CITY OF COOS BAY
JOINT CITY COUNCIL / URA WORK SESSION
Agenda Staff Report

MEETING DATE	AGENDA ITEM NUMBER
January 31, 2017	

TO: Mayor Benetti and City Councilors

FROM: Jim Hossley, Public Works Director

THROUGH: Rodger Craddock, City Manager

ISSUE: Consideration of Privatizing City Wastewater Facilities

BACKGROUND:

Some City Council members wish to consider whether or not to privatize ownership of wastewater facilities. Such an analysis was recently performed. For reference, the August 9, 2016 Farella, Braun, and Martel draft report titled, *Report on the Viability of Privatizing the City of Coos Bay's New Wastewater Treatment Plant No. 2*, has been included for Council's review.

To summarize the report

> The City asked Farella, Braun & Martel ("Farella") to prepare a written report on whether it is "viable" for the City to privatize a new Wastewater Treatment Plant No. 2 ("WWTP #2"). Per the City Council's Scope of Work, Farella was directed to assume that the privatization option will involve the City owning the land where the Plant is built and that a private party will lease the land from the City and will design, build, finance, operate and own a wastewater plant that uses Best Available Technology Economically Achievable ("BAT"), which is a term of art under the federal Clean Water Act. Under this scenario, the City would continue to own both the plant's wastewater collection system and the plant outfall that discharges into Coos Bay. (NOTE, while the report was specifically centered on WWTP #2, it can be applied to other parts of or all of the City's wastewater system.)
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> The City did not specify exactly what factors Farella should evaluate to determine the viability of this privatization option. Rather, it instructed Farella and EEC (the consulting wastewater engineering firm Farella partnered with) to utilize their backgrounds and experience to identify and analyze the appropriate viability factors. Accordingly, Farella utilized seven viability considerations consisting of financial, regulatory, permit/technology, environmental, control and accountability, liability, and contractual aspects of wastewater plant privatization. To ensure that this analysis was as helpful as possible, Farella evaluated these factors as of August 2016, including the overall regulatory context for WWTP #2. Thus, they addressed privatization viability in the specific factual context that the City Council is facing today.

Farella believes that privatization of new WWTP #2 (this could also read any portion or all of the wastewater system) can be a viable option for the City, both generally and in the current regulatory context. There is an increasing trend toward privatization of wastewater facilities and many municipalities have had positive experiences with different types of privatization models. That being said, a few municipalities have experienced serious problems with privatization, so it is essential to learn from these lessons and to take a proactive and protective approach to negotiating the privatization contract.

The Farella report is primarily focused on the privatization option in which the private partner designs, builds, finances, operates and owns a new WWTP #2 (which they refer to as a "DBOO" arrangement). They also examined two closely allied options, one in which a private party designs, builds, finances, operates, but does not own, WWTP #2 (the "DBFO" model), and the second in which the private party designs, builds, and operates the new plant, but does not finance or own it (commonly called the "DBO" model). NOTE This is essentially what the City is presently doing for WWTP #2. Only two municipalities of any significant size that EEC could find adopted the DBOO arrangement for a wastewater plant for reasons explained in the report. The acronyms, DBFO and DBO, are part of a more encompassing term involving private involvement in public infrastructure, this term is Private Public Partnerships (PPPs).

Based on consideration of all of the viability factors, Farella believes that the DBOO model, in which the private party owns the plant, is the least attractive of the three privatization models because of the potential technology, Resource Conservation and Recovery Act (RCRA) regulation, and financial issues discussed in the report. The DBFO and DBO models appear to be better candidates because they avoid most of these issues and have established a stronger track record of proven success.

In sum, Farella believes privatization of WWTP #2 (or any portions or all of the wastewater system) is a viable option for the City and they recommend adoption of a public private partnership model because they appear to be a better fit here. However, Farella emphasizes that, as directed, they have only analyzed whether privatization is a viable option for WWTP #2, not whether the City should pursue it. It is ultimately up to the City Council to make both the viability and go/no go decision on whether to proceed with privatization in the current context.

The City's entire wastewater system is currently a PPP, as it is privately operated and maintained by CH2M. The City owns all facilities and most all of the rolling stock used by CH2M to operate and maintain the system. This is in line with the recommendation by Farella.

