004	PK- Joe B	M
Ford	F-250 P/U 2WD	2007	PK	SL	1	NO	45521D	1FTSX20508EB82776	8110	4/17/2007	PK- Steel Lake,	M
Ford	F-250 4x4	2017	PK	PK PA	1	NO	24272D	1FT7X2B60HEC80914	81031	4/18/2017	PK - Liftgate	M
Ford	F-250 P/U 2WD	2002	PK	SL	1	NO	32551D	1FTNF21L02ED14052	8103	4/5/2002	PK- Steel Lake, Mario	M
Ford	F-250 P/U 4x2	2006	PK	SL	1	NO	40551D	1FTSX2DY86EA19607	8122-1	3/23/2006	PK- Steel Lake,	M
Ford	F-450	2008	PK	SL	1	NO	45524D	1FDXF47Y98EC14799	8117-1	4/10/2008	PK- Steel Lake, Parks Pool	M
Ford	F-450 4x2 Crew	2011	PK	SL	1	NO	53462D	1FDOW4GY5BEC96104	8101-1	3/1/2011	PK- Steel Lake, George Richen	M
Ford	F-550 4x4	2016	PK	SL	1	NO	59609D	1FDUF5HY0GEA39218	81241	8/12/2015	PK, Steel Lake, Tom Boyd	M
Ford	F150 SC PU	2020	PK	SL	1	NO	70180D	1FTEX1EBXLK45787	8125	7/23/2020	PK - Derreck Presnell	M
Ford	F250 CC	2020	PK	SL	1	NO	TEMP	1FT7W2A63LED10758	8128	10/14/2020	PK - Crew Cab w/liftgate	M
Ford	F250 SC 4X2	2020	PK	SL	1	NO	67695D	1FT7X2A6XLEC74144	8122-2	3/16/2020	PK, Steel Lake, Scott Gehring	M
Ford	F250 SC W/Liftg	2020	PK	PK	1	NO	71248D	1FT7X2B65LEE21503	8127	10/16/2020	PK - Pool liftgate.	M
Ford	F250 W/Liftgate	2020	PK	SL	1	NO	71126D	1FT7X2BN8LED77682	8236	8/10/2020	PK- liftgate	M
Ford	F450 Dump	2020	PK	SL	1	NO	69633D	1FDUF4GN4LED39632	8123-1	6/15/2020	PK - Dump Truck	M
Ford	Ranger P/U 2WD	2008	PK	SL	1	NO	42629D	1FTZR14U78PA05149	8106	3/13/2008	PK- Steel Lake, Seasonals/pool	M
Ford	Ranger P/U 2WD	2008	PK	SL	1	NO	42628D	1FTZR14U78PA05148	8105	3/13/2008	PK- Steel Lake, Pool	M
Ford	Transit 250	2020	PK	DBC	1	NO	71249D	1FTBR1Y83LKA40192	8354	10/29/2020	PK - Cateriing Van	DBC
Ford	Transit Cargo	2020	PK	CH	1	NO	69635D	1FTYE1C80LKA65452	8104-1	4/14/2020	PK - Service Van	CH
Ford/Starcraft	E-350/Allstar	2014	PK	FWCC	1	NO	61947D	1FDEE3FL8EDA68908	81162	6/15/2016	PK- FWCC	FWCC
Goldwing	Trailer Utility	1991	PK	SL	1	NO	07292D	GW05192FOM1818029	82010B	1/17/2001	PK, Steel Lake, Utility Trailer	M
Goldwing	Trailer Utility	1993	PK	SL	1	NO	41185D	GW12142FON1818018	82010D	1/20/1993	PK, Steel Lake, Utility Trailer	M
Gooseneck	Trailer	2000	PK	SL	1	NO	27254D	5CNGD2522C000377	84210	7/12/2000	PK- Steel Lake,	M
Henderson	FSMx10xMILD	2009	PK	SL	1	NO	N/A		81171B	6/10/2009	PK-Sander attached to truck 8117-1	M
Hotsy	HPW-1075BE	2015	PK	SL	1	NO	N/A		91051	8/5/2015	PK, Steel Lake, New Pressure washer attached to Truck 8101	M
Olympic	20TDT-2 Tilt Tr	2015	PK	ST - SL	1	NO	58517D	1C9TF2929FT997111	84521	2/24/2015	ST - STEEL LAKE	M
Olympic	DT14-2E Trlr.	2003	PK	SL	1	NO	37675D	1C9TF22213T879656	84270	6/17/2003	PK- Steel Lake, Tilt Trailer	M
Snowdogg	EX-90 Plow	2009	PK	SL	1	NO	N/A		81171A	6/10/2009	PK-Plow attached to truck 8117-1	M
Toyota	RAV 4 HYBRID	2017	PK	FT - ST	1	NO	61500D	JTMRJREV3HD140822	83512	8/17/2017	PW CH Pool	CH
Trailblazer	LS-360 Trans.	2017	PK	CH	1	NO	N/A	UB16J00107	84310	5/15/2017	PK -Transporter for parks dept	M
Western Global	10TCG(G)W	2019	PK	ST - SL	1	NO	N/A	19009281	94605	12/2/2019	Self contained 275 gallon portable fuel tank with 110 V/AC pump	M
Aerway	QA Aerator	2001	PK	SL / new shop	2	NO		C00000295B	84220	5/10/2001	PK- Steel Lake, Parks aerator	M
Agrimetal	BM4500TPW	2017	PK	SL / new shop	2	NO	N/A	34959	84320	7/19/2017	PK- With 180 Degree Hydraulic Air Deflector for 484320	M
Bluebird Seeder	S22	2006	PK	SL / new shop	2	NO	N/A		92071	1/18/2006	PK- Steel Lake, Seeder with a Honda engine.	M
ExMark	36" Viking	2019	PK	Celebration	2	NO	N/A	GKA36200	84291	2/26/2019	PK-Ex Mark mower replaces old ExMark	CB
John Deere	Field Rake1200A	2001	PK	SL	2	NO	N/A	TC1200A120559	84240	7/4/2001	PK- Steel Lake	M
Kubota	M6060HD	2015	PK	SL	2	NO	N/A	51995	91041	7/2/2015	PK Steel Lake	M
New Holland	TC45DA	2004	PK	SL	2	NO	N/A	G605947	91040	2/18/2004	PK, Steel Lake, Small Tractor	M
PK	Slicer/Seeder	2000	PK	SL	2	NO	N/A		82071	12/6/2000	PK- Steel Lake, Seeder with honda motor	M
Rammers	DS72Y	1999	PK	SL	2	NO	N/A		84500C	6/22/1999	ST- Steel Lake	M
Redexim	Sandmaster 1600	2017	PK	SL / new shop	2	NO	N/A		84340	7/13/2017	PK -Sandmaster 1600	M
Redexim	Verti-Top 1800	2017	PK	SL / new shop	2	NO	N/A	N/A	84350	10/5/2017	PK - Verti-Top 1800	M

Tag-Along	Trailer	1994	PK	ST	2	NO	15205D	FW013094000000158	82140	6/15/1994	PK- Steel Lake, Stage Trailer	M
Toro	1575	2007	PK	SL / new shop	2	NO	N/A	38825	91130	1/17/2007	PK, Overseeder "MAINTENANCE PERFORMED BY PARKS STAFF"	M
Toro	320 Diesel	2020	PK	SL / new shop	2	NO	N/A	407132015	91033	6/8/2020	PK - Toro 320 D	M
Toro	6000 Mower	2012	PK	SL / new shop	2	NO	N/A	S/N 312000243	91121	1/18/2012	PK, Celebration Park Toro Z Mastern 6000 52"	M
Toro	GM 3280D 4WD	2011	PK	SL / new shop	2	NO	N/A	311000168	91021	6/9/2011	PK-#30345	M
Toro	GM 3280D	2019	PK	SL / new shop	2	NO	N/A	403316884	91032	4/11/2019	PK -2019 Toro Groundsmaster 3280D Mower- Parks	M
Toro	GM 328D	2004	PK	SL / new shop	2	NO	N/A	240000273	91030	4/15/2004	PK, #30627	M
Toro	GM 4500 T4	2015	PK	SL / new shop	2	NO	N/A	S/N 315000321	91061	7/27/2015	PK -Toro Groundsmaster mower, PK	M
Toro	GM 5900 T4	2019	PK	SL / new shop	2	NO	N/A	404906206	84252	7/4/2019	New Toro GM 5900 T4 mower - Tom Boyd	M
Toro	MH-400 Topdress	2017	PK	SL / new shop	2	NO	N/A	400755160	84330	7/13/2017	PK -New topdresser for ball fields	M
Toro	Rake-O-Vac	2017	PK	SL / new shop	2	NO	N/A	400801123	84360	6/30/2017	PK-	M
Toro	Sand Pro 3020	2005	PK	Saghalie	2	NO	N/A	08885-240000449	91070	1/26/2005	Steel Lake Park Surplus	M ?Gone?
Toro	Sand Pro 3040	2019	PK	Celebration	2	NO	N/A	402939326	84271	12/28/2018	Toro Sand Pro 3040	CB
Toro	Sand Pro 5000	1997	PK	SL Park	2	NO	N/A	08881-2027	82300	7/24/1997	PK- Steel Lake, for Steel Lake Park	SL Park
Toro	Z Master	2020	PK	W. Hylebos	2	NO	N/A	405130449	91141	4/15/2020	PK - Z Master, Hylebos	W. Hylebos
Toro	Zero Turn 74923	2012	PK	Celebration	2	NO	N/A	312000243	91160	1/18/2012	PK, Zero turn mower, Celebration Park	CM
Toro Sand-Pro	3020	1999	PK	Lakota	2	NO	N/A	08885-90518	84140	4/7/1999	PK- Lakota,	Lakota
Trailer	1	1998	PK	SWM - SL	2	NO	24726D		82330	2/3/1998	SWM- Steel Lake, trailer for SWM pump.	M
Unknown	3910 PISA RR85	2015	PK	ST - SL	2	NO	N/A		92320	10/1/2015	Plow and hitch for truck 82351	M
Unknown	3910 PISA RR85	2015	PK	ST - SL	2	NO	N/A	NONE	92340	10/16/2015	Plow/Hitch for truck #82521	M
Unknown	Asphalt Sprayer	1999	PK	ST - SL	2	NO	26736D		84540	7/28/1999	ST- Steel Lake, Emulsified asphalt sprayer	M
Vermeer	BC1400XL	2005	PK	SL	2	NO	41441D	1VRU1614751002283	92091	1/19/2005	PK, Steel Lake, Chipper	M
Vermeer	RC200	2008	PK	SL	2	NO	N/A	1VRX081F981001413	84300	5/15/2017	PK - Root cutter	M
Wacker	RD-880 Roller	1995	PK	SWM - ST	2	NO	N/A	673602146	82210	2/9/1995	SWM- Steel Lake, Small Roller	M
Wanco	WTSP55	2017	PK	ST - SL	2	NO	61951D	5F11S1017H1000028	82221	3/2/2017	Wanco arrow board, SWM	M
Kubota	RTV500-H 27915	2011	PK	CP		NO	N/A	A5KA1CGATBG027915	91101	1/19/2011	PK, #27915 Celebration Park	CB
Kubota RTV	RTV 500	2019	PK	SH		NO	N/A	A5KA1CGACJG050530	91151	4/22/2019	PK, Kubota RTV 500-H, formally - Saghalie	Saghalie
Kubota RTV	RTV 500-H	2019	PK	CB		NO	N/A	A5KA1CGAJJG051683	91092	4/22/2019	PK, Celebration Park	CB
Kubota RTV 500	RTV 500-H	2019	PK	SL		NO	N/A	A5KA1CGAVJG051668	91120	4/22/2019	PK, Steel Lake Maint Yard	M
Kubota Tractor	M8560HD-12	2015	PK	SL		NO	N/A		84261	6/22/2015	PK, Steel Lake	M
Par PJ	PJ 822	2018	PK	SL / new shop		NO	65796D	4P5T82222K1297033	91090	12/31/2018	PK - Mower Trailer Tom Boyd	M
Ford	F-250 P/U 4x4	2012	PL	SL	1	NO	53469D	1FT7X2B63CEC50346	8245-1	5/15/2012	ST - Water truck	M
Cargo Mate	Trailer	2011	PW	SWM - ST	1	NO	49477D	5NHUBL627BT428894	92170	1/19/2011	SWM-City Hall	M
Cargo Mate	Utility Trlr.	2010	PW	SWM - ST	1	NO	49465D	5NHUBL224AT425102	92160	1/20/2010	SWM-Steel Lake	M
Cargomate	20Ft	2020	PW	ST - SL	1	NO	67600D	5NHUBLV27LB477831	91190	7/12/2019	ST-Mow Crew New 20 Ft Cargomate Trailer	M
Cargomate	CH714TA2	2019	PW	ST - SL	1	NO	65789D	5NHUCH424KF801255	91180	1/29/2019	ST- ROW Maintenance Trailer	M
Cargomate	CH714TA2	2019	PW	ST - SL	1	NO	65797D	5NHUCH428KF801257	91170	1/28/2019	ST- ROW Maintenance Trailer	M
Carry-On	Trailer	2013	PW	SWM - ST	1	NO	53479D	4YMCL1424DN008534	82191	4/10/2013	SWM	M
Caterpillar	3.04E+04	2017	PW	ST - SL	1	NO	N/A	CAT0304EAME402340	94540	2/28/2017	SWM, shared equipment Steel lake	M
Caterpillar	420F Backhoe	2015	PW	SWM - ST	1	NO	N/A	JWJ02858	84611	2/6/2015	New Cat backhoe, SWM, Steel Lake	M
Chevrolet	G3500 Van	2002	PW	IT -CD	1	NO	32552D	1GBHG31R821140893	8906-1	6/12/2002	EOC- City Hall	M
Chevy Van	G3500	2002	PW	CE - CH	1	NO		1GBHG31R821140893	8907	1/20/2006	CE -Graffiti Van donoted from CFEW PD	M
Core Cut	Asphalt Saw	2013	PW	SWM - ST	1	NO	NA	CC2527KC-26	84620	4/10/2013	SWM- Steel Lake	M
Cummins	35DGGD	2008	PW	FL -CH	1	NO		C080165474	92480	10/8/2008	PW-Evidence Building Fixed Generator	CH/Evid
Cummins	750DFGE	2004	PW	CH	1	NO		E040638190	92460	7/16/2004	PW - EOC, City Hall fixed generator	CH
Cummins	750DQFAA	2009	PW	ST - SL	1	NO		D080176462	92490	2/17/2009	PW -EOC, FWCC fixed generator.	FWCC
Cummins	GS12D-LPBD3-208	2006	PW	ST - SL	1	NO		2005488LPW3A79	92470	6/20/2008	PW -Generator Steel Lake Main Building	M
Cummins	T7008-105 Gen	2008	PW	ST - SL	1	NO	47741D	1M9DA12B87M646843	92500	10/29/2007	PW- Portable Generator	M
Cummins	T7008-106 Gen	2008	PW	ST -SE	1	NO	47742D	1M9DA12BX7M646844	92510	1/29/2008	PW-Portable Generator	M
Dodge	Ram 1500 4x4 CC	2012	PW	SWM - ST	1	NO	53463D	1C6RD7FP2CS251790	8254-1	5/23/2012	SWM - pool truck	M
Ford	E-150 Van	2008	PW	ST - SL	1	NO	46276D	1FTNE14LX8DB17414	8234-1	4/23/2008	PW- Fleet Maintenance- Dave Nelson	M
Ford	E-250 Van	2003	PW	IT -CD	1	NO	36245D	1FTNE24L13HB05305	8254	4/16/2003	IT- City Hall	CH
Ford	Escape 4x2 HEV	2012	PW	FWCC	1	NO	53461D	1FMCU5K33CKA45069	8242-1	4/10/2012	PW Pool Vehicle- City Hall	CH
Ford	Escape FWD	2014	PW	CD CH	1	NO	57854D	1FMCU0F72EUE28511	83570	9/25/2014	PW- CD, Nick Ruiz	CH
Ford	Escape FWD	2014	PW	CD CH	1	NO	57855D	1FMCU0F74EUE28512	83580	9/19/2014	CD- City Hall, Bldg. Inspection/ Plans Examiner, Pool	CH
Ford	Escape FWD HEV	2009	PW	CE - CH	1	NO	48228D	1FMCU49379KA12942	8352-1	3/11/2009	CD- City Hall, Building Inspetor,	CH
Ford	Escape FWD HEV	2009	PW	FT - CH	1	NO	48229D	1FMCU49359DA12941	8351-1	3/25/2009	PW- City Hall, Pool Vehicle	CH
Ford	Explorer	2015	PW	FT - CH	1	NO	58902D	1FM5K8B85FGC27584	82431	4/9/2015	PW, Pool Vehicle, City Hall	CH
Ford	Explorer	2017	PW	FT - CH	1	NO	24269D	1FM5K7B83HGC35471	83552	3/22/2017	CD-Code Compliance, Angie Villalovo	CH
Ford	Explorer	2017	PW	CD - CH	1	NO	24270D	1FM5K7B81HGC35467	83252	3/22/2017	CD-Code Compliance, Valirie Johnson	CH
Ford	Explorer	2017	PW	CH	1	NO	61499D	JTMRJREV3HD140822	81021	7/19/2017	PK-Steve Ikerd	CH
Ford	Explorer	2017	PW	CD - CH	1	NO	61952D	1FM5K7B85HGC35469	83562	3/22/2017	CD-Building Inspector Scott Sproul	CH
Ford	Explorer	2017	PW	CD - CH	1	NO	61953D	1FM5K7B83HGC35468	83502	3/22/2017	CD-Inspector, Andrew Norton (Andy)	CH
Ford	Explorer	2017	PW	CD - CH	1	NO	61954D	1FM5K7B81HGC35470	83522	3/22/2017	CD-Building & Electrical Insp. Robert Rowe	CH
Ford	Explorer 4WD	2020	PW	CD - CH	1	NO	71128D	1FMSK8BH9LGC64474	8359	9/19/2020	CD - Sound Transit	CH

