

CITY OF COOS BAY CITY COUNCIL
Agenda Staff Report

MEETING DATE: July 16, 2013	AGENDA ITEM NUMBER :
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TO: Mayor and City Councilors

FROM: Jim Hossley, Public Works & Development Director

Jennifer Wirsing, Engineering Service Coordinator

Through: Rodger Craddock, City Manager

ISSUE: Award of Work Order to The Dyer Partnership for the Biosolids Handling Management Plan Project

BACKGROUND:

As part of their work effort, the wastewater treatment plant #2 (Plant #2) pre-design team has completed analysis of the recommended method for biosolids handling management in the approved Plant #2 Facility Plan Amendment (FPA). The consultant determined implementation of the recommended onsite method will be labor and energy intensive, thus costly. The proposed method would also produce odors to mitigate. In addition, the biosolids would also have to be hauled by truck to Plant #1 for additional treatment prior to being land applied. The City and the pre-design team investigated additional cost effective solutions for biosolids handling for the new plant. The design team has developed an interim solution that will be more cost effective than the solution proposed in the FPA but it is not a long-term solution. This interim solution will not delay the design process and allows the project to stay in compliance with our DEQ Mutual Agreement Order (MAO) schedule. However, an ultimate solution that treats the City's biosolids regionally (both treatment plants) still needs to be investigated and then implemented. Therefore, a study should be performed to address the biosolids needs handling and analyze the best options for the City.

City Staff knew that a Biosolids Handling Management Plan would be necessary and as such included this project/study in the 20-year Capital Improvements Project take down schedule for sewer and storm projects as well as the Oregon Infrastructure Finance Authority loan and grant (totaling \$4,853,213)

ADVANTAGES:

This project is one of the projects from that take down list that will allow the City to plan for an ultimate cost effective and long term solution to the City's biosolids handling issue.

DISADVANTAGES:

Staff sees no disadvantages.

BUDGET:

A budget of \$95,479 was estimated for the creation of a report/study. Staff worked with The Dyer Partnership and created a scope of work not to exceed \$49,993. Since the project is less than \$50,000 this project can be directly appointed utilizing the Miscellaneous Engineering Services contract. If necessary, the total budget allows for a marketing study to be performed upon completion of the report if Council directs staff to do so. Funds for this project will come

from the IFA loan, Wastewater Improvement Fund, Stormwater Collection – IFA #1 (29-810-530-3014).

RECOMMENDATION:

If it pleases the City Council, award the Work Order for the Biosolids Handling Management Plan Project to The Dyer Partnership for an amount not to exceed \$49,993.

ATTCHMENTS:

Scope of Work for Biosolids Handling Management Plan

Part A – Scope of Work

A plan needs to be created to long term options for biosolids management. The overall approach to the project will require the consultant to work closely with Staff and CH2M HILL-OMI to listen, share, and develop ideas and concepts to ensure that all issues are properly addressed. Additionally the consultant will also have to coordinate with DEQ and the design team that is currently working on the pre-design efforts for Plant 2. All analyzed options for biosolids management must be in conformance or work with the new plant and be in compliance with existing and any future anticipated regulatory requirements.

TASK 1 - PROJECT MANAGEMENT & MEETINGS

1.1 Confirm work scope requirements and deliverables with the City. Establish required project timelines and milestones and develop a detailed work schedule for review and approval by the City. Confirm task-by-task and overall project budgets and set up project cost accounting, invoicing and progress reporting systems.

1.2 - Conduct a project kick-off meeting with City staff & meetings as requested. Conduct a kickoff meeting to discuss the options that should be analyzed in the biosolids management plan. At this meeting, the consultant shall notify the City regarding additional information/plans that are necessary to commence with this work. The consultant shall provide a list for the City's reference. The meeting attendees can include but is not limited to City Staff, O&M Staff (CH2M HILL-OMI), Design Team for WWTP 2, DEQ representatives, etc. This task also includes additional meetings. For the purposes of this scope, this task assumes that in addition to the kick off meeting there will be up to three meetings, at two hours each, that will occur over the course of this contract (this does not include the workshop meeting identified in Task 4.2). Consultant will also conduct in-house technical meetings, progress and quality reviews and coordinate various interrelated work tasks.