ADVANTAGES:

Considering privatization is important, as sometimes there are financial and operational efficiencies to be gained by privatization. Governments at all levels are exploring the concept, particularly Private Public Partnerships (PPPs). The City of Coos Bay has been using the PPP concept for wastewater since 1996. However, complete private ownership of key municipal wastewater infrastructure is nearly unheard of. There are no laws or rules that would prevent a privately owned municipal wastewater system in Oregon. One potential benefit of private ownership occurs when constructing a privately owned facility, a private entity does not need to pay prevailing wages for the construction labor. While there are some benefits, those benefits are subject to the cost of the service charged by the private provider.

DISADVANTAGES:

Examples of private ownership of wastewater systems are uncommon. There are no examples in Oregon. There is not enough information available to say if there would be financial savings or not for the City's rate payer if the system were privately owned. Private ownership would likely take most control of setting rates away from the City Council.

As there are no privately owned municipal wastewater plants in Oregon, the City would have to have the idea vetted by the Oregon Attorney General's office as well as DEQ should Council desire to pursue private ownership of some or all of the City's wastewater system.

If ownership of only a portion of the wastewater system, say the wastewater treatment plants, was to be done, the City would either need to continue contracting out collection system operations and maintenance, or consider creating a collection system division under public works. In the latter scenario the employees would be folded into the union and PERS programs which would likely result in increased costs to manage and maintain the wastewater and stormwater collections systems.

Some parts of the City's wastewater system have been constructed using state and federal loans. Should these parts of the system be privatized, immediate payment of the loan in full will be required.

BUDGET IMPLICATIONS:

Budget implications are unknown. The cost to prepare a comprehensive bid or request for proposal package to solicit private ownership of the City's wastewater system would be likely exceed $100,000 as attorney's and engineers specializing in privatizing would need to be used to prepare the documents. Attorney's specializing in privatization of public infrastructure would need to be hired to prepare the contract documents between the private wastewater system owner and the City. This would likely cost significantly more than preparation of the solicitation documents.

ACTION REQUESTED:

Direct staff how Council desires to proceed.

ATTACHMENTS:

August 9, 2016 Farella, Braun, and Martel draft report titled, *Report on the Viability of Privatizing the City of Coos Bay's New Wastewater Treatment Plant No. 2*,

CONFIDENTIAL
ATTORNEY-CLIENT PRIVILEGED
ATTORNEY WORK PRODUCT

DRAFT – AS REQUESTED BY THE CITY

Report On The Viability Of Privatizing

The City Of Coos Bay's New

Wastewater Treatment Plant No. 2

August 9, 2016

Prepared for:

City Council, City of Coos Bay, Oregon

By: Paul P. ("Skip") Spaulding, III
John J. Gregory
Farella Braun + Martel, LLP
235 Montgomery Street, 17th Floor
San Francisco, CA 94104

With Technical And Regulatory Advice By:

John Shaffer
Keith Silva
EEC Environmental
One City Boulevard West, Suite 1800
Orange, CA 92868

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I.

INTRODUCTION

The City of Coos Bay, Oregon (”City”) asked Farella Braun + Martel (“Farella”) to prepare a written report on whether it is “viable” for the City to privatize a new Wastewater Treatment Plant No. 2 (“WWTP #2”). Beginning in 2003, to implement a Mutual Agreement and Order between the City and the Oregon Department of Environmental Quality (“DEQ”), the City has taken steps to design and be ready to construct a wastewater plant to replace the current plant. However, in light of significant cost increases and environmental protection concerns, the City Council decided to explore the viability of a privatization alternative.

On July 11, 2016, the City provided Farella with a Scope of Work (“Scope”) for this report. In Phase 1 of the Scope, Farella is directed to assume that the privatization option will involve the City owning the land where the Plant is built and that a private party will lease the land from the City and will design, build, finance, operate and own a wastewater plant that uses Best Available Technology Economically Achievable (“BAT”), which is a term of art under the federal Clean Water Act. Under this scenario, the City would continue to own both the plant’s wastewater collection system and the plant outfall that discharges into Coos Bay.

Farella has worked closely on this assignment with the environmental engineering firm EEC Environmental (“EEC”). In completing this assignment, Farella and EEC reviewed a wide variety of technical, regulatory, environmental and other information relating to this assignment, including the City’s current permit, enforcement and other key regulatory documents relating to WWTP #2. Farella has had several conference call discussions with the Committee appointed by the City Council (“Committee”) to address this privatization option, and Farella and EEC interviewed DEQ staff members regarding a range of privatization issues.

