



City Council Staff Report

From: City Manager

Report Type: CONSENT CALENDAR

Lead Department: Public Works

Meeting Date: June 10, 2024

Report #:2405-2993

TITLE

Approval of Professional Services Contract Number C24189086 with Carollo Engineers, Inc. in the Total Amount Not-to-Exceed \$2,742,774 for Preparation of the Long Range Facilities Plan Update for the Regional Water Quality Control Plant for a Period of Two and a Half Years; CEQA Status – Not a Project

RECOMMENDATION

Staff recommends that the City Council approve and authorize the City Manager or their designee to execute Contract No. C24189086 with Carollo Engineers, Inc., for preparation of the Long Range Facilities Plan Update for the Regional Water Quality Control Plant (RWQCP) for a term of two and a half years and a total amount not-to-exceed \$2,742,774, including \$2,493,431 for basic services and \$249,343 for additional services.

EXECUTIVE SUMMARY

Staff issued a Request for Proposals from Consultants to perform an update to the RWQCP's 2012 Long Range Facilities Plan (LRFP)¹ and recommends a contract be awarded to Carollo Engineers, Inc. Selection and award of a professional services agreement has been through formal solicitation of proposals, review of work plan and costs, and assessment of quality of services. Approval of Contract Number C24189086 (Attachment A) with Carollo Engineers, Inc. will initiate the LRFP Update that will allow for: 1) recommendation of a potential biosolids processing facility either at the Measure E site (formerly part of Byxbee Park, immediately adjacent to the Plant's southeast boundary), inside the plant fence line, and/or offsite operated by others; 2) advanced planning analysis for workspace needs, to allow the City to make timely decisions on land use and land acquisition possibilities to address RWQCP's workspace needs; 3) development of a re-prioritized 50-year capital improvement program (CIP) for improving the reliability and efficiency of the RWQCP based on updated regulatory and emerging contaminant

¹ Long Range Facilities Plan for the Regional Water Quality Control Plant, 2012;
<https://www.cityofpaloalto.org/files/assets/public/public-works/water-quality-control-plant/lrpf-final-report-08-2012.pdf>

issues; and 4) recommendation of a potential alternative basis for allocation of Capital and O&M costs among the partner agencies.

BACKGROUND

The City owns and operates the RWQCP, which provides treatment and disposal of wastewater for the cities of Palo Alto, Mountain View, and Los Altos; the Town of Los Altos Hills; the East Palo Alto Sanitary District; and Stanford University. The RWQCP has a design capacity of 39 million gallons per day (mgd), average daily treated flow of 20 mgd, and a wet weather capacity of 80 mgd.

In 2012, a LRFP was completed to identify the improvement needs at the RWQCP for continued, compliant operations. The LRFP was accepted by the City Council on July 2, 2012² and staff have been working on implementing the CIP program.

On June 19, 2023, staff provided an Information Report that included a RWQCP capital improvement program update and discussed the need for additional long range facilities planning.³ In the report, staff explained a plan to solicit proposals and return to Council for approval of a professional services contract to perform the LRFP Update. Staff further shared that the scope of work for the LRFP Update would include: (a) work space planning advanced to a 10% design level; (b) an update to the 2014 Biosolids Facilities Plan⁴ and 2019 Biosolids Facilities Plan Update;⁵ (c) an evaluation of regulatory and emerging contaminant issues as they relate to capital infrastructure; (d) development of a recommended capital program and update of capital costs and scopes from the 2012 LRFP; (e) a cost of service analysis; and (f) a capital cost sharing methodology evaluation and recommendation for debt-serviced projects.

² City Council, July 2, 2012; Agenda Item #1; SR#2914, <https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmr/year-archive/2012/id-2914.pdf>

³ City Council, June 19, 2023; Agenda Item #44; SR#2305-1396, <https://www.cityofpaloalto.org/files/assets/public/v/1/public-works/staff-reports-all/2023/id.-2305-1396-update-on-the-capital-improvement-program-and-long-range-facility-planning-update-for-the.pdf>

⁴ CH2MHill (Now Jacobs). Palo Alto Regional Water Quality Control Plant Biosolids Facility Plan, 2014; <https://www.cityofpaloalto.org/files/assets/public/public-works/environmental-compliance/water-quality/2010-rwqcp-master-planning/parwqcp-biosolids-facility-plan-final.pdf>

