BUSINESS OF THE CITY COUNCIL
CITY OF MERCER ISLAND

AB 6677
May 6, 2025
Regular Business

AGENDA BILL INFORMATION

TITLE:	AB 6677: Public Safety and Maintenance Facility Design Choices	☐ Discussion Only ☒ Action Needed: ☒ Motion ☐ Ordinance ☐ Resolution
RECOMMENDED ACTION:	Provide direction on the design alternatives to include in the PSM Facility Schematic Design.	

DEPARTMENT:	City Manager
STAFF:	Jessi Bon, City Manager Robbie Cunningham Adams, Senior Management Analyst
COUNCIL LIAISON:	n/a
EXHIBITS:	1. Draft Public Safety and Maintenance Facility Design Choices Presentation
CITY COUNCIL PRIORITY:	3. Make once-in-a-generation investments to update and modernize aging infrastructure, capital facilities, and parks.

AMOUNT OF EXPENDITURE	$ n/a
AMOUNT BUDGETED	$ n/a
APPROPRIATION REQUIRED	$ n/a

EXECUTIVE SUMMARY

The purpose of this agenda item is to follow-up on the design alternatives for the Public Safety and Maintenance Facility (PSM), originally presented to the City Council at the February 4, 2025 Council meeting. Staff is seeking feedback on these alternatives.

- At the March 1, 2024 Planning Session, the City Council directed the City Manager to commence planning for a new Public Safety and Maintenance Facility (PSM Facility) on the current City Hall Campus (AB 6420).
- Design work for the PSM Facility shifted to the schematic design phase in the fall of 2024. Schematic design is the first step in taking a concept and turning it into a specific design plan, including architectural drawings and a site plan. The design work remains in this stage.
- During the February 4, 2025 City Council Planning Session, the PSM Design Team presented the initial design concept and preliminary cost estimate for the PSM Facility (AB 6604). This presentation also included an introduction to some of the design alternatives for the new facility. The City Council provided initial feedback and questions for follow-up.
- This agenda item and presentation provides the follow-up on roof-mounted solar panels for on-site energy generation, rainwater harvesting for on-site use, potable water storage for emergency operations, and facility structural systems. The draft presentation includes the analysis of each design choice and is included as Exhibit 1.

- Staff are seeking City Council direction on whether to include roof-mounted solar panels, rainwater harvesting, and water storage systems in the draft PSM schematic design that will be presented to the City Council for approval in June.
- The Design Team is presenting an initial strategy on facility structural systems but is not requesting City Council direction at this time.
- The PSM Design Team will incorporate Council direction on the design alternatives into the PSM Schematic Design and return to the City Council with a completed draft schematic design and revised cost estimate for review and approval in June.

BACKGROUND

Long-Range Facility Planning Begins in 2023

In early 2023, the City began a planning process to complete a Facilities Conditions Assessment for various municipal buildings and to develop a Long-Range Facilities Plan for select City facilities. Northwest Studio was selected as the consultant for this project and is supported by a variety of specialized consultants.

The Long-Range Facility Planning project was intended to be completed in two phases, the first phase focusing on a comprehensive Facilities Conditions Assessment (FCAs) for six buildings in 2023: Mercer Island City Hall, the Public Works Building, the Mercer Island Community and Event Center Annex Building, the Luther Burbank Administrative Building, the Mercer Island Thrift Shop, and the former Tully's Building. A second phase will include Facility Conditions Assessments for Fire Station 91, Fire Station 92, and the Mercer Island Community and Event Center.

The purpose of an FCA is to inventory and evaluate building and site infrastructure conditions, document observed deficiencies and develop a recommended strategy to ensure continuity of services, extend the life of each facility, or alternatively prepare to replace existing assets.

The second phase of facilities planning work included developing a Long-Range Facilities Plan for these six facilities based on assessment and data collected from the FCA process. The Long-Range Planning Work was intended to be completed in 2024 and anticipated an extensive public engagement process. Unfortunately, just as the facilities planning work was kicking off in early 2023, City Hall was closed due to asbestos contamination.

City Hall Permanently Closed in 2023

In April 2023, City Hall was temporarily closed after asbestos was detected in several locations in the building, including in the HVAC system. Although airborne asbestos was not detected during air quality tests, abatement at City Hall would be required to re-open the facility. City staff and outside experts worked extensively to identify solutions to address the asbestos contamination and evaluate the best path forward for City Hall. Two scenarios for re-occupying the City Hall building, either fully or partially, were evaluated for timeline, preliminary costs, and impact to City operations. Unfortunately, the cost of both scenarios to re-occupy City Hall exceeded the benefits due to the age and condition of the building. On October 2, 2023, Resolution No. 1650 was approved to cease City operations at City Hall and permanently close the building.