The City did not specify exactly what factors Farella should evaluate to determine the viability of this privatization option. Rather, it instructed Farella and EEC to utilize their backgrounds and experience to identify and analyze the appropriate viability factors. Accordingly, we have utilized seven viability considerations consisting of financial, regulatory, permit/technology, environmental, control and accountability, liability, and contractual aspects of wastewater plant privatization. To ensure that this analysis is as helpful as possible, we evaluated these factors as of this point in time, including the overall regulatory context for WWTP #2. Thus, we address privatization viability in the specific factual context that the City Council is facing today.

We have focused this report on the privatization scenario of a private party designing, financing, building, operating and owning the new WWTP #2. However, after conferring with the Committee, we also address two closely aligned options, chosen by a number of municipalities, where the private party designs, builds and operates the new plant, but the municipality owns the plant and either the municipality or the private party take responsibility for the financing. We attach as “Appendix 1” a summary prepared by EEC that contains key case examples of wastewater plant privatizations by municipalities. These case summaries include examples of each of these privatization models. Although we refer to many of these examples in the text of this viability analysis, we also provide more detail in the Appendix.

We have three cautionary notes about our report. First, this is a high-level summary of a complicated topic and is not intended to cover all privatization nuances and details. Second, as directed by the Committee, we have not specifically evaluated either the current planned new WWTP #2 or any alternative private party proposal to build this treatment plant, nor have we made any comparison of these different approaches. Third, we have not undertaken a detailed economic analysis of privatization costs and potential end user fees, as this is a specialized and complicated economic area and would necessarily involve employing an economic expert to analyze particular plant proposals. However, we can identify excellent economic consultants if the City would like an in-depth economic analysis.[1]

II.

EXECUTIVE SUMMARY

We believe that privatization of new WWTP #2 can be a viable option for the City, both generally and in the current regulatory context. There is an increasing trend toward privatization of wastewater facilities and many municipalities have had positive experiences with different types of privatization models. That being said, a few municipalities have experienced serious problems with privatization, so it is essential to learn from these lessons and to take a proactive and protective approach to negotiating the privatization contract.

This report is primarily focused on the privatization option in which the private partner designs, builds, finances, operates and owns a new WWTP #2 (which we refer to as a "DBOO" arrangement). We also examine two closed allied options, one in which a private party designs, builds, finances, operates, but does not own, WWTP #2 (the "DBFO" model), and the second in which the private party designs, builds, and operates the new plant, but does not finance or own it (commonly called the "DBO" model). Only two municipalities of any significant size that EEC could find adopted the DBOO arrangement for a wastewater plant for reasons explained below. A significant number of municipalities have used the DBFO model and many municipalities have used the DBO privatization approach.

Based on the collective experience of Farella and EEC, we utilized seven factors to evaluate whether privatization of WWTP #2 is viable for the City. More specifically, we focused on (1) financial, (2) regulatory, (3) permit and technology, (4) environmental impact and benefit, (5) control, accountability and relationship, (6) liability and (7) contractual considerations that we consider to be important in deciding whether to move forward with privatization. These factors are not of equal value (financial considerations are usually the most important) and it will ultimately be up to the City Council to determine what value it places on each factor.

[1] There are many reports, articles and law review materials that discuss privatization of government facilities and functions, including wastewater treatment plants. As you would expect, these materials vary in quality, viewpoint and applicability to the City's situation. The following materials are cited in this report, using the indicated notations, because they are particularly helpful: National Research Council, "Privatization of Water Services in the United States, An Assessment of Issues and Experience" (2002)("NRC Report"); U.S. Environmental Protection Agency, "Guidance on the Privatization of Federally Funded Wastewater Treatment Works" (2000)("EPA 2000 Guidance"); U.S. Environmental Protection Agency, "Office of Water Memorandum on the Permit Implications of Privatization" (1987) ("EPA 1987 Memo").

We believe that the first four factors are of the highest importance for the City's decision regarding WWTP #2. The DBOO and DBFO scenarios are likely to be the most advantageous options to the City from a financial viewpoint because they contemplate that the private partner will arrange and be financially responsible for funding plant construction. The DBO option involves City funding of the plant construction cost (which may be less desirable), but it also should allow the City to use its usual array of financing options, with the possible exception of Oregon State Revolving Funds. The DBOO option also has potential financing downsides discussed below that may make it relatively unattractive to potential private partners.

