



**COMMISSION  
AGENDA MEMORANDUM**

**Item No.** 8f

**ACTION ITEM**

**Date of Meeting** January 12, 2021

**DATE:** December 3, 2020

**TO:** Stephen P. Metruck, Executive Director

**FROM:** James E. Truhan, Sr. Real Estate Manager  
Rod Jackson, Capital Project Manager  
Melinda Miller, Director, Portfolio and Asset Management

**SUBJECT: WTCW HVAC Replacement (CIP # C800199) Construction Funding Request**

**ACTION REQUESTED**

Authorization for the Executive Director to approve additional funding of \$555,000 to complete the World Trade Center West (WTCW) HVAC Replacement Project for design and construction.

<b>Amount of This Request</b>	<b>\$ 555,000</b>
<b>Previously Authorized</b>	<b><u>\$3,526,000</u></b>
<b>Revised Estimated Project Cost</b>	<b><u>\$4,081,000</u></b>

**EXECUTIVE SUMMARY**

This project at the WTCW building will provide an energy efficient and sustainable replacement for the building's existing 22-year-old mechanical system.

The WTCW's existing central HVAC system - which includes a 200-ton Roof Top Unit (RTU)-was installed in 1998. Despite diligent maintenance over its lifetime, it is operating with an increasing risk of unplanned outages.

In addition to replacing the WTCW's RTU, this project will also replace related HVAC system components, including the World Trade Club's kitchen HVAC and hood exhaust system, terminal fan units and system controls. With this approach, the Port will capture increased energy efficiencies, reduce Green House Gas (GHG) emissions, and minimize tenant disruptions.

**PROJECT JUSTIFICATION**

The existing 200-ton central HVAC system (installed in 1998) has reached the end of its useful life. It is inefficient and operating at high risk of unplanned outages.

This project supports the following Century Agenda objectives:

1. Position the Puget Sound region as a premier international logistics hub.
2. Advance this region as a leading tourism destination and business gateway.
3. Be the greenest, and most energy-efficient port in North America.

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**DETAILS**

Based on commission authorization received on July 14, 2020, a request for proposals was advertised on August 13, 2020, as a Building Engineering Systems (BES) procurement, with two competitive proposals received on October 20, 2020, with both proposals coming in above budget. Both proposals met minimum established requirements with both proposals exceeding the engineer’s estimate. The engineer’s estimate in the amount of \$2,826,000 for a total project cost of \$3,526,000 is not enough to complete the project, therefore, additional funds of \$555,000 are required to offset the cost of the project. This includes \$531,000 which is required to cover additional construction, contingency and taxes with a soft cost increase of \$24,000 to cover safety oversight for a total cost of \$555,000.

***Funding Request Detail***

Additional Forecasted Hard Costs	\$ 531,000
Additional Forecasted Soft Costs	<u>\$ 24,000</u>
Amount of this Request	\$ 555,000

***Cost Summary***

<u>Port Design/ Construction Estimate (4/20/20)</u>	<u>Proposer A</u>	<u>Proposer B</u>
\$2,826,000	\$4,328,850	\$3,388,657

The proposal evaluation team determined that Proposer B’s proposal is acceptable, based on best value and strongest rating for HVAC System Replacement and Design/Construction Project Approach. The Port team determined it was in our best interest to continue to pursue this Building Engineered System delivery method and award the contract.

***Scope of Work***

The scope of work for this project includes the following key elements:

1. Replace primary HVAC equipment (chiller, condenser, etc.);
2. Replace secondary HVAC distribution components (tenant space VAV boxes);
3. Replace World Trade Club kitchen HVAC and hood exhaust systems;
4. Install a new Building Management Control System;
5. Test and commission all systems; and
6. Salvage existing components for the Port’s spare parts inventory.

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**Approach**

The project is being procured as a Building Engineering Systems Contract (RCW 39.04.290). This approach allows the Port to award contracts by using a competitive bidding or request for proposals process where bidders are required to provide final specifications and a bid price for the design, fabrication, and installation of system components. System design and specifications under this approach are reviewed and approved by the Port.

