

# Memorandum

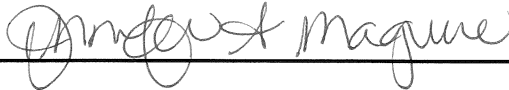
**TO:** HONORABLE MAYOR  
AND CITY COUNCIL

**FROM:** Kerrie Romanow  
Jon Cicirelli

**SUBJECT:** SEE BELOW

**DATE:** January 31, 2018

Approved



Date

1-31-18

## INFORMATION

**SUBJECT: EARLY WORK PACKAGE 2 FOR CONSTRUCTION OF CIVIL SITE WORK AND FOUNDATIONS FOR THE COGENERATION FACILITY AT THE SAN JOSE-SANTA CLARA REGIONAL WASTEWATER FACILITY**

The purpose of this memorandum is to inform the City Council about a major milestone for the Cogeneration Facility at the San José-Santa Clara Regional Wastewater Facility (RWF).

On April 26, 2016, City Council approved the design-build contract with CH2M HILL Engineers, Inc. for the Cogeneration Facility at the RWF ([link](#)). The City Council also authorized the City Manager to negotiate and execute separate agreements and/or amendments to the contract, referred to as “Early Work Packages,” for early procurement and other work, prior to the City’s execution of the definitive contract amendment, up to a maximum of \$30,000,000.

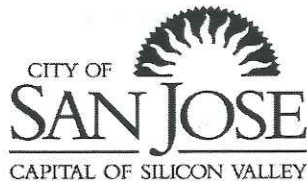
On May 24 2017, the City Manager approved Early Work Package 1, which authorized the procurement of engine generators and a gas purification system, in an amount not to exceed \$24,411,351. The attached memorandum, approved by the City Manager on October 23, 2017, authorizes Early Work Package 2, which provides for the construction of civil site work and building foundations for the Cogeneration Facility, in an amount not to exceed \$3,951,611. The contract amendment related to Early Work Package 2 is not attached to this information memorandum due to its size; however, it is available for viewing at the Office of the City Clerk.

/s/ Ashwini Kantak for  
KERRIE ROMANOW  
Director of Environmental Services

/s/  
JON CICIRELLI  
Acting Director of Public Works

For questions, please contact John Cannon, Principal Engineer, Department of Public Works, at (408) 635-4006.

Attachment



# Memorandum

**TO:** David Sykes

**FROM:** Kerrie Romanow  
Barry Ng

**SUBJECT:** SEE BELOW

**DATE:** October 17, 2017

Approved

*D. D. Sykes*

Date

*10/23/17*

**SUBJECT: APPROVAL OF EARLY WORK PACKAGE 2 FOR THE DESIGN AND CONSTRUCTION OF THE COGENERATION FACILITY AT THE SAN JOSE-SANTA CLARA REGIONAL WASTEWATER FACILITY**

## RECOMMENDATION

Approve the Early Work Package 2 (EWP 2) Amendment to the Design Build Contract (Contract) with CH2M HILL Engineers, Inc. (CH2M) for civil site preparation and foundation work for the Cogeneration Facility at the San José-Santa Clara Regional Wastewater Facility<sup>1</sup> (RWF) in an amount not to exceed \$3,951,611 including a Design-Builder contingency in the amount of \$223,676.

## OUTCOME

City Manager's approval of the EWP 2 Amendment will allow for the civil site preparation and foundation construction work under the Contract for the Cogeneration Facility Project (Project). The early civil site work and foundation construction provide schedule certainty for these critical elements of the Project. In the event the City and CH2M are unable to agree on a Guaranteed Maximum Price (GMP) to complete the overall Project, the EWP 2 Amendment provides a concrete equipment pad where the engine generators may be delivered and securely stored until a different entity can complete the remainder of the project.

## BACKGROUND

In 2012, the City completed an Energy Management Strategic Plan that assessed the RWF's existing and future power demands and condition of the existing energy systems. The study

<sup>1</sup> The legal, official name of the facility remains San José/Santa Clara Water Pollution Control Plant, but beginning in early 2013, the facility was approved to use a new common name, the San José-Santa Clara Regional Wastewater Facility.

