

PRELIMINARY REPORT

City of Mercer Island

Public Works Building Report

September 22, 2023



Prepared by MENG Analysis, September 2023

Facility Summary

City of Mercer Island
 Public Works Building
 Public Works Building

9601 SE 36th Street
 Mercer Island, WA 98040

Facility Size - Gross S.F.	15,347
Year Of Original Construction	1981
Facility Use Type	Maintenance Shop
Construction Type	Medium
# of Floors	2
Energy Source	Gas
Year Of Last Renovation	1981
Historic Register	No



		Total Project Cost	Total Project Cost Present Value
Weighted Avg Condition Score	3.3		
Facility Condition Index (FCI)	0.20	Observed Deficiencies 2023 - 2028	\$3,593,000
Current Replacement Value (CRV)	\$5,586,000	Predicted Renewal Budget 2029 - 2042	\$1,300,000
Beginning Budget Year	2023	Opportunities	\$53,000
Escalation	3%		N/A
Discount Rate	1.5%		

Facility Condition Summary

The Public Works Building houses administration and engineering, public works roads and utilities, parks maintenance, vehicle maintenance, and warehouse. Shop areas have been repurposed for overflow office and work spaces, but the space was not designed to accommodate that occupancy use. Roofing is at end of life and leaks and includes built-up roofing and membrane roofing below a heavy section green roof (deep soil). Exterior walls have minimal insulation value and are painted CMU and cast-in-place concrete and are in need of cleaning and painting. Aluminum window systems are double-glazed, but are not in thermally broken frames.

HVAC is mostly industrial heat and vent throughout, except upper floor admin area which has full air conditioning. The significant changes in use for about half the building have rendered the original HVAC system mostly obsolete, delivering poor comfort, marginal air quality, and apparent high energy use. Plumbing is insufficient for the higher level of staffing, requiring the use of porta potties to meet staff sanitation needs. No fire sprinkler. While there is a newer fire alarm control panel, some detectors are reportedly non-functional. Multiple shop specialty systems are aged, with some abandoned in place, or no longer code compliant. Power is aged and insufficient throughout. Lighting includes newer LED at the vehicle repair shop, but otherwise mostly aged and failing fluorescent. High-speed data with WiFi.

Facility Summary

City of Mercer Island
Public Works Building
Public Works Building

9601 SE 36th Street
Mercer Island, WA 98040

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
A Substructure			3.0			
A10 Foundations						
A1010 Standard Foundations	1981	1981	3	TRB	08/29/23	Concrete footings, no evidence of settlement observed.
A1030 Slab On Grade	1981	1981	3	TRB	08/29/23	Concrete slab on grade, no major issues observed.
A20 Basements						
A2020 Basement Walls	1981	1981	3	TRB	08/29/23	Cast-in-place concrete on back side of daylight basements.
B Shell			3.2			
B10 Superstructure						
B1010 Floor Construction	1981	1981	3	TRB	08/29/23	Concrete on concrete beams.
B1020 Roof Construction	1981	1981	3	TRB	08/29/23	Concrete planks (likely hollow core) on cast-in-place concrete beams. Rigid insulation on top of deck (below vegetated roof where occurs). Leaks in warehouse and shop evident. See seismic/structural report by others.
B20 Exterior Closure						
B2010 Exterior Walls	1981	1981	3	TRB	08/29/23	Painted CMU and cast-in-place concrete. Moss, lichen, and algae growth. Walls in need of cleaning. Some peeling paint and cracks in west exterior of warehouse wall. CMU walls are reported to have vermiculite insulation in cells, but still underperform thermally. See also separate structural/seismic analysis report. Interior of administration wall with moisture intrusion peeling and bubbling paint on north interior below windows, likely minor maintenance to reseal window or flashing above.

Facility Summary

City of Mercer Island
Public Works Building
Public Works Building

9601 SE 36th Street
Mercer Island, WA 98040

Facility Components

Systems	Original System Date	Renewal Date	Last Date	Score	Surveyor	Survey Date	Comments
B Shell				3.2			
B20 Exterior Closure							
B2020 Exterior Windows	1981	1981	3	TRB	08/29/23	Thermally insulated glazing in aging and inefficient anodized aluminum frames. Aluminum frames are not thermally broken. No insect screens on operable vent units.	
B2030 Exterior Doors	1981	1981	3	TRB	08/29/23	Hollow metal doors and frames. Non-thermally-broken anodized aluminum storefront on east entry. Four overhead doors at vehicle maintenance bays and single at warehouse and public works.	
B30 Roofing							
B3010 Roof Coverings	1981	1981	4	TRB	08/29/23	Membrane below green roof is leaking and at end of life. Built-up asphalt roof over vehicle maintenance garage. Roof over admin inaccessible for viewing. Both built-up roofs are at expected end of life and in need of replacement (numerous leaks evident in garage).	
B3030 Projections	1981	1981	3	TRB	08/29/23	Fabric canopy on steel over warehouse entry in need of cleaning. Glass canopy on aluminum at east entry.	
C Interiors				3.2			
C10 Interior Construction							
C1010 Partitions	1981	1981	3	TRB	08/29/23	Painted CMU walls, gypsum on studs, and painted metal toilet partitions.	
C1020 Interior Doors	1981	1981	3	TRB	08/29/23	Combination of wood doors and hollow metal doors in hollow metal frames.	
C1030 Fittings	1981	1981	3	TRB	08/29/23	Rubber base, wood hand railings at stair and ramp, stainless grab bars at toilets and shower converted to ADA (minor maintenance to add vertical grab bars per current ADA). Display, white boards, and tack boards.	

