



**COMMISSION
AGENDA MEMORANDUM**

Item No. 8g

ACTION ITEM

Date of Meeting March 22, 2022

DATE: February 2, 2022
TO: Stephen P. Metruck, Executive Director
FROM: Melinda Miller, Director of Real Estate Asset Management,
Susie Archuleta, Senior Real Estate Manager,
Rod Jackson, Capital Project Manager
SUBJECT: WTCW Roof Replacement (CIP #C801104)

Amount of this request: \$1,915,000
Total estimated project cost: \$2,215,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to advertise, award and execute a major public works contract and fund the construction phase of the WTCW Roof Replacement Project in the amount of \$1,915,000. This request would increase the total project authorization to-date to \$2,215,000

EXECUTIVE SUMMARY

The World Trade Center West (WTCW) Building was built in 1998 and is 24 years old. Its existing 17,000sf ballasted gravel roof is original to the structure and is nearing the end of its service life. This project will extend the service life of existing WTCW roofing system via repair, overlay and replacement, based on recommendations contained in a third-party assessment study completed on January 9, 2019. Due to funding priorities over the past few years, this roof project was deferred but is now ready to move forward due to its critical need. The proposed project is intended to provide reuse of existing ballasted roofing, membrane, and insulation. The project includes installing additional insulation including another 80-mil membrane overlay while adding 11,000sf Green Roof Technology to the building's roof top. This will provide an energy efficient and sustainable replacement roof and will have a design service life of 30+ years.

The project is currently in the final design/construction documentation phase, with design documents at the 100% stage of completion.

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JUSTIFICATION

This project is an asset stewardship and revenue preservation project which would repair and replace this essential roof infrastructure. The project team has explored design alternatives to minimize impacts on the environment and has selected durable materials to maximize the service life of the system including adding a sustainable Green Roof Technology.

The project supports the Port's Central Agency Goal 3, Responsibly Invest in the Economic Growth of the Region and all its Communities; Goal 4, Be the greenest and most energy-efficient port in North America; and Goal 6, Be a Highly Effective Public Agency.

Diversity in Contracting

Diversity in Contracting has evaluated the planned construction activities and established a 5% WMBE aspirational goal.

DETAILS

The WTCW building is a commercial office building constructed in 1998. In addition to traditional office space, it includes a ground floor café that is popular with the neighboring Marriott guests, and the World Trade Center Seattle club on the fourth floor, which provides conferencing and restaurant services to its members. The Port manages the WTCW's ongoing property maintenance and revenues. This management includes identifying the need for capital improvements to the building structure, which includes the roof.

The roof is original to the WTCW building and is now 24 years old and at the end of its useful life. With the recommendation of its third-party consultant, the Port has determined that roof replacement is necessary to maintain the integrity of the building envelope. The scope of the proposed roof replacement is an overlay installation and not a full roof replacement. An overlay requires fewer labor hours than a new roof, so labor costs are considerably less. The existing ballast, membrane, and insulation will be reused to save on material disposal costs. Adding additional insulation per code and overlaying with an additional 80mil membrane will increase the life of the roofing system to 30+ additional years.

This project is Tier 2 under the Sustainable Evaluation Framework. Third-party certification is not being pursued due to the project's limited scope (roof replacement), but green design options were considered. Sustainability goals include energy efficiency, environmental health, sustainable asset management, material reuse, financial sustainability, and tenant impacts. Solar opportunities were explored but eliminated from scope due to weight (structural load), building positioning, and potential glare hazards.

Application of Green Roof Technology is the recommended alternative since it provides multiple environmental benefits at a moderate cost increase. Upgrading the design to include a Green Roof provides an innovation example and an opportunity for the Port to pilot a new technology and achieve significant environmental benefits in a location where none were previously. This

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alternative reduces heat island effect, sequesters carbon, retains stormwater, reduces runoff temperature, creates additional pollinator habitat, and provides additional rooftop insulation and interest to those neighbors with a site line to the roof. In the upgraded design, roughly 65% of the existing ballasted roof is converted into a Green Roof. A Green Roof can extend the life of the roofing system by eliminating ultraviolet sun rays from deteriorating the roof membrane. When a regular maintenance routine is followed, the useful life of a Green Roof can reach 50 years compared to the 25-year life of a ballasted roof.

The Green Roof is comprised of trays of sedum that are connected to form landscape beds. The beds will include an irrigation system to support these plants during the dry months of summer. Preliminary calculations show that the structural load of the existing ballasted roof is comparable to that of the sedum beds, so that no structural modifications to the roof will be needed to accommodate the Green Roof.

The total project cost of the recommended alternative is estimated to be \$2,215,000 which is \$826K more than the least expensive option, Alternative 2 estimated to be \$1,389,000. Despite its’ higher cost, Staff recommends Alternative 3 because it enables the Port to achieve the broadest range of goals relative to the other alternatives. Funding for this project was included in the 2022 capital budget plan of finance.

Scope of Work

The scope of work for the WTCW Roof Replacement project includes.

- (1) Reuse of existing gravel ballast to eliminate waste.
- (2) Installing a new 80-mil membrane reusing exiting ballast for an energy efficient roofing system that includes additional insulation and a Green Roof technology.
- (3) Use environmentally sustainable components and methods as appropriate, such as: waste minimization, selection of materials with limited toxicity and greenhouse gas emissions, and utilization of construction best management practices (i.e. reduced idling).