Ford	Explorer AWD	2016	PW	FT - CH	1	NO	61945D	1FM5K8B8XGGC36847	82471	3/14/2016	PW - pool, City Hall	M
Ford	F-150 4WD	2015	PW	ST - SL	1	NO	59607D	1FTFX1EF7FKD38212	82322	6/12/2015	ST - Steel Lake, Gene Greenfield	M
Ford	F-150 4x4 SC	2014	PW	CD - CH	1	no	58516D	1FTEX1EM7EKG51995	82402	2/21/2015	CD -Mike Fyles	CH
Ford	F-150 Ex Cab 4W	2015	PW	SWM - SL	1	NO	59601D	1FTEX1E80FFB25477	82480	5/18/2015	SWM - Jarred Larson	M
Ford	F-150 P/U 4x2	2007	PW	CE - CH	1	NO	42627D	1FTRX12W37FB33403	8326	4/11/2007	CD- Agustin (Gus) Bato Graffiti & Shopping Carts	CH
Ford	F-150 SC 4x2	2019	PW	CD - CH	1	NO	68650D	1FTEX1CBXKKD50974	82490	5/22/2019	PW - Mike Fyles	M
Ford	F-150 SC 4x4	2010	PW	SWM - CH	1	NO	49466D	1FTEX1EW1AFB91351	8244-1	5/27/2010	SWM- City Hall,	M
Ford	F-150 SC 4x4	2019	PW	CD - CH	1	NO	67405D	1FTEX1EB3KKD35150	8228-2	5/15/2019	PW - Insp. Lee Hedrick	M
Ford	F-250 SC 4WD	2015	PW	SWM - SL	1	NO	58909D	1FT7X2B63FEC98904	82461	5/11/2015	SWM, Josh Dove	M
Ford	F-450 Crew Cab	2018	PW	ST -LS	1	NO	61824D	1FDOW4GY2JEB42741	8260	1/18/2019	ST- Steel Lake	M
Ford	F-450 Crew Cab	2019	PW	ST - SL	1	NO	61823D	1FDOW4GY9JEB12054	8270	1/14/2019	ST- Steel Lake	M
Ford	F-550	2000	PW	SL	1	NO	26741D	1FDAF56S1YEB80477	8124	4/21/2000	PK- Steel Lake, PRESSURE WASHER TRUCK	M
Ford	F-550	2016	PW	SWM - SL	1	NO	59779D	FD0X5GY5GEA39227	82411	9/17/2015	SWM, Steel Lake, Flatbed dump with crane,	M
Ford	F150	2020	PW	SWN - SL	1	NO	67694D	1FTFX1E54LKD81490	8245-2	3/3/2020	SWM, Ryan Thomas SWM	M
Ford	F150 CC`	2020	PW	ST SR	1	NO	71575D	1FT8W2BT6LEE45581	8238	10/7/2020	ST - Pool truck	M
Ford	F250 4x4 SC	2020	PW	SWM - SL	1	NO	61234D	1FT7X2B60LEC74099	8244-2	1/29/2020	SMW, City Hall, Ernie Fischer	M
Ford	F250 ServiceBod	2020	PW	ST - SL	1	NO	65217D	1FDBF2A68KEF62249	8126	7/24/2020	ST - Teroma Fulmore Service Truck Irrigation truck	M
Ford	F350 SC 4X4 DWR	2020	PW	ST - SL	1	NO	70090D	1FD8X3H63LED09652	8251-2	3/23/2020	ST, flatbed	M
Ford	F450 CC Landsca	2020	PW	ST -SL	1	NO	11111	1FD9W4HT6LEC5782	8203	9/1/2020	ST - TRASH TRUCK - LANDSCAPE BODY W/LIFTGATE	M
Ford	F450 SC 4X4 DRW	2020	PW	ST - SL	1	NO	68493D	1FDOX4HN8LED09656	8250-2	3/1/2020	ST, on call truck	M
Ford	F450 W/SB	2020	PW	SWM - sl	1	NO	71127D	1FDOX4HNXLED68773	8200-2	9/10/2020	SWM- On call truck Nathan Gillespie	M
Ford	F550 SC SB Cran	2020	PW	FT - SL	1	NO	71129D	1FD8X5HTXLEC54597	8289	10/20/2020	PW - Fleet Service Truck w/ crane, Dave N	M
Ford	Focus SE	2015	PW	CD - CH	1	NO	58910D	1FADP3F20FL295766	83011	5/18/2015	CD, Pool Vehicle, City Hall	CH
Ford	Focus SE	2015	PW	CD - CH	1	NO	59605D	1FADP3F29FL295765	83021	6/2/2015	CD, Pool Vehicle, City Hall	CH
Ford	Transit 250 Van	2020	PW	CD - CH	1	NO	69632D	1FTBR1C87LKA36525	8254-2	6/10/2020	PW -Insp Van - George	CH
Ford	Transit 250 Van	2020	PW	CD - CH	1	NO	69634D	1FTBR1C86LKA30957	8255-2	6/10/2020	PW-Insp, Van - Aaron	CH
Ford	Transit 250 Van	2020	PW	CD - CH	1	NO	69635D	1FTBR1C81LKA40246	8261	6/10/2020	PW- Insp. Van David Prihoda	CH
Ford	Transit Connect	2019	PW	SWM -CH	1	NO	67124D	NMOLS6E25K1406354	8234-2	2/12/2019	SWM Van	M
Ford	Transit Connect	2020	PW	IT - CH	1	NO	101010	NMOLS7E27L1456759	8360	10/30/2020	IT - Service Van	M
Ford/Altec	F550 4X2 /AT40G	2019	PW	ST - SL	1	NO	70091D	1FDUF5GTOKEF42522	8256-1	2/10/2020	ST, Bucket truck, Altec AT40G Sr# 0120EY5371	M
Garland	Utility Trlr	1995	PW	SWM - SL	1	NO	17170D	2754	84200	6/14/1995	PK- Steel Lake, volunteer trailer	M
Godwin	CD 150M	2017	PW	SWM - SL	1	NO		16MBB1518HD074712	82331	4/5/2017	PW - Godwin Model	M
Harper Deweze	72LC	2005	PW	SWM - SL	1	NO	N/A	4051TE04027	92041	1/19/2005	SWM, Steel Lake, Slope Mower Ser.#48204A	M
Harper DeWeze	ATM72LC	2016	PW	SWM - SL	1	NO	N/A	15A14	92042	1/27/2016	SWM - Harper DeWeze slope mower, SWM, SL	M
Honda	Generator	2009	PW	SWM - SL	1	NO	N/A	EZCN-1030799	82250	7/8/2009	SWM- Steel Lake, small Honda generator	M
Interstate	40TDL Tilt Trlr	2010	PW	SWM - SL	1	NO	49284D	1JKTDL407AM010583	92151	1/20/2010	SWM, Steel Lake, 40,000 Lb. tilt trailer. Air Brakes.	M
John Deere	310SG	2003	PW	SWM -SL	1	NO	N/A	T0310SG921465	84610	7/23/2003	SWM- Steel Lake, Backhoe/ Loader	M
John Deere	524K	2014	PW	ST - SL	1	NO	N/A	1DW524KZJEE661923	94520	7/8/2013	PW, Steel Lake, Loader shared with PW and Parks.	M
Lee Boy	Paver L81000T	1999	PW	ST - SL	1	NO	N/A	29118C	84550	6/30/1999	ST- Steel Lake, Self Propelled Asphalt Paver	M
Mirage	16 Foot	2020	PW	ST - SL	1	NO	N/A	NEED TO GET	91280	9/30/2020	ST - Vacuum Trailer.	M
Scag	6306	2020	PW	ST - SL	1	NO	N/A	P5300113	93000	9/30/2020	ST - LANDSCAPE VACUUM	M
Spencer	Water Trailer	1968	PW	ST-SL	1	NO	23449D	7300109	82290	5/17/1995	SWM- Steel Lake, old water trailer.	M
Spirit	Trailer	1994	PW	SWM - SL	1	NO	16919D	1SPBS1416R1002838	82170A	1/19/1994	SWM, Steel Lake, Boat trailer	M
Starlite	SL-7X14TACT	2005	PW	SWM - SL	1	NO	41436D	46YCP142161075812	82020	10/25/2005	SWM - Starlite enclosed cargo trailer, tandem axle 7X14	M
Steel Lk Gen	Unk	2002	PW	SL	1	NO	N/A		92470	4/3/2002	PW - "Service Handled By Jason"	M
Sweepster	CTMGYD	1995	PW	ST - SL	1	NO	N/A		82280	5/9/1995	ST -Pull behind sweeper	M
TNT	18' Tilt Trlr.	2004	PW	SWM - SL	1	NO	37676D	1T9FS18294T506005	84630	7/2/2004	SWM- Steel Lake	M
Top Notch	TLT-7	2007	PW	SWM - SL	1	NO	42623D	1T9FS18237R506132	92001	1/17/2007	SWM, Steel Lake, Utility trailer	M
Top Notch	TLT-7	2007	PW	SWM - SL	1	NO	42624D	1T9FS20237R506133	92011	1/17/2007	SWM, Steel Lake, Utility trailer	M
Ag. Enterprises	De-Icer	2008	PW	ST - SL	2	NO	N/A		8258A	8/13/2008	ST- Steel Lake, de-icer unit for truck 8258.	M
American Sno-Pl	3910 P TE	2008	PW	ST - SL	2	NO	N/A	JC8973	8258B	8/6/2008	ST- Steel Lake, plow/hitch for truck 8258	M
American Sno-Pl	3910 P TE	2008	PW	ST - SL	2	NO	N/A	JC4456	8257B	8/6/2008	ST- Steel Lake, ploe/hitch for truck 8257.	M
American Sno-Pl	3910PTE LITE	2008	PW	ST - SL	2	NO	N/A	JC4460	8259B	8/6/2008	ST- Steel Lake, plow/hitch for truck 8259.	M
Billy Goat Sod	SC181H	2018	PW	ST - SL	2	NO	N/A	72318318	84250	11/19/2018	PK- Sod cutter -	M
Caterpillar	CB-224E Roller	2004	PW	ST - SL	2			2240212	94640	1/21/2004	SWM, Steel Lake, Asphalt Roller	M
Farrow	185	2007	PW	CE - CH	2	NO	47743D	1M9DA12BX7M646844	92530	1/24/2007	ST, Steel Lake Graffiti removal machine	M
Ferris	IS700Z	2019	PW	ST - SL	2	NO	N/A	2018062062	84542	2/20/2019	Ferris Mower for ROW Maintenance	M
Ferris	IS700Z	2019	PW	ST - SL	2	NO	N/A	2017737003	84543	8/15/2019	52" Feris mower	M
Ferris	IZ700Z	2019	PW	ST - SL	2	NO	N/A	4000431636	84552	8/15/2019	52" Ferris Mower ST	M
Ferris	IZ700Z	2019	PW	ST - SL	2	NO	N/A	4000271382	84553	6/20/2019	New Ferris Mower Streets	M
Genie	TML-4000	2007	PW	ST - SL	2	NO	42630D	5D8LC141571000670	96010	1/26/2007	PW - EOC, Steel Lake,	M
International	7600	2016	PW	SWM - SL	2	NO	59780D	3HTGSSNT3GN106695	82351	6/2/2015	SWM, Steel Lake, 10 yd Dump, Sander #92310, Plow #92320	M
International	7600 Dump	2015	PW	ST - SL	2	NO	59783D	1FTMF1C81HKC86433	82521	10/23/2015	ST - 10 Yd Dump, Steel Lake, ST. sander #92330, Plow #92340	M
John Deere	6110M	2020	PW	ST - SL	2	NO	N/A	1L06110MCKH952513	94512	3/2/2020	ST, JOHN DEERE W/SIDE ARM MOWER	M
John Deere	6330	2012	PW	ST - SL	2	NO	N/A	1LO633OHECH726531	94511	1/18/2012	ST, Surplus 12/7/20	M
Kut Kwick	SSM38-72D	2017	PW	SWM - SL	2	NO	N/A	SERIAL# 53195	92052	4/17/2017	SWM -MOWER Engine Ser# R9062	M

Kut Kwik	SSM38-72D	2006	PW	SWM -SL	2	NO	N/A	52838	92051	1/18/2006	SWM, Steel Lake, Slope Mower	M
Monroe	Spreader	2008	PW	ST - SL	2	NO	N/A	08-CL-8542	8259A	8/6/2008	ST- Steel Lake, Sander for truck 8259.	M
Monroe	V-Hopper Sander	2015	PW	ST - SL	2	NO	N/A		92310	10/1/2015	ST Sander for truck 82351	M
Monroe	V-Hopper Sander	2015	PW	ST - SL	2	NO	N/A	UNKNOWN	92330	10/16/2015	ST - Sander for truck 82521	M
Peterbilt	340 5Yd Dump	2008	PW	ST - SL	2	NO	46274D	2NPRHN8X68M766675	8258	7/16/2008	Street- Steel Lake, Plow and deicer attached	M
Peterbilt	340 5Yd Dump	2008	PW	ST - SL	2	NO	67692D	2NPRHN8X68M766676	8259	7/16/2008	Street- Steel Lake, Sander and Plow attached	M
Peterbilt	367 10 YD Dump	2008	PW	ST - SL	2	NO	59610D	1NPTLU0X08D765778	8257	7/9/2008	Street- Steel Lake Sander and Plow	M
Solar Tech	MB2-LR-1548	2015	PW	ST - SL	2	NO	58903D	4GM2M1318F1461547	84581	4/10/2015	ST -Solar Tech VMS board	M
Solar Tech	MB2-LR-1548	2015	PW	ST - SL	2	NO	58904D	4GM2M1316F1461546	84571	4/10/2015	ST -Solar Tech VMS board	M
Solar Tech	MB2-LR-1548	2015	PW	ST - SL	2	NO	58905D	4GM2M1311F1461549	84601	4/10/2015	ST -Solar Tech VMS board	M
Solar Tech	MB2-LR-1548	2015	PW	ST - SL	2	NO	58906D	4GM2M131XF1461548	84591	4/10/2015	ST -Solar Tech VMS board	M
Solar Tech	MB2-LR-1548	2015	PW	ST -SL	2	NO	59781D	4GM2M1319F1461623	84561	10/20/2015	ST- VMS Board	M
Solar Tech	MB2-LR-1548	2015	PW	ST - SL	2	NO	59782D	4GM2M1317F1461622	84410	10/19/2015	ST-VMS Board	M
Sorenson	Boat	1994	PW	ST - SL	2	NO	16920D	WN1029RD	82170B	1/19/1994	SWM, Steel Lake, SWM boat	M
Sterling Mack	M8500 Dump	2003	PW	ST - SL	2	NO	32554D	2FZAANAK63AK35013	8253	7/23/2003	St- Steel Lake 5 Yd DumpSander and Plow attached	M
Swenson	EX-100-14-54 SS	1999	PW	ST - SL	2	NO	N/A		84530	7/8/1999	ST- Steel Lake, Sander for truck 8252	M
Swenson Spreade	Stainless	2008	PW	ST-SL	2	NO	N/A		8257A	8/14/2008	ST- Steel Lake, sander for truck 8257.	M
Swenson Spreade	Steel	2002	PW	ST - SL	2	NO	N/A		8253A	8/13/2002	ST- Steel Lake, sander for truck 8253.	M
Tenco	TC-120-H-42	2002	PW	ST - SL	2	NO	N/A	5876	8253B	7/17/2002	ST- Steel Lake, plow/hitch for truck 8253.	M
Tiger Mower	Bengal Brute	2020	PW	ST - SL	2	NO	N/A	MK10743	94612	3/2/2020	ST-Tiger side arm mower w/ 2 heads	M
Chicago Pneumat	CPS185KD-IT4	2015	PW	ST - SL			58509D	4500A1019ER048388	84501	2/2/2015	PK - Steel Lake	M
Ford	F-450 4x4	2013	PW	SWM - SL			55097D	1FDOW4HT5DEB36519	8201-1	6/20/2013	PW- Steel Lake, SWM	M

Index

Weather Rating:	1 is out in the rain; 5 is dry conditioned space)											
Yellow highlight	Surplus											
		EQUIPMENT COUNT PER LOCATION										
CB	CELEBRATION PARK	4										
CD	COMMUNITY DEVELOPMENT	1										
CE	CODE ENFORCEMENT											
CH	CITY HALL	30										
EOC	EMERGENCY OPERATION CENTER											
FT	FLEETS											
FWCC	FEDERAL WAY COMMUNITY CENTER	2										
IT	INFORMATION TECH											
M	M & O Facility	**176**										
PD	POLICE											
PK	PARKS											
PW	PUBLIC WORKS											
ST	STREETS											
SWM	SURFACE WATER MANAGEMENT											

Current & Future Staff Count

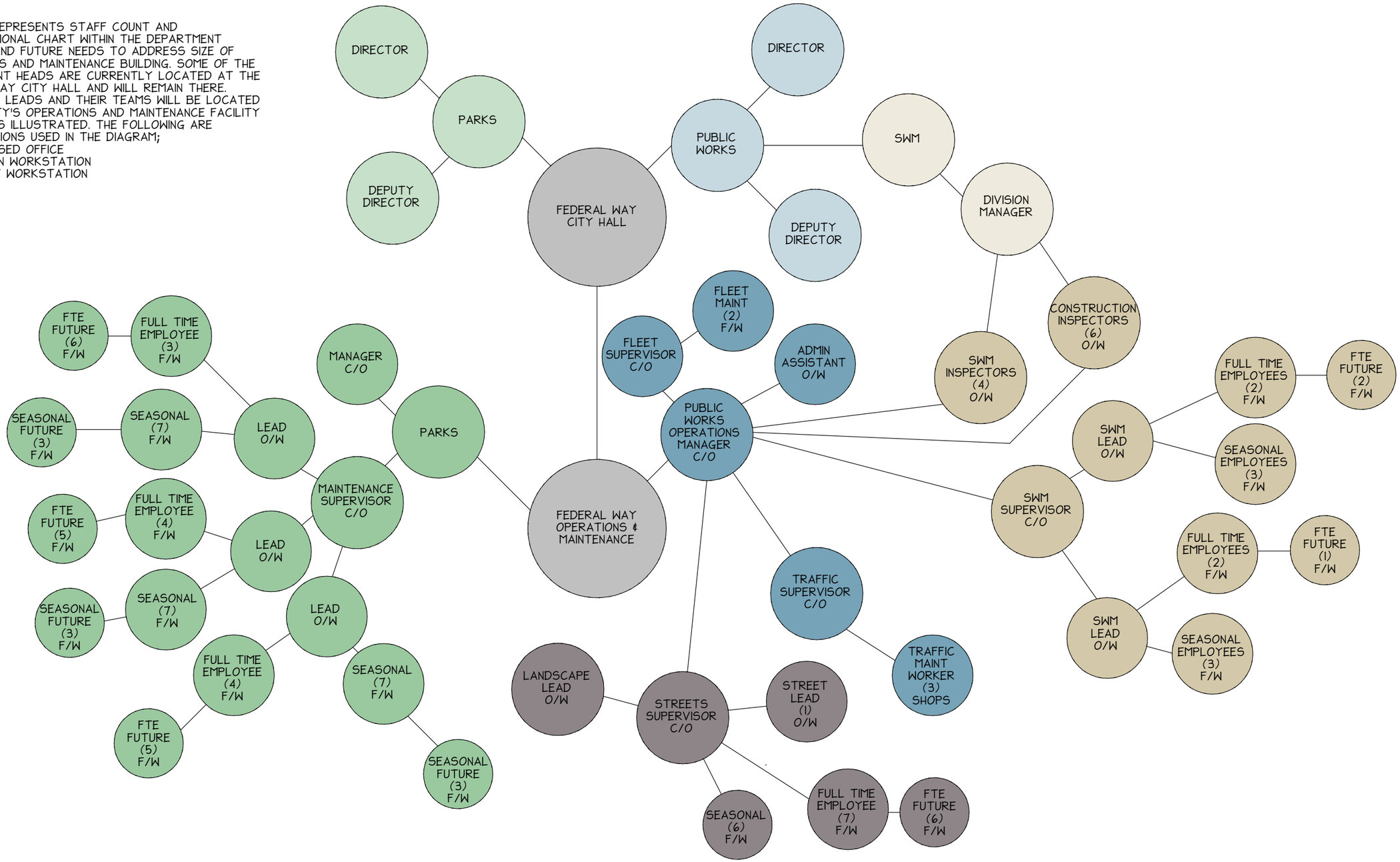
STAFFING TABLE		
	01/20/21*	
Description	Current	Future
Streets FTE	10	15
Streets - Seasonal	6	6
Traffic - FTE	0	4
SWM - FTE	7	10
SWM - Seasonal	6	6
SWM - Inspection**	3	4
Parks - FTE	16	32
Parks - Seasonal	21	30
Fleet - FTE	1	3
Operations Manager***	0	1
Admin Assistant***	0	1
Construction Inspectors**	5	6
TOTALS	**75**	**118**

* UPDATES PER CITY OF FEDERAL WAY
** CURRENTLY LOCATED AT CITY HALL POTENTIAL MOVE TO O&M FACILITY
*** NEW POSITION

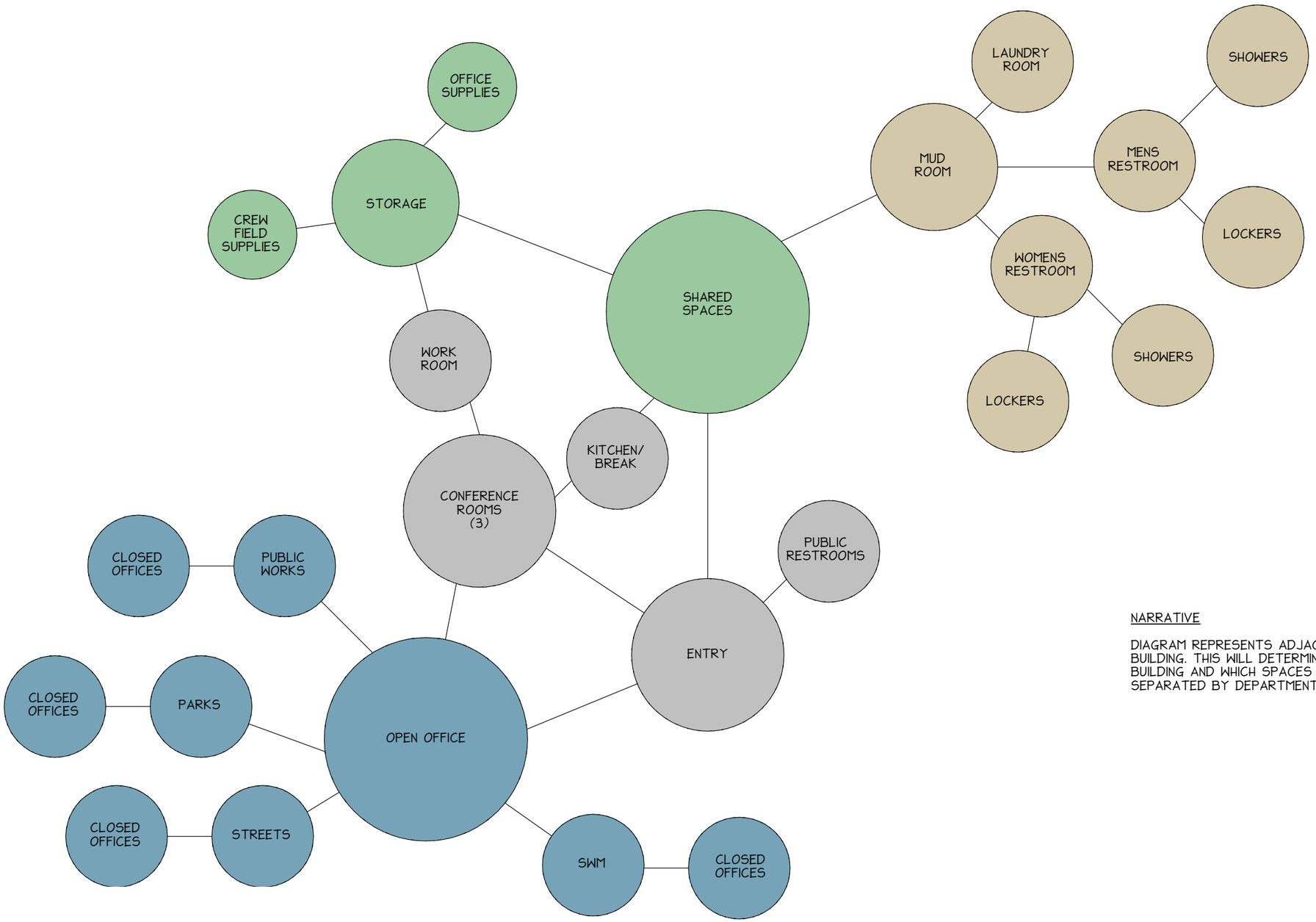
Operations Building Adjacency Diagrams

NARRATIVE

DIAGRAM REPRESENTS STAFF COUNT AND ORGANIZATIONAL CHART WITHIN THE DEPARTMENT CURRENT AND FUTURE NEEDS TO ADDRESS SIZE OF OPERATIONS AND MAINTENANCE BUILDING. SOME OF THE DEPARTMENT HEADS ARE CURRENTLY LOCATED AT THE FEDERAL WAY CITY HALL AND WILL REMAIN THERE. MANAGERS, LEADS AND THEIR TEAMS WILL BE LOCATED AT THE CITY'S OPERATIONS AND MAINTENANCE FACILITY BUILDING AS ILLUSTRATED. THE FOLLOWING ARE ABBREVIATIONS USED IN THE DIAGRAM;
C/O = CLOSED OFFICE
O/W = OPEN WORKSTATION
F/W = FLEX WORKSTATION