Facility Summary

City of Mercer Island
Public Works Building
Public Works Building

9601 SE 36th Street
Mercer Island, WA 98040

Facility Components

Systems	Original System Date	Renewal Date	Last Date	Score	Surveyor	Survey Date	Comments
C Interiors				3.2			
C20 Staircases							
C2010 Stair Construction	1981	1981	3	TRB	08/29/23	Concrete ramp and wood stairs.	
C2020 Stair Finishes	1981	1981	3	TRB	08/29/23	Rubber safety tread at stair and internal ramp, stained with dirt. Rubber stringer loose with adhesive failing in areas at stair, minor maintenance to clean surfaces and adhere.	
C30 Interior Finishes							
C3010 Wall Finishes	1981	1981	3	TRB	08/29/23	Paint typical, ceramic tile in restrooms.	
C3020 Floor Finishes	1981	1981	4	TRB	08/29/23	Original VCT flooring worn, stained, and nearing end of life. Some seams separated from moisture intrusion. Ceramic tile in restroom/locker/shower. Newer carpet in second floor administration.	
C3030 Ceiling Finishes	1981	1981	3	TRB	08/29/23	Painted gypsum typical, other areas of suspended acoustic tile.	
D Services				3.6			
D10 Vertical Transportation							
D1090 Other Conveying Systems	1981	1981	3	DCS	08/29/23	Estimated 3-ton motorized traveling trolley hoist in the vehicle repair shop with no issues reported.	

Facility Summary

City of Mercer Island
 Public Works Building
 Public Works Building

9601 SE 36th Street
 Mercer Island, WA 98040

Facility Components

Systems	Original System Date	Renewal Date Last	Score	Surveyor	Survey Date	Comments
D Services			3.6			
D20 Plumbing						
D2010 Plumbing Fixtures	1981	1981	3	DCS	08/29/23	Mix of mostly original and some newer fixtures with mix of mostly newer and some original trim (faucets and flush valves). Some traps need cleaning and trim adjustment as minor maintenance. Most fixtures and trim have five to ten years life remaining life, then due for complete replacement throughout. Insufficient plumbing fixtures, which includes conversion of significant shop and warehouse space into human-occupied office area. Two porta potties has been added to help relieve the need, but this is only a temporary fix - more fixtures are needed to improve sanitation.
D2020 Domestic Water Distribution	1981	1981	3	DCS	08/29/23	City water to copper distribution. One 2017 Ruud 85-gallon electric hot water heater in the women's locker room alcove including seismic straps, B&G 1/12-hp recirculation pump, and pipe insulation, but no observed expansion tank - minor maintenance to install. Water heater controls reportedly fail regularly.
D2030 Sanitary Waste	1981	1981	3	DCS	08/29/23	Cast iron drain, waste, and vent piping where observed with most tested fixtures flushing and draining well - some appear to need P-trap cleaning as minor maintenance. No observed trap primers - minor ongoing custodial maintenance to keep floor drain traps primed to keep sewer gas from entering. During future full building modernization or replacement, include automatic trap primers to eliminate this problem.
D2040 Rain Water Drainage	1981	1981	4	DCS	08/29/23	Mix of low green roof with unclear under-drainage and built-up high roof with roof drains and overflow scuppers through the parapet, all in conjunction with aging roof covering, leading to rain water intrusion into spaces below in multiple locations.

Facility Summary

City of Mercer Island
Public Works Building
Public Works Building

9601 SE 36th Street
Mercer Island, WA 98040

Facility Components

Systems	Original System Date	Renewal Date	Last Date	Score	Surveyor	Survey Date	Comments
D Services				3.6			
D20 Plumbing							
D2090 Other Plumbing Systems	1981	2000	3	DCS	08/29/23	2023 air compressor with estimated 7.5-hp motor supplying mix of older and newer distribution piping to shop spaces. The 1981 air compressor is abandoned in place in the original compressor room, which also houses a refrigerated air dryer with unclear function - minor maintenance to demolish the original compressor and separate minor maintenance to service or replace the air dryer. One portable air compressor is dedicated to the outside compressed air hose reel - minor maintenance to serve from the permanent compressed air system. A single hose reel set serves both vehicle repair bays with three shop fluids from the fluids storage and pumping room, remote from the shop, in a room opening to the open office area, with no observed ventilation. One 500-gallon (estimated) waste oil storage tank inside the vehicle repair shop.	
D30 HVAC							
D3010 Energy Supply	1981	1981	3	DCS	08/29/23	Aging gas piping to shop unit heaters and office gas furnaces. Inspect aging lines and renew as needed as minor maintenance.	
D3020 Heat Generating Systems	1981	2000	3	DCS	08/29/23	Two somewhat newer Reznor standard-efficiency (80%) gas-fired unit heaters - one in the back of the warehouse, the other at the NW corner of the vehicle repair shop. One older Reznor gas-fired unit heater in the NE corner of the shop, but with five to ten years remaining life with good maintenance.	