1.3 - Monitor project progress and costs and report progress relative to expended budgets with monthly invoices. Promptly notify the City of any matters that warrant alterations to agreed scope and fee, and with City concurrence, submit formal requests of any proposed contract amendments.

TASK 2 - INFORMATION COMPILATION AND REVIEW

2.1 - Compile and review all existing information relevant to the work, including previous wastewater plan documents, preliminary design reports, alternative studies, historical and current wastewater flow records, recent wastewater treatment plant performance reports, operations and maintenance records, current population projections, record drawings of key facilities, and other pertinent information.

2.2 – The approved Facility Plans (FP) and Facility Plan Amendment (FPA) for Plant 1 and 2 will be referenced with respect to current and future flows and loads. The FP and FPA represent a 20-year planning period.

2.3 – Conduct Interviews – The consultant must coordinate with the City, CH2M HILL-OMI, the design team for the WWTP2, DEQ (Steve Nichols, Jon Gasik, and Paul Kennedy). The interviews will address any specific concerns that these entities have, potential ideas for biosolids management, future criteria or regulations that may influence the approach for biosolids management, etc.

TASK 3 - EVALUATION AND PLANNING CRITERIA

3.1 - Review all applicable regulatory requirements that must be met by recommended improvements for biosolids treatment and disposal. The anticipated regulations include those applicable to the

processing and disposal/use of municipal sewage sludge. Address current regulations and the potential for future regulatory constraints that will impact biosolids operations.

3.2 - Work under this subtask will involve the establishment of preliminary planning criteria for the evaluation of biosolids process alternatives. These planning criteria will take into account regulatory, process and site specific factors and will be further defined during the biosolids process alternatives workshop (Task 4.2).

3.3 - Site Visit - This subtask includes arranging and conducting a visit to the plants to review biosolids processes in operation and discuss operation and maintenance with treatment plant staff.

TASK 4 - BIOSOLIDS PROCESS ALTERNATIVES EVALUATION

The purpose of this task is to identify potential biosolids management strategies, determine viable alternatives for further analysis and select a preferred alternative. The alternatives analyzed will take into account biosolids associated with Plant 2. However, all alternatives must be able to incorporate Plant 1 as well, if the City should choose to update the facility in the future. Anticipated subtasks include:

4.1 - Biosolids Management Alternatives - Under this subtask, potential unit processes and disposal alternatives for the City's current and forecasted sewage sludge production will be identified. This inventory of alternatives will include processes that will achieve Class B. However the alternatives analyzed shall have the ability to be integrated to a Class A facility should the City choose to do this in the future.

4.2 - Workshop - After preliminary work by the project team, a workshop will be conducted with City staff and CH2M HILL- OMI to review biosolids management alternatives. During the workshop process limitations will be evaluated, potential alternatives refined and evaluation criteria will be further developed.

4.3 - Alternatives Development - Under this subtask, a description of each potential alternative process will be prepared. For each alternative, preliminary sizing of the major components will be accomplished and the advantages and disadvantages of each identified. Based upon discussions with the City, these potential alternatives will be screened to three primary alternatives which will receive further detailed analysis.

4.4 - Evaluation of Alternatives - Under this subtask, the three primary alternatives will be evaluated in further detail. Based upon the previous development and description of each alternative, prepare for each an estimate of capital cost, operation and maintenance cost, salvage value and replacement costs. From these values, a present worth cost for each alternative will be prepared. An evaluation matrix for evaluating the primary alternatives will be prepared. This matrix will include the cost factors developed plus non-monetary evaluation criteria established during the workshop.

4.5 - Selection of Preferred Alternatives - Under this subtask, the alternatives that are most technically sound, protective of the environment, respective of the surrounding community, and cost-effective in

treating and disposing of biosolids, will be selected. This selection will be a collaborative process involving City management and operations staff.