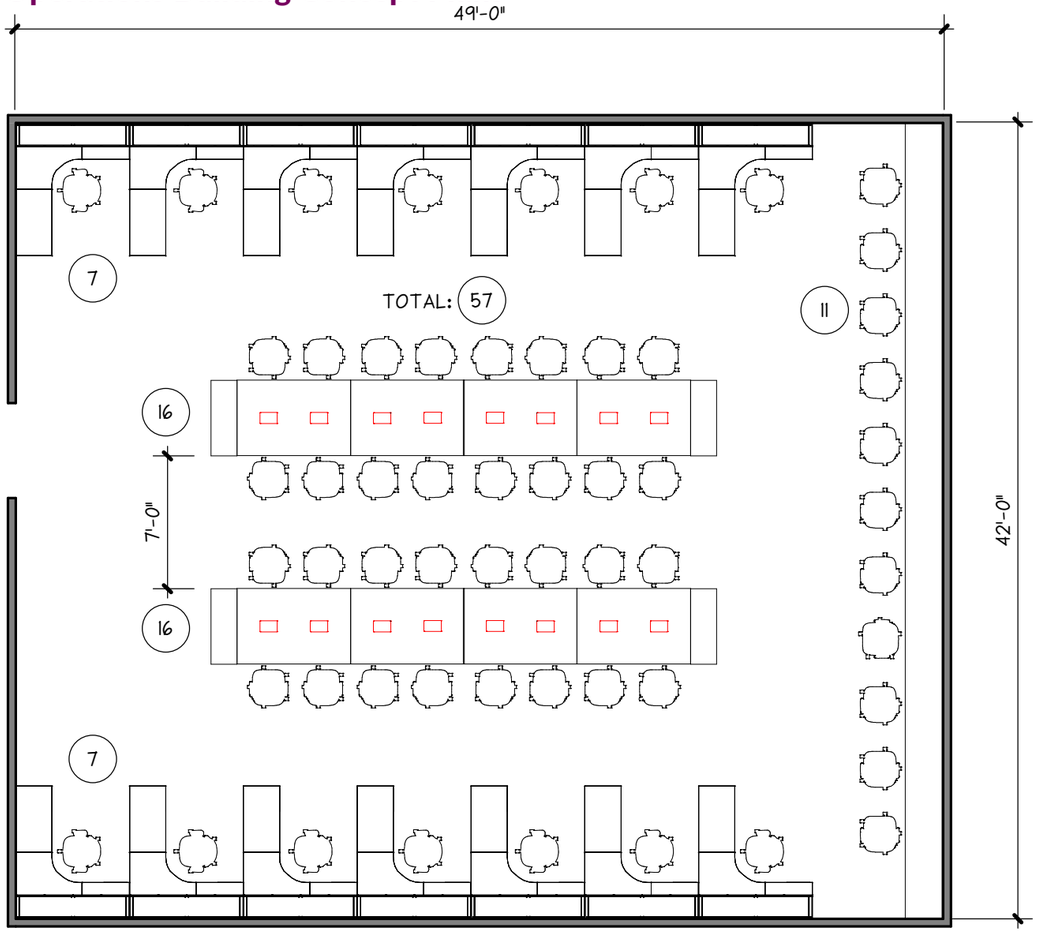
Operations Building Adjacency Diagrams



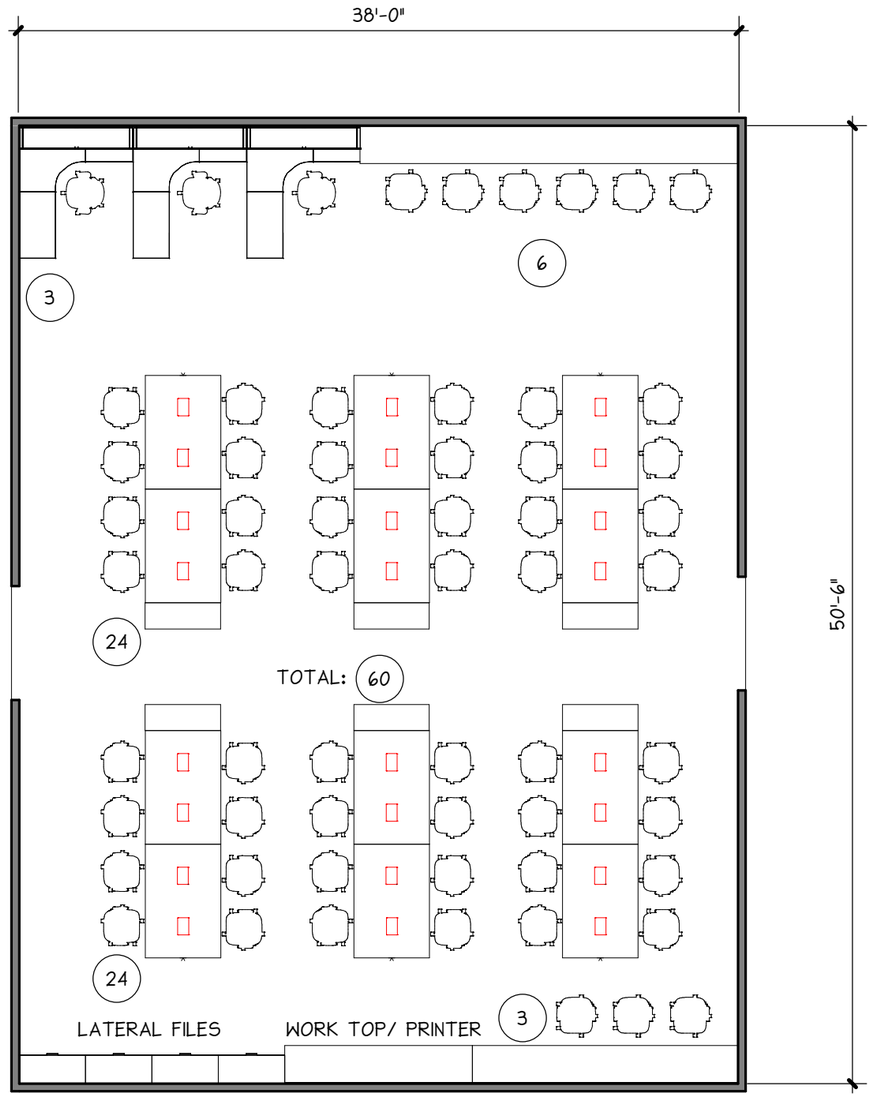
NARRATIVE

DIAGRAM REPRESENTS ADJACENCIES WITHIN THE OFFICE BUILDING. THIS WILL DETERMINE THE NEEDS OF THE BUILDING AND WHICH SPACES ARE SHARED VERSUS SEPARATED BY DEPARTMENT.

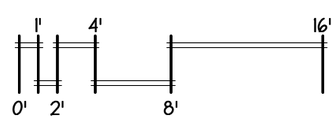
Operations Building Concept Plans



OPEN OFFICE PUBLIC WORKS

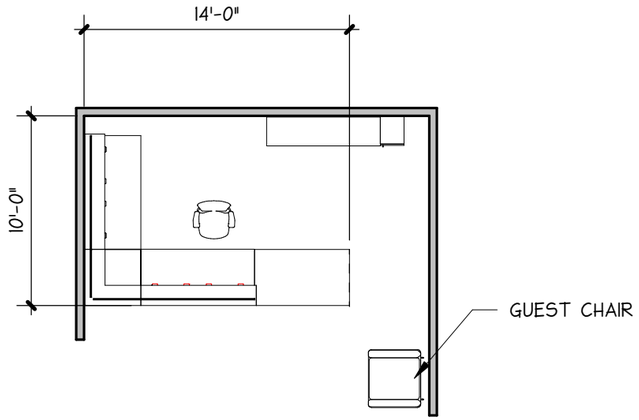


OPEN OFFICE PARKS DEPARTMENT

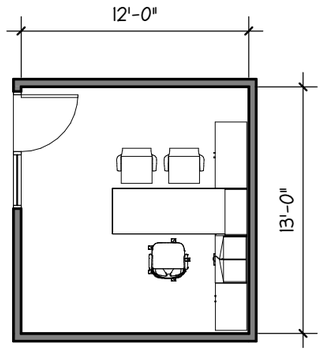


SCALE: 1/8" = 1'-0"

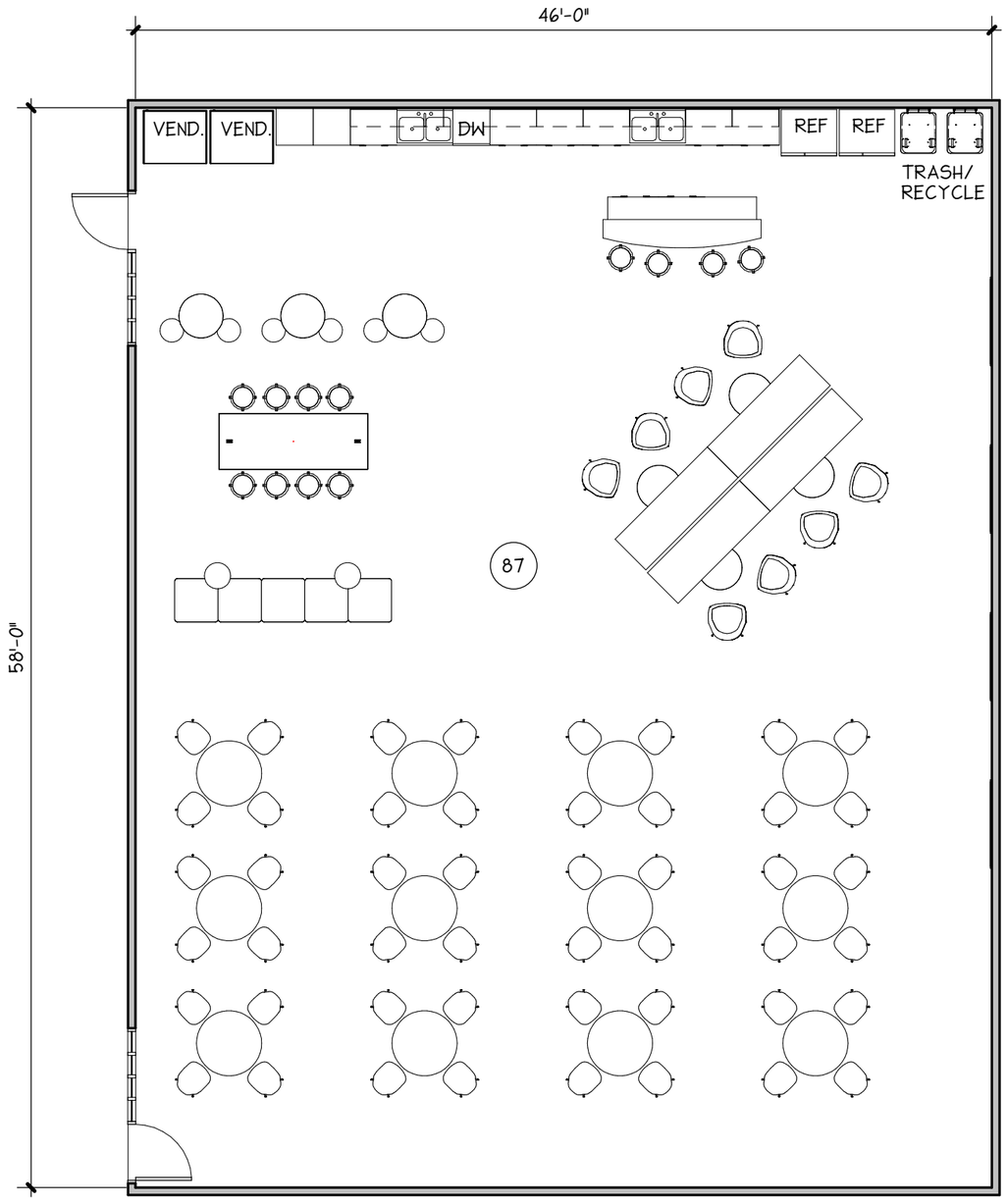
Operations Building Conceptual Drawings



ADMINISTRATIVE ASSISTANT
PLAN VIEW

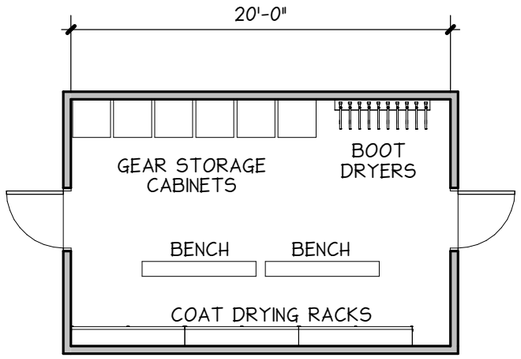


CLOSED OFFICE
PLAN VIEW

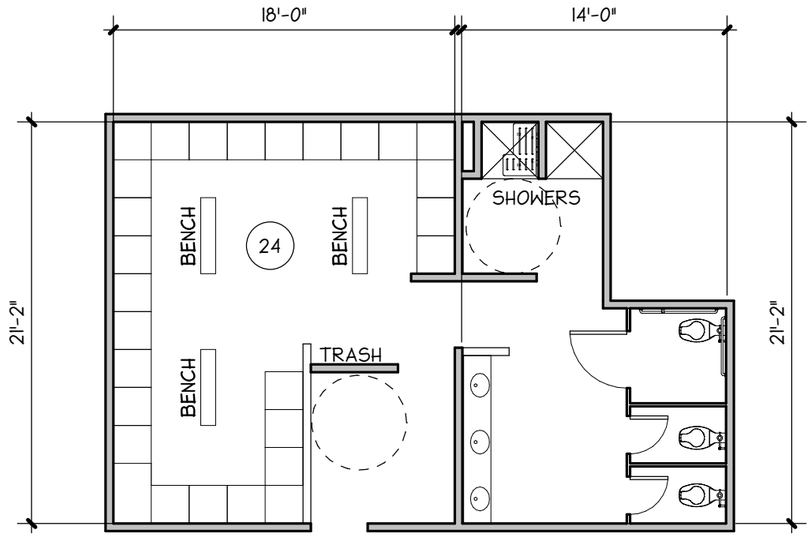


KITCHEN / LUNCH ROOM
PLAN VIEW

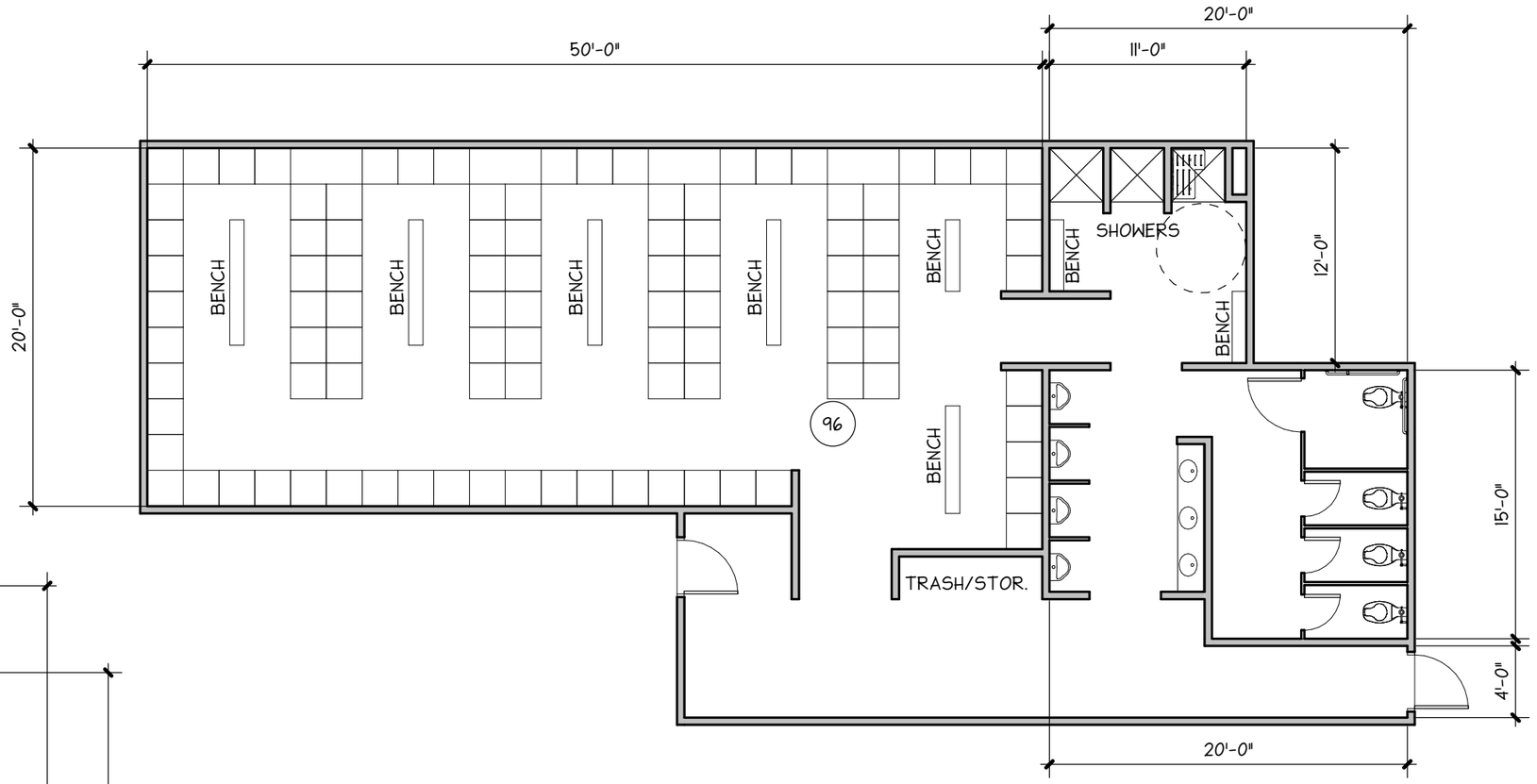
Operations Building Conceptual Drawings



MUD ROOM

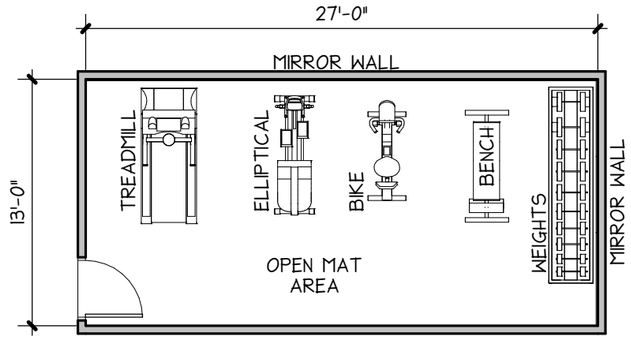


WOMENS LOCKER ROOM AND RESTROOM
PLAN VIEW

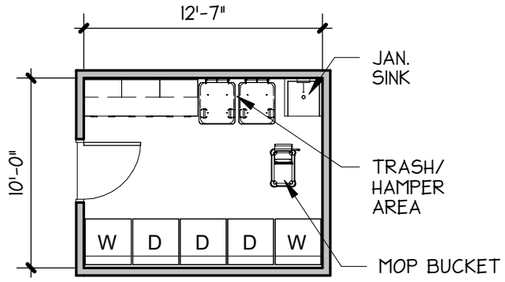


MENS LOCKER ROOM AND RESTROOM
PLAN VIEW

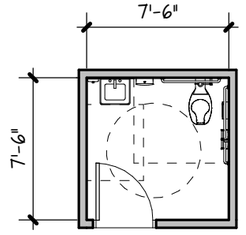
Operations Building Conceptual Drawings



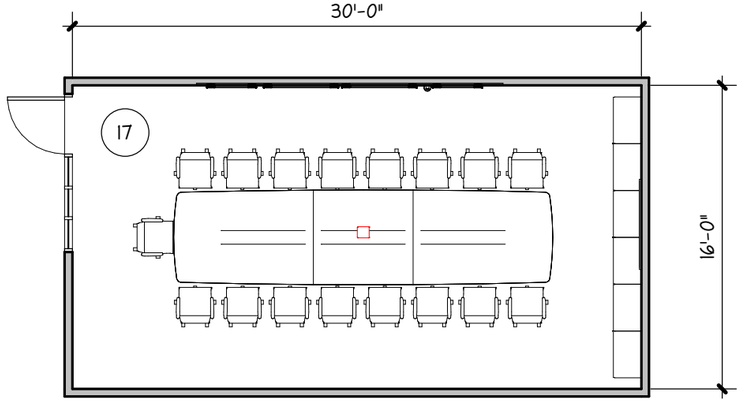
WORKOUT ROOM



LAUNDRY

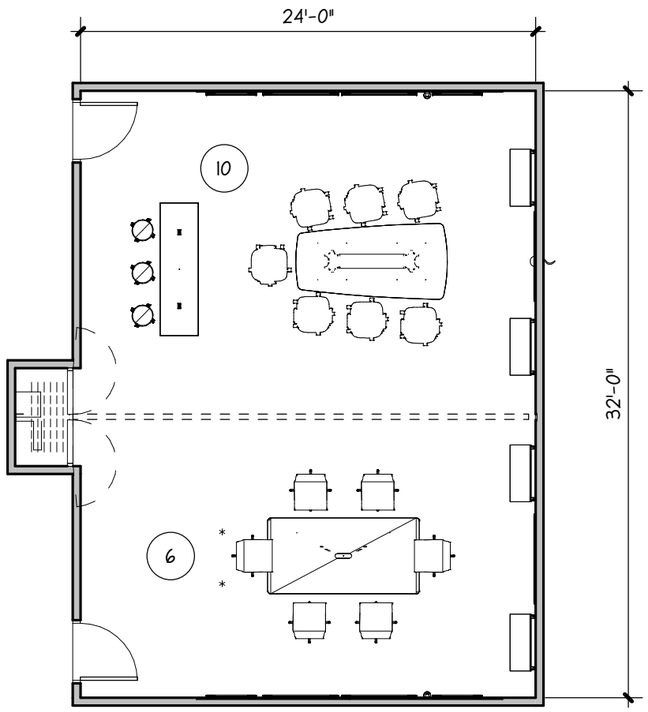


PUBLIC RESTROOM

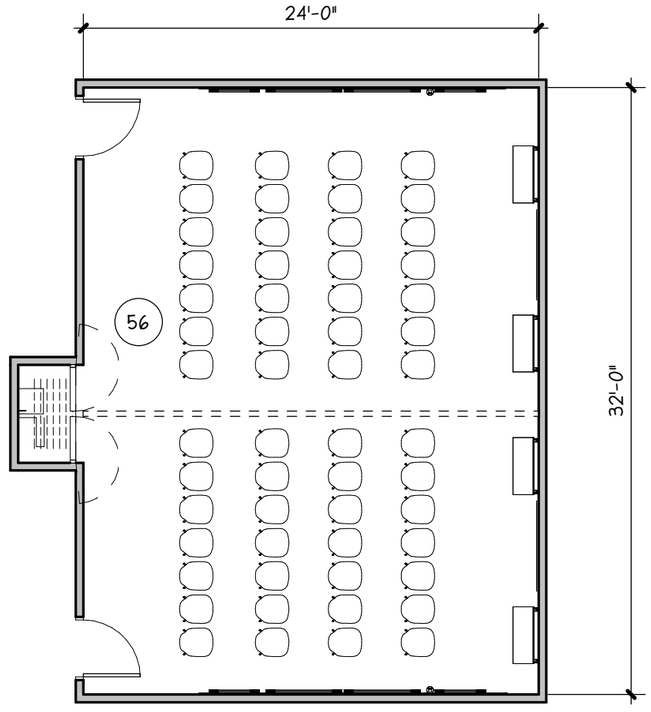


LARGE CONFERENCE ROOM

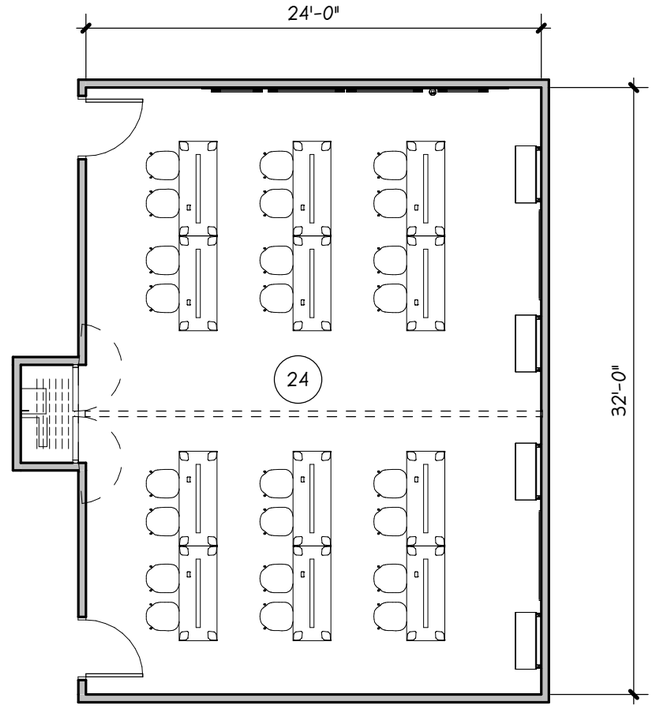
Operations Building Conceptual Drawings



CREW MULTI-PURPOSE ROOM
LAYOUT A - SPLIT CONFERENCE RMS.