Facility Summary

City of Mercer Island
Public Works Building
Public Works Building

9601 SE 36th Street
Mercer Island, WA 98040

Facility Components

Systems		Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
D Services				3.6			
D30 HVAC							
D3040	HVAC Distribution Systems	1981	1981	4	DCS	08/29/23	Aged HVAC throughout with multiple spaces including minimal light industrial heat and vent HVAC systems with insufficient heat, no cooling, and marginal or no ventilation for office use. Odors build up in some spaces, potentially toxic to staff, especially over time. No apparent ventilation at all for some spaces, such as the warehouse area. The former machine shop and repurposed carpenter shop (now groundskeeping) HVAC system was completely off during the site visit, with strong pesticide and/or fertilizer odors present. This system includes a relatively new Reznor Preeva gas-fired heat and vent air handling unit with estimated 25% fixed outside air. No general ventilation for the vehicle repair garage (only the abandoned engine exhaust system).
D3050	Terminal and Package Units	1981	2001	4	DCS	08/29/23	One rooftop gas-pack unit serving the upper level office area at end of life. Various electrical panels indicate power to duct heaters and other heaters that may be concealed - mix of somewhat newer and aged. Two electric unit heaters near front of the warehouse space - minor maintenance to replace upon failure or to replace with one small gas-fired unit heater.
D3060	Controls and Instrumentation	1981	1981	4	DCS	08/29/23	Aged and obsolete National Emco HVAC controls with poor comfort and high energy use. Battery-operated carbon monoxide sensors in several locations, but no NOx sensors observed - minor maintenance to upgrade to hardwired CO and NOx sensors with alarm to vehicle repair shop.
D3090	Other HVAC Systems and Equipment	1981	1981	3	DCS	08/29/23	Welding shop exhaust system with somewhat newer exhaust fan. In-floor vehicle engine exhaust system appears abandoned in place.
D40 Fire Protection							
D4030	Fire Protection Specialties	1981	1981	2	DCS	08/29/23	Fire extinguishers, first aid kit, and AED.

Facility Summary

City of Mercer Island
Public Works Building
Public Works Building

9601 SE 36th Street
Mercer Island, WA 98040

Facility Components

Systems	Original System Date	Renewal Date	Last Date	Score	Surveyor	Survey Date	Comments
D Services				3.6			
D50 Electrical							
D5010	Electrical Service and Distribution	1981	1981	4	DCS	08/29/23	Mostly 1981 service and distribution throughout with Westinghouse 208V, three-phase, 1,200A main distribution panel in the far back corner of the warehouse space with a 1,000A main breaking including fault-current settable controls and ten feeder breaker including to approximately six 225A lettered distribution panels throughout the building, one "electric air handling unit," air compressor, environmental trailer, and standby power automatic transfer switch; no observed surge suppression. Reports of insufficient power, circuits tripping (especially to shop areas converted to office), and modifications throughout the years.
D5020	Lighting and Branch Wiring	1981	1981	4	DCS	08/29/23	Newer LED lighting at vehicle repair shop, but otherwise original T12 fluorescent fixtures, some still with obsolete T12 lamps, but most upgraded to T8, however many lamps are discolored or failed. Mix of mostly manual, but some automatic local occupancy sensor lighting control for private offices and utility spaces.
D5032	Low Voltage Communication	1981	2000	3	DCS	08/29/23	VoIP telephone, CATV, shop music, and others, with few issues reported - minor maintenance to address minor concerns.
D5037	Low Voltage Fire Alarm	1981	2010	3	DCS	08/29/23	Silent Knight 5820XL fire alarm control panel, but reportedly with multiple older painted-over and failing detectors.
D5038	Low Voltage Security	1981	2010	3	DCS	08/29/23	Mix of card-key, keypad, and cipher lock access control, and CCTV cameras, no issues reported.
D5039	Low Voltage Data	1981	2010	2	DCS	08/29/23	High-speed fiber-optic data with server rack in former nurse's office. Staff report a few areas with marginal data speed and/or WiFi coverage - assume minor maintenance to improve in these areas.

Facility Summary

City of Mercer Island
Public Works Building
Public Works Building

9601 SE 36th Street
Mercer Island, WA 98040

Facility Components

Systems		Original System Date	Renewal Date	Last Date	Score	Surveyor	Survey Date	Comments
D Services					3.6			
D50	Electrical							
D5090	Other Electrical Systems	1981	2000	3	DCS	08/29/23	2000 Onan 280V, 400A automatic transfer switch to power essential loads. Exit sign placards and unclear emergency egress pathway lighting.	
E Equipment and Furnishings					2.7			
E10	Equipment							
E1010	Commercial Equipment	1981	1981	3	DCS	08/29/23	Kitchenette appliances. Two sets of commercial washers and dryers. Office equipment.	
E1020	Institutional Equipment	1981	1981	3	DCS	08/29/23	Shop and specialty equipment including one built-in Rotary-brand vehicle lift and four Koni-brand (18,500-lb.) mobile lifts. The Rotary lift indicates last inspection was 2016, hence overdue for inspection as minor maintenance. The original heavy vehicle lift has been partially removed and appears no longer operable. The associated deep pit abandoned in place and appears flooding to a depth of several feet at times - suggest determining the need for this pit and either converting to under carriage pit access or restoring the heavy duty lift.	
E1030	Vehicular Equipment	1981	2001	2	DCS	08/29/23	Four vehicle bay roll-up door LiftMaster motor operators.	
E20	Furnishings							
E2010	Fixed Furnishings	1981	1981	3	TRB	08/29/23	Limited amount of built-in wood casework with laminate counter in break area, dated. Painted metal lockers, wood benches in locker rooms.	
E2020	Moveable Furnishings (Capital Funde	1981	1981	3	TRB	08/29/23	Heavy-duty industrial shelving in shop and warehouse spaces.	

Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

B1020	Roof Construction	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		5	2023	2023	200	\$82.00	LF	\$16,400	\$32,000

Deficient Material: Fall Guard

Green roofs on public works building are accessible, but have no perimeter fall restraint guard railings at the leading edges over the yard and ground below on the west, north, and east sides.

Remedial Action:

Install perimeter safety guard rail system.