TASK 5 – RECOMMENDED PROCESS IMPROVEMENTS

The consultant will develop a proposed biosolids improvement program for the treatment facility based on the preferred alternative. Subtasks will include:

5.1 - Equipment Recommendations - Equipment recommendation will be made for major process equipment that will be necessary to implement the proposed biosolids program. Equipment type, size, materials of construction and manufacture will be identified to establish a level of quality.

5.2 - Equipment/Process Housing Recommendations - Based on the preferred alternative, housing and facility recommendations will be made for all process components as necessary. A preliminary building plan will be developed to show a proposed layout of equipment, including process equipment, electrical equipment, mechanical piping, conveyors, ventilation, odor control and other features necessary for the operation of the proposed facility.

5.3 - Site Improvements - A preliminary site plan will be developed for the proposed process improvements.

5.4 - Implementation - Budget level project cost estimates for each proposed improvement, and the recommended schedule for implementing the improvements will be identified in the proposed biosolids program. The program will also identify key regulatory dates or other critical dates when specific improvements may be required.

TASK 6 – BIOSOLIDS MANAGEMENT REPORT

6.1 - Draft Engineering Report - Prepare a bound draft Engineering Report that will be complete with narrative, data, tables, figures, illustrations and preliminary plans to clearly present and document findings and recommendations. Eight (8) copies of the draft document will be provided to the City along with one (1) electronic pdf.

6.2 - City Review and Comment - Draft reporting will be reviewed with City staff, City officials, and the public as the City may so desire. This subtask will also include meeting with City staff to review draft report and receive comments. Update Draft Report to implement City's comments. With City concurrence, the consultant will submit the draft report to DEQ for review and comment and provide the City with three (3) copies of the updated draft document along with one (1) electronic pdf.

6.3 - Final Engineering Report - Final reporting will incorporate any further comments made by City and/or DEQ and will be presented for formal adoption as the City may desire. Five (5) copies of the final document will be provided to the City and one (1) electronic pdf. Work under this subtask also includes making a formal presentation to City staff, Council and the general public as the City may deem appropriate.

DELIVERABLES

ITEM	TASK	FORMAT	QUANTITY
Additional Information Requested by Consultant	1.2	Electronic or Hard Copy	1
Draft Biosolids Management Report	6.1	Electronic PDF	1
Draft Biosolids Management Report	6.1	Hard Copy	8
Updated Draft Biosolids Management Report	6.2	Electronic PDF	1
Updated Draft Biosolids Management Report	6.2	Hard Copy	3
Final Engineering Report	6.3	Electronic PDF	1
Final Engineering Report	6.3	Hard Copy	5

EXCLUSIONS
None

Part B – Project Fee

The consultant proposes to complete the work as detailed above on a time and expenses basis as summarized below. The total not-to-exceed amount is based on the scope of work incorporated herein and will not be exceeded without approval and written authorization by the City.

TASK	FEE
Task 1 – Program Management	\$6,542.00
Task 2 – Information Compilation and Review	\$4,023.00
Task 3 – Evaluation and Planning Criteria	\$2,968.00
Task 4 – Biosolids Process Alternatives Evaluation	\$11,356.00
Task 5 – Recommended Process Improvements	\$11,561.00
Task 6 – Engineering Report Documentation	\$13,543.00
Total Not-to-Exceed	\$49,993.00

(See attached Estimate of Man Hours and Costs)

Part C - Schedule

Project Kick-off Meeting	July 11, 2013
Complete Information Compilation and Review	August 30, 2013
Complete Develop Evaluation & Planning Criteria	October 1, 2013
Biosolids Alternative Workshop	October 15, 2013
Complete Biosolids Alternative Section	December 20, 2013
Recommended Process Improvements Workshop	January 20, 2014
Complete Draft Biosolids Report	February 19, 2014
Public Meeting on Draft Biosolids Report	March 11, 2014
Submit Draft Biosolids Report to DEQ & City	March 18, 2014
Complete Final Biosolids Report	Dependent upon DEQ Review Period