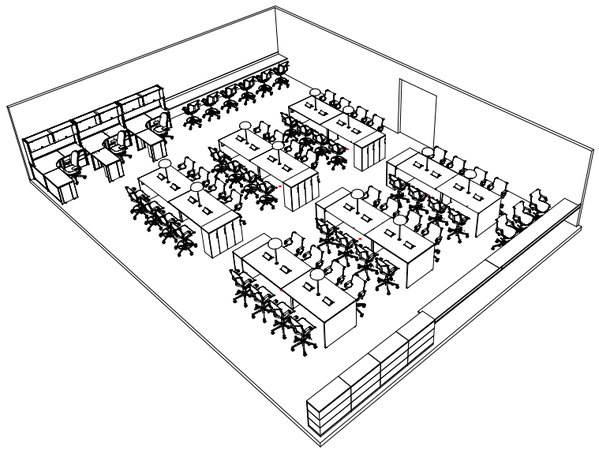


CREW MULTI-PURPOSE ROOM
LAYOUT B - CHAIRS ONLY

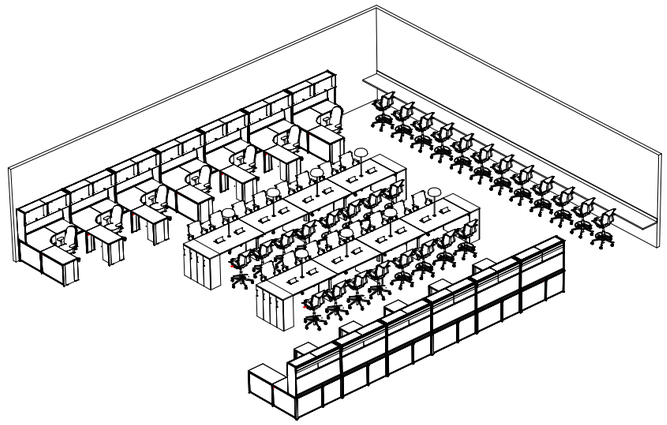


CREW MULTI-PURPOSE ROOM
LAYOUT C - TRAINING

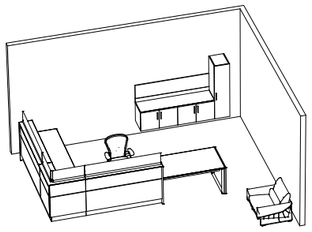
Operations Building Conceptual Drawings



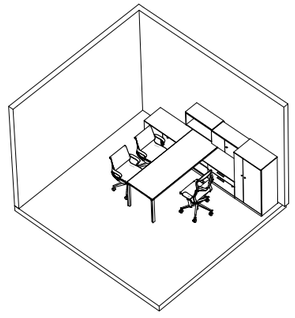
1 OPEN OFFICE PARKS



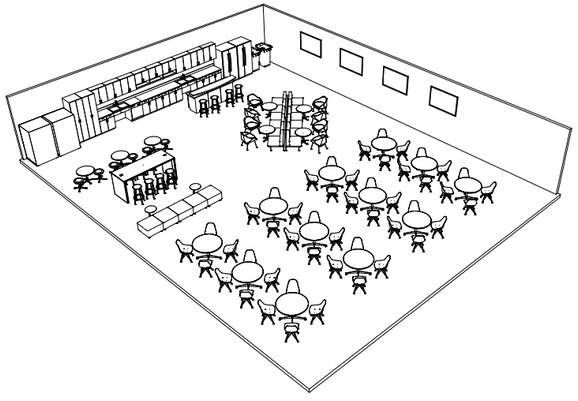
2 OPEN OFFICE PUBLIC WORKS



3 ADMINISTRATIVE ASSISTANT

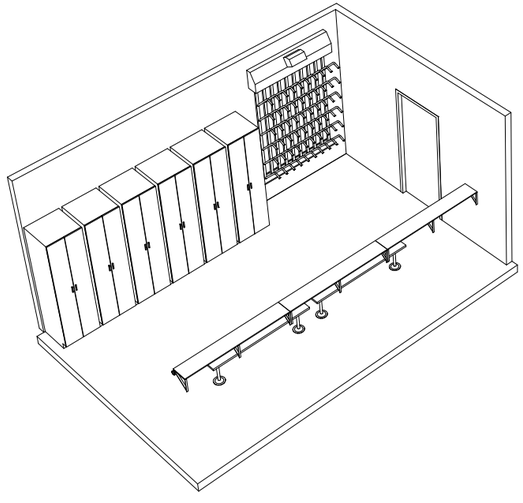


4 CLOSED OFFICE

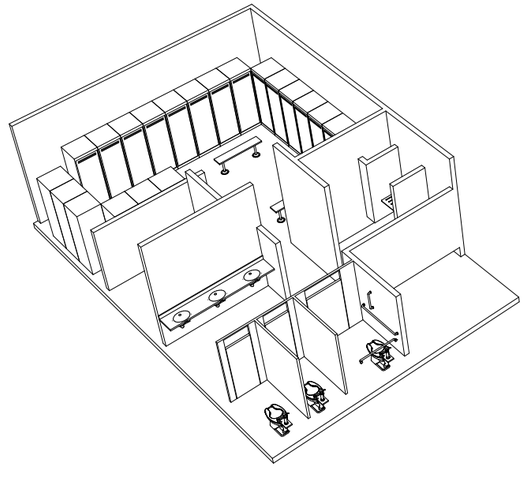


5 KITCHEN/LUNCH ROOM

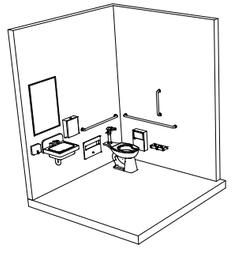
Operations Building Conceptual Drawings



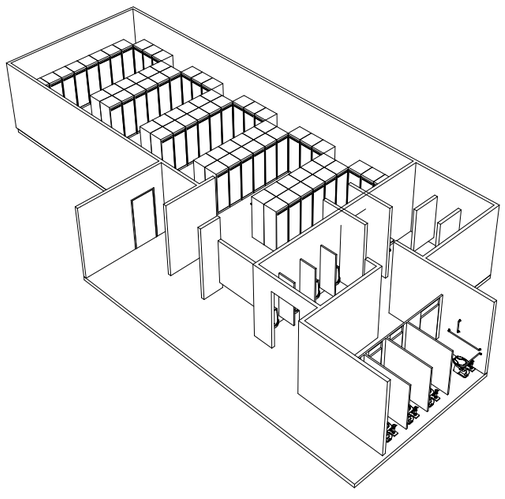
1 MUD ROOM



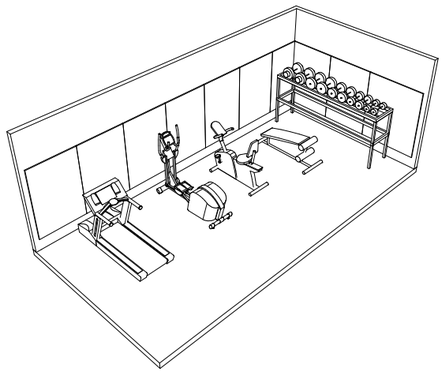
2 WOMENS LOCKER / RESTROOM



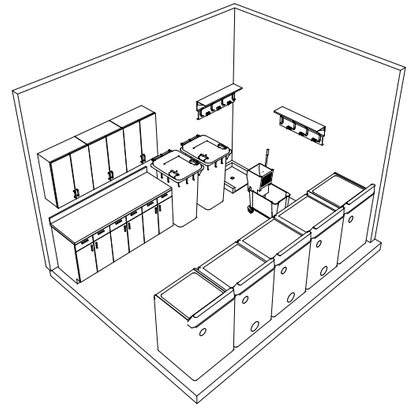
3 PUBLIC RESTROOM



4 MENS LOCKER/RESTROOM

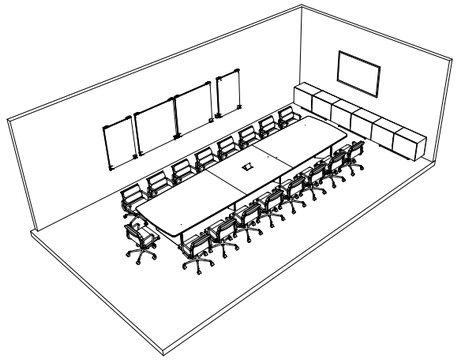


5 WORK OUT ROOM



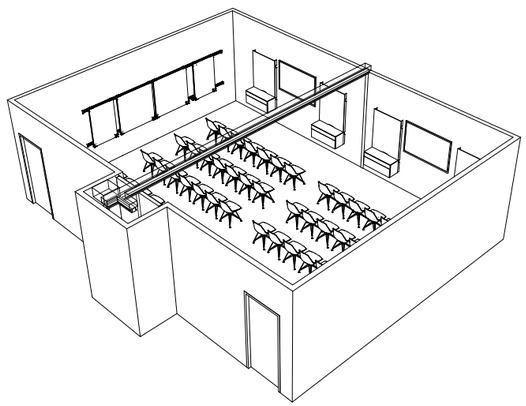
6 LAUNDRY ROOM

Operations Building Conceptual Drawings

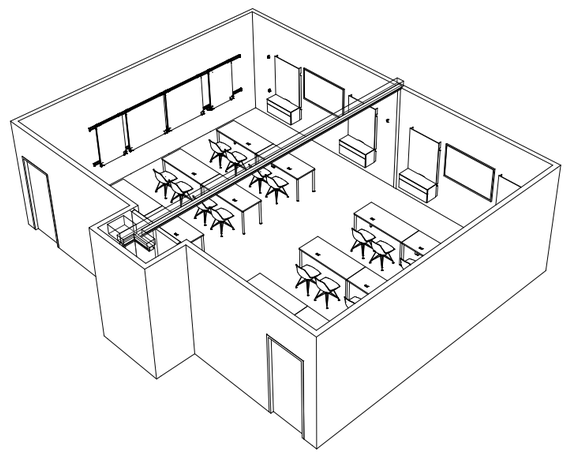


1 LARGE CONFERENCE ROOM

2 CREW MULTI-PURPOSE ROOM CONFIGURATION A

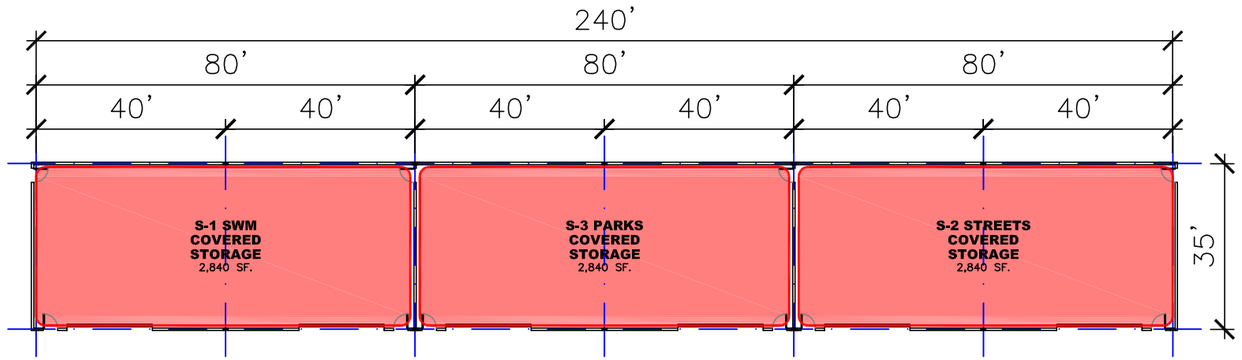


3 CREW MULTI-PURPOSE ROOM CONFIGURATION B



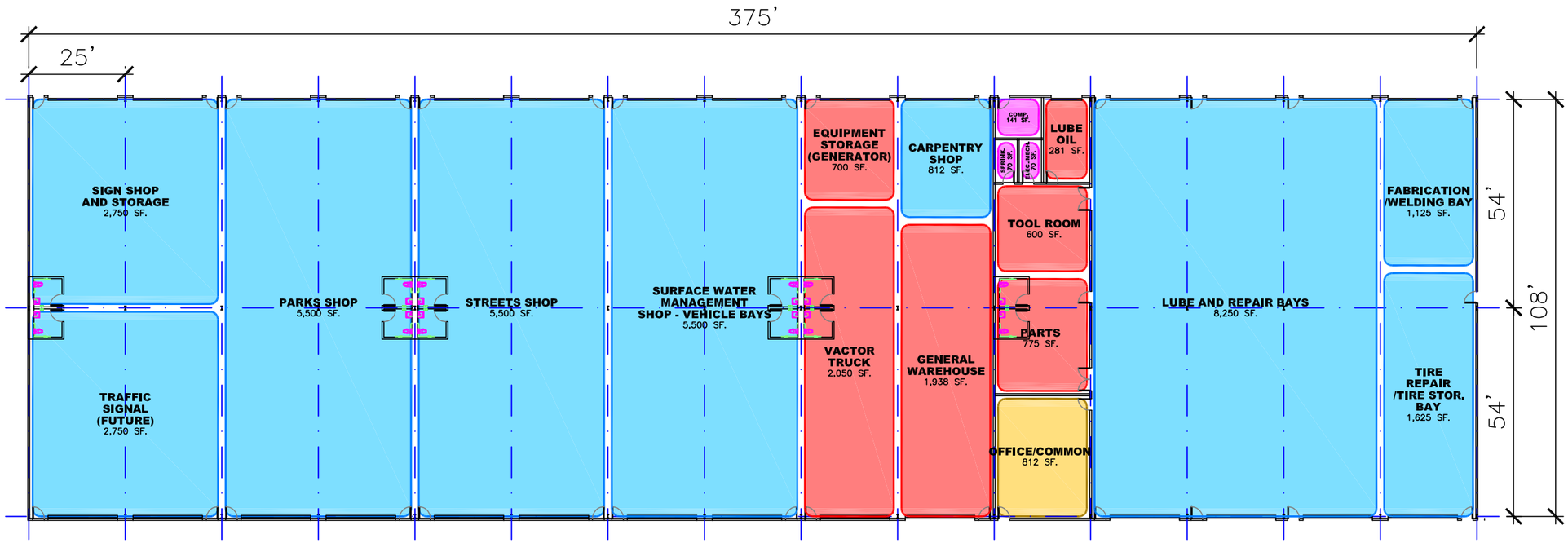
4 CREW MULTI-PURPOSE ROOM CONFIGURATION C

Fleet Operations and Storage Facilities Diagram



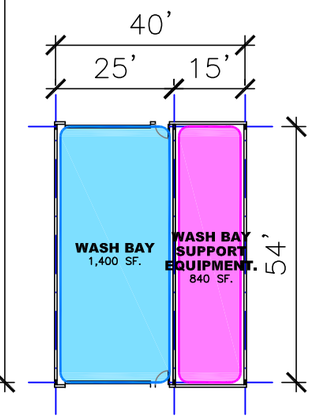
STORAGE BUILDING BUBBLE DIAGRAM

SCALE: 1/32”=1’–0”



SERVICE BUILDING BUBBLE DIAGRAM

SCALE: 1/32”=1’–0”



SUPPORT BUILDINGS BUBBLE DIAGRAM

SCALE: 1/32”=1’–0”

V. Design Criteria for Baseline Estimate

Building Code Summary

GOVERNING BUILDING CODES

Governing Building and Life Safety Codes:

As adopted and amended by Washington State Building Code Council.

2018 International Building Code (IBC)
2018 International Fire Code (IFC)
2018 International Mechanical Code (IMC)
2018 Uniform Plumbing Code (UPC)
2018 Washington State Energy Code (WSEC)
2009 Accessible and Usable Building and Facilities ICC / ANSI A117.1
Occupational Safety and Health Administration Law and Regulations (OSHA)

INTERNATIONAL BUILDING CODE SUMMARY

Operations Building

Occupancy Group:		
Primary	B Business (Office)	IBC Section 304
Accessory	A-3 Assembly (Crew Multipurpose)	IBC Section 303
Construction Type:	II-B	IBC Section 602
Allowable Building Area	69,000 sq ft / floor (SM) SM = Fire Sprinkler System / Multiple Story	IBC Table 506.2
Accessory Occupancy Allowable Area	10% of Total Floor Area	IBC Section 508.2.3
Allowable Building Height	75 ft	IBC Table 504.3
Allowable Number of Stories	4 Stories	IBC Table 504.4
Fire Resistive Rating Requirements		IBC Table 601
Structural Frame	0 hr	
Bearing Walls		
Exterior	0 hr	
Interior	0 hr	
Non-Bearing Walls		
Exterior	Table 602	
Interior	0 hr	
Floor Construction	0 hr	
Roof Construction	0 hr	
Risk Category:	III	IBC Table 1604.5
Fire Sprinkler System	Equipped with Fire Sprinkler System	IBC Section 903
Fire Alarm System	Equipped with Fire Alarm System	IBC Section 907
Occupancy Separation		IBC Table 508.4
A-3 / B	1 hr	

Fleet Maintenance Shop Buildings

Occupancy Group:	S-1 Storage (Motor Vehicle Repair Garage) S-2 Storage (Low-Hazard Storage)	IBC Section 311 IBC Section 311
Construction Type:	II-B	IBC Section 602
Allowable Building Area	70,000 (S1) S1 = Fire Sprinkler System / Single Story	IBC Table 506.2
Allowable Building Height	75 ft	IBC Table 504.3
Allowable Number of Stories	2 Stories	IBC Table 504.4
Fire Resistive Rating Requirements		IBC Table 601
Structural Frame	0 hr	
Bearing Walls		
Exterior	0 hr	
Interior	0 hr	
Non-Bearing Walls		
Exterior	Table 602	
Interior	0 hr	*(Owner may opt for rated walls at Fabrication areas such as Welding and Carpentry shops, to be discuss further during the design phase of the project.)*
Floor Construction	0 hr	
Roof Construction	0 hr	

Building Code Summary

Risk Category:	II	IBC Table 1604.5
Fire Sprinkler System	Equipped with Fire Sprinkler System	IBC Section 903
Fire Alarm System	Equipped with Fire Alarm System	IBC Section 907

Vehicle & Shop Bays Buildings (Open Bays)

Occupancy Group:	S-2 Storage (Open Parking Garage)	IBC Section 311
Construction Type:	II-B	IBC Section 602
Allowable Building Area	104,000 (NS) NS = Not Equipped with Fire Sprinkler System	IBC Table 506.2
Allowable Building Height	55 ft	IBC Table 504.3
Allowable Number of Stories	3 Stories	IBC Table 504.4
Fire Resistive Rating Requirements		IBC Table 601
Structural Frame	0 hr	
Bearing Walls		
Exterior	0 hr	
Interior	0 hr	
Non-Bearing Walls		
Exterior	Table 602	
Interior	0 hr	
Floor Construction	0 hr	
Roof Construction	0 hr	
Risk Category:	II	IBC Table 1604.5
Fire Sprinkler System	Not Equipped with Fire Sprinkler System	IBC Section 903
Fire Alarm System	Not Equipped with Fire Alarm System	IBC Section 907

Equipment Storage Structures (Enclosed)

Occupancy Group:	S-2 Storage (Low-Hazard Storage)	IBC Section 311
Construction Type:	II-B	IBC Section 602
Allowable Building Area	26,000 (NS) NS = Not Equipped with Fire Sprinkler System	IBC Table 506.2
Allowable Building Height	55 ft	IBC Table 504.3
Allowable Number of Stories	3 Stories	IBC Table 504.4
Fire Resistive Rating Requirements		IBC Table 601
Structural Frame	0 hr	
Bearing Walls		
Exterior	0 hr	
Interior	0 hr	
Non-Bearing Walls		
Exterior	Table 602	
Interior	0 hr	
Floor Construction	0 hr	
Roof Construction	0 hr	
Risk Category:	II	IBC Table 1604.5
Fire Sprinkler System	Not Equipped with Fire Sprinkler System	IBC Section 903
Fire Alarm System	Not Equipped with Fire Alarm System	IBC Section 907

Covered Material Storage Structures (open sides sides)

Occupancy Group:	S-2 Storage (Low-Hazard Storage)	IBC Section 311
Construction Type:	II-B	IBC Section 602
Allowable Building Area	26,000 (NS) NS = Not Equipped with Fire Sprinkler System	IBC Table 506.2
Allowable Building Height	55 ft	IBC Table 504.3

Building Code Summary

Allowable Number of Stories	3 Stories	IBC Table 504.4
Fire Resistive Rating Requirements		IBC Table 601
Structural Frame	0 hr	
Bearing Walls		
Exterior	0 hr	
Interior	0 hr	
Non-Bearing Walls		
Exterior	Table 602	
Interior	0 hr	
Floor Construction	0 hr	
Roof Construction	0 hr	
Risk Category:	II	IBC Table 1604.5
Fire Sprinkler System	Not Equipped with Fire Sprinkler System	IBC Section 903
Fire Alarm System	Not Equipped with Fire Alarm System	IBC Section 907

Site Design Criteria

SITE DESIGN CRITERIA

Roadway and Parking Dimensions: (Standard sized vehicle)

Parking Stalls:

Standard Stalls	9’-0” x 18’-0”
Small Truck Stalls	9’-6” x 20’-0”
ADA Car Stalls	9’-0” x 18’-0”
ADA Van Stalls	11’-0” x 18’-0”
Fleet Stalls	10’x24’ on average
Loading / Unloading Bays:	12’-0” x 30’-0”
Drive Lanes:	24’-0” wide. Two-way.
Drive Lanes in Fleet parking	30’-0” wide min., 50’-0” wide in front of buildings min.