Action Type:

Life Safety



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

B2010	Exterior Walls	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2027	10,000	\$2.00	SF	\$20,000	\$39,000

Deficient Material: Exterior Walls

Moss, lichen, and algae growth. Exterior walls are in need of cleaning.

Remedial Action:

Clean all exterior walls.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

B2010	Exterior Walls	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2027	2,000	\$6.00	SF	\$12,000	\$24,000

Deficient Material: Exterior Walls

Some peeling paint and cracks in west and north exterior of warehouse walls.

Remedial Action:

Strip paint, seal cracks, and repaint.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

B3010	Roof Coverings	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		5	2023	2023	15,347	\$28.00	SF	\$429,716	\$842,000

Deficient Material: Membrane Roofing

Membrane below green roof is leaking and at end of life. Built-up asphalt roof over vehicle maintenance garage and admin are at expected end of life.

Remedial Action:

Replace all roofing. At built-up asphalt roof areas, remove roofing (verify condition of insulation), add rigid insulation to meet or exceed current code (taper at parapet edges for transition), and install new roofing. At green roofing, remove soil medium (per G2050 Landscaping), remove existing insulation and membrane roofing, and install new rigid insulation and new membrane roofing. Install new green roof per G2050 Landscaping.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

C1020	Interior Doors	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		5	2023	2023	18	\$775.00	EA	\$13,950	\$27,000

Deficient Material: Wire Glass

Wire glass in rated doors and internal windows. Wire glass is now known as a safety hazard and liability.

Remedial Action:

Remove existing wire glass and retrofit with modern rated safety glazing.

Action Type:

Life Safety



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

C3020	Floor Finishes	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2026	4,000	\$15.00	SF	\$60,000	\$118,000

Deficient Material: Vinyl Composition Tile

VCT flooring worn, stained, and nearing end of life. Some seams separated from moisture intrusion.

Remedial Action:

Install new flooring. Consider seam welded marmoleum over existing.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D2010	Plumbing Fixtures	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2024	2	\$38,000.00	EA	\$76,000	\$149,000

Deficient Material: Restrooms

Insufficient restroom facilities, with two porta potties currently in use on a temporary basis.

Remedial Action:

Expand permanent restroom capability to replace the current porta potties.

Action Type:

Code Issue



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D2040	Rain Water Drainage	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	15,347	\$1.60	SF	\$24,555	\$48,000

Deficient Material: Roof Drain

Aged and failing low green roof under-drains and undersized high-roof drains, contributing to roof leaks.

Remedial Action:

Replace the low green roof under-drain system and increase high-roof drains from 2-inch to 4-inch, all in conjunction with new roof covering.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D2090	Other Plumbing Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2024	1	\$40,000.00	LS	\$40,000	\$78,000

Deficient Material: Shop Fluids

Shop fluids room has no observed ventilation and opens directly into the open office area.

Remedial Action:

Renew shop fluids system and especially the room to provide direct outside access, isolation from office areas, code-required ventilation, electrical divisional classification if required by shop fluid hazard level, and one to two additional pumped fluids as needed by the shop crew for efficient and safe operation.

Action Type:

Code Issue



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D3030	Cooling Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2024	2	\$7,000.00	EA	\$14,000	\$27,000

Deficient Material: Communications Cooling

No mechanical or dedicated cooling for the mission critical SCADA room or facility main telecom and data room.

Remedial Action:

Install ductless split-Dx cooling for both SCADA and main telecom rooms.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D3030	Cooling Generating Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	1	\$17,500.00	LS	\$17,500	\$34,000

Deficient Material: Cooling

Heat and vent HVAC system for former shop area now used for office area for public works staff, resulting in hot uncomfortable working conditions.

Remedial Action:

Install cooling for the main floor open office area.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D3040	HVAC Distribution Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2024	13,000	\$30.00	SF	\$390,000	\$764,000

Deficient Material: HVAC System

Aged HVAC throughout with multiple spaces including minimal light industrial heat and vent HVAC systems with insufficient heat, no cooling, and marginal or no ventilation for office use. Odors build up in some spaces, potentially toxic to staff, especially over time. No apparent ventilation at all for some spaces, such as the warehouse area. The former machine shop and repurposed carpenter shop (now groundskeeping) HVAC system was completely off during the site visit, with significant pesticide and/or fertilizer odors present. No general ventilation for the vehicle repair garage (only the abandoned engine exhaust system).

Remedial Action:

Re-engineer the HVAC for the main floor (lower level) including office, warehouse, shop, and support spaces, and provide an HVAC system meeting code and industry standards.

Action Type:

Code Issue



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D3050	Terminal and Package Units	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	1	\$24,000.00	LS	\$24,000	\$47,000

Deficient Material: Rooftop Units

Upper level office area rooftop gas-pack units is aged (2001) and near end of life - could completely fail at any time.

Remedial Action:

Budget to replace immediately upon failure.

Action Type:

Energy Efficiency



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D3050	Terminal and Package Units	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2026	5	\$2,250.00	EA	\$11,250	\$22,000

Deficient Material: Unit Heaters
Multiple aged electric duct and unit heaters.

Remedial Action:
Budget to replace immediately upon failure.

Action Type:
Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D3060	Controls and Instrumentation	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2024	15,347	\$4.25	SF	\$65,225	\$128,000

Deficient Material: HVAC Controls

Aged and obsolete National Emco HVAC controls with poor comfort and high energy use.

Remedial Action:

Replace with city standard DDC system to include remote monitoring by the facilities department.

