



DATE: January 25, 2023

TO: Council Infrastructure Committee

FROM: Director of Public Works

SUBJECT: Water Pollution Control Facility (WPCF) Improvements - Phase II Project Administration Building Update

RECOMMENDATION

That the Council Infrastructure Committee (CIC) reviews and comments on this report.

SUMMARY

This report is presented to update the CIC on the new Administration Building that will be constructed as part of the WPCF Improvements – Phase II Project (Phase II Project). The project includes upgrades to the treatment process to reduce the discharge of nutrients to the bay in compliance with the Regional Water Quality Control Board’s upcoming 2nd Watershed Permit. Construction of a new Administration Building and Laboratory is a key component of the overall Phase II Project.

The Water Pollution Control Facility (WPCF) treats an average flow of approximately eleven million gallons per day (MGD) and meets current regulatory requirements for discharge of treated effluent to the deep waters of the San Francisco Bay (Bay). In May 2019, the Regional Water Quality Control Board (Water Board) announced upcoming regulatory requirements limiting discharge of nutrients (nitrogen) to the Bay. In June 2020, the City completed a comprehensive master plan update, the WPCF Phase II Facilities Plan (Facilities Plan), to identify improvements required for the WPCF to upgrade its treatment process to incorporate nutrient reduction in the treated effluent to meet the upcoming requirements.

As part of the Facilities Plan, planning was completed for a new Administration Building and Laboratory that included building programming needs, space planning, and identification of laboratory space needs for housing essential laboratory processes. On July 5, 2022, Council authorized an agreement with Brown and Caldwell (B&C) to begin preliminary design services for the Phase II Project. The preliminary design phase builds upon the Facilities Plan to further refine the building layout, confirms space needs, allows development of architectural elevations, and provides an update to the conceptual cost estimate provided in the Facilities Plan. Following preliminary design, staff will pursue funding and environmental reviews of the project in parallel with final design of the building.

BACKGROUND

On February 27, 2018¹, Council approved execution of a professional services agreement (PSA) with Black & Veatch (B&V) to develop a comprehensive Facilities Plan to identify improvements needed to meet regulatory requirements related to discharge of nutrients to the Bay. As part of the Facilities Plan, B&V was tasked with performing a schematic design and site planning for a new Administration Building and Laboratory. On October 23, 2019², an update on the Phase II Facilities Plan was presented to Council Infrastructure Committee that included site plan, floor plans, and conceptual building exterior elevations.

On July 5, 2022, City Council authorized entering into a contract with Brown and Caldwell (B&C) for preliminary design services for the Phase II Project. Preliminary design activities include confirming the space planning needs developed in the 2019 Facilities Plan, confirming overall building size, preparing 3D conceptual massing models of facility alternatives, preparing schematic preliminary design drawings for the preferred alternative, and preparing schematic-level perspective views. An updated basis of design technical memorandum summarizing the building design criteria, program of spaces, alternatives analysis, and preferred layout will also be developed, and a preliminary 30% design level cost estimate included.

The building will be designed for LEED Silver certification and will be of all electric design.

DISCUSSION

The main goal of the Phase II Project is to construct improvements necessary for nutrient reduction in compliance with the Water Board's 2nd Nutrient Watershed Permit early actor provisions. The design services contemplated for this project include: funding assistance and environmental documentation; preliminary design; final design; engineering services during construction; startup assistance; and preparation of an Operations and Maintenance Manual.

The project will be split into three separate bid packages. The Administration and Laboratory Building will be the first project, followed by the Primary Equalization Basin (EQ Basin) Relocation Project, and then the WPCF Improvements Phase II Project. The primary advantage of constructing the Administration and Laboratory Building as a separate project includes being able to attract building contractors who specialize in building and laboratory construction specifically bidding as the prime (general) contractor thereby avoiding subcontractor markups. In addition, by starting the building early, Operations and Maintenance staff can move into the new building early, minimizing impacts to staff during construction of the Phase II Project. On December 6, 2022³ Council authorized final design services of the Administration Building and Laboratory.