In the regulatory arena, the federal government has a robust set of policies that encourage and support privatization arrangements for municipal wastewater plants. We were not able to find analogous State of Oregon policies and we understand from an interview with a DEQ staff member that DEQ is "neutral" in this area. In a more immediate sense, the most significant regulatory issue facing the City arises from the Mutual Agreement and Order entered into between DEQ and the City for WWTP #2. The Order, which DEQ is trying to amend on a unilateral basis, may result in financial penalties being levied on the City if construction of the new plant is not started by November 2016. Given the expected time frame for completing a privatization bidding, design and approval process, this Order potentially exposes the City to significant penalties in the interim.

One of the key components of our analysis relates to the NPDES permit and technology issues arising from a decision to have a private partner own the new wastewater treatment plant in the DBOO model. Because the plant would no longer automatically qualify for municipal wastewater treatment standards or for the industrial pretreatment program, private ownership could create issues in two areas. First, DEQ and EPA would probably need to go through a lengthy process to determine the appropriate level of treatment technology to be employed for this kind of private plant. Second, it is possible, depending on the nature of the commercial and industrial discharges into the plant, that it may also be regulated under the hazardous waste requirements of the Resource Conservation and Recovery Act ("RCRA"). Although it is possible that bidders using a standard form of technology will fairly quickly meet the technology standards and that RCRA requirements will not become applicable, consideration of these standards and requirements will at a minimum add time and expense to the process and may discourage some private bidders.

We were directed by the City to assume that the new privatized plant would have BAT technology. If in fact this is the chosen technology and if it operates as designed, an advanced treatment technology like a membrane bioreactor ("MBR") could provide environmental benefits to Coos Bay. The Bay is impaired for a few contaminants, such as bacteria, and the State is developing standards to address these issues. If developed, such standards would likely result in a need to upgrade a new plant that may have been originally designed to meet secondary treatment standards to more stringent MBR-type treatment levels. However, there is some dispute among DEQ and stakeholders regarding the amount of environmental benefit that would be realized from a BAT plant.

There are a variety of control, accountability and relationship issues that arise when a municipality considers privatization arrangements. There have been a few notable privatization failures, particularly when a municipality has not given sufficient attention to a private partner's

financial situation or to insuring accountability in meeting performance goals, setting user rates or adopting procedures to make the arrangement as transparent as possible. Although one advantage of a DBOO model in many situations is that a municipality will not be liable for NPDES permit compliance, that benefit may not be realized here because the City's ownership of the collection system and plant outfall may result in the City remaining a co-permittee even if a private party owns the plant itself.

Based on consideration of all of the viability factors, we believe that the DBOO model, in which the private party owns the plant, is the least attractive of the three privatization models because of the potential technology, RCRA regulation and financial issues discussed above. The DBFO and DBO models appear to be better candidates because they avoid most of these issues and have established a stronger track record of proven success.

The major complication to any of the three scenarios is the current DEQ enforcement context, which is aggravated by the timelines involved in starting a privatization process at this time. Moreover, since substantial resources have already been invested in the currently planned new plant, there could be a reasonable decision made to continue down the current path. On the other hand, if the City Council is concerned about the increasing financial costs and the environmental issues arising from the current WWTP #2 approach, it could be very prudent to pursue a privatization path through a bidding process, along with parallel regulatory discussions, to be in a position to pursue privatization.

In sum, we believe privatization of WWTP #2 is a viable option for the City and we recommend adoption of the DBFO or DBO model because they appear to be a better fit here. However, we want to emphasize that, as directed, we have only analyzed whether privatization is a viable option for WWTP #2, not whether the City should pursue it. It is ultimately up to the City Council to make both the viability and go/no go decision on whether to proceed with privatization in the current context.

III.

WASTEWATER SYSTEM BACKGROUND FACTS

The City currently owns two wastewater treatment plants, 23 wastewater pump stations, and approximately 90 miles of a wastewater collection system, comprised of sewer mains, pump stations and other collection facilities, but not sewer laterals. All sewer laterals (which extend from private homes and businesses to the mains) are owned and maintained by each property owner. Since 1996, the City has contracted out the operation and maintenance of the two wastewater plants and the City's collection system through a Public Private Partnership ("PPP" or "P3") with a private entity.