Facility Conditions Assessment Completed on Public Works Building in 2024

Given the age and condition of the Public Works building, the City Manager directed the staff and consulting teams to proceed with the facilities conditions assessment (FCA) for this building. The Preliminary Facility Conditions Assessment for the Public Works building was presented to the City Council on February 6, 2024

(AB 6402). The FCA identified multiple systems that are failing or in need of significant repair or investment. Based on these findings, the City Manager recommended the City Council prioritize the Public Works building for replacement. The Public Works building houses many essential services and some short-term reinvestment is needed to extend the life of the building until a replacement strategy is identified as discussed in AB 6477 at the May 21, 2024 City Council meeting.

At the July 16, 2024 City Council meeting, the City Council appropriated funds and authorized staff to proceed with seismic repairs to the Public Works building that are necessary to keep the Public Works building safely operating in the short-term (AB 6517).

Public Safety and Maintenance Building Pre-Design Phase Completed in 2024

During the March 1, 2024 Planning Session, the City Council contemplated the replacement strategy for City Hall and the Public Works building. The City Council directed the City Manager to commence planning for a new Public Safety and Maintenance Building (PSM) on the current City Hall Campus (AB 6420). This new facility will replace the existing Public Works building and provide a new combined home for the City's Public Works teams, Police Department, Emergency Operations Center, and the IT and GIS team.

City staff provided a design progress update on the PSM Facility during the May 21, 2024 City Council meeting (AB 6476). This presentation outlined how staff and the City's architectural consultant team, Northwest Studio, conducted workshops with the staff teams expected to be housed in the future PSM Facility to inform the ongoing design work, needs for each staff in a new facility, how a combined facility for these teams would provide operational efficiencies, and why the new building is intended to be a Level IV Risk Category Building.

Pre-design work was completed during the summer of 2024, confirming the programming and conceptual framework for the PSM Facility. During this initial planning phase, the City Manager also directed the Design Team to include an expanded customer service area at the main PSM building to house the City's Customer Service team. This is to ensure that the City has a "store front" given that no other City facilities are suited for this type of function. The customer service area addition will be discussed further during the presentation.

Public Safety and Maintenance Facility Schematic Design Phase Begins in 2024

Design work of the PSM Facility shifted to the schematic design phase in fall of 2024. Schematic design is the first step in developing a concept into a specific design plan, including architectural drawings and a site plan. The design work remains in this stage. Recent Design Team actions include tours of other public safety and maintenance buildings in the region, site visits to City facilities, and ongoing design meetings with staff.

The Design Team and select Councilmembers conducted tours of the Shoreline, University of Washington, and Kirkland police departments in October 2024. The team heard about both successes and "lessons learned" from the construction or renovation of these police facilities to help inform the design work on the PSM Facility. The Design Team and select Councilmembers also conducted a tour of the Kitsap County Public Works facility in December of 2024. This tour featured included the workspace and training space layout, ingress/egress for large vehicles and equipment, covered storage, lighting, security, and staff amenity spaces.

PSM Schematic Design Updates at City Council Meetings

During the February 4, 2025 City Council Planning Session, the PSM Design Team presented the initial design concept and preliminary cost estimate for the PSM Facility (AB 6604). The Design Team received City Council

feedback on design strategies and questions. The Design Team also previewed the likely need for a rezone of the property.

During the March 4, 2025 City Council meeting, the PSM Design Team presented a progress update on the Public Safety and Maintenance Facility (PSM Facility) design in addition to addressing questions from the prior City Council meeting (AB 6634). The Design Team presented information on the following thematic areas:

- Planning for Potential Future Operational Capacity needs at the PSM Facility
- Functions and Uses of the Operations Building and Yard
- Alternative Construction Delivery Methods.

City staff and City Council discussed moving the siting of the main PSM Building forward (north) on the property to expand the capacity of the secure areas (parking and maintenance yard) behind the main PSM Building. Staff said this was an idea worth investigating further and committed to coming back with additional information at a future Council meeting.