¹ <https://hayward.legistar.com/LegislationDetail.aspx?ID=3354003&GUID=015931F3-41B1-45E5-8345-F8440FF11A26&Options=&Search=>

² <https://hayward.legistar.com/LegislationDetail.aspx?ID=4199607&GUID=A563E6F4-8E79-4E24-8515-DB7B78F67824&Options=&Search=>

³ <https://hayward.legistar.com/LegislationDetail.aspx?ID=5955245&GUID=00AFFC5A-9512-4A36-8AF4-D7F5022920FD&Options=&Search=>

New Administration and Laboratory Building

The existing Administration and Laboratory Building was originally constructed in 1970. In 1995, the building was expanded to accommodate additional space needs for the laboratory. In recent years, the WPCF has seen increased staffing levels due to increased regulations and required operation and maintenance activities. Engineering staff are currently housed in a temporary trailer at the WPCF site. Staffing levels are anticipated to continue to increase with the recycled water system as well as the expansion of the treatment process to incorporate nutrient reduction. Consequently, the existing facilities can no longer accommodate the space needs and functional requirements of current and future daily operations. In addition, the laboratory area is inadequate to support the projected growth of laboratory operations and to house the new equipment needed for future regulatory compliance.

As part of the Facilities Plan, the space needs of the WPCF staff and laboratory were evaluated and multiple design alternatives developed. A schematic design and site plan for a new 19,750 square foot Administration and Laboratory Building was presented to the CIC on October 23, 2019⁴. In July 2022, the preliminary design phase of the WPCF Improvements Phase II Project began, which included review of the programming needs assessment with City staff to confirm that previous assumptions are still valid and to confirm the overall building size. Staff identified an additional 2,050 square feet of space was required to accommodate a mechanical room, fire riser, electrical room, SCADA/IT room, a slightly larger control room, and an additional office for engineering staff. The revised building total area is 21,800 square feet. In addition, the location of the building was shifted on the site to avoid conflict with essential medium voltage ductbanks that provide power to both the main switchgear and the East Trickling Filter substation. This resulted in a reconfiguration of the building and layout on the site. The revised building layout is included in Attachment II. A design workshop was held at the end of November where the architect presented design inspirations and preliminary exterior concept design views for consideration. A copy of the presentation materials is included in Attachment III. A color study was presented to City staff in January 2023 with preferred color and building elevations included in Attachment IV.

ECONOMIC IMPACT

A planning level cost estimate for the Administration Building and Laboratory was prepared in October 2022. The total estimated construction cost for the building is estimated to be \$25 million with a planning level cost accuracy of -15% to +50%.

It is anticipated that these improvements will affect sewer service rates and sewer connection fees; however, the extent to which rates will need to be adjusted cannot be determined with certainty at this point. It is anticipated that customers could see a significant impact of 20% or more over the current rates. Staff intends to aggressively pursue grants and low-interest loans to minimize the impact to customers. It is also worth noting that Hayward's sewer-related fees are currently among the lowest in the area and that all wastewater treatment facilities discharging to the San Francisco Bay will ultimately be required to implement nutrient removal technologies.

⁴ <https://hayward.legistar.com/LegislationDetail.aspx?ID=4199607&GUID=A563E6F4-8E79-4E24-8515-DB7B78F67824&Options=&Search=>

Funding assistance for the project is included in the consultants' scope of work. Funding efforts will pursue financing under both the California Clean Water State Revolving Fund (CWSRF) loan program and the U.S. Environmental Protection Agency (USEPA) Water Infrastructure Finance and Innovation Act (WIFIA) program. WIFIA funding is typically at a slightly higher interest rate than SRF; however, the payback period is deferred by up to five years after substantial completion of the project. SRF loans payback period begins one year after substantial completion. Up to 49% of the project cost is eligible under WIFIA funding, with payback beginning five years after substantial completion of improvements. Therefore, staff will pursue both avenues of funding as part of this project.

FISCAL IMPACT

The not-to-exceed professional services contract amount will be \$24,737,324. This is a multi-year contract that covers design through the completion of construction including startup assistance and training. This project is anticipated to take six years to complete. On July 5, 2022, Council authorized the City Manager to execute a PSA with B&C in an amount not-to-exceed \$3,849,711 for preliminary design services for the Phase II Project.