This procurement strategy was chosen because a simplified and self-contained turn-key solution is feasible, and equipment represents a large percentage of the project cost.

Further, this approach furnishes opportunities for increased quality, efficiency, and risk reduction for the Port.

**Benefits**

The project, via replacement of major HVAC system infrastructure, increases system reliability, and efficiency, while significantly reducing greenhouse gas emissions. A new Building Management Control System will be installed, which will integrate systems throughout the building and ensure efficient performance. Finally, the project brings the WTCW in-line with local and state building energy code requirements and allows the Port to capture utility incentives.

**Diversity in Contracting**

Project staff along with the Diversity in Contracting Department have established a Woman and Minority Business Enterprise (WMBE) aspirational goal of 6% for this project, proposer “B” committed to the 6% goal for the project.

**Schedule**

Commission Design & Construction authorization	July 14, 2020
Advertisement	August 13, 2020
Award	January 2021
Design start by the awarded team	Q1 2021
Construction start	Q3 2021
In-use date	Q4 2021

**ALTERNATIVES AND IMPLICATIONS CONSIDERED**

**Alternative 1 – Do not add funds** to the project.

Capital Cost: No additional funds added to the project.

Pros:

- (1) No capital investment by the Port.

Cons:

- (1) Does not advance the Century Agenda environmental goals.
- (2) Does not reduce carbon.
- (3) Continues natural gas use for heating.
- (4) Does not address 24/7 operation of the kitchen HVAC system.

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- (5) Does not address replacement of end-of-life VAV boxes.
- (6) Does not provide an opportunity for contractor innovation and input during design.
- (7) Does not provide an opportunity for utility incentives or grants.
- (8) A total cost of \$350,000 would need to be expensed.

This is not the recommended alternative.

**Alternative 2: - Rebid project** reducing the scope while utilizing the Design Bid Build (DBB) procurement method to replace the RTU with like-for-like system plus upgrade system controls, replace all existing VAV boxes, replace 4<sup>th</sup> floor kitchen HVAC system with DOAS to eliminate natural gas heating.

Capital Cost: Minimum of \$3,526,000

Pros:

- 1) Advances the Century Agenda environmental goals.
- 2) Environmental benefit: Expected to reduce 376 Mt CO<sub>2</sub> over 20-year lifecycle and reduce the building's EUI by 14%.
- 3) Eliminates fossil natural gas for heating within the building to reduce GHG emissions.
- 4) Use of DOAS allows the Port to demonstrate advanced HVAC technology.
- 5) Replaces the end-of-life VAV boxes at the same time as the RTU system to minimize tenant impact and construction costs.

Cons:

- (1) Requires additional design and specification development in order to advertise and award.
- (2) Longer implementation schedule than Building Engineered System (BES) approach.
- (3) VAV box replacement and control upgrades are invasive and requires phased work in all tenant spaces.
- (4) Construction period will be several months longer.
- (5) Total capital costs will not be known until the bids are submitted.
- (6) Mitigation efforts for tenants and customers may not completely be met.
- (7) Does not provide an opportunity for contractor innovation and input during design.
- (8) Does not provide an opportunity for utility incentives or grants.
- (9) Potential for significant budget increase.

This is not the recommended alternative.

**Alternative 3 – Add requested funds** of \$555,000 for the Like-for-like RTU replacement with controls retrofit, replacement of existing VAV boxes, a new Kitchen HVAC system (hood and exhaust fans with VFDs, VRF electric heat pumps, and a small DOAS unit) including a new Building Management System (BMS).

Capital Cost: \$4,081,000.

