



City Council Agenda Bill

21397

Bill Number

Subject: Post Point Treatment Plant Biosolids Project Update

Summary Statement: Staff partnered with Brown and Caldwell consulting to examine technologies to upgrade the City's management of biosolids while working within the framework of the City's Legacy Statements and Strategic Commitments. Project deliverables include examination of migrating away from our current incineration process, studying the fiscal impact of new methods of biosolids management, a strong public outreach component and reviewing the possibility of development of a natural resources education and outreach center. The upgrade to biosolids management is a multi-phased project to develop a new method of handling biosolids, while supporting the core values of the citizens of Bellingham. Staff will provide a brief presentation.

Previous Council Action: None

Fiscal Impact: Estimated cost of the contract is \$880,596. Funding included in the 2015-2016 Budget.

Funding Source: Sewer Fund (420)

Attachments: Staff Report

Meeting Activity	Meeting Date	Staff Recommendation	Presented By	Time
Committee Briefing Information Only	10/24/2016	Information Only	Ted Carlson, PW Director	10 minutes

Recommended Motion:

Council Committee:
Public Works and Public Safety Committee

Agenda Bill Contact:
Eric Johnston, Asst PW Director 778-7710

Council Action:

Reviewed By	Department	Date
<i>Ted A. Carlson</i>	Public Works	10/17/2016
.	.	.
.	.	.
.	.	.
<i>Matthew T. Stamps</i>	Legal	10/18/2016
<i>Kelli J. Linville</i>	Executive	10/18/2016



City of Bellingham
210 Lottie Street
Bellingham, WA 98225

MEMORANDUM

TO: PUBLIC WORKS COMMITTEE
FROM: TED CARLSON, PUBLIC WORKS DIRECTOR
CC: MAYOR'S OFFICE, LEGAL DEPARTMENT
SUBJECT: BIOSOLIDS MANAGEMENT POST POINT PROJECT UPDATE
DATE: MONDAY, OCTOBER 24, 2016

I. BACKGROUND

The City of Bellingham operates an 18MGD secondary wastewater treatment plant and incinerates approximately 4,100 dry tons of biosolids per year. Current solids handling treatment consists of an aging multi-hearth incineration processes. The 43-year-old incineration process faces many challenges including equipment failure, tightening air emission regulations, increases in operational and maintenance costs and the reduced ability to reliably manage the City's biosolids services. The project plans to review proven conversion technologies available to effectively extract potential energy value from biosolids and reduce dependency on outside sources of natural gas and electrical power. In 2012, CDM Smith issued a report that identified anaerobic digestion with sludge drying as the most viable option to meet the City's sustainability objectives. With aging infrastructure, the increasing cost of energy, tighter regulatory restrictions and new technologies available for biosolids processing the CDM Smith Study recognized the need to continue development of the anaerobic digestion solution for biosolids management presented in the 2012 report.

Public works staff is in the process of finalizing a contract with Brown and Caldwell to advance the study of biosolids management for the customers of the Bellingham municipal wastewater treatment plant. The six-month long study will begin with a high-level review of existing and emerging technologies utilized in biosolids management throughout the country. Public works staff collaborating with Brown and Caldwell will evaluate each biosolids management technique against a strict Triple Bottom Line Plus assessment framework. The study seeks to manage biosolids in an environmentally sustainable, fiscally responsible, proven technically and socially acceptable manner. The Triple Bottom Line Plus solution will produce a project minimizing the social impacts of handling biosolids while supporting the core values of the citizens of Bellingham. The TBL plus solution will develop biosolids into a sustainable resource, limiting environmental impacts and maximize resource recovery opportunities. The project will further advance a solution using reliable and proven technology that offers the best value for the citizens of Bellingham over a fifty-year lifecycle.

Some of the key components of the project study include developing screening criteria for biosolids management techniques, public education and outreach, examining the development of a natural resources environmental and educational outreach center, offsite alternative analysis, regional partnership evaluation, resource and energy recovery, risk assessment, peer review and analysis, and development of planning level capital, operation and maintenance costs. The primary goal of the planning phases of the project is to build on past biosolids studies and finalize selection of a biosolids treatment and end use alternative (s). Given the past biosolids studies the alternatives analysis for the first phase of the project will be streamlined and preclude an exhaustive evaluation. Following this high-level assessment to select the preferred biosolids management alternative and determine overall project direction, the project team will initiate a predesign phase to develop project details and specific

regulatory studies required for the potential alternatives. Working with Brown and Caldwell, staff divided the biosolids management project into several phases.

The project will include three phases of planning work with the option to include two additional phases of implementation. The project duration expects the majority of the work for Phase 1 to complete between November 2016 through May 2017 and for Phase 2 between June 2017 through December 2017, depending upon a number of factors including review times and input. Some tasks could extend beyond a one-year duration estimate. The schedule for Phase 3 and subsequent phases of work depend on the selected alternative defined following the end of Phase 2. The product from the planning phases of work (Phases 1 through 3) includes a baseline engineering report to document the project, alternative analysis, verification of project duration, fiscal impact analysis and report to review regulatory requirements surrounding the recommended method of biosolids management.

In developing the scope of work for the project, staff worked with the consultant to define specific project guidelines. The project Mission Statement will serve as a formal summary of the aims and values of the project and will act as a guide through the multiple project phases.

Mission Statement

The goal of the biosolids management project is to develop a sustainable, environmentally responsible, socially acceptable plan factoring complete lifecycle costs and using proven technology for handling biosolids at the Post Point Water Pollution Control Plant. The project will produce a solution that protects public health, safety and natural resources; and provide neighborhoods, businesses and visitors with efficient, quality services necessary to meet the demands of our growing, diverse community. All phases of this project will develop within the framework of the Legacy Statements and Strategic Commitments adopted by the council.

The project seeks to manage biosolids in an environmentally, fiscally, technically and socially sustainable manner, using a Triple Bottom Line Plus assessment framework. The Triple Bottom Line Plus solution will produce a project minimizing the social impacts of handling biosolids while supporting the core values of the citizens of Bellingham. The TBL plus solution will develop biosolids into a sustainable resource limiting environmental impacts while maximizing resource recovery opportunities. The project will further advance a solution using reliable and proven technology that offers the best value for the citizens of Bellingham over a fifty-year lifecycle.

II. Conclusion

Staff will utilize Council's 2009 adopted Strategic Commitments and Legacy Statements to guide us through a process to study the possibilities for upgrading an out of date, 43-year-old incineration process that falls short of treating biosolids as a renewable resource. The partnership with Brown and Caldwell will utilize a Triple Bottom Line Plus solution producing a multi-phased project to develop a new method handling biosolids while supporting the core values of the citizens of Bellingham. Over the next year, staff will begin a study to examine existing biosolids management technologies to continue the development of recommendations from the prior CDM Smith solids management review report. While upgrading the method of biosolids management for the citizens of Bellingham the project is poised to take advantage of newer proven biosolids management technology to develop a sustainable, environmentally responsible, socially acceptable plan to employ energy recovery at the Post Point Waste Water Treatment Plant and utilize biosolids as a renewable resource as opposed to a waste product.