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identified existing, aging cogeneration equipment as a critical issue that would need to be addressed to maintain onsite production of a reliable supply of power and heat. In 2013, the City engaged the consulting firm Black & Veatch Corporation (Black & Veatch) to prepare the Cogeneration Facility Project Definition Report (PDR), which served as the guiding document for the development of a basis of design for the new Cogeneration Facility.

On October 7, 2014, the City Council adopted Resolution No. 77180, approving the use of the design-build project delivery method for the Cogeneration Facility pursuant to State Law. Staff recommended using the design-build delivery method to complete the Project because of the potential for expedited project delivery, improved project coordination, potential cost savings, design innovation and efficiencies, and single point of contracting responsibility.

On April 26, 2016, the City Council adopted Resolution No. 77729 and 77730 authorizing the Contract with CH2M in an amount not to exceed \$5,656,000 for Preliminary Services, and authorizing the City Manager or his designee to negotiate and execute certain amendments and change orders related to the Contract, subject to budgetary constraints and appropriation of funds, including:

- Negotiate and execute a Definitive Contract Amendment to the Contract with CH2M with a GMP amount not to exceed \$82,884,000 for the design-build work to be performed following the preliminary design services;
- Approve a Design-Build Contingency in the amount of \$8,288,000; and
- Negotiate and execute separate agreements and/or amendments to the Contract to allow CH2M to proceed with discrete portions of the design-build work (i.e., Early Work Packages) prior to the City's execution of the Definitive Contract Amendment in a total amount not to exceed \$30,000,000, which amounts will be subject to the not to exceed GMP.

The Contract is a GMP contract, meaning that the City will pay CH2M on a defined cost-reimbursable basis subject to a maximum limit (i.e., the GMP), above which the City is not obligated to pay for services that are not otherwise subject to reimbursement under the Contract. The Contract's structure is generally outlined below:

1. The Contract provides for a fixed fee for the Preliminary Services, which includes a 30% and 60% design submittal and CH2M's Definitive Contract Amendment proposal (as described below).
2. After submitting its 60% design, CH2M is obligated to make a good faith proposal to the City in the form of the Definitive Contract Amendment which will include: (1) a Base GMP for the Design-Build Price, including Early Work Packages; (2) a schedule for completion of the Design-Build Work; (3) the technical specifications and guaranteed

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performance capabilities for the Facility, (4) the Transition Services and the fee to be charged therefore; (5) the insurance requirements for the Design-Build Work; and (6) amendment of other terms and conditions of the Contract necessary to accomplish the foregoing.

3. The Contract allows the parties to agree to separate agreements and/or amendments to the Contract to allow CH2M to proceed with discrete portions of the Design-Build Work ("Early Work Packages") prior to the City's execution of the Definitive Contract Amendment. Early Work Packages are expected to include: (1) procurement of the engine generators and gas treatment system (EWP 1 Amendment, as described below); (2) civil site preparation and foundation work (EWP 2); (3) design services to advance design from 60% to 100% (EWP 3).
4. If the parties reach agreement on the Definitive Contract Amendment, CH2M proceeds to final design and construction in accordance with the established Project schedule.
5. Should the parties fail to agree to the Definitive Contract Amendment, the City is under no obligation to proceed with any further work by CH2M, except as has been authorized by the Early Work Packages. The parties may, however, negotiate a separate agreement for CH2M to advance design to the 100% level so the City could solicit bids for the construction of the Project by a different entity.

On May 24, 2017, the City Manager approved EWP 1 Amendment to the Contract for procurement of engine generators and gas treatment equipment for the Project in an amount not to exceed \$24,411,351, including a Design-Builder contingency in the amount of \$966,084 and optional work in the amount of \$762,045. The early procurement of engine generators and gas treatment system equipment provides price and schedule certainty for this critical, long-lead time equipment. The engine generators are currently being manufactured and are expected to arrive on site in April 2018.