Updated Public Safety and Maintenance Facility Sizing, Placement, and Zoning

Following feedback from the City Council and Police, Public Works, Emergency Operations, and IT/GIS staff, during the April 15, 2025 City Council meeting, the PSM Design Team presented a recommended change to the site layout that would move the PSM Building (main administrative building) and the Operations Building north on the site (AB 6656). This proposed revision to the site layout would reduce construction costs, increase operational effectiveness, and leave room for potential future operational capacity to ensure that this facility is positioned to serve the city over the next 50-plus years.

The proposed PSM Facility layout includes the placement of the Operations Building on top of the property line between the existing City Hall and Public Works parcels. The Design Team recommended a boundary line adjustment to move the parcel line north - closer to SE 36th St.

Additionally, both parcels comprising the current City Hall Campus have the correct comprehensive plan land use designation, which is “Public Facility.” The zoning, however, is different and this was identified for resolution as part of the PSM Facility development process. The City Manager recommended the new south parcel created by the boundary line adjustment be re-zoned to “Public Institution” (PI), consistent with other public facilities on Mercer Island. The north parcel is recommended to remain as CO to preserve flexibility for its future use. The proposed rezone is site-specific and requires approval through a quasi-judicial process.

The City Council approved the revised PSM Facility site layout and directed the City Manager to pursue a boundary line adjustment between the City Hall and Public Works parcels based on the final site layout, and directed the City Manager to prepare and submit an application for a re-zone of the south City Hall parcel to Public Institution (PI).

ISSUE/DISCUSSION

This agenda item and presentation provides the follow-up on roof-mounted solar panels for on-site energy generation, rainwater harvesting for on-site use, potable water storage for emergency operations, and facility structural systems. The draft presentation includes the analysis of each design choice and is included as Exhibit 1. These design alternatives were first previewed during the February 4, 2025 City Council meeting (AB 6604).

The City's architect, Northwest Studio, will be joined by their engineering sub-consultant PAE Engineers, Inc. to present the analysis on these design alternatives. City Council direction is needed to determine which of these design alternatives will be included in the Schematic Design, which is scheduled for review and approval by the City Council in June.

The Design Team is presenting an initial strategy on facility structural systems but is not requesting City Council direction at this time.

Roof-Mounted Solar Panels for On-Site Energy Generation

The PSM Facility is a good candidate for roof-mounted solar power generation to increase emergency resiliency and lower operational energy costs. A solar radiation analysis illustrates availability and intensity of sunlight across the proposed PSM roof surfaces and adjacent site.

PAE's study includes three potential solar-panel configurations:

1. A solar panel system located on the southern-sloping roof only, which scored the highest in the solar radiation analysis.
2. A solar panel system located on both the southern and northern roof areas that is sized to meet the total estimated annual energy need of the PSM Facility.
3. No solar panels at all.

The analysis of including solar panels in the PSM Facility project includes consideration of the initial capital cost to install and maintain the system, assessed against the energy cost savings over time, increased resiliency of City operations during an emergency, and alignment with the City's adopted Climate Action Plan (CAP: CC2.7 Municipal Renewable Energy Storage - Expand solar installation and build renewable energy storage systems on City property). The analysis evaluates energy bill savings over a 25-year period, which is an industry-standard performance warranty period.

As shown in the presentation, solar generation is cyclical with the seasons, with summer generating excess power and winter not generating enough electricity to power City facilities. The analysis assumes a net metering agreement with Puget Sound Energy, where excess power generated in the summer is sold back to PSE and then those credits are used to fully or partially make up the power differential in the winter months. A system of this size would qualify under Puget Sound Energy's Distributed Renewables program.

As a reminder, the City is currently purchasing green power at a discounted rate for municipal electrical needs through a PSE program. The City intends to continue this program as needed whether solar panels are included or not in the PSM facility. This contract expires in December 2038.

The findings indicate that Option #1, which includes solar panels sized to optimize solar availability in the solar radiation analysis, provides the best long-term value. The system is estimated to cost $1,394,100 to install, has approximately $200,000 in maintenance costs over a 25-year period, and will save approximately $976,750 in energy costs over a 25-year period. This analysis assumes PSM Facility energy costs remained fixed over the 25-year period. If electricity rates increase over this time period, the return-on-investment of the solar system improves and vice versa.

Additional detailed analysis of the solar panel options is available in Exhibit 1, page 10 and will be further discussed at the City Council meeting.