Parking Stall Summary:

Proposed Stalls:	Refer to Site Diagram and Facility spread sheets.

Roadways, Sidewalks and Plaza Areas:

Drive Lanes and Parking Stalls:	Asphalt paving. Cast-in-place vertical concrete curbs. Painted pavement markings.
Sidewalks and Plaza Areas:	Reinforced concrete paving. Broom finish texture with control and expansion joints. Install clear sealer. Provide 5’x5’ control joint pattern at sidewalks and plaza areas.
Stairs and Ramps:	Reinforced concrete paving. Broom finish texture with control and expansion joints. Install clear sealer. Reinforced concrete walls at stairs; install clear sealer. Safety tread nosing at stairs. Stainless steel handrails and guardrail system. Architectural Concrete; standard ACI 303R.

Utilities:

Site Utilities:	Underground site utilities, power, water, natural gas, sanitary sewer and communications. Provide fiber optic connection to city’s fiber optic network.

Site Features:

Plaza (Entrance #1):	Provide concrete plaza area with (2) flag poles, (2) bicycle racks, pedestrian lighting and (2) pedestrian bench seating.
Flag Poles:	30’ ht fiberglass flag poles. Reinforced concrete foundation. Ground mounted light fixtures.
Enclosed Dumpster Area:	Dumpster area to be designed to allow for the ability to drive trucks above and dump from an elevated position directly into dumpster or drive at the level and open roll-off dumpster doors to load dumpster at grade. 8’ ht CMU enclosure walls (non-loading sides); install clear sealer. (2) manual swinging galvanized steel gates; powder coated finish. Galvanized steel canopy structure; powder coated finish. Reinforced concrete paving; install clear sealer. AESS steel fabrication; category AESS 2. Reinforced concrete foundation. Steel Bollards.
Generator and Fuel Tank Enclosed Area:	10’ ht CMU walls; install clear sealer. Galvanized steel canopy structure; powder coated finish. Reinforced concrete paving; install clear sealer. AESS steel fabrication; category AESS 2. Reinforced concrete foundation. Install bollards @ 4’-0” o.c. at drive lane access side of generator. Enclosure area with CMU walls at three sides.
Security Fence:	*(No Chain-link fencing)*
Security Fence: (Site Perimeter)	8 to 10 ft. tall commercial heavy-duty steel fabrication security fence system and manual swinging personnel access gates. Decorative style fencing matching vehicle gates. Color: Black. Barbed wire arm and 3-strand bard wire. Reinforced concrete footings.
Architectural Fence: (Staff Parking)	6 ft. tall commercial heavy-duty steel fabrication fence system and manual swinging personnel access gates. Decorative style fencing matching vehicle gates. Powder coated finish; Color: Black. Reinforced concrete foundation.

Site Design Criteria

Vehicle Security Gates:	
Gates	6’ ht automatic sliding security gate. Commercial heavy-duty steel fabrication. Decorative security style gates. Powder coated finish; Color: Black. Card key access control system and pedestals. Reinforced concrete foundation.
Architectural Screen Walls:	8’ ht CMU screen wall; install graffiti control clear sealer. Architectural pattern of Split-face and ground-face CMU. Reinforced concrete foundation.
Retaining Walls:	Reinforced concrete walls with texture finish; install clear sealer. Chamfered edges. Architectural Concrete; standard ACI 303R. Depending on height of retaining wall, modular block wall system may be used in lieu of reinforced concrete.
Monument Sign (Entrance #1):	Free-standing illuminated monument sign with exposed reinforced concrete plinth and reinforced concrete foundation. Architectural Concrete; standard ACI 303R. Ground mounted lighting.
Site Signage:	Traffic, directional, information and parking stalls; metal signs. Signage mounted to galvanized steel posts. Paint posts. Color: Black. Concrete footings for posts.
Landscape Design:	
Landscape Buffer:	Provide landscape buffer area as required.
On-site Landscape Areas:	Provide landscape areas around site.
Bicycle Racks:	Heavy-duty steel fabrication bicycle rack. Powder coated finish; Color: Black. Reinforced concrete foundation.
Bench Seats:	Outdoor seating for crew during breaks. Heavy-duty steel fabrication bench seats. Architectural style. Powder coated finish; Color: Black. Reinforced concrete foundation.
Bollards:	Install at loading areas, corners of buildings and structures, wall openings of vehicle bays, gates, generator enclosure, dumpster enclosure, fuel tank, transformers, and ground mounted equipment. 42” ht steel bollards (concrete filled) + concrete foundation (36” depth). Field Paint.
Exterior Lighting:	
Parking Lot and Site	30’ ht light poles with LED light fixtures; powder coated factory finish. Precast reinforced concrete bases; 30” ht above grade; install clear sealer. Color: Black. Security cameras mounted to selected light poles.
Plaza (Entrance #1)	12’ ht pedestrian light poles with LED light fixtures; architectural style, powder coated factory finish. Color: Black. Precast reinforced concrete bases; top flush with finish grade.
Buildings and Structures	Exterior wall mounted LED light fixtures. Color: Black.
Site Security System:	
Parking Lot and Site	Cameras connected to City’s centralized monitoring system.
Key Card Access	Gate access points, connected to City’s centralized monitoring system.
Security Fencing & Gates.	Refer to Site Features above.

Building Design Criteria

BUILDING DESIGN CRITERIA

Life Expectancy Requirements:

Design Criteria:	50-year life span for new construction 25-year life span for reuse of existing structures.

Structural Design Requirements:

Wind, Snow and Seismic Zones:	City of Federal Way, Washington. and International Building Code (IBC)

Sustainable Design Considerations:

LEED Certification:	Not determined during Concept Design Phase.
Sustainable Design:	Use LEED v4 BD+C New Construction Checklist as guide for implementation of sustainable design practices for building and site design.
Location and Transportation	Bicycle Facilities. (Bicycle Storage and Shower Rooms) Green Vehicles. (Electric Vehicle Charging)
Sustainable Sites	Light Pollution Reduction. (Light Trespass)
Water Efficiency	Outdoor Water Use Reduction. (Reduced Irrigation) Indoor Water Use Reduction. Water Metering. (Irrigation, Plumbing Fixtures)
Energy and Atmosphere	Fundamental Commissioning and Verification (Commissioning) Minimum Energy Performance. Fundamental Refrigerant Management.
Materials and Resources	Storage and Collection of Recyclables. Construction and Demolition Waste Management Planning.
Indoor Environmental Quality	Minimum Indoor Air Quality Performance. Environmental Tobacco Smoke Control. (No Smoking) Low-Emitting Materials. (VOC Emissions) Indoor Air Quality Assessment (Building Flush-Out) Thermal Comfort. Interior Lighting. Daylighting. Quality Views. Acoustic Performance.

General Design Requirements:

Lighting System:	LED light fixtures. (Interior and Exterior)
Exterior:	Wall mounted fixtures all sides of buildings. Canopies underside mounted fixtures.
Acoustical Design:	Sound tested Wall, Floor and Ceiling Assemblies. (STC) Assemblies in accordance to GA-600 Design Manual.
Security System:	Access Control System and Door Hardware (Card Key) and CCTV video surveillance both linked to City's central monitoring system.
Locations:	All exterior doors and interior doors to utility rooms, corridors, lobby, vestibule and storage rooms.
Automatic Door Entry Hardware:	Main Building Entrance of Building B1. Wall mounted ADA actuators near door.
Door Hardware:	Commercial Grade.
Roof Access:	Provide interior wall mounted steel ladder and roof access hatch. Provide exterior wall mounted steel ladders between roof areas. Provide in accordance to OSHA regulations.
Roof Fall Protection System:	Provide fall protection system (stainless steel roof anchors and stainless-steel cable system at all roof areas.

Building Design Criteria

Dampproofing System: Install dampproofing system at exterior face of all concrete foundation walls and footings.

Foundation Footing Drains: Install footing drains at foundation footings; connect to storm drainage system. Install cleanouts at locations required by UPC.

Roof Downspout and Rain Leaders: Connect roof and canopy downspouts and rain leaders to storm drainage system. Install cleanout at each connection at finish grade and at locations required by UPC.

Bollards: Install at building corners, vehicle access doors and ground mounted equipment. 42" ht steel bollards (concrete filled) + concrete foundation (36" depth). Field Paint.

Energy Code Requirements: Washington State Energy Code (WSEC).

- Mechanical Systems: WSEC Section C403.
- Electrical and Lighting Systems: WSEC Section C405.
- Additional Efficiency Package: WSEC Section C407.
  Enhanced Lighting Controls.
  Dedicated Outdoor Air System.
- Air Leakage Thermal Envelope: Building Testing. WSEC Section C402.5.1.2.

Thermal Insulation:

Batt Insulation (Walls):	Mineral Wool.
Batt Insulation (Attic):	Mineral Wool.
Rigid Insulation (Walls):	Mineral Wool.
Rigid Insulation (Floor Slab):	XPS type, 25 psi.
Rigid Insulation (Roof – Above Deck):	XPS type, 25 psi.

Roof Assembly (Above Deck):	Rigid Insulation. (c.i.)	continuous insulation
Roof Assembly (Attic):	Batt Insulation. (int)	between framing
Roof Assembly (Steel Frame):	Batt Insulation. (ls)	liner system
Exterior Walls (Metal Stud):	Batt Insulation (int) + Rigid Insulation (c.i.)	stud cavity + continuous insulation
Exterior Walls (Steel Frame):	Batt Insulation. (ls)	liner system
Floors (Joists):	Batt Insulation (int)	joist cavity
Floor (Slab-On-Grade):	Rigid Insulation	perimeter of slab

Interior Partitions: Metal studs @ 16" o.c. 5/8" GWB each side.
Sound batt insulation.

Interior Signage: Provide wall mounted sign adjacent to door at all rooms. Provide directional signage at Lobby and Corridors.

Fixtures, Furniture and Equipment (FFE): Furnished and Installed by Owner.

Specific Design Requirements:

Operations Building **(B1)**

Structural System: Structural Steel Frame. (Post and Beam)

- Lateral System: Structural Steel Moment frames.
- Foundation: Concrete foundation walls and footings. Column footings. (Slab-On-Grade Floor Assembly)
- Floor Assembly:
  - Slab-On-Grade: Concrete Slab-On-Grade (reinforcing steel) + 15 mil vapor barrier over capillary break layer.
  - Elevated Floors: Composite concrete slab + steel decking.
- Roof Assembly (Concealed): Metal decking + structural steel girders and beams + open web steel bar joists + ceiling assembly below.
- Stair System: Pre-Engineered Steel stair and landing system. Closed steel risers. Steel pan and concrete treads and landings. Stainless steel handrails.
- Roof Assembly (Exposed): Exposed acoustical metal decking + structural steel girders and beams + open web steel bar joists. Painted.
- Exterior Wall Assembly: Metal studs @ 16" o.c. (minimum 18 gauge)
  5/8" thick Exterior Gypsum Sheathing.
- Canopies: Exposed steel columns, beams and purlins. Exposed AESS steel fabrication; category AESS 2. Powdered Coated finish.

Building Design Criteria

Roofing Assembly: Standing Seam Metal Roofing + felt underlayment + membrane underlayment (high-temp) + cover board + rigid insulation + metal decking.

Exterior Wall Cladding: Architectural Wall Panel. (AWP)
Vertical metal Siding (VMS)
Brick Masonry Unit. (BRK)

Exterior Soffits: Metal Soffit Panels. (MSP)

Windows: Aluminum Storefront System. Fixed and operable windows.

Light Shelf: Horizontal aluminum light shelf brackets with 24" wide translucent polycarbonate panels at all windows. Integral shade pocket assembly at wall. Gordon Incorporated or equal.

Sun Shade: Horizontal and vertical aluminum single blade sun shade system; 14" depth. Provide at all windows. Kawneer sun control products or equal.

Louvers: Aluminum louvers.

Energy Code Requirements: Washington State Energy Code (WSEC).

Increased Fenestration: WSEC Section C402.4.1.3. Maximum 40% vertical fenestration area with high-performance fenestration.

U-Value = 0.34 maximum (Fixed metal frame)
SHGC = 0.35 maximum

Thermal Envelope:

Roof Assembly: R-40 (c.i.) insulation above deck

Exterior Walls:

Metal Studs: R-21 (int) + R-10 (c.i.)

Mass: R-10 (c.i.)

Slab-On-Grade (Unheated): R-10 perimeter of slab

(c.i.) = Continuous Insulation.

Insulated Glazing Unit: Double pane insulated glazing unit. PPG – Vitro Architectural Glass; Solarban 60 solar control Low-E glass. 1/4" Solarban 60 (2) Low-E clear glass + 1/2" argon gas-filled air space + 1/4" clear glass; 1" total unit thickness. U-Value = 0.24. SHGC = 0.39. VLT = 70%.

High-Performance Glazing: Triple pane insulated glazing unit. PPG – Vitro Architectural Glass; Solarban 60 solar control Low-E glass. 1/4" Solarban 60 (2) Low-E clear glass + 1/2" argon gas-filled air space + 1/4" clear glass + 1/2" argon gas-filled air space + 1/4" Solarban 60 (5) Low-E clear glass; 1-1/2" total unit thickness. U-Value = 0.12. SHGC = 0.34. VLT = 59%. (Confirm with window system and storefront system; weight of insulated unit)

Passenger Elevator: *(If multi-story facility is required)*
4,000 lbs capacity. Hydraulic with machine room. Twinpost above ground. 2-stage. 150 fpm. Front door. Door 4'-0" width. Cab size: 7'-8" x 5'-5". Brushed stainless steel; front panel, door, frame and entrance. Thyssenkrupp Endura or equal.

HVAC System: Heating, cooling and ventilation.

Plumbing System:

Toilets: Floor mount at unisex restrooms. Wall Mount at crew restrooms and public restrooms. Hands-Free Automatic Flush Value.

Faucets: Motion Sense Touchless Hands-Free.

Restroom Sinks: Undercounter mounted. Stainless Steel.

Floor Drains:
Locations: All toilet rooms, janitor, laundry room, fire sprinkler, mud rooms and mechanical rooms.

Hose Bibbs: Provide at all building entrances, each side of building and outdoor plaza areas.

Exterior Receptacles: Provide weatherproof GFCI receptacles at all building entrances and outdoor plaza areas.

Building Design Criteria

Electrical System:

Back-Up Power: Diesel Generator with base mounted diesel fuel tank. Generator sized to power all building systems.

Exterior Receptacles: Provide weatherproof GFCI receptacle at each building entrance and outdoor plaza areas.

Fire Sprinkler System: Wet System at building.
Dry System at exterior canopies.

Fire Alarm System: Fire Alarm system provided for building.

Fleet Maintenance Shop Buildings **(B2)**

Structural System: Pre-Engineered Steel Building.

Foundation: Concrete foundation walls and footings. Column footings.
(Slab-On-Grade Floor Assembly)

Floor Assembly:

Slab-On-Grade: Concrete Slab-On-Grade (reinforcing steel) + 15 mil vapor barrier over capillary break layer.

Roof Assembly: Standing Seam Metal Roofing Panel + Structural Steel Frame, Beams and Purlins + Exposed Simple Saver Insulation System. Factory Finish.

Alternate: Insulated Metal Roof Panels. Factory Finish.
Manufacturer: MBCI (NCI Building Systems) or Owner Approved.

Exterior Wall Cladding (Upper): Vertical Metal Siding. Factory Finish.
Concealed Fastener Wall System.

Interior Side: Concealed Steel Girts + Exposed Simple Saver Insulation System.

Alternate: Insulated Metal Panel. Factory Finish.
Manufacturer: MBCI (NCI Building Systems) or Owner Approved.

Interior Side: Exposed Steel Girts.

Exterior Wall Cladding (Lower): Concrete Masonry Unit. (Split-face and Ground-face)
8’-12’ height.

Interior Side: Concealed Steel Girts + Simple Saver Insulation System.
Exposed Plywood or MDO panels. 8’ height.

Alternate: Brick Masonry Unit.
8’-12’ height.

Interior Side: Concealed Steel Girts + Simple Saver Insulation System.
Exposed Plywood or MDO panels. 8’ height.

Exterior Soffits: Metal Soffit Panels.

Sloped Floor: Provide sloped concrete slab. Slope toward sectional doors and trench drains.

Sectional Doors: Heavy-Duty Insulated Sectional doors. Size 12’x14’. Electric operators and controls. Weather seals and gaskets.
Tube steel welded frame at jambs and head of wall opening.

HVAC System: Heating and ventilation.

Plumbing System:

Hose Bibbs: Provide at all sides of building.

Trench Drain: Provide at sectional doors.

Restroom Fixtures: Fixtures same as building B1. Floor drain at unisex restroom.

Electrical System:

Back-Up Power: Provide back-up power for all building systems.

Fire Sprinkler System: Wet System at building.
Dry System at exterior canopies and in portions of building determined to be advantageous for such a system during the design process.

Fire Alarm System: Fire Alarm system provided for building.

Building Design Criteria

Vehicle & shop Bays Buildings	**(B2 – B7)**
Structural System:	Pre-Engineered Steel Building.
Foundation:	Concrete foundation walls and footings. Concrete column plinths and footings. (Slab-On-Grade Floor Assembly)
Floor Assembly:	
Slab-On-Grade	Concrete Slab-On-Grade (reinforcing steel) over capillary break layer.
Roof Assembly:	Exposed steel frame, beams and purlins. Hot-dipped galvanized protective coating. Field Paint.
Roofing Assembly:	Standing Seam Metal Roofing Panel + Structural Steel Frame, Beams and Purlins. Factory Finish.
Metal Flashing and Trim:	Sheet metal flashing, trim gutters and downspouts.
Exterior Wall Cladding (Lower):	Architectural Reinforced Concrete. 48” height walls.
Alternate:	Brick Masonry Unit or Concrete Masonry Unit. 48” height.
Exterior Wall Cladding (Upper):	Vertical Metal Siding. Factory Finish. Concealed Fastener Wall System.
Exterior Wall Assembly (Lower):	Architectural Reinforced Concrete. 48” height walls.
Alternate:	Brick Masonry Unit or Concrete Masonry Unit. 48” height.
Exterior Wall Assembly (Upper):	Vertical Metal Siding + exposed steel girts.
Exterior Soffits:	Metal Soffit Panels.
HVAC System:	Heating and ventilation.
Plumbing System:	
Hose Bibbs:	Provide at all sides of building.
Trench Drain:	Provide at sectional doors.
Restroom Fixtures:	Fixtures same as building B1. Floor drain at unisex restroom.
Electrical System:	
Back-Up Power:	Limited access to Back-up Power.
Fire Sprinkler System:	Not equipped with Fire Sprinkler system.
Fire Alarm System:	Not equipped with Fire Alarm system.
Vehicle Wash Bay Structures	**(S4) Enclosed, with overhead door at both ends**
Structural System:	Pre-Engineered Steel Building.
Foundation:	Concrete foundation walls and footings. Column footings. (Slab-On-Grade Floor Assembly)
Floor Assembly:	
Slab-On-Grade:	Concrete Slab-On-Grade (reinforcing steel) over capillary break layer.
Roof Assembly:	Exposed steel frame, beams and purlins. Hot-dipped galvanized protective coating. Field paint.
Roofing Assembly:	Standing Seam Metal Roofing Panel + Structural Steel Frame, Beams and Purlins. Factory Finish.
Exposed Ceiling:	Metal ceiling panels.
Exterior Wall Cladding (Upper):	Concealed steel wall girts with vertical metal siding both sides.
Exterior Wall Cladding (Lower):	Exposed Concrete Masonry Unit. (Ground-face or smooth-face) 10’ height.
Alternate:	Exposed Concrete. 10’ height.
Exterior Soffits:	Metal Soffit Panels.

Building Design Criteria

Sloped Floor:	Provide sloped concrete slab. Slope toward trench drain.
Sectional Doors:	Heavy-Duty Non-insulated Sectional doors. Electric operators and controls. Weather seals and gaskets. Tube steel welded frame at jambs and head of wall opening.
Doors:	Hollow metal doors and frames. Heavy-duty commercial grade.
HVAC System:	Freeze protection, Non-heated enclosed structure.
Plumbing System:	
Hose Bibbs:	Provide at each wash bay.
Trench Drain:	Provide centered between the wash bays.
Electrical System:	
Back-Up Power:	Not provided.
Lighting:	LED light fixtures. Interior and exterior.
Fire Sprinkler System:	Not equipped with Fire Sprinkler system.
Fire Alarm System:	Not equipped with Fire Alarm system.

Equipment Storage Structures	**(S1, S2, S2, S5 & S12) Enclosed Storage**
Structural System:	Pre-Engineered Steel Building.
Foundation:	Concrete foundation walls and footings. Concrete wall footings. (Slab-On-Grade Floor Assembly)
Floor Assembly:	
Slab-On-Grade	Concrete Slab-On-Grade (reinforcing steel) over capillary break layer.
Roof Assembly:	Exposed steel frame, beams and purlins. Hot-dipped galvanized protective coating. Field Paint.
Roofing Assembly:	Standing Seam Metal Roofing Panel + Structural Steel Frame, Beams and Purlins. Factory Finish.
Metal Flashing and Trim:	Sheet metal flashing, trim gutters and downspouts.
Exterior Walls:	
Exterior Wall (Lower):	Reinforced concrete walls. 4’ height walls.
Exterior Wall (Upper):	Steel girts with vertical metal siding at exterior side.
Column Plinths:	4’ height reinforced concrete plinths.
Exterior Soffits:	Metal Soffit Panel.
Sectional Doors:	Heavy-Duty Non-insulated Sectional doors. Electric operators and controls. Weather seals and gaskets. Tube steel welded frame at jambs and head of wall opening.
Doors:	Hollow metal doors and frames. Heavy-duty commercial grade.
HVAC System:	Non-heated enclosed structure.
Electrical System:	
Back-Up Power:	Not provided.
Lighting:	LED light fixtures. Interior and exterior.
Fire Sprinkler System:	Not equipped with Fire Sprinkler system.
Fire Alarm System:	Not equipped with Fire Alarm system.