⁵ Woodard & Curran. Palo Alto Regional Water Quality Control Plant Biosolids Facility Plan Update, 2019; https://www.cityofpaloalto.org/files/assets/public/public-works/water-quality-control-plant/sludge-dewatering-building/finaldraft_palo_alto_bfp_update.pdf?t=47012.05

Biosolids Facilities Plan (BFP) Update

The 2014 Biosolids Facilities Plan (BFP) evaluated and recommended biosolids technologies to replace incineration and developed a biosolids disposal plan. The recommendation was to construct a Phase I sludge dewatering and truck loadout facility, which was subsequently constructed, commissioned, and operated since 2019. The new dewatering facility allowed decommissioning of the aging incinerators as outlined in the LRFP plan as well as eliminating the largest source of greenhouse gas (GHG) emissions from City facilities. The 2014 BFP plan recommended a future Phase II that would include anaerobic digestion facilities (thermal hydrolysis processing (THP) of biosolids followed by mesophilic anaerobic digestion (MAD) with a combined heat and power (CHP) facility to utilize the biogas), as recommended based on economic and non-economic factors. Upon further project definition and design development, the estimated capital cost and complexity increased, leading to an abandonment of Phase II in early 2015.

A BFP Update was completed in 2019 to re-evaluate long-term biosolids management and energy recovery alternatives, inside the plant fence line. The ultimate outcome for the near-term was to continue hauling sludge offsite and treating dewatered sludge at regional treatment facilities which would handle beneficial reuse. On June 18, 2018, the City approved five-year contracts for offsite biosolids processing at two different regional treatment facilities (Lystek International Limited and Synagro-WWT, Inc) through March 31, 2024. To transport sludge to the treatment facilities, City Council approved a three-year contract⁶ with Denali Water Solutions, LLC (Denali) on June 18, 2018 for sludge hauling services through March 31, 2022. A new contract⁷ for sludge hauling, again with Denali, was approved on January 24, 2022 for three more years of hauling services beginning April 1, 2022 and ending March 31, 2025. New five-year contracts⁸ were signed in February 2024, again with Lystek and Synagro, for offsite sludge treatment services for a term of April 1, 2024 to March 31, 2029.

On April 3, 2023, the City Council directed staff to report back to Council to determine if the 3.5-acre portion of the Measure E site, immediately adjacent to the Plant's southeast boundary,

⁶ City Council, June 18, 2018; Agenda Item #9; SR #8913, <https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmr/yr-archive/2018/id-8913-approve-three-public-works-contracts-for-sludge-hauling-and-offsite-treatment-services.pdf>

⁷ City Council, January 24, 2022; Agenda Item #3; SR # 13520, <https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/agendas-minutes/city-council-agendas-minutes/2022/20220124/20220124pccsm-amended-linked-cq-added.pdf>

⁸ City Council, February 12, 2024; Agenda Item #4; SR#2309-2048, <https://www.cityofpaloalto.org/files/assets/public/v/1/public-works/staff-reports-all/2024/id.-2309-2048-approval-of-two-general-services-contracts-in-the-wastewater-treatment-enterprise-fund.pdf>

should be used by the Wastewater Treatment Fund for a biosolids facilities process (i.e., “an environmental technology” as defined in the Measure E ballot language).⁹

The LRFP Update will include a Biosolids Facilities Plan Update to identify a layout and siting concept for near- and long-term solutions (e.g., an alternative evaluation of pyrolysis, anaerobic digestion, offsite treatment, etc.), including locating the biosolids technology and facilities on the plant site, the Measure E site, and/or offsite for treatment by others. The BFP Update will take into consideration the following additional factors in the evaluation and recommendation of near- and long-term solutions:

- increased off-site sludge hauling and treatment services costs;
- changing regulatory and biosolids market landscape with the implementation of Senate Bill (SB) 1383 and the possibility of future per- and polyfluorinated substances (PFAS) limits, which impacts biosolids disposal options;
- further development of new solids processing technologies and availability of potential regional partnership opportunities;
- ongoing secondary treatment upgrades that are expected to increase waste activated sludge (WAS) production by approximately 34% and total sludge production by 10%; and
- decreasing wastewater flows leading to increased waste strength.

Workspace Facility Plan

The 2012 LRFP identified the need to construct new workspaces for RWQCP staff to meet future staffing levels, workspace upgrades, and safety and code updates. In 2019, an early construction cost estimate for the total project cost for the previously planned new Operations Center workspace, per scope from 2012 LRFP, was \$52 million (2026 dollars), much higher than anticipated in the LRFP.

