



AGENCY:	PWC
MEETING DATE:	Apr 23, 2015
DEPARTMENT:	Public Works
PREPARED BY:	T. Varga
PRESENTED BY:	T. Varga

AGENDA ITEM SUMMARY

TITLE:

RECEIVE REPORT AND PROVIDE RECOMMENDATION TO CITY COUNCIL REGARDING AWARD OF PROFESSIONAL SERVICES AGREEMENT FOR DESIGN OF WASTEWATER TREATMENT PLANT UPGRADE PROJECT

ISSUE:

On January 29, 2015, the City issued a Request for Proposals (RFP) for professional services to provide the final design and contract documents for construction of the Wastewater Treatment Plant Upgrade Project. Five proposals were received on the due date of February 27, 2015. HDR, Inc., of Folsom, California is recommended by staff as the most qualified firm. Before recommending to the City Council execution of the contract, the proposed contract will be reviewed by the Public Works and Facilities Committee to confirm that the scope of work is accurate and appropriate.

RECOMMENDED ACTION:

Provide a recommendation to the City Council regarding the Professional Services Agreement for design of the Wastewater Treatment Plant Upgrade Project.

ALTERNATIVE ACTION(S):

1. Select a different firm to provide the requested services.
2. Reject all bids and do not proceed with the final design at this time.
3. Direct staff to work with HDR, Inc. to refine the scope of services.

ANALYSIS:

The Wastewater Treatment Plant (WWTP) Upgrade Project will provide a major updating of Fort Bragg's 40 year old wastewater treatment facility. While repairs and upgrades have been performed over the years, much of the WWTP's equipment is reaching the end of a normal 25-30 year service life. Key parts of the project include:

- Replacing the existing trickling filters with an activated sludge system.
- Re-purposing the clarifiers into emergency/surge storage.
- Increased system redundancy.
- On-site treatment of storm water.

A Predesign Summary Report was prepared by NV5 (formerly Nolte and Associates) in 2013. This report plus nine technical memoranda provide extensive, detailed guidance for the project's final design.

The RFP required review of the Predesign Summary Report as well as technical memoranda and to develop a design proposal based on its initial recommendations. Additional, preliminary refinements to the concepts in the predesign report were encouraged. The RFP was structured in a similar fashion as the Predesign Summary Report for ease of review.

Chapter 2, Regulatory Setting, review recent and reasonably anticipated actions of the Regional Water Quality Board (RWQCB) for regulations that may apply to this project.

Chapter 3, Wastewater Characterization, use recent, additional effluent data to refine design

Chapter 4, Recommended Design Criteria, the new treatment plant shall have at least a 20 year design life. The design shall consider process system redundancy that can be economically provided to ensure reliable plant performance. Evaluate how the clarifiers can be re-purposed, (e.g. as equalization basins for use during high flow periods).

Chapter 5, Mechanical Screening and Chapter 6, Grit Handling, this work will be complete by City staff at the time of construction. Consultant shall review what has been built for proper integration into the upgrade project design.

Chapter 7, Storm-water Handling, the perimeter of the existing WWTP site has been graded to eliminate run-on water from adjacent lands. The storm water handling analysis in the Predesign Summary Report should be modified to reflect this change and to minimize the amount of storm water to be conveyed on-site and treated. The possibility of eliminating on site pumping of storm-water shall be analyzed.

Chapter 8, Activated Sludge System, preliminary design is based on the Aero-Mod SEQUOX with provisions for expansion. For bidding and contract purposes, provision for an approved equal will be necessary. Designer shall consider the possibility of generalizing the specification for activated sludge systems to make this practical. The control systems for the new improvements to the WWTP shall be designed for ease of incorporation into a future Supervisory Control and Data Acquisition System (SCADA). Review hydraulic profile for possible improvements and examine the feasibility of lowering the grade(s) of activated sludge units. The Consultant shall analyze the feasibility of achieving Title 22 water recycling status.

Chapter 9, Disinfection, for the purposes of the WWTP upgrade project the generation of both sodium hypochlorite for disinfection and sodium bisulfate for de-chlorination will be complete at the time of construction. Consultant shall review what has been built for proper integration into the upgrade project design. The design proposal shall include an additive alternate to design a replacement of the existing chlorine contact basin.

Chapter 10, Solids Handling, consultant shall analyze the feasibility of what may be necessary, (e.g. extra treatment), to reach a Class A Bio-Solids standard for the sludge or other, practical re-use of the treated sludge as a raw material or finished product. An appropriate dewatering method shall be recommended for incorporation into the design.

Chapter 11, Power Requirements, the Consultant shall review overall energy needs for the new plant and make recommendations for practical efficiency improvements to be incorporated into the design. The Consultant shall analyze the feasibility of alternate methods for generating energy, including using wind power on site. The design shall include adequate provision for back-up power to ensure reliable operation of the WWTP.

Chapter 12, Construction Sequencing, the current estimate is 18 to 24 months for construction. The Consultant shall refine this timeline as part of the design and provide an updated estimate to construct. Consideration shall be made for cost effective ways to reduce this timeline.

Chapter 13, Probable Construction Costs, update and refine with final design

Other Tasks, review Predesign Report for significant opportunities to improve design. The design proposal shall include an additive alternate to design replacement of three existing sanitary sewer lift stations. The design proposal shall include an additive alternate for the design of a septage receiving station. This will not be a public facility. Coordinate work with City and staff throughout all phases of contract work. Perform surveying or other necessary field investigations. Provide project support, (including preparation of technical materials), to aid with environmental review, environmental document preparation, permitting, and funding assistance.