The funding for this contract will be allocated from the Sewer Improvement Fund, 612-07660. A total of \$8 million is available in design services in FY22-23. In December 2022, staff requested partial authorization of final design services in the amount of \$4.8 million so that work could begin on the geotechnical investigation for the Phase II project, and so final design can begin for the Administration Building and Laboratory. Final design services for the Phase II improvements are anticipated to begin in August 2023. In June 2023, staff will return to request award of the remaining portion of final design services for the Phase II Project.

As noted above, staff is planning to apply for a State Revolving Fund loan, and funding from WIFIA to finance the project. Both funding sources can be applied to fund multiple projects, as well as retroactively reimburse for engineering design services. As the design progresses, the estimated project cost is expected to be adjusted, especially as construction costs become better defined in the future as the design is more complete. Budget adjustments will be brought forward to Council through the annual budget approval process.

STRATEGIC ROADMAP

This agenda item supports various goals of Council's Strategic Roadmap. The WPCF Improvements Phase II Project will address infrastructure needs and improvements to increase the reliability of the City's treatment plant, and construct process improvements to meet more stringent nutrient limits in accordance with upcoming regulatory requirements, while supporting the goals of the City Council. Specifically, this item relates to the implantation of the following projects:

Confront Climate Crises & Champion Environmental Justice.

Mitigate Climate Crisis Impacts through Resilient Design and Community Engagement

Project C14b: Implement Shoreline Master Plan, including mitigating sea level rise in the industrial corridor through building requirements and outreach

Invest in Infrastructure.

Invest in Water Supplies, Sanitation Infrastructure & Storm Sewers

Project N19: Update Water Pollution Control Facility Phase II Plan

SUSTAINABILITY FEATURES

The WPCF Improvement Project Phase II will help maintain and improve the biology and health of the Bay, which is vital for the region and the State. The Phase II Project will also satisfy the early actor requirements specified in the Water Board's 2nd Watershed Permit to reduce nitrogen loads to the Bay.

The effects and risks of rising sea water levels will be reviewed and incorporated into the design of the new facilities.

The Administration and Laboratory Building will be reviewed by the Building Division for conformance with State and local requirements related to sustainability (i.e., California Building Code, California Energy Code, etc.) that require a minimum level of energy efficiency, resource conservation, material recycling, etc. The building will be designed to be all electric and will not use any natural gas for heating or for lunch room appliances such as ovens and stoves. In addition, the building will be designed and constructed to meet Leadership in Energy and Environmental Design (LEED) standards for a Silver Certification, or better.

PUBLIC CONTACT

As part of the funding process, an environmental study (CEQA and/or Initial Study and Mitigated Negative Declaration) will be posted for public review and comment. In addition, a public hearing will be held to review the environmental study.

The project will include a web page to be hosted on the City's website with periodic updates throughout the multi-year duration of the project.

NEXT STEPS

The following schedule has been developed for this project:

Award of Professional Services Agreement – Approval for Authorization of Preliminary Design Services for the Phase II Project	July 5, 2022
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City Council Authorization to Award Final Design Services for the Administration and Laboratory Building and Primary Effluent Equalization Basin Relocation Projects	December 2022
City Council Authorization to Award Final Design and Engineering Services During Construction for the Phase II Project	June 2023
Award of Professional Services Agreement for Third Party Construction Management including Value Engineering and Constructability Review for the Phase II Project	June 2023
Approval of Environmental Study – IS/MND or CEQA	December 2023
Approval of Plans and Specifications and Call for Bids for the Administration and Laboratory Building	December 2023
Approval of Application for WIFIA and SRF Loans	January 2024
Award of Construction Contract for the Administration and Laboratory Building Project	February 2024
Approval of Plans and Specifications and Call for Bids for the Primary Effluent Equalization Facility Relocation Project	May 2024
Award of Construction Contract for the Primary Effluent Equalization Facility Relocation Project	July 2024
Approval of Plans and Specifications and Call for Bids for the Phase II Improvements Project	July 2024
Award of Construction Contract for the Phase II Improvements Project	February 2025
Administration and Laboratory Building Project Construction Completion	December 2025
Primary Effluent Equalization Facility Relocation Project Construction Completion	June 2026
Phase II Improvements Project Construction Completion	July 2028

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Recommended by: Alex Ameri, Director of Public Works

Approved by:



Kelly McAdoo, City Manager