## **ANALYSIS**

CH2M is proceeding with design of the Project as part of Preliminary Services under the Contract. In consultation with City staff, CH2M led the process to develop a scope of work and pricing for the civil site preparation and foundation construction work for the Project. CH2M worked with their key subcontractor and teaming partner, C. Overaa & Co. (Overaa) to develop bid packages, obtain competitive bids from subcontractors and vendors, price work to be self-performed, and develop a cost model for this Early Work Package 2. Those efforts, and parallel design efforts under the Preliminary Services contract, resulted in a technical and cost submittal package for EWP 2 from CH2M, as required by the Design-Build Contract.

The EWP 2 technical and cost submittal from CH2M was reviewed by City staff and the City's Technical Support Services consultant, Black & Veatch, to assess the suitability of the proposed scope of work, evaluate the adequacy of the plans and specifications, and validate the proposed pricing in CH2M's cost model. The EWP 2 Amendment is priced as a GMP contract, meaning that the City will pay CH2M on a defined cost-reimbursable basis subject to a maximum limit (i.e., the GMP). The EWP 2 work will be covered by the City's Owner Controlled Insurance Program (OCIP) which was recently established for the RWF Capital Improvement Program (CIP).

### ***Project Risks***

The approval of the EWP 2 Amendment does come with some risk to the City. In the unlikely event the City and CH2M cannot agree to a GMP, and terminate the design-build contract for convenience, the City has the option to direct CH2M to complete the scope of work under EWP 2 Amendment. The decision on whether to complete the work under EWP 2 will be directly influenced by the City's decision regarding termination of EWP 1 for engine generators and gas treatment equipment.

For example, if the City decides to terminate the Design-Build Contract within the next few months, the City could elect to cancel the orders for the engine generators and gas purification system under EWP 1. In that case, the City would likely cancel EWP 2 work as well. If this were to occur, the City would be responsible for paying the compensation owed for design-build work performed as of the termination date plus reasonable costs incurred by CH2M for EWP 1 and EWP 2 as a result of the convenience termination.

If, however, the City decides to terminate the contract after the engines have been manufactured, the City would likely elect to complete the purchase of the equipment and transfer it to a new contractor to be procured later. In this instance, the City could decide to have CH2M complete the work under EWP 2, so that the concrete pad would be available for secure storage of the engine generators on-site until the project could be completed by a different entity.

To reiterate, it is unlikely that the City will terminate the agreement, but it is a possibility that has been factored into both the main Contract and EWP Amendments. Either of the termination options carries risk, and the EWP Amendments have been written to provide clarity, flexibility, and protection should either of these options be exercised. Staff believes that the EWP Amendments have been structured in a way to mitigate these risks to the extent possible. Of course, the overall goal of the project team is to remain on track, agree to an overall GMP, execute the Definitive Contract Amendment, and proceed to project completion.

The commencement of the foundation and underground work described in EWP 2 requires an Authority to Construct permit (ATC) from the Bay Area Air Quality Management District (BAAQMD). The ATC covers installation of the engine-generators and other emissions-generating equipment on the project. The permit application has been submitted, passed

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preliminary review and is under final review by the BAAQMD. Staff will wait for the ATC to be issued before authorizing the commencement of construction work in EWP 2. Staff expects the ATC to be approved in the coming weeks.

### **EVALUATION AND FOLLOW-UP**

The design effort has been on-going and CH2M has recently delivered updated 60% design documents. These are currently under review by staff. After submitting the 60% design, CH2M is obligated to make a good faith submittal to the City for a GMP to finalize the design and complete construction, commissioning and acceptance testing of the facility. This submittal is expected in November 2017. If the City accepts the submittal, the terms and conditions thereof would be incorporated into the Design-Build Contract through the Definitive Contract Amendment. If the parties are unable to reach agreement on the Definitive Contract Amendment, staff will return to City Council with a recommended course of action. This could include terminating the agreement with CH2M, completing the design, and bidding out the project. A progress report on this project will be made to the Transportation Environment Committee and the City Council on a semiannual basis. Monthly progress reports of the RWF CIP will also be submitted to the Treatment Plant Advisory Committee and posted on the City's website.