The LRFP Update will include an advanced workspace planning analysis to evaluate alternative opportunities to a singular, new workspace building at the Plant, including: rehabilitating and repurposing current Operations and Administration buildings; procurement possibilities for supplemental real estate; office lease options; and a new on-site building, to house several different combinations of workgroups as well as to provide a new laboratory.

Cost of Service Analysis

Since the 1980s, partner agencies’ operating budget and minor CIP expense cost components are set at 34% flow, 22% ammonia, 22% total suspended solids, and 22% chemical oxygen

⁹ City Council, April 3, 2023; Agenda Item #12; SR 2303-1145, <https://www.cityofpaloalto.org/files/assets/public/agendas-minutes-reports/reports/city-manager-reports-cmrs/2023/sr-2302-0942.pdf>

demand. Partners established the current fixed allocated capacity shares in about April 1985, as shown in Tables 1 and 2:

Table 1: Maximum Flow Capacity Rights Expressed in Annual Average Flow, Million Gallons Per Day						
Los Altos	Mountain View	East Palo Alto Sanitary District	Stanford University	Los Altos Hills	Palo Alto	Total
3.8	15.1	3.06	2.11	0.63	15.3	40

Table 2: Fixed Capacity Share of Capital Assets for Debt Service Share						
Los Altos	Mountain View	East Palo Alto Sanitary District	Stanford University	Los Altos Hills	Palo Alto	Total
9.47%	37.89%	7.64%	5.26%	1.58%	38.16%	100%

The LRFP Update will include a cost-of-service analysis, reviewing actual operating expense cost data and its relation to flow and wastewater pollutant load data (specifically, water quality, strength, and pollutant loading characteristics). The City will use the results of this task to establish the operating expense cost data per generally accepted accounting principles to potentially change the allocation of total costs to be billed on an annual basis for each of the six partner agencies. Furthermore, in the LRFP Update, the flow allocations (in million gallons per day) and potential new load allocations (e.g., pounds per day of a particular pollutant) for debt financed capital infrastructure share allocations will be assessed. Staff will work with partner agencies on proposed changes and return to Council for review and direction regarding any recommended changes.

Evaluation, Identification and Prioritization of 50-year Capital Project Needs

Following the 2012 LRFP recommendations, the RWQCP has implemented or started major plant upgrades, including:

- Construction and commissioning of a new solids dewatering facility and retirement of aging incinerators in 2019.
- Upgrading the secondary treatment process to a process that achieves biological nutrient removal using a step-feed activated sludge system coupled with a Membrane Aerated Biofilm Reactor (MABR) process in the existing aeration basins. This project, under construction from 2023 through 2028, will improve final effluent quality and ensure the Plant will meet a new regulatory total inorganic nitrogen effluent limit expected in 2034.
- Planning and preliminary design of a new Headworks Facility to replace and upgrade the raw sewage pumping system and preliminary treatment processes for rags, debris, and grit removal.

The LRFP Update will include engineering analysis to: 1) evaluate the impact of evolving future regulations on nutrient removal, emerging contaminants of concern, biosolids disposal, and air emissions on existing infrastructure upgrade or improvement needs; and 2) re-evaluate,

identify, and re-prioritize remaining capital improvement program needs over the next 50 years to assure the Plant's reliable operation as a regulatory compliant facility.

ANALYSIS

The City requires the services of a qualified and experienced engineering firm to perform an update to the Long Range Facilities Plan (2012) for the RWQCP. The consultant's scope of work is summarized below:

- Biosolids Facility Plan Update (BFP Update);
- Workspace planning;
- Background and baseline information (wastewater flow and load projections, recent and ongoing plant improvements, process modeling and capacity assessment, regulatory review);
- Existing plant infrastructure and process assessment;
- Identification, evaluation, and recommendation of alternatives / improvements;
- Cost of services analysis; and
- Long Range Facilities Plan Update report.

Summary of RFP Solicitation

A request for proposals (RFP) for the project was posted on August 30, 2023 on OpenGov, the City's eProcurement platform, and 2,835 vendors were notified. The solicitation period was posted for 160 days; one (1) proposal was received. The solicitation closed on February 6, 2024. Table 3 shows a summary of the RFP solicitation.