Action Type:

Energy Efficiency



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D3090	Other HVAC Systems and Equipment	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2024	1	\$7,500.00	LS	\$7,500	\$15,000

Deficient Material: Engine Exhaust

Vehicle engine exhaust system appears abandoned in place.

Remedial Action:

Fully service and restore vehicle engine exhaust system to operational condition.

Action Type:

Code Issue



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D4010	Fire Protection Sprinkler Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		5	2023	2023	15,347	\$10.50	SF	\$161,144	\$316,000

Deficient Material: Fire Sprinkler
No fire sprinkler system.

Remedial Action:
Install fire sprinkler system, including any specialty coverage, such as for tire rack, flammable or combustible liquid, and high-pile combustible storage areas.

Action Type:
Life Safety



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D5010	Electrical Service and Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	15,347	\$10.00	SF	\$153,470	\$301,000

Deficient Material: Electrical Distribution

Mostly 1981 service and distribution throughout with reports of insufficient power, circuits tripping, and many modifications over the years.

Remedial Action:

Renew the entire electrical distribution system including service capacity increase to carry all current and future anticipated loads, such as HVAC upgrade to all-electric heat per city climate action plan, and electric vehicle charging stations; including modern circuit coordination to larger loads and distribution panels, and surge protection.

Action Type:

Code Issue



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D5020	Lighting and Branch Wiring	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	12,000	\$9.50	SF	\$114,000	\$223,000

Deficient Material: Lighting

Most areas with original fluorescent lighting fixtures with manual control, poor lighting, and failed ballasts and lamps.

Remedial Action:

Upgrade to modern LED lighting with automatic control throughout.

Action Type:

Energy Efficiency



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D5020	Lighting and Branch Wiring	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	15,347	\$5.00	SF	\$76,735	\$150,000

Deficient Material: Wiring and Devices

Aged wiring and devices, insufficient hardwired distribution at shop and storage areas converted to office area, minimal ground fault protection, and aged and failing switches and receptacles throughout.

Remedial Action:

Renew wiring and devices throughout.

Action Type:

Code Issue



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D5037	Low Voltage Fire Alarm	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2024	15,347	\$1.00	SF	\$15,347	\$30,000

Deficient Material: Fire Alarm
Multiple painted-over and failing detectors.

Remedial Action:
Replace damaged detectors.

Action Type:
Life Safety



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

D5090	Other Electrical Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2024	15,347	\$1.00	SF	\$15,347	\$30,000

Deficient Material: Emergency lighting

Despite generator, there are no lighted exit signs, and no observed continuously-on egress pathway lighting fixtures.

Remedial Action:

Upgrade to modern emergency lighting system including both egress pathway and exit signs.

Action Type:

Life Safety



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

E1020	Institutional Equipment	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	15,347	\$4.00	SF	\$61,388	\$120,000

Deficient Material: Shop Equipment

Signs of aged, obsolete, and abandoned shop and other specialized equipment in multiple locations.

Remedial Action:

Renew, replace, or repurpose aged, obsolete, and abandoned shop and other specialized equipment.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Building

Escalation 3%

Discount Rate 1.5%

E1020	Institutional Equipment	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	1	\$15,000.00	LS	\$15,000	\$29,000

Deficient Material: Vehicle shop pit & lift

The original heavy vehicle lift has been partially removed and appears no longer operable. The associated deep pit is abandoned in place and appears flooding to a depth of several feet at times.

Remedial Action:

Repurpose lift pit as undercarriage access or fill in pit as needed by shop program.

Action Type:

Other



Facility Summary

City of Mercer Island

Public Works Building

Public Works Infrastructure

9601 SE 36th Street
Mercer Island, WA 98040

Facility Condition Summary

The site houses the public works building, in addition to numerous other related supportive structures including cast-in-place concrete storage open-air garage bays, metal covered pole buildings for material storage and fueling station, canopy covered storage, and open-air materials storage. An asphalt drive connects the upper yard (materials storage), the main building, and storage bays, and the lower yard with vehicle and equipment parking and more storage. City water, sewer, and fire, but to fire hydrants only, not to buildings; irrigation is present, but unclear if separately metered. Puget Sound Energy power and natural gas to main building, in turn subfeeding out buildings, with insufficient site power and multiple electrical safety, reliability, and fire hazard concerns. High-speed data; fenced site with motorized gate.

Facility Summary

City of Mercer Island
 Public Works Building
 Public Works Infrastructure

9601 SE 36th Street
 Mercer Island, WA 98040

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G20 Site Improvements						
G2010 Roadways	1981	1981	3	TRB	08/29/23	Asphalt drive, numerous patched areas. Surface weathering, other sections with significant alligating.
G2020 Parking Lots	1981	1981	3	TRB	08/29/23	Asphalt personal vehicle and equipment parking, surface weathering, some areas with faded paint striping, ADA stall missing ADA paint symbol and access aisle paint striping.
G2030 Pedestrian Paving	1981	1981	3	TRB	08/29/23	Stamped pattern from pedestrian secured access gate to building, other areas of concrete stairs, and areas of mixed asphalt and concrete. Wood bridge with plastic grate deck surface. Some walk panels showing settlement on east side above bridge; continue monitoring and replace if trip hazard develops.
G2040 Site Development	1981	1981	3	TRB	08/29/23	Newer powder-coated chain link fence and motor operated vehicular swing gates at drive into yard. Older manual chain link gates still in place, but appear out of alignment and now abandoned in place. Secure pedestrian access gate. Building-mounted flagpole. Stone retaining walls. Ecology block retaining walls for stored materials. Picnic bench tables on roof. Other wood and metal benches.
G2050 Landscaping	1981	1981	3	TRB	08/29/23	Mix of mature trees around perimeter and within site. Perimeter and stream side underbrush contains a significant amount of invasive blackberry and English ivy. Green roofing at end of life. Prune trees away from site lighting as minor maintenance.