Pros:

- 1) Advances the CA's environmental goals.
- 2) Projected energy savings are significant:

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- a. Reduces annual GHGs up to 35% compared to existing system;
  - b. Achieves nearly 8X the energy savings of Alternative 1;
  - c. Achieves 36X the lifetime GHG reductions of Alternative 1;
  - d. Reduces building EUI by 14%.
- 3) Eliminates fossil natural gas for heating.
  - 4) Use of DOAS allows the Port to test functionality of advanced HVAC technology;
  - 5) Replaces the end-of-life VAV boxes simultaneous to main building HVAC system to minimize tenant impact and construction costs;
  - 6) Includes a new (BMS) controls to support all equipment in the building.

Cons:

- 7) Requires additional authorization of \$555,000 to total \$4,081,000.
- 8) VAV box replacement and control upgrades is invasive and requires phased work in all tenant spaces.

***This is the recommended alternative.***

**FINANCIAL IMPLICATIONS**

***Cost Estimate/Authorization Summary***

ESTIMATE HISTORY	CAPITAL	EXPENSE	TOTAL
Original Estimate	\$3,526,000	\$0	\$3,526,000
Current Request	\$555,000	\$0	\$555,000
<b>Revised Estimate</b>	<b>\$4,081,000</b>	<b>\$0</b>	<b>\$4,081,000</b>

AUTHORIZATION HISTORY	CAPITAL	EXPENSE	TOTAL
Previous Authorizations	\$3,526,000	\$0	\$3,526,000
Current Request	\$555,000	\$0	\$555,000
<b>Total Authorizations Including This Request</b>	<b>\$4,081,000</b>	<b>\$0</b>	<b>\$4,081,000</b>
Remaining Amount To Be Authorized	\$0	\$0	\$0

***Annual Budget Status and Source of Funds***

This project has been included in the 2021 Plan of Finance under C800199 WTCW HVAC Replacement at an estimated total project cost of \$3,526,000. The updated current total project estimate is \$4,081,000.

The additional estimated cost of \$555,000 will be funded by C800216 EDD Reserve.

This project is funded by the General Fund.

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**Financial Analysis and Summary**

Project cost for analysis	\$4,081,000
Business Unit (BU)	Portfolio Management
Effect on business performance (NOI after depreciation)	The project will maintain annual gross revenue of \$1.5 million from WTCW. Depreciation will increase by \$408,100 per year, thereby reducing the NOI by the same amount.
IRR/NPV (if relevant)	No incremental revenue. The NPV is the present value of the project cost.
CPE Impact	N/A

**SUSTAINABLE EVALUATION FRAMEWORK**

The WTCW HVAC System Replacement project was identified as a priority project for the Sustainable Evaluation Framework. Staff hired consultants to provide alternatives to replace end-of-life HVAC equipment. An internal interdisciplinary team was formed to evaluate alternatives to balance costs, occupant comfort, overall system and building energy efficiency, and advance the Century Agenda greenhouse gas (GHG) goals. Meetings were held in late 2018 and 2019 to complete energy audits, conduct building assessments, and identify potential components to form the basis of the HVAC system replacement alternatives. Port of Seattle project staff met in January 2020 to evaluate consultant audit findings and recommendations and solidify goals. The identified goals include cost effectiveness, greenhouse gas emission reduction, energy efficiency, and impacts to tenants. Project goals were used to evaluate three design alternatives. A cost-benefit analysis was assembled for each alternative and recommendations were presented to the project sponsors in February of 2020. Additional details are provided in the WTCW HVAC Replacement Sustainable Design Approach (SDA) & Sustainable Design Strategy (SDS) document. Findings were then presented to the Energy & Sustainability (E&S) Committee on June 16th. The SDA & SDS document was updated based upon comments during the meeting and organized to align with this memo. The E&S Committee confirmed the recommended alternative (Alternative 3). The Final SDA/SDS was presented to Commission during authorization for design and construction funding on July 14th.

**ATTACHMENTS TO THIS REQUEST**

- (1) Presentation slides

**PREVIOUS COMMISSION ACTIONS OR BRIEFINGS**

July 14, 2020 – The Commission authorized and approved Design and Construction funding for the project.