Table 3: Summary of Request for Proposal	
Proposal Description	Long Range Facility Plan Update, RFP189086
Proposed Length of Project	20 to 30 months
Request for Proposal Issued	8/30/2023
Number of Vendors Notified	2835
Total Days to Respond to Proposal	160
Number of RFP Packages Downloaded	35
Pre-Proposal Meeting and Date	9/18/2023 (mandatory); 11/20/23 (non-mandatory)
Number of Company Attendees at Pre-proposal meeting(s)	7 firms
Number of Proposals Received	1
Number of Companies Interviewed	1
Final Negotiated Contract Price (Basic Services)	\$2,493,431

Public Link to Solicitation	https://procurement.opengov.com/portal/palo-alto-ca/projects/57268
-----------------------------	---

Post-Solicitation Vendor Survey

After the proposal due date, surveys were conducted by Administrative Services Department Purchasing staff. Vendors who attended the Pre-Proposal meeting(s) but did not propose were asked to provide feedback regarding why they did not propose. The survey indicated the following reasons: 1) they did not have the necessary resources; 2) they were not able to put together a competitive team; 3) they did not have a project manager with the necessary experience for this project; 4) they were focused on pursuing other project(s); 5) the key biosolids staff for leading the Biosolids Facility Plan Update in this project were not available at the time of the RFP/solicitation; 6) they did not have advanced knowledge of the project and therefore not in a position to provide best team/services; and 7) they could only serve as a subcontractor to a larger prime firm.

Evaluation of Proposals

An evaluation committee consisting of the RWQCP engineering staff reviewed the proposal received. The proposal firm consisted of one prime consultant, Carollo Engineers, Inc (Carollo), and two subconsultant firms including Jacobs Engineering, Inc (Jacobs) and Bartle Wells Associates (BWA). The committee carefully reviewed the proposal team's qualifications and submittal in response to the criteria identified in the RFP, including quality and completeness of proposal; cost; quality and effectiveness of services; and experience of their staff with projects of similar complexity and scope. The proposal was evaluated and determined to be responsive to the criteria identified in the RFP.

During Carollo's presentation and interview, their team members (including those from the subconsultants) showcased their relevant previous master planning experience, demonstrated a thorough understanding of the RWQCP's needs for this planning project, and shared good perspectives on how the existing site will be best planned and reserved for future RWQCP facilities.

Carollo, with Jacobs and BWA as subconsultants, was selected for this project because of: a) the quality, innovation, and thoroughness of Carollo's proposed work plan; b) the depth of the key team members' professional experience, especially in regional planning, biosolids management, workspace planning, and working with the public, as demonstrated in their previous work and during their presentation; c) Carollo's understanding of the City's needs and objectives; and d) Prior record of good performance with the City.

During the contract negotiation, in the spirit of collaboration, Carollo agreed to reduce their original proposal fee of \$2,824,806 by \$331,335 to a final fee of \$2,493,431, without reducing the scope of work on the basic services. This reduction amounts to a 12% fee decrease,

achieved primarily by Carollo's refinement of scope tasks after additional Carollo review and City explanation of background information.

The work is anticipated to commence in the third quarter of 2024, with a total project duration of two and a half years.

FISCAL/RESOURCE IMPACT

Funding for this contract is included in the Fiscal Year 2025 Proposed Capital Budget for the Plant Repair, Retrofit, and Equipment Replacement project (WQ-19002) and is subject to Council approval as part of the annual budget development process.

STAKEHOLDER ENGAGEMENT

This project is part of the RWQCP's capital improvement program funded by the City of Palo Alto and its five partner agencies who use the RWQCP for wastewater treatment. City management staff has been kept apprised of this project through RWQCP Monthly Strategies and Challenges Meetings. The need for this LRFP Update was also discussed in RWQCP capital improvement program update in previous Information Report to City Council. The open meetings on the budget process serve as the main venue for engaging the community on this project. The five partner agencies are regularly updated on both the need for and the progress of wastewater treatment capital work, including this project. Updates are provided each year at an annual meeting and at other periodic meetings established to inform partner agency staff about the major capital improvement program.

Topics related to the scope of work of this project will be presented through meetings and sessions with the Utilities Advisory Commission, Palo Alto City Council and Finance Committee, Partner Agencies, and public workshops.

ENVIRONMENTAL REVIEW

Council action on this item is not a project as defined by the California Environmental Quality Act (CEQA) because the LRFP Update is an administrative activity that will not result in direct or indirect physical changes in the environment. CEQA Guidelines section 15378(b)(4). The LRFP Update will help inform the planning and design of future facilities at the RWQCP and environmental review will be performed during development of any resulting projects, as necessary.

ATTACHMENTS:

Attachment A: Contract C24189086 with Carollo Engineers, Inc

APPROVED BY:

Brad Eggleston, Director Public Works/City Engineer