### **POLICY ALTERNATIVE**

***Alternative #1: Do not authorize Early Work Package 2 and wait to perform the work after the Project GMP and Definitive Contract Amendment have been negotiated.***

**Pros:** Defers underground construction until design has been further developed.

**Cons:** Risks of not meeting completion date, potential cost increase due to market escalation, and potential increased costs for off-site storage of engine generators.

**Reason for not recommending:** The Project would not be able to take advantage of the significant schedule and cost benefits of early construction if this alternative were selected. Schedule maintenance is a major concern, and the engines authorized under EWP1 are currently being manufactured and are expected to arrive on site in April 2018. If the foundations are not completed under EWP2, the City will incur the added cost of \$300,000 to offload the engines at a storage facility, pay monthly storage fees, then reload the engines and deliver them to the construction site when the foundations are ready, three months later. Also, existing cogeneration equipment at the RWF ranges from 20 to 60 years of age, and has been subject to breakdowns of increasing frequency and severity. This is made worse by delaying the completion of the Project. Finally, delaying the construction until after GMP will likely result in cost increases of nearly \$350,000 per month due to construction cost escalation.

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### **COORDINATION**

This memorandum has been coordinated with the City Attorney's Office, the Finance Department, and the City Manager's Budget Office.

### **FISCAL/POLICY ALIGNMENT**

This Project is consistent with the Council-approved budget strategy to address rehabilitation and replacement of critical infrastructure and equipment at the RWF and to improve operational efficiency.

### **COST SUMMARY/IMPLICATIONS**

The City will pay CH2M on a defined cost-reimbursable basis subject to a maximum limit (i.e., the GMP), above which the City is not obligated to pay for services that are not otherwise subject to reimbursement under the Contract. The EWP 2 Base GMP not to exceed price for the civil site preparation and foundation construction package is as follows:

Construction Subcontractor Costs	\$ 2,819,105
Third Party Professional Services	\$ 75,000
Design-Builder Labor & Materials	\$ 197,486
Permitting and Permits	\$ 25,000
Bonds & Insurance	\$ 115,841
Subtotal: Design-Build Costs	\$ 3,232,432
General Conditions Fee (7.7% of All Design-Build Costs)	\$ 248,897
Design-Builder Fee (7.8% of Costs Excl. Bonds & Insurance)	\$ 246,606
Cumulative Subtotal: Base Design-Build Price	\$ 3,727,935
Design-Builder Contingency	\$ 223,676
EWP 2 Base Design-Builder GMP not to exceed	\$ 3,951,611

### **BUDGET REFERENCE**

Fund #	Appn #	Appn. Name	Total Appn.	2017-2018 Proposed Capital Budget Page	Last Budget Action (Date, Ord. No.)
512	7454	Energy Generation Improvements	\$71,369,000	268	06/20/2017 Ord No. 29962

The 2017-2018 CIP Budget was adopted by Council on June 20, 2017.

CITY MANAGER'S OFFICE

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Services performed by CH2M HILL under this Contract Amendment will be authorized by a Notice to Proceed. There is sufficient funding in the appropriation for EWP 2 in the adopted budget for 2017-2018. Future funding is subject to appropriation and, if needed, will be included in the development of future year budgets during the annual budget process.

**CEQA**

Mitigated Negative Declaration (MND), File No. PP14-005

The MND states that the proposed Project will not have significant effects on the environment, because mitigation measures have been made a part of the Project.

/s/  
BARRY NG  
Director, Public Works

/s/ Ashwini Katak for  
KERRIE ROMANOW  
Director, Environmental Services

For questions, please contact John Cannon, Principal Engineer, Department of Public Works, at (408) 635-4006.