Building Design Criteria

Covered Material Storage Structures	**(S8, S10 & Future S15) Open-Sided**
Structural System:	Pre-Engineered Steel Building.
Foundation:	Concrete foundation walls and footings. Concrete wall footings. (Slab-On-Grade Floor Assembly)
Floor Assembly:	
Slab-On-Grade	Concrete Slab-On-Grade (reinforcing steel) over capillary break layer.
Roof Assembly:	Exposed steel frame, beams and purlins. Hot-dipped galvanized protective coating. Field Paint.
Roofing Assembly:	Standing Seam Metal Roofing Panel + Structural Steel Frame, Beams and Purlins. Factory Finish.
Metal Flashing and Trim:	Sheet metal flashing, trim gutters and downspouts.
End Bay Exterior Walls:	(S10 only)
Exterior Wall (Lower):	Reinforced concrete walls. 6’ height walls.
Exterior Wall (Upper):	Concealed steel girts with vertical metal siding both sides.
Material Bay Demising Walls:	Reinforced concrete walls. 6’ height walls.
Column Plinths:	6’ height reinforced concrete plinths.
Exterior Soffits:	None.
HVAC System:	Non-heated open-sided structure.
Electrical System:	
Back-Up Power:	Not provided.
Lighting:	LED light fixtures.
Fire Sprinkler System:	Not equipped with Fire Sprinkler system.
Fire Alarm System:	Not equipped with Fire Alarm system.

Fueling Station	**(S11) Free standing Roof, Open-Sided**
Structural System:	Free standing roof structure (canopy) supported by central steel column structure.
Foundation:	Concrete footings and central pump island.
Floor Assembly:	
Slab-On-Grade	Concrete Slab-On-Grade (reinforcing steel)
Roof Structure:	Exposed steel frame, beams and purlins. Hot-dipped galvanized protective coating. Field Paint.
Roofing Assembly:	Standing Seam Metal Roofing Panel + Structural Steel Frame, Beams and Purlins. Factory Finish.
Metal Flashing and Trim:	Sheet metal flashing, trim gutters and downspouts.
Material Bay Demising Walls:	Reinforced concrete walls. 6’ height walls.
Column Plinths:	Reinforced concrete plinths.
Exterior Soffits:	None.
HVAC System:	Non-heated open-sided structure.
Electrical System:	
Back-Up Power:	Connected to emergency power system
Lighting:	LED light fixtures.
Fire Sprinkler System:	Not equipped with Fire Sprinkler system.
Fire Alarm System:	Not equipped with Fire Alarm system.

Building Materials & Finishes Outline Specifications

BUILDING MATERIAL OUTLINE SPECIFICATIONS

Exterior Materials, Finishes and Systems:

Pre-Engineered Steel Building Manufacturer:	Gem Buildings or Owner Approved.
Architectural Standing Seam Metal Roofing:	Architectural Standing Seam Metal Roofing. Factory Finish. Metal Gutters and Downspouts. Factory Finish. AEP Span. Design Span HP. 16” wide panels. 24 gauge. Concealed fastener system.
Canopies (Steel):	Metal Roofing Panels. AEP Span. 24 gauge. Exposed AESS steel fabricated. (Shop Finish: Powdered Coating) Structural Steel Framing Members. (Channels + Tees)
Aluminum Storefront System + Windows:	Thermal framing system. Flush Front Glazed. 1-inch glazing unit. Frame: 2-inch wide x 6-inch depth. NFRC tested and certified. Factory Finish.
Exterior Doors and Frames:	
Main Entrances:	Aluminum Storefront Entrances. Factory Finish. Heavy-Duty Series. Medium Stile. Tempered Safety Glazing.
Exits:	Hollow Metal Doors and Frames. (SDI-100 Level 3). Commercial Grade. Galvanized Protective Coating. Field Paint.
Vertical Metal Siding (VMS):	AEP Span. 24 gauge. Galvanized sheet metal. Concealed fastener system. Metal trim, flashings and accessories.
Metal Soffit Panels (MSP):	AEP Span. 24 gauge. Galvanized sheet metal. Concealed fastener system. Metal trim, flashings and accessories.
Metal Flashing and Trim (MTL):	Galvanized sheet metal flashing and trim, gutters and downspouts. 24 gauge. Comply with SMACNA standards.
Brick Masonry Unit (BRK):	Mutual Materials. Econ brick 4-4-12. Prosoco. Graffiti Control Clear Sealer.
Concrete Masonry Unit (CMU):	Mutual Materials. Split-face and ground-face texture. Integral colored. Prosoco. Graffiti Control Clear Sealer.
Painting:	MPI Premium Grade.

Interior Materials, Finishes and Systems:

Interior Doors and Frames:	
Operations Building:	Solid Core Wood Doors and Frames. AWI Premium Grade. Factory Finish: Stain + Clear Sealer.
Maintenance Shop + Tools Buildings:	Hollow Metal Doors and Frames. (SDI-100 Level 3). Commercial Grade. Field Paint.
Interior Relites:	
Operations Building:	Hardwood Frames. Tempered Safety Glass. AWI Premium Grade. Factory Finish: Stain + Clear Sealer.
Maintenance Shop + Tools Buildings:	Hollow Metal Frames. (SDI-100 Level 3). Tempered Safety Glass. Commercial Grade. Field Paint.
Window Sills and Relite Sills:	
Operations Building:	Hardwood sills and apron. AWI Premium Grade. Factory Finish: Stain + Clear Sealer.
Maintenance Shop + Tools Buildings:	GWB or None.
Casework:	
Operations Building:	AWI Premium Grade. PLAM Faced.
Maintenance Shop + Tools Buildings:	AWI Custom Grade. PLAM faced or Painted MDO.
Interior Finish Carpentry:	
Operations Building:	AWI Premium Grade. Hardwood. Species: To be Selected. Factory Finish: Stain + Clear Sealer.
Painting:	MPI Premium Grade.
Operations Building:	Allow for accent paint colors.

Building Materials & Finishes Outline Specifications

Installation Requirements	Install materials and products in accordance to the manufacturer's specifications and installation instructions. Provide all components, trim, flashings, fasteners and accessories for a complete installation.

Anticipated Exterior Finish Schedule

EXTERIOR FINISH SCHEDULE

Operations Building B1

Exterior Materials:

Architectural Standing Seam Metal Roofing (SSMR)	Factory Finish. [1]
Metal Roofing Panel (MRP)	Factory Finish. [1]
Metal Gutters and Downspouts (MTL)	Factory Finish. [1]
Metal Flashing and Trim	Factory Finish. [1]
Aluminum Storefront System	Factory Finish. Anodized.
Windows	Factory Finish. Anodized.
Sun Shades	Factory Finish. Anodized.
Louvers	Factory Finish. Anodized.
Hollow Metal Doors and Frames [2]	Field Finish. Paint.
Metal Soffit Panels (MSP)	Factory Finish. [1]
AESS Metal Fabrications (Exposed) [3]	Factory Finish. Powder Coated. [4]
Metal Fabrications (Exposed) [2] [5]	Field Finish. Paint.
Bollards (Steel) [2] [5]	Field Finish. Paint.
Architectural Concrete (Horizontal Exposed) [6]	Broom Finish Texture. Clear sealer.
Architectural Concrete (Vertical Exposed) [6]	Smooth Finish Texture. Clear sealer.

Footnotes:

[1] Zincalume / Galvalume (aluminum-zinc) hot-dipped coating. Kynar 500 / Hylar 5000 High-Performance (PVDF) Fluoropolymer Resin Finish (minimum 70% Polyvinylidene Fluoride (PVDF) resins).

[2] Protective Coating: Hot-dipped galvanizing protective coating.

[3] Exposed Metal Fabrications; Architecturally Exposed Structural Steel (AESS), Category 2.

[4] Powder Coated High-Performance (PVDF) Finish.

[5] Exposed Metal Fabrications; steel ladders, bollards, etc.

[6] Architectural Concrete. Quality in accordance to ACI 303R.

Maintenance Shop + Vehicle Buildings

Exterior Materials:

Architectural Standing Seam Metal Roofing (SSMR)	Factory Finish. [1]
Metal Gutters and Downspouts (MTL)	Factory Finish. [1]
Metal Flashing and Trim (MTL)	Factory Finish. [1]
Vertical Metal Siding (VMS)	Factory Finish. [1]
Concrete Masonry Unit (CMU)	Clear sealer. Graffiti Control.
Hollow Metal Doors and Frames [2]	Field Finish. Paint.
Sectional Steel Doors (Insulated)	Factory Finish. [1]
Metal Fabrications (Exposed) [2] [5]	Field Finish. Paint.
Bollards (Steel) [2] [5]	Field Finish. Paint.
Architectural Concrete (Horizontal Exposed)	Broom Finish Texture. Clear sealer.
Architectural Concrete (Vertical Exposed)	Smooth Finish Texture. Clear sealer.

Footnotes:

[1] Zincalume / Galvalume (aluminum-zinc) hot-dipped coating. Kynar 500 / Hylar 5000 High-Performance (PVDF) Fluoropolymer Resin Finish (minimum 70% Polyvinylidene Fluoride (PVDF) resins).

[2] Protective Coating: Hot-dipped galvanizing protective coating.

[3] Architecturally Exposed Structural Steel (AESS), Category 2.

[4] Powder Coated High-Performance (PVDF) Finish.

[5] Exposed Metal Fabrications; steel ladders, bollards, etc.

Anticipated Exterior Finish Schedule

Equipment Storage + Material Storage Structures + Vehicle Wash Bay Structure + Fuel Station

Exterior Materials:

Architectural Standing Seam Metal Roofing (SSMR)	Factory Finish. [1]
Metal Gutters and Downspouts (MTL)	Factory Finish. [1]
Metal Flashing and Trim (MTL)	Factory Finish. [1]
Vertical Metal Siding (VMS)	Factory Finish. [1]
Concrete Masonry Unit (CMU)	Clear sealer.
Hollow Metal Doors and Frames [2]	Field Finish. Paint.
Sectional Steel Doors	Factory Finish. [1]
Metal Fabrications (Exposed) [2]	Field Finish. Paint.
Bollards (Steel) [2] [3]	Field Finish. Paint.
Architectural Concrete (Horizontal Exposed)	Broom Finish Texture. Clear sealer.
Architectural Concrete (Vertical Exposed)	Smooth Finish Texture. Clear sealer.

Footnotes:

[1] Zincalume / Galvalume (aluminum-zinc) hot-dipped coating. Kynar 500 / Hylar 5000 High-Performance (PVDF) Fluoropolymer Resin Finish (minimum 70% Polyvinylidene Fluoride (PVDF) resins).

[2] Protective Coating: Hot-dipped galvanizing protective coating.

[3] Exposed Metal Fabrications; bollards, etc.

Covered Material Bins + Waste / Recycle Structures

Exterior Materials:

Architectural Standing Seam Metal Roofing (SSMR)	Factory Finish. [1]
Metal Gutters and Downspouts (MTL)	Factory Finish. [1]
Metal Flashing and Trim (MTL)	Factory Finish. [1]
Concrete Masonry Unit (CMU)	Clear sealer.
Metal Fabrications (Exposed) [2]	Field Finish. Paint.
Bollards (Steel) [2] [3]	Field Finish. Paint.
Architectural Concrete (Horizontal Exposed)	Broom Finish Texture. Clear sealer.
Architectural Concrete (Vertical Exposed)	Smooth Finish Texture. Clear sealer.

Footnotes:

[1] Zincalume / Galvalume (aluminum-zinc) hot-dipped coating. Kynar 500 / Hylar 5000 High-Performance (PVDF) Fluoropolymer Resin Finish (minimum 70% Polyvinylidene Fluoride (PVDF) resins).

[2] Protective Coating: Hot-dipped galvanizing protective coating.

[3] Exposed Metal Fabrications; bollards, etc.

Anticipated Interior Finish Schedule

INTERIOR ROOM FINISH SCHEDULE

Operations Building

General Notes:

1. Windows Sills: Hardwood sill and apron. Factory Finish. Stain and sealer.
2. Interior Doors: Solid core. Hardwood veneer. Factory Finish. Stain and sealer.
3. Interior Door Frames: Hollow metal frames. Paint.
4. Interior Relites: Hardwood. Factory Finish. Stain and sealer.
5. Interior Relite Sills: Hardwood sill and apron. Factory Finish. Stain and sealer.

Interior Spaces:

Operations + Crew - Parks

Closed Office:
(Parks Manager, Maintenance Supervisor)

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum wall board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Ceiling Height:	9’-0”
Casework:	None
Electrical:	Convenience outlets, power and data for equipment.
HVAC:	Typical office requirements.
Windows:	Exterior views and natural light.
Relites:	Visual connection to the corridor, adjacent to door.
Doors:	36” wide door, wood door, hollow metal frame.

Open Office – Parks Department:

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum wall board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Ceiling Height:	10’-0”.
Casework:	None
Electrical:	Convenience outlets, power and data for equipment.
HVAC:	Typical office requirements.
Windows:	Exterior views and natural light.
Relites:	Visual connection to the corridor, adjacent to door.
Doors:	36” wide door, wood door, hollow metal frame.

Operations + Crew – Public Works

Closed Office :
(Operations Manager, Fleet Supervisor, Traffic Supervisor, Streets Supervisor, SWM Supervisor)

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum wall board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Ceiling Height:	9’-0”
Casework:	None
Electrical:	Convenience outlets, power and data for equipment.
HVAC:	Typical office requirements.
Windows:	Exterior views and natural light.
Relites:	Visual connection to the corridor, adjacent to door.
Doors:	36” wide door, wood door, hollow metal frame.

Open Office – Public Works Department:

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum wall board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Ceiling Height:	10’-0”.
Casework:	None
Electrical:	Convenience outlets, power and data for equipment.
HVAC:	Typical office requirements.
Windows:	Exterior views and natural light.
Relites:	Visual connection to the corridor, adjacent to door.
Doors:	36” wide door, wood door, hollow metal frame.

Anticipated Interior Finish Schedule

Common Areas

Vestibule:

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Ceiling Height:	10’-0”.
Casework:	None
Electrical:	None
HVAC:	Typical vestibule requirements.
Windows:	Exterior views and natural light.
Relites:	None.
Doors:	36” wide double door, storefront system.

Entry Lobby:

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Ceiling Height:	10’-0”.
Casework:	None
Electrical:	None
HVAC:	Typical requirements.
Windows:	Exterior views and natural light.
Relites:	None.
Doors:	36” wide double door, storefront system.

Administrative Assistant:

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum wall board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Ceiling Height:	10’-0”.
Casework:	None
Electrical:	Convenience outlets, power and data for equipment.
HVAC:	Typical office requirements.
Windows:	Exterior views and natural light.
Relites:	None
Doors:	36” wide door, wood door, hollow metal frame.

Kitchen / Lunch Room:

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	Acoustical Ceiling Tile: 2’x2’ ACT.
Ceiling Height:	10’-0”
Casework:	Solid Surface Countertop. Plastic Laminate Face casework.
Appliances:	Provide dishwasher, (2)refrigerators, and (4)microwaves, (2) vending.
Electrical:	Convenience outlets, power for equipment.
HVAC:	Typical office requirements.
Windows:	Exterior views and natural light.
Relites:	Visual connection to the corridor, adjacent to door.
Doors:	36” wide door, wood door, hollow metal frame.

Work Room (Copy / Mail):

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Casework:	Plastic Laminate Countertops. Plastic laminate face casework.
Ceiling Height:	9’-0”.
Casework:	Plastic Laminate Countertop. Plastic Laminate Face casework.
Electrical:	Convenience outlets, power and data for equipment.
HVAC:	Typical office requirements.
Windows:	None.
Relites:	None.
Doors:	None, open to common hall.

Storage (Table + Chairs):

Flooring:	Exposed Concrete. Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x4’ ACT.
Ceiling Height:	9’-0”.
Casework:	None.
Electrical:	Convenience outlets for power.
HVAC:	Typical office requirements.

Anticipated Interior Finish Schedule

Windows:	None.
Relites:	None.
Doors:	36” wide door, wood door, hollow metal frame.

Crew Field Supplies:

Flooring:	Exposed Concrete. Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x4’ ACT.
Ceiling Height:	9’-0”.
Casework:	None.
Electrical:	Convenience outlets for power.
HVAC:	Typical office requirements.
Windows:	None.
Relites:	None.
Doors:	36” wide door, wood door, hollow metal frame.

Crew Multipurpose Room:

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum wall board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Ceiling Height:	12’-0”
Casework:	None.
Electrical:	Convenience outlets for power and data. Allow for floor outlets.
HVAC:	Typical office requirements.
Windows:	Exterior views and natural light.
Relites:	Visual connection to the corridor, adjacent to door.
Doors:	36” wide door, wood door, hollow metal frame.

Large Conference Room:

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum wall board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Ceiling Height:	12’-0”
Casework:	None.
Electrical:	Convenience outlets for power and data. Allow for floor outlets.
HVAC:	Typical office requirements.
Windows:	Exterior views and natural light.
Relites:	Visual connection to the corridor, adjacent to door.
Doors:	36” wide door, wood door, hollow metal frame.

Corridors:

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint. PVC chair rail @ 36” ht.
	Wainscot Fiber Reinforced Laminate Panel. (36” ht)
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT. Gypsum wall board soffits, Paint.
Ceiling Height:	10’-0”.

Restrooms + Locker Rooms

Crew Locker Rooms, Restrooms and Changing + Shower:

Flooring:	Porcelain Floor Tile.
Base:	Porcelain Floor Tile.
Walls:	Porcelain Wall Tile. (Full height)
Shower Stalls (Walls):	Porcelain Wall Tile. (Full height)
Ceilings	Water Resistant Gypsum Wall Board with Acrylic Washable Paint.
Casework:	Solid Surface Countertop.
Miscellaneous:	Provide toilet room accessories and mirror.
Ceiling Height:	9’-0”.

Work Out Room:

Flooring:	Rubber flooring.
Base:	Rubber base.
Walls:	Gypsum wall board with mirrors on two walls.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Ceiling Height:	9’-0”.
Casework:	None.
Electrical:	Convenience outlets for power of equipment.
HVAC:	Adequate ventilation for gym use.
Windows:	None.
Relites:	Visual connection to the corridor, adjacent to door.
Doors:	36” wide door, wood door, hollow metal frame.

Anticipated Interior Finish Schedule

Public Restrooms:

Flooring:	Porcelain Floor Tile.
Base:	Porcelain Floor Tile.
Walls:	Porcelain Wall Tile. (Full Ht)
Ceilings:	Gypsum wall board. Paint.
Miscellaneous:	Provide toilet room accessories and mirror.
Ceiling Height:	9’-0”.
Casework:	None.
Electrical:	Convenience outlets for power of equipment.
HVAC:	Adequate ventilation for restroom use.
Windows:	None.
Relites:	None.
Doors:	36” wide door, wood door, hollow metal frame.

Laundry:

Flooring:	Exposed Concrete. Clear Sealer.
Base:	Rubber Base
Walls:	Gypsum Wall Board with Acrylic Washable Paint.
Ceilings:	Gypsum Wall Board with Acrylic Washable Paint.
Casework:	Solid Surface Countertop. Plastic laminate face casework.
Ceiling Height:	9’-0”.
Casework:	Solid Surface Countertop. Plastic Laminate Face casework.
Electrical:	Convenience outlets for power of equipment.
HVAC:	Adequate ventilation for dryer use.
Windows:	None.
Relites:	None.
Doors:	36” wide door, wood door, hollow metal frame.
Equipment:	(2) Washers, (3) Dryers, (1) Janitor’s Sink

Mud Room:

Flooring:	Architectural Polished Concrete. Stain + Clear Sealer.
Base:	Rubber base.
Walls:	Water Resistant Gypsum Wall Board with Acrylic Washable Paint.
Ceilings:	Water Resistant Gypsum Wall Board with Acrylic Washable Paint.
Ceiling Height:	9’-0”.
Casework:	None.
Electrical:	Convenience outlets for power of equipment - boot dryers.
HVAC:	Dehumidifier capabilities for drying gear.
Windows:	None.
Relites:	None.
Doors:	36” wide door, wood door, hollow metal frame.
Equipment:	Coat drying racks, gear storage, benches, boot dryers.

Building Systems + Support

Janitor, Electrical, Mechanical and Fire Sprinkler:

Flooring:	Exposed Concrete. Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x4’ ACT.
Ceiling Height:	9’-0”.
Casework:	None.
Electrical:	As required.
HVAC:	As required.
Windows:	None.
Relites:	None.
Doors:	36” wide door, hollow metal door, hollow metal frame.
Equipment:	As required.

Communication Room:

Flooring:	Static Dissipative Tile.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x2’ ACT.
Ceiling Height:	9’-0”.
Casework:	None.
Electrical:	As required.
HVAC:	As required.
Windows:	None.
Relites:	None.
Doors:	36” wide door, hollow metal door, hollow metal frame.
Equipment:	As required.

Anticipated Interior Finish Schedule

Recycle + Waste:

Flooring:	Exposed Concrete. Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Plywood up to 8’-0” above finished floor. Paint.
Ceilings:	Acoustical ceiling tile: 2’x4’ ACT.
Ceiling Height:	9’-0”.
Casework:	None.
Electrical:	Convenience outlets for power.
HVAC:	Typical storage room requirements.
Windows:	None.
Relites:	None.
Doors:	36” wide door, hollow metal door, hollow metal frame.
Equipment:	Bin storage.

Maintenance Shop + Tools Buildings

Interior Spaces:

Maintenance Shop

Service Bays:

Floors:	Exposed Concrete. Burnished. Clear Sealer.
Base:	None.
Walls:	Gypsum Wall Board, Plywood / MDO to 8’-0” above finished floor. Paint.
Ceilings:	None. Exposed roof assembly. Paint.
Exposed Steel Structure:	Paint.
Ceiling Height:	20’-0”

Portable Lifts (Storage Area):

Floors:	Exposed Concrete. Burnished. Clear Sealer.
Base:	None.
Walls:	Gypsum Wall Board, Plywood / MDO to 8’-0” above finished floor. Paint.
Ceilings:	None. Exposed roof assembly. Paint.
Exposed Steel Structure:	Paint.
Ceiling Height:	12’-0”

Small Parts + Supplies:

Floors:	Exposed Concrete. Burnished. Clear Sealer.
Base:	None.
Walls:	Gypsum Wall Board, Plywood / MDO to 8’-0” above finished floor. Paint.
Ceilings:	None. Exposed roof assembly. Paint.
Exposed Steel Structure:	Paint.
Ceiling Height:	12’-0”

Office – Mechanic:

Floors:	Exposed Concrete. Burnished. Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x4’ ACT.
Ceiling Height:	9’-0”.