Since the Predesign Summary Report was completed, a number of improvements to the WWTP have been implemented or are in progress. These include: mechanical screening, grit handling, a sizable portion of storm water handling, and disinfection (on-site chlorine generation). This will aid in reducing the project's scope and costs.

Lastly, on May 16, 2014, the City received an Administrative Civil Liability (ACL) complaint from the Regional Water Quality Control Board (RWQCB) regarding self-reported exceedances of WWTP effluent limitations for 5-day Biological Oxygen Demand (BOD5) and Total Suspended Solids (TSS) over a three-year period. These violations occurred primarily for two reasons. During the drought, effluent flows were quite low for an extended time and during low flows, variations in effluent loading can result in relatively large variations in the concentrations measured by TSS and BOD5. In addition, our WWTP is challenged by the old trickling filters that are difficult to keep in good operating condition. The WWTP upgrade is an ideal solution to correct this problem. A pending Proposed Stipulated Order from the RWQCB includes the WWTP Upgrade Project as a compliance project in lieu of a \$63,000 Mandatory Minimum Penalty in response to violations of the TSS and BOD5 standards.

Five proposals were received:

<u>Company</u>	<u>Base Proposal</u>	<u>Base + Alternates</u>
HDR Inc.	\$792,831	\$ 989,025
Stantec	\$909,900	\$1,029,888
NV5	\$891,016	\$1,052,876
Brelje & Race	\$843,000	\$1,216,000
West Yost Associates	\$492,765	\$ 639,754

HDR Inc., NV5, and West Yost were selected as the three strongest proposals. West Yost has a very attractive cost. However, the project hours were one half or less compared to the other proposals. In addition, the project manager was relatively inexperienced, and the proposal was missing the Title 22 water recycling/reclamation work. A contract with West Yost would have likely been exceeded half-way through the project. NV5 and HDR Inc. had similar high quality proposals. HDR Inc. was chosen with the substantially lower cost.

A funding package utilizing multiple sources will be necessary for a construction project of this magnitude. The preliminary construction estimate is \$9,000,000. Staff has identified the following funding options and estimated proceeds from each:

GRANTS

<u>Clean Beach Initiative</u>	SWRCB
Protect coastal waters.	Projects: \$150,000 to \$5,000,000
Continuous funding cycle	
Funding match required with consideration for disadvantaged communities	

<u>Proposition 84 – Integrated Regional Water Management (IRWM)</u>	DWR
Managed by North Coast Resource Partnership (NRCPP)	
Protect water quality and environment	Projects; per IRWM Plan
Applications tentatively due August 2015	
Minimum 25% funding match	

Community Development Block Grant (CDBG), (grants or loans)

HCD

Sewer mains and lift stations

Projects: up to \$1,500,000 +/-

Notice of Funding Availability released January 2016

WaterSMART,

USBR

Waste water recycling/reclamation

On-going applications

75% match

LOANS

Infrastructure State Revolving Fund (ISRF)

I-Bank

Waste water treatment facilities

Projects: \$50,000 to \$25,000,000

Open application cycle

Interest rate considers community factors

Clean Water State Revolving Fund (CWSRF)

SWRCB

Waste water facilities

Projects: no funding limits

Interest rates as low as 0% for some severe disadvantaged communities

CWSRF – Water Recycling

SWRCB

Waste water recycling/reclamation

Projects: no funding limits

Water & Waste Disposal

USDA – Rural Development

Waste water treatment facilities

Projects: \$3,000,000 to \$5,000,000

Continuous filing

Grants/loans/loan guarantees

Other funding sources that will continue to be investigated include City funds, bonds, and other non-traditional sources.

FISCAL IMPACT:

The total, base contract amount for the HDR Inc., Professional Services Agreement is: \$792,831. Staff recommends that funding for this work be allocated as follows:

- Waste Water Capacity Fees, \$ 200,000
- Waste Water O&M Fund, \$ 592,000

The Municipal Improvement District Board has established a reserve policy for the Waste Water O&M Fund that 25% of typical operating costs should be kept in reserve. Based on FY 2014-15 expenditures of \$2.77 million, approximately \$692k, so the reserve balance would be depleted to about \$228k. Alternatively, an inter-fund loan could borrow from General Fund and be repaid, with interest, in quarterly installments over five years. The Waste Water Capacity fees have a balance of about \$240,000. A nominal balance of \$40,000 is recommended to be maintained for other unexpected expenses.

Final design of the WWTP upgrade project is included in the City's Capital Improvement Program in the FY 2015/16 Budget. (Capital Project WW-01).

IMPLEMENTATION/TIMEFRAMES:

Upon award of the contract, design will take about one year. Environmental review and permitting will be undertaken at approximately the same time. Construction timeframes will depend on completing these tasks and securing funding for the improvements. It is expected that construction would be completed in FY 2017-18.

ATTACHMENTS:

1. Request For Proposal (RFP)
2. HDR Inc. proposal

NOTIFICATION:

1. None

City Clerk's Office Use Only

Agency Action ☐ Approved ☐ Denied ☐ Approved as Amended

Resolution No.: _____ Ordinance No.: _____

Moved by: _____ Seconded by: _____

Vote: _____

☐ Deferred/Continued to meeting of: _____

☐ Referred to: _____