Facility Summary

City of Mercer Island
 Public Works Building
 Public Works Infrastructure

9601 SE 36th Street
 Mercer Island, WA 98040

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G30 Site Civil / Mechanical Utilities						
G3010 Water Supply	1981	1981	3	DCS	08/29/23	Two city water services, both with two-inch meters in hand vaults and downstream reduced pressure backflow preventers in above grade hotboxes, insulated, but not heat-traced; no issues (freezing) reported. City fire service loop with fire hydrants, but no fire sprinkler service to building. An irrigation system is installed, but with unclear water source and unclear operability. The irrigation controlled in the shop space appears failed - minor maintenance to selectively restore irrigation to key areas. Multiple frost-free yard utility hydrants, some older and damaged (minor maintenance to repair) and some newer.
G3020 Sanitary Sewer	1981	1981	3	DCS	08/29/23	City sewer with no issues reported; no oil/water separator observed for shop floor drains. Open wash rack at lower (east) yard area with no apparent wash water recycle system. Apparent makeshift covered vector truck decant facility at lower (east) service yard.
G3030 Storm Sewer	1981	1981	3	DCS	08/29/23	Network of catch basins, underground piping, swales, creeks, rockeries, and other features; no apparent treatment or detention. A substantial apparent subsurface soil contamination remediation project appears actively underway north of the main building, appearing to extend beyond the creek to north, onto the adjacent property.

Facility Summary

City of Mercer Island
 Public Works Building
 Public Works Infrastructure

9601 SE 36th Street
 Mercer Island, WA 98040

Facility Components

Systems	Original System Date	Last Renewal Date	Score	Surveyor	Survey Date	Comments
G Sitework						
G30 Site Civil / Mechanical Utilities						
G3060 Fuel Distribution	1981	1981	4	DCS	08/29/23	Puget Sound Energy natural gas meter No. 325897 with 425 cfh capacity and no seismic shut-off valve; meter is located behind warehouse space at upper yard area with aged piping and no meter stand. No bollard protection from adjacent vehicle parking and/or heavy equipment operations area. Two diesel fuel storage tanks, 1,000-gallon est. at upper (west) yard and 5,000-gallon est. at lower (east) yard, both with newer GasBoy single-hose dispensers with newer Petro-Vend metering equipment. The electrical service panel to the lower (east) fuel tank includes non-classified connections increasing fire hazard - minor maintenance to safely reconfigure. Estimated 500-gallon propane fuel storage tank north of main building. There is exposed electrical wiring in the work box adjacent to the propane emergency shut-off switch - minor maintenance to protect wiring from the weather.
G40 Site Electrical utilities						
G4010 Electrical Distribution	1981	1981	3	DCS	08/29/23	Utility power underground from street to pad-mounted 150 kVA transformer, then underground to main electrical room toward the center of the main building (in the back of the warehouse), with apparent remote wireless meter cabinet outside the NE corner of the shop wing, with no observed utility meter. Power from main building underground to covered storage building No. 1 aged electrical distribution panel, in turn appearing to feed buildings 2, 3, and 4, with unclear fault protection and no observed submetering. Power from unclear source to the pole barn buildings to SW. Power from unclear source to lower (east) service yard, powering the fuel island, brine system and other unclear functions, some with non-rated extension cords creating, reliability, shock, and fire hazard. A 2000 estimated 50-kW diesel generator with estimated 250-gallon storage tank is present just beyond the west wing of the main building. Several portable generators are also present in the upper (west) service yard. Temporary power runs overhead from the main building to the environmental remediation system north of the main building, 208V, 200A disconnect.

Facility Summary

City of Mercer Island
Public Works Building
Public Works Infrastructure

9601 SE 36th Street
Mercer Island, WA 98040

Facility Components

Systems	Original System Date	Renewal Date Last	Score	Surveyor	Survey Date	Comments
G Sitework						
G40 Site Electrical utilities						
G4020 Site Lighting	1981	2018	3	DCS	08/29/23	Newer LED lamps in original fixtures, some on during daylight hours - minor maintenance to tune-up lighting controls. Aged lighting at the four concrete covered storage buildings and two pole barn buildings. Insufficient service yard general lighting is reported, noting overgrown tree and landscape makes this worse than it needs to be (see G2050 Landscaping for detail).
G4030 Site Communications and Security	1981	2010	3	DCS	08/29/23	High-speed fiber-optic data; main entry with motorized security gate with card-key and/or keypad code entry; mix of older and newer CCTV cameras.
G90 Other Site Construction						
G9090 Other Site Systems	1981	1981	3	TRB	08/29/23	Four cast-in-place concrete garages / storage bays with green roofs, two substantial wood pole barns, other wood and metal material goods storage sheds, and bulk material covered storage with arched tent covers. No apparent heated storage for vactor trucks.

Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G2010	Roadways	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2026	46,000	\$1.50	SF	\$69,000	\$135,000

Deficient Material: Asphalt Paving

Asphalt surface weathering, other sections with significant alligating.

Remedial Action:

Patch asphalt, fill and seal cracks, and fog coat to prolong system life.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G2020	Parking Lots	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2027	9,000	\$1.00	SF	\$9,000	\$18,000

Deficient Material: Asphalt Parking

Asphalt surface weathering, some areas with faded paint striping, ADA stall missing ADA paint symbol and access aisle paint striping.

Remedial Action:

Fog coat to prolong life, repaint stripe, including ADA stall and access aisle.