WWTP #2 was built in 1964 and initially performed only primary treatment. The City added secondary treatment in 1973 under a construction grant from the U.S. Environmental Protection Agency ("EPA"). We understand that the plant was extensively renovated and upgraded in 1991 to provide reliability for an instantaneous peak hydraulic flow of 4.84 million gallons per day ("mgd"). Both the City and DEQ recognize that it is important to replace WWTP #2 with a new plant.

Since the WWTP #2 influent is almost completely domestic sewage and there are currently no significant industrial discharges, we understand that the facility does not currently require the implementation of an industrial pretreatment program. We further understand that the solids generated by WWTP #2 are trucked to the biosolids treatment facility at the City's Wastewater Treatment Plant No. 1. The plant outfall is currently owned and operated by the City and we have been told to assume that this arrangement would not change in a privatization scenario.

WWTP #2 treats wastewater influent from both a portion of the City and from the adjacent town of Charleston. WWTP #2 currently serves a total population of approximately 10,000 citizens, with an increase in population expected to occur over time. WWTP #2 treats an average dry weather flow of approximately 1 mgd. The City's wastewater collection system experiences significant inflow and infiltration that causes the flow to the treatment plant to instantaneously peak at approximately 8 mgd during wet weather.

Pursuant to the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act, 33 U.S.C. §§ 1251-1388 ("Clean Water Act" or "CWA"), EPA has delegated to DEQ the authority to issue CWA permits in Oregon. The City once held a National Pollutant Discharge Elimination System ("NPDES") permit for the current WWTP #2 issued by DEQ, that authorizes the facility to discharge effluent through a 880-foot outfall with five diffusers into Coos Bay directly west of the plant site. The latest NPDES permit was issued by DEQ on August 21, 2003 and expired on December 31, 2007. The plant is currently operated under a Mutual Agreement and Order ("MAO") that the City entered with DEQ and it is anticipated that a new NPDES permit will be issued when the new plant is operational.

The Scope prepared by the City states that "[s]ince 2003 the City has completed a facility plan, a facility plan amendment, a value analysis, value engineering, pre-design plans, and final construction plans" for a new WWTP #2. On June 16, 2016, the City signed a construction contract for building this new plant. However, on June 21, 2016, the City Council put a hold on moving forward with construction of the completed design plan for WWTP #2. Instead, the City is proceeding expeditiously to consider the viability of a privatization option and, if it is determined to be viable, may proceed with a Request for Proposals process to solicit privatization proposals for new WWTP #2.

IV.

PRIVATIZATION OPTIONS

The term "privatization," when used in connection with wastewater treatment plants, covers a wide range of private sector participation in public wastewater facilities. One end of the spectrum involves having a private party provide limited services to a wastewater plant (such as laboratory work), while at the other end of the spectrum, a private party designs, builds, finances, operates and owns the wastewater plant, along with any collection and discharge facilities. The most common form of privatization today is where a municipality contracts with a private party to operate and maintain a wastewater plant and/or system. Indeed, since 1996, the City has had an operation and maintenance privatization arrangement for its wastewater plants and wastewater collection system.

There can be many benefits to a municipality from privatizing of a wastewater treatment plant or system. In the EPA 2000 Guidance referenced in footnote 1 (at 5), EPA summarized the benefits as follows: "The basic reasons that the public sector historically privatized services were to realize cost savings, utilize expertise, achieve efficiencies in construction and operation, access private capital, and improve the quality of wastewater service." EPA continued, with regard to the financial arena: "In many cases, private ownership/operation makes sense because it lowers cost. Depending on the type of privatization selected, surveys indicate the private treatment systems can operate at costs savings compared to public treatment systems. Capital cost savings can be substantial when the private partner uses advanced technology coupled with streamlined procurement and construction practices." *Id*. at 8.

However, privatization does not necessarily work well in every situation. Each wastewater context is unique and it is critically important to anticipate problems and build protections into privatization contracts to avoid or minimize many potential issues that have become problems in some municipal privatizations. There have been some notable "failures" in wastewater plant privatizations in cities such as Stockton and Santa Paula, California. At this time, though, there is a large "database" of privatization successes and failures that can be utilized to maximize the chances that the City's privatization efforts will be successful.