Schedule

Activity

Commission Construction Funding authorization	March 2022
Construction Advertisement	April/May 2022
Construction Start	Q2 2022
In-use date	Q4 2022

Cost Breakdown

	This Request	Total Project
Design	\$0	\$300,000
Construction	\$1,915,000	\$1,915,000
Total	\$2,215,000	\$2,215,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Do nothing, maintain the current roof and delay upgrades to the roof. Maintenance costs of \$5K annually (averaged over 12 months) will continue.

Cost Implications: \$5K

Pros:

- (1) Defers Port funding.
- (2) Allows the Port to reallocate capital investment dollars.

Cons:

- (1) Does not advance efforts to achieve Century Agenda goals.
- (2) Increases the chances that water infiltration will disrupt tenant activities and damage the interior of the facility causing expensive repairs.
- (3) Safety of the tenant could be compromised due to the slip hazard to tenant and employees.
- (4) Increase of future construction costs is likely and the risk of emergency repair costs will continue to increase.
- (5) The cost of a future roofing project and additional repairs in the event of roof failure would be the full cost of replacement (\$2.21 million) plus escalation and the cumulative ongoing expense costs. Risk of the cost of lost tenant space due to emergency repairs is unknown but likely would be high.
- (6) Maintenance costs will continue.

This is not the recommended alternative.

Alternative 2 – Replacement in-kind. Install a new 80-mil membrane roof and additional insulation while reusing existing gravel ballast to provide a 30-year service life.

Cost Implications: Minimum of \$1.38M

Pros:

- (1) Advances Century Agenda goals.
- (2) Replaces project elements on the existing roofing system with various roof elements that have a 25-year life.
- (3) The cost of Alternative 2 is approximately \$826K less than the recommended Alternative 3.
- (4) Repairing and replacing various roof elements will provide the lowest total cost of ownership.
- (5) Helps to assure a stronger positive tenant experience and avoids potential safety hazards.
- (6) Proactive maintenance provides protection of Port assets.

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- (7) Provide for a warranted roof that will minimize the cost of repairs going forward for the foreseeable life of the roof.

Cons:

- (1) This alternative uses \$1.38M of capital funds that might otherwise be made available for other uses on other projects.
- (2) Additional ballast may be required once the re-used ballast is in place over the new membrane.
- (3) Achieves no environmental goals.

This is not the recommended alternative.

Alternative 3 – Upgrade and install a new 80-mil membrane overlay and additional insulation while reusing existing gravel ballast including the installation of 11,000sf Green Roof Technology that will have a 30+ year life.

Cost Implications: \$2,215,000

Pros:

- (1) Advances Century Agenda goals.
- (2) Upgrades and replaces project elements on the existing roofing system with various roof applications that have a 30+ year life.
- (3) The 30+ year life span of this roof system will protect this Port asset, serving the Port and the tenants well.
- (4) Helps to assure a stronger positive tenant experience and therefore preserves this building's revenue generation.
- (5) This project would provide for a warranted roof that will minimize the cost of repairs going forward for the foreseeable life of the roof.
- (6) Upgrading to Green Roof Technology conceals the roof from harmful ultraviolet light and sun rays, extending the life of the roof.
- (7) The live areas of the Green Roof will produce oxygen, provide stormwater retention, and also create habitat and a stopping point for pollinators.
- (8) Substituting areas of ballast with a Green Roof reduces the heat load to the building and therefore reduces reliance on the HVAC system for cooling.

Cons:

- (1) This alternative uses \$2.21M of capital funds that might otherwise be made available for other uses on other projects.
- (2) The cost of Alternative 3 is approximately \$826K more than Alternative 2.
- (3) Minor weed removal may be needed twice per year at a cost of \$1.5K per year.
- (4) Since this is a new technology, there is some unknowns associated with performance and tenant maintenance.

This is the recommended alternative.

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FINANCIAL IMPLICATIONS

Cost Estimate/Authorization Summary Total

COST ESTIMATE	
Current estimate	\$2,215,000
AUTHORIZATION	0
Previous authorizations	\$300,000
Current request for authorizations	\$1,915,000
Total authorizations, including this request	\$2,215,000
Remaining amount to be authorized	\$0

Annual Budget Status and Source of Funds

This project has been included in the 2022 Plan of Finance under C801104 P66 World Trade Center West Roof Replacement at an estimated total project cost of \$1,676,000. The additional estimated cost of \$539,000 will be funded by C800216 EDD Reserve.

This project will be funded by the Tax Levy.

Financial Analysis and Summary

Project cost for analysis	\$2,215,000
Business Unit (BU)	Portfolio Management
Effect on business performance (NOI after depreciation)	The project will maintain annual gross revenue of \$1.4 million from WTCW. Depreciation will increase by \$148K 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

Future Revenues and Expenses (Total cost of ownership)

This upgrade will provide protection of Port assets and extend their useful life of the roof system to achieve longevity and environmental goals. Maintaining existing assets and enhancing their environmental performance will preserve the economic vitality of our operations and serve the Port, tenants, and their customers well.

ATTACHMENTS TO THIS REQUEST

- (1) Sustainable Design Approach (SDA)/ Sustainable Design Strategy (SDS) Memo
- (2) Presentation

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

December 14, 2021 – The Commission authorized Design funding authorization.