Future Electrification of Vehicle Fleet and Regional Demand for Electricity

The exact timeline for full electrification of the City's fleet is not known at this time, but is anticipated to occur in phases over the next 10+ years as technology advances. The PSM Facility is being designed to accommodate full electrification of the City's fleet over the life of the facility. Preliminary data from our municipal fleet electrification roadmap shows that a fully electrified City fleet would require 401,500 kWh per year, which is in addition to the projected 735,000 kWh annual energy usage anticipated for the PSM Facility.

The solar panel analysis is based on estimated energy needs at the time the facility opens. Option #2, as presented, meets those initial projections but does not account for future site demands, such as expanded fleet electrification. As energy needs grow, there may be opportunities to expand the solar system across the campus.

A recent report by the Northwest Power and Conversation Council is projecting energy demand to double by 2046, driven by an increase in electric vehicles, electrifying buildings, and the construction of data centers regionally. It is difficult for staff to anticipate the impact of this on electrical utility rates, but a realistic possibility is electrical supply does not keep up with increased demand, leading to price increases. Potential higher energy costs in the future combined with increased City demand for power with adoption of electric vehicles could increase the return-on-investment of a solar power system in the PSM Facility.

Final Thoughts

Including a solar system in the PSM facility involves complex trade-offs, balancing present-day costs and savings with future energy needs and sustainability goals. If the City Council directs the Design Team to incorporate solar into the Schematic Design, the team will continue analyzing its feasibility and effectiveness. Solar may also be a strong candidate for inclusion as a 'bid alternate' during the construction bidding process.

Rainwater Harvesting for On-Site Non-Potable Water Use

Roof surfaces at the PSM Facility are capable of harvesting and storing rainwater to be used for vehicle/equipment wash stations, wheel wash areas, general site use, and toilet water, all of which will lower potable water use and reduce operating costs at the facility.

Implementation of a rainwater harvesting and storage system collects rainwater from the rooftops and stores the collected water in cisterns. The system includes filtration to remove debris collected from the rooftop.

The Rainwater Harvesting system is estimated to cost $250,000 to install. Over a 20-year period this system is estimated to reduce City operational costs by approximately $380,000.

A more detailed analysis table is included in Exhibit 1, page 16 and will be further discussed at the City Council meeting.

Potable Water Storage for Emergency Operations

Storing potable water on-site would improve operational resiliency at the PSM Facility. A storage tank, located with other mechanical systems at the Operations Building, would enable water distribution for facility use during emergencies that affect the island's water supply.

During typical City operations over a 7-day period, the City uses 6,000 gallons of non-potable water and 4,200 gallons of potable water. A 10,000-gallon storage tank could provide water supply for 7 days at a cost to install of approximately $250,000. If the City also installed the Rainwater Harvesting System, then the size of

this additional potable water storage tank could be sized to hold about 5,000-gallons of water, reducing the cost to $170,000.

Facility Structural Systems

The selection of a structural system for any building is based on a wide range of factors including site conditions, functional requirements, facility type requirements, load and seismic analysis, material availability, environmental impact, building codes, and system cost. The PSM Design Team is focusing on the four following criteria when deciding between mass timber, steel, and concrete:

- Applicability for a Risk Category IV structure.
- Achieving spans required for efficient layouts and use.
- The overall cost of the system.
- Alignment with City policies including the Climate Action Plan.

The PSM Design Team is currently proposing a hybrid approach that recognizes both the unique conditions present in each building/structure as well as the need to manage overall project costs. The construction material market and supply chain is currently in flux and is anticipated to remain volatile in the coming years, therefore the design approach for these systems will need to be flexible in response to changing conditions.

Cast-in-place concrete construction will be used for retaining structures, facility foundations, and the ground floor of the PSM Facility Operations Building. Mass Timber construction will be utilized as the primary structural systems for the PSM Building, weathering covers at operational areas, and the second floor and roof of the Operations Building. Steel construction will be utilized for the primary structural system for the Lower and Upper Yard facilities including the Vehicle Wash Bay, weathering covers, and the Decant Facility canopy.

A more detailed analysis table can be found in Exhibit 1, page 25 and will be further discussed during the City Council meeting. The Design Team is presenting an update on the design strategy for the structural systems, but is not requesting City Council direction at this time.

NEXT STEPS

The PSM Design Team will incorporate Council direction on the design alternatives into the PSM Schematic Design and return to the City Council with a completed draft schematic design and revised cost estimate for review and approval in June.

RECOMMENDED ACTION

Direct the City Manager to include [insert design alternatives] in the PSM Facility Schematic Design.