Fluids Room:

Floors:	Exposed Concrete. Clear Sealer. Containment pit with steel grate floors.
Base:	None.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	None. Exposed roof assembly. Paint.
Exposed Steel Structure:	Paint.
Ceiling Height:	12’-0”

Vehicle Bays

Enclosed Vehicle Storage Bays:

Floors:	Exposed Concrete. Clear Sealer.
Base:	None.
Walls:	Plywood / MDO to 8’-0” above finished floor. Paint.
Ceilings:	None. Exposed roof assembly. Paint.
Exposed Steel Structure:	Paint.
Ceiling Height:	16’-0”

Tools Storage (Maintenance Crew)

Small Hand Tools Room:

Floors:	Exposed Concrete. Burnished. Clear Sealer.

Anticipated Interior Finish Schedule

Base:	None.
Walls:	Plywood / MDO to 8’-0” above finished floor. Paint.
Ceilings:	None. Exposed roof assembly. Paint.
Exposed Steel Structure:	Paint.
Ceiling Height:	12’-0”.

Bulk Tools Room:

Floors:	Exposed Concrete. Burnished. Clear Sealer.
Base:	None.
Walls:	Plywood / MDO to 8’-0” above finished floor. Paint.
Ceilings:	None. Exposed roof assembly. Paint.
Exposed Steel Structure:	Paint.
Ceiling Height:	12’-0”

Office – Tool Manager:

Floors:	Exposed Concrete. Clear Sealer.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	Acoustical ceiling tile: 2’x4’ ACT.
Ceiling Height:	9’-0”.

Restrooms

Unisex Restroom:

Flooring:	Porcelain Floor Tile.
Base:	Porcelain Floor Tile.
Walls:	Porcelain Wall Tile. (60” ht)
Ceilings:	Gypsum wall board. Paint.
Miscellaneous:	Provide toilet room accessories and mirror.
Ceiling Height:	9’-0”.

Building Systems + Support

Janitor, Electrical, Mechanical and Fire Sprinkler:

Flooring:	Exposed Concrete. Clear Sealer.
Base:	None
Walls:	Gypsum Wall Board, Paint. Fiber Reinforced Panels in wet locations.
Ceilings:	None. Exposed roof assembly. Paint.
Ceiling Height:	9’-0”.

Communication Room:

Flooring:	Static Dissipative Tile.
Base:	Rubber Base.
Walls:	Gypsum Wall Board, Paint.
Ceilings:	None. Exposed roof assembly. Paint.
Ceiling Height:	9’-0”.

Recycle + Waste:

Flooring:	Exposed Concrete. Clear Sealer.
Base:	None.
Walls:	Plywood / MDO to 8’-0” above finished floor. Paint.
Ceilings:	None. Exposed roof assembly. Paint.
Ceiling Height:	9’-0”.

VI. Site Four Building Evaluation

Site Four Building Evaluation

Site Observations: Site Four

Architectural:

The design team assembled on location at site four on the morning of August the 11th to review the site and the conditions of the existing facility. The site visit was attended by E. J. Walsh, Desiree Winkler and Jason Gerwen from the City of Federal Way as well Mitt Fickel (Pinnacle), Michael George (Kidder Mathews), Anne Turpin (AHBL/Civil), Diane Barringer (Helix), Drew Frame (Kidder Mathews), Chris Teague & Andrew Clagett (Hargis Engineers, Electrical & Mechanical), Drew Frame (AHBL- Structural) and the tour of the site was led by Court Paxton. We started our tour with the sales and administrative wing working back through the parts and storage areas of the building and then into the maintained shop area. Following our tour of the primary building we made our way to the smaller secondary structure on the adjacent lot before returning back to the main structure at which point the group dispersed into smaller group and spending more time on each special area of interest. The visual tour of the structures and site last about an hour.

The facility is sited on the high point of a property that slopes off steeply to the southwest. The sites slope will provide a challenge to an efficient operation and staff circulation as it drops approximately 31 feet from the primary buildings floor level to the northwest corner of the site. The site even with the slope is currently in full use, structures near the top of the hill, parking lots on the slope. Conceptual layouts of the site will need to review two story structures, split level uses and retaining walls to maximize performances and usability of the site to meet program demands. The northern half of the site is largely paved in asphalt and existing structures, while the southern half is principally an open gravel parking lot. Currently there are retention ponds along the street edge of the site. The street along the SE edge of the site has a central left turn lane for site access. The vehicular access however is off a busy arterial street. There is also a limited secondary access road to the NE corner of the site, off a partially improved street with a signaled intersection back onto the arterial street that fronts the site.

Based on our discussions on site there appears to be a proposal by WSDOT to make improvements to the Right-of Way along the north side of the site. These improvements include widening and lengthening the road, a new a new turning circle near the northeast corner of the site with a new highway off ramp. The planned improvements also include a new turning circle at the signaled intersection with the primary arterial street. While early in the design process WSDOT's plans may lower the street frontage in excess of 12 to 18 feet to align with the current freeway ramp east of the site and future plans by Sound Transit track R.O.W. that are also in the early days of the planning process. This lowering of the street grade may eventually impact the access and egress elevations to and from site and should be considered in the master plan for the property. Regarding of the northern edge of the site should be contemplated as part of the proposed site improvements to align with the future plans for this roadway. Soils removed during this work might be relocated to the southwestern edge of the property to reduce the site cross slope.
The presents of the cell tower and its property to the west of the primary building will need access by that owner to their facility, this will also present a challenge to the sites layout and operation and perhaps negotiation with the property owner.

It is our intent during in this review to minimize revisions to the site in the hopes of reducing the cost of construction for the site new use, but the site would be improved by regrading to balance out the slope and provide a leveler environment for fleet operations.

Existing Structures:

In general the buildings appear to be in serviceable condition although clearly showing their age but are adaptable for reuse for fleet maintenance and administrative uses. The existing buildings on site are all single story pre-engineered metal structures. The primary structures, the sales area and the maintenance shop have been in continual use since their construction in 1986-1987 and appear to be little changed beyond normal ware & tear and routes maintenance. A limited set of architectural drawings were available for these structures dated 1986. The other building on site is a smaller building of approximately 3,200 sf, no drawings were available during our review, but the structure appears to be of similar age and construction but in a slightly rougher condition. The building is currently being used for heavy equipment maintenance and with a small onsite residence. There is an existing residential apartment built into a wooden second floor structure within the pre-engineered building and at least partially constructed out of salvaged wood timbers structural elements.

The buildings are of an age of construction that the mechanical, electrical and plumbing (MEP) systems will need to be review to determine replacement costs and/or serviceable life remaining. The MEP systems may need to be replaced depending on their installation date and servility, availability of parts and serve. As pre-engineered buildings there are limits on the revisions that can be made to their structure and cladding, this times are buildings were designed to work as a unit and often to minimum standards in place at the time of their engineering and construction. Generally only minor changes are considered in their reuse of these kinds of structures before a new replacement building are considered. This analysis is based on energy efficiency, compromises to programs, engineering costs and budget considerations that warrant total replacement of the structure. As long as the program needs can be met with the current configuration of the building there appears to be no reason the building could not remain in use for the next 25 years.

Finish upgrades, non-structural upgrades are not limited by the reuse of a pre-engineered building. For example the buildings could not be over clad with a new insulated metal panel system to improve its performance and appearance without altering the buildings structural system. This approach has been utilized on other projects we have carried out for other clients in the past, such as Boeing where we improved their facilities while minimizing operational losses and the continued function of their facilities.

Recommendations:

Based on our findings, we feel the existing buildings on site would be capable of a serviceable life of 25 years with the modifications suggested by our engineering team.

Site Four Building Evaluation

Building Evaluation: Pinnacle Consulting Group

Life Expectancy Requirements:

Design Criteria: 20-year life span.

General Requirements:

Interior Lighting System: *Upgrade to LED light fixtures.*
An Increase in lighting fixture may be required

Exterior Lighting System: *Upgrade to LED Wall mounted fixtures all sides of buildings.*
Canopies underside mounted fixtures.

Bollards: *Install at building corners, vehicle access doors and ground mounted equipment. 42" ht steel bollards (concrete filled) + concrete foundation (36" depth). Field Paint.*

Interior Signage: *Provide wall mounted sign adjacent to workstations.*
Provide directional signage at vehicle entrance and exists.

Existing Vehicle Lift Equipment: *All vehicle lifts to be vendor certified prior to use.*

Specific Design Elements:

Existing Building B1a-B2 and B1b-

Structural System: Pre-Engineered Steel Frame and Cladding.
(PEMB Pre-Engineered Metal Building)

Foundation: Concrete foundation walls and footings.
Column footings.
(Slab-On-Grade Floor Assembly)

Floor Assembly - Slab-On-Grade: Concrete Slab-On-Grade (reinforcing steel) – To be Determined
Existing condition is fair to poor. Several large cracks are showing throughout the slab and will need to evaluated. Minimum would be slab prep, fill and an epoxy coating applied.

Roof Assembly (exposed): Metal decking + structural steel girders and beams
– To be Determined

Elevated Floors: (Parts) Mezzanine with integrated structural columns.

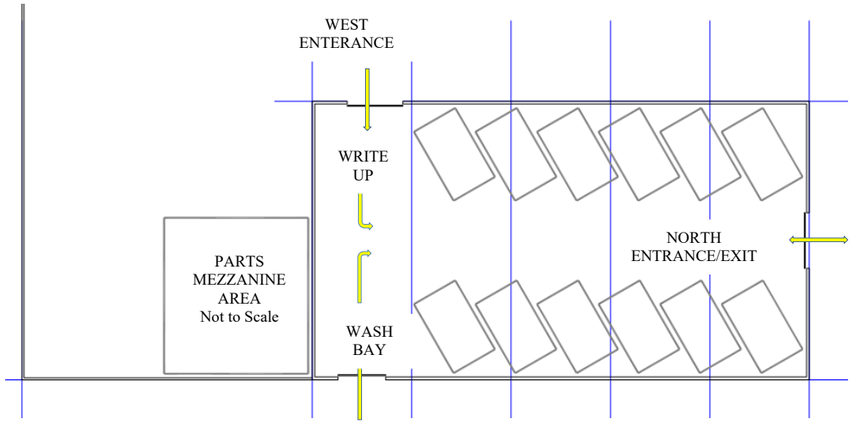
Stair System: (Parts) Mezzanine Pre-Engineered Steel stair and landing system. Closed steel risers. Steel pan and steel treads and landings. Steel handrails.

Existing Attached Building B2:

(Light Duty Cars, Vans and Pickups) Five (5) interior bays with three (3) overhead doors.
The Shop is set up with the south end in an inverted " T " with the two (2) entrances at the " T " and one (1) exit at the north end of the shank.

The bottom of the " T " has a service write up bay on one (1) side and a wash/prep bay on the other. As we move through the shop there are twelve (12) work stations with the vehicle lifts skewed at approximately 30 degrees. Multiple style/make/model of vehicle lifts in use.
Access and exiting are thru all three overhead doors.

Site Four Building Evaluation



Existing Air Compressor(s): Existing Compressor(s) are at End of Life so should be replaced.

Existing Compressed Air Lines: Existing Compressed Air Lines are at End of Life so should be replaced.

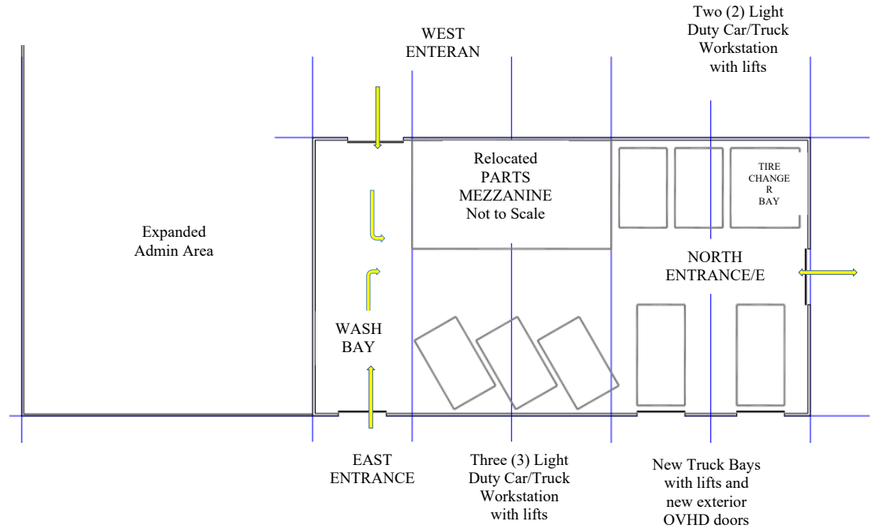
Existing Fluid Distribution System: Existing Fluid Distribution System are at End of Life so should be replaced. Alternative is removing the existing system and go to bulk bottles.

Existing UN-Attached Building B1b:

(Heavy Duty Truck Shop) Three (3) interior bays with an adjacent concrete pad. One Sided Access with overhead doors for the repair bays. The remaining bay is parts bay, tire Shop with mezzanine access. Mezzanine is timber framed and has an apartment on one side and parts area on the other. The two (2) interior lifts are a Rotary four (4) post, Model Number SM302-300 30,000 lbs. capacity and a Challenger two (2) post, Model Number 18000 18,000 lbs. capacity. There is a four (4) post lift on an exterior pad that make, model and capacity that could not be evaluated at the time of visit. (No Drawing Available on Building)

Possible Alternative:

Relocate existing mezzanine to repair bays to increase overall usable square footage for fleet or other departments. Retain both east and west overhead doors on the south side and the single overhead door to the north. Install two (2) new oversize overhead doors in the last two (2) bays on the north/east side of the building for large vehicle/truck access. With this integration the existing unattached Truck repair shop becomes available to reuse for another Department(s).
Evaluate and retain light/heavy duty vehicle lifts, tire changing and misc. equipment (if feasible). Install new equipment if it's within the budget.



Site Four Building Evaluation

Civil: AHBL Engineers

This memorandum summarizes our feasibility evaluation of Site #4 for potential use as a future Operations & Maintenance Facility for the City of Federal Way from a civil engineering perspective only.

The site has an existing 5/8"x3/4" water service meter & an existing sewer service connection. Water record drawing W-1609 & sewer record drawing S-1106. Per Lakehaven Sewer utility district, they are unaware of any LWSD easement on this property. Service/system static pressure is 90+ psi. The Lakehaven Sewer utility district does not have any specific system hydraulic information in this particular area, but nearby information (Lowe's) indicates there should be a minimum of 2,500 GPM of 'available fire flow' in the existing 8" water main/system in S 356th St.

EXECUTIVE SUMMARY

Site 4 is made up of two tax parcels with an existing cell tower on site. The site is developed and is approximately 7.55 acres. The property is adjacent to the freeway which runs along the east and south boundary; An arterial road runs along its west boundary and commercial uses to the north. Multifamily housing is located across the street to the west.

Per the King County Surface Water Design Manual, core requirement #3 for flow control facilities require that all projects must provide onsite flow control facilities to mitigate the impacts of storm and surface water runoff generated by new and replaced impervious surface if the project adds more than 5,000 square feet. The project will add more than the minimum thresholds. The site falls within the conservation flow control area with enhanced basic water quality treatment.

Per the City of Federal Way, Addendum to the King County Surface Water Design Manual, core requirement #8 for water quality, requires that all projects which require water quality must provide water quality to the entire site.

1.2.8 Core Requirement #8 Water Quality – Guide to Applying Core Requirement #8

1. Redevelopment
   a. When water quality improvements are required, the entire ***site*** must be brought up to current water quality standards for all impervious surfaces.
      i. This includes all impervious surfaces regardless of when they were created, including impervious surfaces created before 2001.
      ii. Any applicable additional provisions in KCSWDM 1.2.8.1(B & C) - Target Surfaces, also apply.
   b. See KCSWDM for pervious surface requirements.
   c. Exemptions identified in 1.2.8 of the KCSWDM do not apply to redevelopment.
2. New Development
   a. See KCSWDM for both impervious and pervious surface requirements

1. No water quality structures or best management standards were found on site. The entire site will require updating to current King County and City of Federal Way for water quality standards.

2. There are 2 existing detention ponds on site (see the 1986 storm drainage plans attached). One pond is located in the northeastern corner and the other is located along south frontage.

3. With the proposed layout, the project will remove the existing ponds and replace them with underground detention. The project will exceed the 5,000 square feet minimum threshold for new and replaced impervious surfaces and will therefore be required to provide detention for these surfaces as well.

4. The storm system appeared to be in good shape. No catch basins appeared to need maintenance, but this is mostly based on whether or not there was evidence of overtopping, which was not evident. The basins appeared to be relatively clean and in acceptable working order. The assessment was based solely on looking into the structure to see if they were filled with sediment and trash. No inspection of any pipe was made.

5. The showroom and office building downspouts are tightlined to the east pond (per the 1986 storm drainage plans). The service shop building (located to the north of the main building) had downspouts which were broken in places the rusting metal panels indicated that they had been broken for a long time.

6. Remaining utilities, gas, sanitary sewer, power, and water are installed on the site.

7. The existing asphalt in the parking areas and drive lanes is in reasonable condition. There were areas of cracked asphalt but no alligatoring was found. The parking area to the south is mostly gravel with asphalt drive lanes. The concrete sidewalks around the building looked good for their age, with very minimal cracking.

8. The general parking area to the west is relatively steep (8% to 11% in areas).

9. The existing 2 ADA parking stalls are not ADA compliant. The slope was more than 2% in the stalls, more than 8.33% without handrails getting to the building and no walk was designated or even available without getting into a vehicle travel lane. The only path to the building which did not contain stairs, had an elevation difference between the asphalt and concrete of approximately 1 inch with a gap of ½ inch.

10. An above ground used oil tank was on site. It appeared to be a 750 gallon. It was under a shed cover and contained in a concrete vault. It was not clear whether significant remediation would be required to remove the tank

11. Site access was a little difficult, but the proposed WSDOT roundabouts would help significantly assuming they are open to general traffic and are built in time.
12. There was an approximate 3-6 foot grade elevation difference between the main building on parcel A and the service shop building on parcel B (see Photographs 2 and 4). The elevation difference tapers from the east to the west where it increased to approximately 12-feet.

Site Four Building Evaluation

Structural: AHBL Engineers

As discussed previously, we have reviewed the existing building structures for the proposed Site #4 Federal Way Operations and Maintenance Facility. As part of our structural scope, we evaluated the condition of each of the existing structures and provided recommendations for structural upgrades to the existing building systems. Additionally, we provided structural recommendations for new buildings that are proposed for the site. Based upon our understanding of the project requirements, we can offer the following structural information:

Existing Sales Office / Shop Building (Building 1)

- The framing for the Sales / Shop Building consists of a conventional pre-engineered steel building structure with an interior light gage steel framed storage mezzanine. The building footprint is L-shaped with an approximate size of 30,000 sf. The Sales / Shop Building is fully enclosed, appears to be roughly 30 – 35 years of age, and in generally good condition. A summary of the structural framing for this building includes the following:
    - The roof consists of light gage roofing spanning between pre-engineered light gage purlins.
    - The roof purlins span between pre-engineered steel beams, which are supported by built-up steel plate columns. The beams and columns act together as rigid frame elements in the transverse (short) direction.
    - Exterior walls consist of precast concrete wainscot panels and light gage siding spanning vertically between pre-engineered light gage girts. The wall girts span horizontally between building columns.
    - The building is likely to be supported on conventional shallow concrete foundations, with a conventional concrete slab on grade at the building interior.
    - The storage mezzanine consists of a light gage steel framed structure, which appears to be completely independent of the pre-engineered building systems.
- The observed condition of this building structure includes the following:
    - No signs of significant deterioration or indications of potential structural deficiencies (such as excessive rusting or significant member deflections) were observed.
- Our assessment of the existing structural systems for this building includes the following:
    - In general, the existing structure appears to be adequate for the intended use.
        - Per the International Existing Building Code (IEBC), a structural upgrade of the existing building could be required for a change of occupancy or significant improvement (exceeding 50% of the valuation of the building). It is our understanding that the proposed use would not involve a change of occupancy or significant improvements to the building.
    - The IEBC limits additional loads on existing roof framing to 3 psf before upgrades are required. However, pre-engineered buildings are typically designed to be as efficient as possible, and do not have much reserve capacity to support increased vertical or lateral loads. The structure is likely inadequate to support additional insulation or roof mounted equipment without requiring structural upgrade.
    - Given the age and type of structure, it is unlikely that the existing building systems meet the current structural requirements of the IBC. The capacity of the lateral force resisting system is the most likely deficiency. Removing the existing exterior precast panels may help by reducing the seismic mass and would be desirable from a structural standpoint.
    - If necessary, the capacity of the existing building may be upgraded with additional framing members and upgraded connections. However, the upgrades may not be cost effective when compared with the cost of a completely new building. If there is a desire to reconfigure or modify the existing building (or upgrade the building to current code standards), upgrade methods would likely include the following:
        - Provide additional light gage roof purlins between the existing roof purlins in order to support additional roof loads.
        - Provide additional light gage wall girts between existing wall framing in order to meet current wind loading requirements.
        - Weld steel coverplates on the existing frame beams and columns in order to reduce building drift and increase the frame capacities for vertical and lateral loads.
        - Weld steel coverplates on the existing portal frame beams and columns in order to reduce building drift and increase the frame capacities for lateral loads.
        - Replace or upgrade existing diagonal bracing located within the existing exterior walls.
        - Upgrade existing frame connections by field welding additional continuity and doubler plates at the existing beam to column connections.
        - Upgrade existing column anchorage with the addition of new epoxy anchors.
        - Provide diagonal bracing at interior storage mezzanine frames, and upgrade anchorage of the existing column base plates with new epoxy anchors.

Existing Vehicle Maintenance Building (Building 2)

- The framing for the Vehicle Maintenance Building consists of a pre-engineered steel building structure with floor mounted vehicle lifts, a jib crane as well as an interior wood framed storage mezzanine and exterior wood framed canopy. The building

Site Four Building Evaluation

has a rectangular footprint with an approximate size of 2,000 sf. The Vehicle Maintenance Building is fully enclosed, with overhead doors on one side of the building in the longitudinal direction. The Vehicle Maintenance Building appears to be roughly 45 – 50 years of age, and in generally fair condition. A summary of the structural framing for this building includes the following:

- The roof consists of light gage roofing spanning between pre-engineered light gage purlins.
- The roof purlins span between pre-engineered steel frames, which consist of double angle chords connected together by steel rod web members. The frames act to resist lateral loads in the transverse (short) direction.
- Exterior walls consist of light gage siding spanning vertically between pre-engineered light gage girts. The wall girts span horizontally between building columns.
- The building is likely to be supported on conventional shallow concrete foundations, with a conventional concrete slab on grade at the building interior.
- The storage mezzanine consists of a heavy timber structure, which appears to be completely independent of the pre-engineered building systems.
- The exterior canopy consists of a wood framed structure with wood sheathing and wood joists supported on one side by the existing building structure and supported by wood beam and posts on the other side.