Action Type:

ADA



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G2050	Landscaping	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		5	2023	2024	14,000	\$46.00	SF	\$644,000	\$1,261,000

Deficient Material: Eco Roof

Green roofing on main public works buildings and concrete garages at end of life.

Remedial Action:

Remove plant and deep soil medium from roofs. Replace with modern eco-roof system with root barrier over roof membrane and drainage mat (consider alternative to deep soil by installing low-profile tray-type system with more appropriate vegetation), and add irrigation system.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G2050	Landscaping	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2028	1	\$10,000.00	LS	\$10,000	\$20,000

Deficient Material: Invasive Species

Perimeter and stream side underbrush contains a significant amount of invasive blackberry and English ivy. Blackberries encroaching on material storage. Ivy noted climbing trees.

Remedial Action:

Eliminate invasive species. Prune trees away from site lighting.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G3020	Sanitary Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	1	\$250,000.00	LS	\$250,000	\$490,000

Deficient Material: Decant facility

Apparent makeshift partially covered vector truck decant facility at NE corner of the lower (east) service yard.

Remedial Action:

Design and construct a modern permanent decant facility.

Action Type:

Code Issue



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G3020	Sanitary Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	1	\$13,500.00	LS	\$13,500	\$26,000

Deficient Material: Oil Water Separator

No oil/water separator observed for vehicle repair shop floor drains.

Remedial Action:

Install oil/water separator for floor drain waste from the shop bays.

Action Type:

Code Issue



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G3030	Storm Sewer	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2024	1	\$65,000.00	LS	\$65,000	\$127,000

Deficient Material: Subsurface Soil

Apparent subsurface soil contamination north of the main building with multiple monitoring wells, significant disturbed soil, active and abandoned well points and piping; appearing to extend to neighboring creek and property to north.

Remedial Action:

Complete remediation and restore affected site to fully usable status.

Action Type:

Code Issue



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G3060	Fuel Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	1	\$6,500.00	LS	\$6,500	\$13,000

Deficient Material: Gas Service

Gas meter is located behind warehouse space at upper yard area with aged piping and no meter stand. No bollard protection from adjacent vehicle parking and/or heavy equipment operations area.

Remedial Action:

Relocate and replace meter and install per current Puget Sound Energy and applicable code.

Action Type:

Code Issue



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G4010	Electrical Distribution	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	1	\$100,000.00	LS	\$100,000	\$196,000

Deficient Material: Electrical Service

Aged and undersized electrical service for this campus, which has grown considerably from 1981 construction, with multiple powered out buildings, powered yard equipment, and substantial environmental remediation system load.

Remedial Action:

Replace the campus electrical service and upgrade from 150 kVA to 300 kVA to support current and future loads, plus likely switch over from gas to electric heat to comply with climate action plan requirements and provide electric vehicle charging. Provide engineered power to permanent out buildings including all four concrete covered storage buildings and the two pole barn buildings, plus general upper and lower service yard process and support equipment and out buildings.

Action Type:

Code Issue



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G4020	Site Lighting	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	6	\$1,500.00	EA	\$9,000	\$18,000

Deficient Material: Out-building lighting

Aged, inefficient, broken, or damaged lighting at most the permanent out buildings.

Remedial Action:

Upgrade to modern LED lighting at all permanent out buildings.

Action Type:

Energy Efficiency



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G4020	Site Lighting	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		4	2023	2025	7	\$3,800.00	EA	\$26,600	\$52,000

Deficient Material: Outside lighting

Site lighting reportedly insufficient to support safe year-round operation.

Remedial Action:

Install additional site lighting to fully support operational needs; assume seven new fixtures.

Action Type:

Other



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G9090	Other Site Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		5	2023	2023	100	\$82.00	LF	\$8,200	\$16,000

Deficient Material: Fall Restraint

Green roofs on concrete garage opposite public works building is accessible, used for storage, but has no fall restraint at the leading edge over the yard below.

Remedial Action:

Install fall guard railing along accessible edge of roof.

Action Type:

Life Safety



Detailed Assessment - Observed Deficiencies 2023 - 2028

City of Mercer Island

Site: Public Works Building

Facility: Public Works Infrastructure

Escalation 3%

Discount Rate 1.5%

G9090	Other Site Systems	Score	Survey Year	Budget Year	Qty	Unit Cost	Unit	Direct Cost	Marked Up Cost
		5	2023	2023	200	\$125.00	LF	\$25,000	\$49,000

Deficient Material: Screen Fence

Wood screen walls on upper concrete storage bays have been damaged by falling trees and some are completely missing.

Remedial Action:

Remove or replace screen walls.

Action Type:

Other



Deficiency Repair Cost Markups By System

2023 - 2028

City of Mercer Island

Site: Public Works Building

Escalation 3%

Discount Rate 1.5%

Facility	System	Direct Construction Cost	Contingency 20%	Contractor's OH & P 20%	Project Soft Cost 36%	Total Project Cost	Total Project Cost (Present Value)
Public Works Building	B10 Superstructure	\$16,400	\$3,280	\$3,936	\$8,502	\$32,000	\$32,000
	B20 Exterior Closure	\$32,000	\$6,400	\$7,680	\$16,589	\$63,000	\$67,000
	B30 Roofing	\$429,716	\$85,943	\$103,132	\$222,765	\$842,000	\$842,000
	C10 Interior Construction	\$13,950	\$2,790	\$3,348	\$7,232	\$27,000	\$27,000
	C30 Interior Finishes	\$60,000	\$12,000	\$14,400	\$31,104	\$118,000	\$123,000
	D20 Plumbing	\$140,555	\$28,111	\$33,733	\$72,864	\$275,000	\$280,000
	D30 HVAC	\$529,475	\$105,895	\$127,074	\$274,480	\$1,037,000	\$1,054,000
	D40 Fire Protection	\$161,144	\$32,229	\$38,674	\$83,537	\$316,000	\$316,000
	D50 Electrical	\$374,899	\$74,980	\$89,976	\$194,348	\$734,000	\$755,000
	E10 Equipment	\$76,388	\$15,278	\$18,333	\$39,600	\$149,000	\$154,000
	Facility Total	\$1,834,526	\$366,905	\$440,286	\$951,019	\$3,593,000	\$3,650,000
Public Works Infrastructure	G20 Site Improvements	\$732,000	\$146,400	\$175,680	\$379,469	\$1,434,000	\$1,461,000
	G30 Site Civil / Mechanical Utilities	\$335,000	\$67,000	\$80,400	\$173,664	\$656,000	\$673,000
	G40 Site Electrical utilities	\$135,600	\$27,120	\$32,544	\$70,295	\$266,000	\$274,000
	G90 Other Site Construction	\$33,200	\$6,640	\$7,968	\$17,211	\$65,000	\$65,000
		Facility Total	\$1,235,800	\$247,160	\$296,592	\$640,639	\$2,421,000
	Site Total	\$3,070,326	\$614,065	\$736,878	\$1,591,657	\$6,014,000	\$6,123,000

Opportunity Summary By Subsystem

City of Mercer Island

Site: Public Works Building

Total Site Opportunity Cost: **\$2,343,000**

Subsystem	Opportunity	Action	Qty	Unit Cost	Unit	Direct Cost	Total Project Cost
Facility: Public Works Building System: Plumbing							\$43,000
D2010	Plumbing Fixtures						
	Bottled water in use and no observed hydration stations.	Install two filter water hydration stations and eliminate bottled water dispensers.	2.00	\$3,500.00	EA	\$7,000	\$14,000
D2090	Other Plumbing Systems						
	The waste oil storage tank is inside the shop, taking up valuable shop floor space.	Move waste oil tank outside the shop and provide remove fill and drain piping.	1.00	\$15,000.00	EA	\$15,000	\$29,000
Facility: Public Works Building System: HVAC							\$10,000
D3030	Cooling Generating Systems						
	High-bay vehicle repair shop with no cooling.	Add ceiling fans to improve working comfort in summer and return warm ceiling air to floor in winter.	4.00	\$1,250.00	EA	\$5,000	\$10,000
Facility: Public Works Infrastructure System: Site Civil / Mechanical Utilities							\$836,000
G3020	Sanitary Sewer						
	Wash rack with no apparent wash water recycle system.	Install full-featured wash rack including wash water recycle system.	1.00	\$110,000.00	LS	\$110,000	\$215,000

Note: Cost estimates shown include project markups, but exclude escalation.

Print Date: 09/22/23

Copyright MENG Analysis 2022

Page 1 of 3

PRELIMINARY REPORT

AB 6402 | Exhibit 1 | Page 58

Opportunity Summary By Subsystem

City of Mercer Island

Site: Public Works Building

Total Site Opportunity Cost: **\$2,343,000**

Subsystem	Opportunity	Action	Qty	Unit Cost	Unit	Direct Cost	Total Project Cost
G3030 Storm Sewer	Significant impervious surface with variety of industrial activities associated with public works operations, with no apparent storm water detention.	Install storm water detention system.	1.00	\$250,000.00	LS	\$250,000	\$490,000
	Significant impervious surface with variety of industrial activities associated with public works operations, with no apparent storm water treatment.	Install storm water treatment.	1.00	\$50,000.00	LS	\$50,000	\$98,000
G3060 Fuel Distribution	Multiple gas-powered vehicles on-site, but no apparent gas tank and dispenser (only diesel).	Install 1,000-gallon gas fuel storage tank, dispenser, and metering.	1.00	\$17,000.00	LS	\$17,000	\$33,000
Facility: Public Works Infrastructure System: Site Electrical utilities							\$83,000
G4010 Electrical Distribution	One makeshift Type 1 electric vehicle charging station outside upper level admin area entry, and presumed growing interested in electric vehicles for both staff personal and city fleet use.	Install five dual-cable Type 2 electric vehicle charging stations, with rough-in for five more. Assumes the overall campus electrical service systems is upgraded prior to installing electric vehicle changers so there is adequate system capacity to charge.	5.00	\$8,500.00	EA	\$42,500	\$83,000

Note: Cost estimates shown include project markups, but exclude escalation.

Print Date: 09/22/23

Copyright MENG Analysis 2022

Page 2 of 3

PRELIMINARY REPORT

AB 6402 | Exhibit 1 | Page 59

Opportunity Summary By Subsystem

City of Mercer Island

Site: Public Works Building

Total Site Opportunity Cost: **\$2,343,000**

Subsystem	Opportunity	Action	Qty	Unit Cost	Unit	Direct Cost	Total Project Cost
Facility: Public Works Infrastructure							
System: Other Site Construction							\$1,371,000
G9090 Other Site Systems	No observed heated covered storage for vector trucks.	Construct heated vector truck storage facility - assume four bays in pre-engineered metal building.	4,000.00	\$175.00	SF	\$700,000	\$1,371,000

Note: Cost estimates shown include project markups, but exclude escalation.

Print Date: 09/22/23

Copyright MENG Analysis 2022

Page 3 of 3

PRELIMINARY REPORT

AB 6402 | Exhibit 1 | Page 60