- The observed condition of this building structure includes the following:
  - No signs of significant deterioration or indications of potential structural deficiencies (such as excessive rusting or significant member deflections) were observed.
  - The pre-engineered steel truss / frame system is considered an archaic building system, which does not possess the necessary ductility to effectively resist seismic loads.
  - Several areas of exterior wall siding had been dented / damaged. The extent of observed damage was not very significant.
  - Areas of limited rust were observed throughout the structure. The extent of deterioration does not appear to be significant enough to affect the structural capacity of the existing framing members.
  - The exterior wood framed canopy was in fair to poor condition with areas of limited rot and deficiencies in the typical connections. It appeared the canopy was appended to the metal building without proper consideration of vertical and lateral load paths. The wood framed canopy has likely reached its useful lifespan.
  - The interior wood framed mezzanine was in fair to poor condition with deficiencies in the typical connections. It appeared the wood framed mezzanine was constructed after the metal building without proper consideration of vertical and lateral load paths. The wood mezzanine structure has likely reached its useful lifespan.

- Our assessment of the existing structural systems for this building includes the following:
  - In general, the existing structure appears to be adequate for the intended use. However, the building appears to be near the end of its useful service life.
    - Per the International Existing Building Code (IEBC), a structural upgrade of the existing building could be required for a change of occupancy or significant improvement (exceeding 50% of the valuation of the building). It is our understanding that the proposed use would not involve a change of occupancy or significant improvements to the building.
  - The IEBC limits additional loads on existing roof framing to 3 psf before upgrades are required. However, pre-engineered buildings are typically designed to be as efficient as possible, and do not have much reserve capacity to support increased vertical or lateral loads. The structure is likely inadequate to support additional insulation or roof mounted equipment without requiring structural upgrade.
  - Given the age and type of structure, it is unlikely that the existing building systems meet the current structural requirements of the IBC. The capacity of the lateral force resisting system is the most likely deficiency.
  - Most likely, this structure can't be economically upgraded when compared with the cost of a new building of similar construction. If there is a desire to reconfigure or modify the existing building (or upgrade the building to current code standards). Upgrade methods would likely include the following:
    - Provide additional light gage roof purlins between the existing roof purlins in order to support additional roof loads.
    - Provide additional light gage wall girts between existing wall framing in order to meet current wind loading requirements.
    - Weld steel coverplates on the existing frame chord L's in order to reduce building drift and increase the frame capacities for vertical and lateral loads.
    - Weld continuous steel plates between existing frame chords in order to supplement the existing frame webs.
    - Replace or upgrade existing diagonal bracing located within the existing exterior walls.
    - Upgrade existing frame connections by field welding additional continuity and doubler plates at the existing beam to column connections.
    - Upgrade existing column anchorage with the addition of new epoxy anchors.
    - Upgrade interior storage mezzanine lateral system with plywood sheathed shear walls and new epoxy anchors at stud wall sill plates and hold downs.

Site Four Building Evaluation

Structural Systems for New Buildings – Operations Building

- If new buildings are desired to replace the existing Office Building, the most cost effective system will likely involve a conventional light framed structure. These new buildings are anticipated to involve a one to three story structure that will include office / administration areas, crew assembly areas as well as locker rooms. It is anticipated that this structure will consist primarily of conventional wood framed construction (although conventional steel construction could also be used).
- The roof framing is anticipated to include plywood roof sheathing over pre-engineered wood joists or conventional wood trusses. The roof joists / trusses will span between steel or glu-lam beams at the building interior, and loadbearing wood stud walls at the building exterior.
- If the building is configured as a two-story space (or includes interior mezzanines), the floor framing is anticipated to include non-structural concrete topping over plywood floor sheathing supported by pre-engineered wood joists. The floor joists will span between steel or glu-lam beams at the building interior, and loadbearing wood stud walls at the building exterior.
- Rectangular steel (HSS) columns will be used to support heavily loaded / long span beams.
- Lateral loads for the building will be resisted by conventional wood framed diaphragms. The horizontal roof and floor sheathing will transfer lateral loads to wood framed shearwalls. The shearwalls will transfer lateral loads from the roof (and floor) levels to the building foundations. At heavily loaded locations, steel braced frames (most likely diagonal rod bracing) may be utilized instead of the plywood sheathed shearwalls.
- Foundations for the structure are assumed to consist of conventional spread footings at all building columns and conventional strip footings at all loadbearing walls.
- The slab on grade for locker room and office areas will consist of a 4” thick concrete slab on grade with 6x6 W1.4xW1.4 WWF reinforcing at the slab centerline.
- Another option for these spaces (depending upon the configuration of the facility), would be to incorporate the Operations spaces into the Shops / Maintenance Building. If this option is selected, the Operations spaces would be constructed using a pre-engineered building system. See below for additional information regarding this building type.

Structural Systems for New Buildings – Shops / Maintenance Building

- If new buildings are desired to replace the existing Shops / Maintenance Buildings, the most cost effective system will involve a pre-engineered structure.
    - The roof framing will involve light gage metal roofing spanning between light gage steel purlins.
    - The roof purlins will span between built-up steel moment frames.
    - The moment frames will span across the vehicle storage or maintenance areas (in the short direction), and likely include a small exterior canopy above overhead doors. A row of interior columns will be provided in order to reduce the frame spans, and eliminate the need for continuous cross-ties at the building foundation.
- Lateral loads for the Maintenance Buildings will be resisted by the steel moment frames in the transverse direction. Due to the need for overhead doors at Maintenance Buildings, portal frames will be provided to resist lateral loads in the long direction.
- The exterior walls may consist of the following:
    - Typical exterior walls will be provided by the metal building manufacturer. These walls will consist of light gage metal siding spanning vertically between light gage steel girts. The wall girts will span between frame columns.
    - The base of the exterior walls could include a cantilevered masonry wainscot (6” or 8” CMU depending upon the height of the wainscot). The wainscot will be nominally reinforced (typically #4 bars each way at 24” oc), and grouted solid.
    - An alternate wall system consisting of light gage metal studs may be used instead of the conventional pre-engineered wall system. The metal studs will likely consist of 6” x 20 gage metal studs at 16” on center. The studs may be sheathed with GWB (or similar non-structural finishes) on both faces of the studs.
- Foundations for the structure are assumed to consist of conventional spread footings at all frame columns and conventional strip footings at all CMU wainscot walls.
- The slab on grade for the structure will consist of a 6” thick concrete slab on grade with #4 reinforcing bars at 18” oc each way at the slab centerline. A thickened slab edge will be provided at the exterior perimeter of the slab on grade.

Site Four Building Evaluation

Mechanical, Electrical & Telecommunications: Hargis Engineers

1. EXECUTIVE SUMMARY

1.1. OBJECTIVES

The intent of this report is to provide a due diligence review of existing mechanical, electrical, and telecommunications systems for the facility at Site 4 under review in , Federal Way. The due diligence service includes site review of existing systems and review of available record drawings to establish suitability of existing mechanical, electrical and telecommunications systems and identify potential system modifications needed to meet the City of Federal Way's standards. There were no MET record drawings available at the time of the site survey and report.

1.2. FINDINGS SUMMARY

Mechanical, electrical and telecommunications key considerations have been summarized as follows based on the infrastructure improvements required to support the needs of this project.

Mechanical Considerations

- No and/or insufficient thermal insulation was observed at the roof of both buildings. This results in unwanted heat gain and heat loss through the envelope and impacts occupant comfort and building energy usage. Recommend providing code minimum insulation at the roof.
- Although wall insulation was not able to be observed, it is likely that the insulation no longer meets current Energy Code requirements and should be updated.
- There are no sprinkler systems currently in either building. The City Code Officials may define the work as a substantial building alteration and may require fire sprinklers be added. It is recommended this be confirmed with the City Building Department.
- The main car dealership show floor/ office building is served by three gas-fired furnaces with DX cooling:
    - It is unclear how the furnaces draw sufficient outside air to satisfy code minimum outside airflow requirements.
    - Each of the furnaces (and their corresponding DX condensing units) appear to be original and well past their expected lifespan.
    - Furnace #1 serves the Parts counter and storage area. The parts storage shelves also have a gas-fired unit heater with dedicated thermostat, and a small (fractional HP) thermostatically controlled wall-mounted propeller exhaust fan. The thermostat serving this furnace is in the hallway outside of the part service counter and therefor is unable to react to temperature fluctuations in the parts storage area (hence the unit heater and exhaust fan).
    - Furnace #2 serves the north half of the office building. The thermostat is in Hall 17.
    - Furnace #3 serves the south half of the office building. The thermostat is in Hall 9.
- The vehicle maintenance area is served by the following systems:
    - A reclaimed-oil furnace (EnergyLogic EL350H). Although it is unclear when this system was installed it appears to be in working order. As of 2021 WSEC these systems will no longer be approved for new installations.
    - A natural-gas fired unit heater.
    - Thermostatically controlled propeller exhaust fan.
    - Multiple relief-air dampers that appear to be without control.
    - A pair of air compressors, one of which was out-of-service, and a backup which apparently suffered a minor failure during the site visit.
- A small 50 gal. domestic electric water (Whirlpool E1F50RD045V) appears to be at the end of its service life. This system should be replaced.
- There are no fire-sprinklers in the buildings. Adding fire-protection to the buildings would require adding a new fire-service line, riser, RPBP and check valve assemblies, etc.
- The secondary vehicle maintenance building is served by a fuel-oil fired furnace. Although this furnace appears to be in reasonable condition and could be retained, these types of heating systems are strongly discouraged by the Energy Code. This building has no Mechanical cooling.
- The building did not appear to have a central Direct Digital Controls (DDC) system to monitor systems and manage scheduling and energy. It is recommended to provide a new DDC system for the building that can be monitored remotely. A new system will need to meet the requirements of the 2018 WSEC.
- Any new plumbing fixtures would need under-slab sanitary waste piping, vent piping, and water piping.

Site Four Building Evaluation

Electrical Considerations

- The electrical service is a 120/208V 3Ø service that currently has four (4) 200A Main Breaker panelboards that serve as the services disconnects. Based on this information, the service rating is considered 800 amps in capacity. A 112.5kVA utility transformer feeds the building service. Any added load to the service will require notification to the PSE and could require an upgrade to the service conductors coming into the building. Review and coordination with PSE will be required.
- No automatic lighting controls were observed in the common tenant spaces. Occupancy sensor switches were observed in enclosed offices and conference rooms. The energy code will require new automatic controls for any tenant improvements that change light fixtures, modify wiring for the lighting system, or move walls.
- Egress lighting was only observed in the waiting room/service area. New egress lighting will be required to be added to the entire space for any tenant improvements.
- Illuminated exit signs with battery back-up were not observed. New Illuminated exit signs with battery back-up will be required to be added to the entire space for any tenant improvements.
- Exterior egress lighting was not observed as part of the building. Exterior egress lighting should be planned as part of the tenant improvements to meet current building codes.
- Fire Alarm system was not observed in the building. If a fire sprinkler system is added, a fire alarm system with notification will be required wherever the fire sprinkler system is installed.
- At the southeast exterior of the building, there is an existing Level 2 electrical vehicle charger that is operational and may remain in service.
- The existing panelboards are in the electrical room and are in fair condition.

Telecommunications Considerations for Tenant Improvement

- There is an existing service telco service that terminates at a backboard in the electrical room. It appears the service includes fiber. Further evaluation is needed to determine if this system has the capacity to accommodate the new tenant.

1.3. Due Diligence Summary

1.3.1. General building description

The existing building is an approximately 13,000 GSF, single story facility primarily intended for office/ showroom use and vehicle maintenance. The building was completed in 1986. The Southwest corner of the building is currently a showroom with a roughly 13 ft. ceiling. The central area of the building is Office space to support vehicles sales and contains the core restrooms. The East side of the building contains the parts/ service center and storage racks. The Northeast area is a vehicle maintenance garage. The ceiling throughout most of the office space is a 2'x2' suspended ceiling grid. Parts storage and vehicle maintenance areas have no ceiling and are open to the roof. The central ceiling plenum is relatively spacious with a clearance of approximately 5'-0" with the current grid height of 8'-0" above finished floor (exact measurements to be confirmed). Building occupants were unaware of any roof access.

1.3.2. Mechanical Systems

Overview of Existing Conditions
There are currently no fire suppression systems in the building.

Existing plumbing services are primarily located in the building core area. This includes Men's and Women's toilet rooms and electric water heater. Much of the current plumbing system appears to be original to the building and is in fair condition. No issues with the operation of the current plumbing system were reported by Property Management.

Natural gas service is 1 PSI and is provided by Puget Sound Energy.

The primary building heating, ventilating, and air conditioning is primarily served by three single-zone gas-fired furnaces with DX-cooling. Supply and return air are distributed via an overhead duct system above the lay-in ceiling and provides cooling and heating for all showroom and office areas. Return air is ducted back to the units. It is presumed that exhaust is provided for toilet rooms and other areas by rooftop mounted exhaust fans.

Each piece of equipment is operated by stand-alone packaged controls with programmable thermostats. There is no central DDC system.

Site Four Building Evaluation

Refer to Part 2, Existing Conditions Checklist

1.3.3. Electrical Systems

Overview of Existing Conditions
The electrical service to the main building is rated 120/208V 3Ø with four 200 amp service disconnects.

The existing utility transformer is a pad mount transformer rated at 112.5kVA.

There is a 120/240 VAC panelboard serving the vehicle maintenance garage. We were not able to determine the service point for this panel. Additional investigation is necessary.

The existing offices and conference rooms have ample power receptacles in each space and they are fed from the existing electrical panels in the main electrical room. Most rooms have at least three (3) receptacles.

Refer to Part 2, Existing Conditions Checklist

1.3.4. Telecommunications Systems

Overview of Existing Conditions
There is an existing service telco service that terminates at a backboard in the electrical room. It appears the service includes fiber

Refer to Part 2, Existing Conditions Checklist

2. Existing Conditions

2.1. Project Information

Site Code:	Site 4
Project Address:	Federal Way, WA 98003
Building Description:	1-Story Office Building
Building Age:	1986
Project Type:	Capital Needs Assessment
Space Location:	1st floor
Area:	13,000 GSF (approx.)
TI Space Occupied?	☐ Vacant ☒ Occupied
Survey Date:	8/11/2021

2.2. General Construction Information

Structure Type:	Concrete Slab on Grade, Wood & Steel Framed
Raised Floor:	☐ Yes ☒ No
Raised Floor Depth:	N/A
Mechanical Chases:	☐ Yes ☒ No

2.3. Mechanical

2.3.1. Fire Sprinkler Systems

Existing Sprinkler System(s)	☐ Yes	☒ No	
Wet Pipe Sprinkler System	☐ Yes	☒ No	
Dry Pipe Sprinkler System	☐ Yes	☒ No	
Pre-action Sprinkler System	☐ Yes	☒ No	
Clean Agent Suppression System	☐ Yes	☒ No	
Existing Flexible Drops to Heads	☐ Yes	☐ No	☒ N/A
Sprinkler Riser Location:	N/A		

Comments:
- No fire suppression systems in the building.

2.3.2. Plumbing Systems

Existing Restrooms:	☒ Yes	☐ No
Restroom Location:	☒ Central	☐ Other:

Site Four Building Evaluation

Existing Mop Sink:	☐ Yes	☒ No
Mop sink location:	N/A	
Central Building Water Heaters:	☒ Yes	☐ No
Local Water Heater:	☐ Yes	☒ No
Water Heater Location:	Building Mechanical Room	
Cold Water Service:	Unable to locate	
Waste & Vent:	Unable to locate. Plumbing vents at various locations on the roof	

Comments:

- There is no metering of water usage by the building control system, only normal water utility company metering.
- The building hot water is provided by a 50 gallon electric water heater located in the Mechanical room. A hot water circulation pump was observed.
- Men's and Women's restrooms contain water closets and lavatories. Men's room also contains a urinal.
- The employee lunch room has a sink and refrigerator. The adjacent Locker Room appears to be men-only, with a water closet, urinals and a hand-washing basin.
- Roof drains and overflow roof drains were observed at the perimeter of the roof and connect to rainleader piping routed down the exterior of the building, discharging into the site storm water system.
- The existing sanitary waste service is unknown but expected to be 4" and suitable for the building.
- Water piping was observed to be copper. Did not observe waste and vent piping.
- Building Maintenance did not report any plumbing issues. Fixtures and equipment appear to be in poor to fair condition, consistent with their age.

2.3.3. HVAC Systems

Natural Gas Systems

Main Building Natural Gas Meter:	☒ Yes	☐ No	
Tenant Natural Gas Meter:	☐ Yes	☐ No	☒ N/A

Comments:

- Natural gas service is 1 PSI and is provided by Puget Sound Energy.
- Natural gas meter is located on the South side of the building.
- Natural gas piping is black steel and extends to serve gas-fired equipment in the building.

Vertical Packaged Gas-fired Furnaces

Multilevel Service:	☐ Yes	☒ No	
Ventilation Air to Space:	☒ Yes	☐ No	
Airside Economizer to Space:	☐ Yes	☒ No	☐ See Below
Service Area:	☒ Perimeter	☒ Core	☐ Other:
Heating Coil:	☒ Yes	☐ No	
Heating Source:	☐ Hot water	☒ Gas	☐ Elec
Cooling Coil:	☒ Yes	☐ No	
Cooling Source:	☐ Condenser Water	☒ DX	☐ Chilled
Air flow:	☒ Constant	☐ Variable	
Filters:	☒ Yes	☐ No	☐ N/A
Available Air Flow Rate (CFM):	See below		
Air Distribution Temperature (°F):	Unknown, by controls system		

Comments:

- The building heating, ventilating, and air conditioning is primarily served by three Trane packaged gas-fired furnaces with DX cooling. These furnaces appear to be at the end of their expected lifespan.
- The main supply ducts extend from each unit to serve flexible ducts and diffusers set in the grid ceiling of each space. The showroom is served by high side-wall supply grilles. Square ceiling diffusers with 4-way throw were observed in all other areas of the building. The supply ductwork that was observed is insulated. Return air is ducted from square ceiling return grilles to each RTU.

Terminal Units

Type:	☐ VAV (single duct)	☐ VAV (dual duct)	
	☐ Fan-Power (series)	☐ Fan-Power (parallel)	
	☐ Fan Coil	☒ None Provided	
Reheat Coil:	☐ Yes	☒ No	
Ceiling Radiant Heat Panels:	☐ Yes	☒ No	
Heating Source:	☐ Hot Water	☐ Electric	☒ N/A
Cooling Coil:	☐ Yes	☒ No	
Filters:	☐ Yes	☐ No	☒ N/A

Comments:

Site Four Building Evaluation

- There are no VAV terminals as part of this system. Each gas-fired furnace is a single zone.
- Did not observe any electric unit heaters.

Return/Exhaust Systems

Return Air System:	☒ Ducted	☐ Open Plenum	
Restroom Exhaust:	☒ Central Building	☐ By Tenant	
Filters (by Tenant):	☐ Yes	☐ No	☒ N/A
Filters Accessible:	☐ Yes	☐ No	☒ N/A
Smoke Evacuation System Required:	N/A ☐ Yes	☒ No	

Comments:

- Return air is ducted to the HVAC units.
- Observed a single relief air damper at the roof of the parts storage. It is unclear if the relief damper has an operational control system.
- Central restrooms and the lunch room/ locker room exhaust was not observed but presumed to be rooftop mounted.

2.3.4. Mechanical Controls

System Technology:	☒ Digital	☐ Pneumatic	☐ N/A
Controls Interface:		☐ Yes	☒ No
Building Time Schedule Energy Controls:		☐ Yes	☒ No
Tenant Override Available:		☐ Yes	☐ No ☒ N/A
Existing Ventilation Demand Control:		☐ Yes	☒ No
Existing Occupancy Controls:		☒ Yes	☐ No ☐ N/A
Hindrance to 24/7 Server Room Coverage:		☒ Yes	☐ No
Equipment Packaged Controls Used:		☒ Yes	☐ No
Building Mechanical Controls System Mfr:		None	

Comments:

- There is no building Direct Digital Control System (DDC). There is no software front-end or remote monitoring of the building operation or energy usage.
- HVAC operating sequences are by stand-alone packaged controls integral with each piece of equipment.
- Programmable thermostats by were observed in the occupied areas for each unit to control setpoints and scheduling.

2.4. Electrical

2.4.1. Power Distribution

Building Service Voltage:
☐ 480Y/277 Volts, 3 phase, 4 wire
☒ 208Y/120 Volts, 3 phase, 4 wire
☐ Other: 600Y/347 Volts, 3 phase, 4 wire

Main Building Distribution

Service Disconnects	Four (4) 200 amp main circuit breaker panels
Metering	Exterior Utility meter
Service Capacity	800 amp

Comments:

- Service building distribution identified above was in the Main Electrical Room at the South service entry to the building. Drawings were not made available and a one-line did not exist. Branch circuit panel A,B,C serve general plug loads in the building and have no spare breakers to support the new tenant space. Branch circuit panel D is serves interior/exterior lighting. The panels are Eaton Cutler-Hammer panels installed in the original construction.

Distribution

Panelboards:	Eaton Cutler-Hammer at main electrical room.

Comments:

- Electrical systems appear to be installed during the original construction in 1986.

2.4.2. Branch Power

Wiring Methods:	MC Cable, EMT, flexible conduit.

2.4.3. Lighting

Lighting Voltage:
☐ 277 Volts, 1 phase
☒ 120 Volts, 1 phase

Site Four Building Evaluation

☐ Other:

Comments:

- Existing tenant space has 3 and 4 lamp T8 lay-in troffers with egg crate parabolic light fixtures. For a tenant improvement, the new lighting will need to meet Washington State Energy Code (WSEC) for power allowances and new LED lighting will need to be installed in most areas. The existing T8 Fixtures will not meet the current energy code for power allowance in an office area or for the automatic controls that will be required.

2.4.4. Lighting Controls

Lighting Controls:

- ☐ Lighting control relay panel
- ☒ Occupancy sensor
- ☐ Time-of-day controls
- ☐ Automatic daylighting controls
- ☐ Other: Relays with low-voltage switches

Lighting Control Panel Mfr.: None at this time.

Comments:

- Occupancy sensor switches observed in enclosed offices and conference rooms. No automatic controls were observed in the common spaces.

2.5. Fire Alarm Systems

2.5.1. General

Building Fire Alarm System Mfr.: None

Comments:

- There is no existing fire alarm system.

2.6. Telecommunications

2.6.1. Service Provider Availability

MPOE Location	The main electrical room for the building.
Carriers/Service Providers in MPOE:	Not known
Pathway concerns from MPOE	None
Capacity Analysis	None done recently