In the Scope, Farella was directed to analyze the privatization scenario of a WWTP designed, built, financed, operated and owned by a private entity, with the City retaining ownership of the collection system and plant outfall. We will refer to this as the "DBOO" option. However, after discussions with and concurrence by the Committee, we are also going to briefly address two other options that do not involve private party ownership of the plant: (1) a scenario in which the private party designs, builds, finances and operates the facility, but does not own it (which we will call "DBFO"); and (2) a scenario in which the private entity designs, builds and operates the plant, but does not finance or own it (often called "DBO"). Both the DBFO and DBO arrangements are much more common than DBOO arrangements for the reasons described below.

A. DBOO Option Description

A DBOO arrangement for a wastewater plant can offer many advantages to a municipality. Wastewater facilities are capital-intensive projects that greatly stretch or exceed the resources of many municipalities. Accordingly, bringing in a private party to finance these expensive capital improvements can avoid this up-front expense. This arrangement also can utilize the expertise and efficiency benefits of private companies that may be able to build a plant at a significantly lower cost and may save expenses during operation. In addition, particularly for cities that do not have deep wastewater expertise, it relieves a city of the burden to build and operate such plants, freeing up municipal resources for other services.

There are some key disadvantages to the use of DBOO arrangements arising from the regulatory structure governing privately owned plants. Wastewater plants owned by public agencies, often referred to as Publicly Owned Treatment Works or "POTWs," receive special treatment under the Clean Water Act. Among other things, they have specified technology standards known as "secondary treatment standards," are subject to a specified POTW industrial pretreatment program and are eligible for low-interest loans from state revolving funds that are

established under the CWA. According to the EPA 1987 Memo, a POTW designation requires that the municipal treatment plant is owned by the municipality. Private ownership of a municipal wastewater treatment plant is considered a privately owned treatment works. These two distinct categories of wastewater plants are treated differently under the CWA.

There are three primary issues that can arise for privately owned wastewater plants. First, since a privately owned plant will no longer qualify as a POTW with the specified secondary treatment standards (discussed in Section V(C) herein), DEQ will be required to determine what level of treatment technology is appropriate to meet the regulatory BAT standard. To do so, it will likely need to undertake a sometimes lengthy process in which it uses its Best Professional Judgment ("BPJ") to establish the appropriate standard. Second, depending on the types of commercial and industrial discharges into the plant, it is possible that the facility could be designated as a hazardous waste treatment, storage or disposal facility under the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901, *et seq*. If applied, this would impose an additional complicated regulatory regime, and potentially higher costs, on the plant. Third, in some states, the plant may be regulated by the State Public Utility Commission ("PUC"), which can complicate plant decisions and oversight. We have not investigated whether the Oregon PUC would assert this jurisdiction, but can do so if this is germane to your decision.

These potential disadvantages do not arise in every situation and may not cause significant problems for the City with regard to WWTP #2. For example, based on our DEQ interviews, we believe it is likely that a variety of treatment technologies that meet secondary or higher standards are likely to be approved after a BPJ analysis of the necessary BAT, although this analysis will take some time. We also do not know, based on our lack of knowledge of the full range of the City's dischargers, whether the new plant would be in danger of receiving a RCRA designation. Finally, the Oregon PUC questions would need to be fully researched. We will discuss each of these issues in the next Section on privatization viability factors.

The loss of POTW classification and oversight control are logical reasons why very few U.S. cities have elected to allow private companies to take ownership of their treatment plants. Private companies are concerned not only about the loss of POTW classification, but also about the added liability and public scrutiny they would take on by owning the treatment plant. For example, some of the private companies we are familiar with provide many privatization options to municipalities, but they avoid owning the wastewater plant.

In fact, based on a fairly extensive national search, EEC was only able to identify one privately owned treatment plant in a city of similar size to Coos Bay (discussed further below) and there are no known privately owned treatment works in cities larger than Coos Bay. The vast majority of DBOO arrangements are for smaller plants in rural communities serving a relatively small population of almost exclusively residential dischargers. In these situations, private ownership of the wastewater treatment plants reportedly has an overall net benefit for the communities they serve.

EEC was only able to identify one municipality – Dale City, Virginia -- with a 100 percent privately owned wastewater treatment plant (DBOO) and a flow near or in excess of 1 mgd. Dale City's wastewater plant has an average dry weather flow of 4 mgd and has been privately owned and operated since 1965 by Dale Services Water Company. In 2013, the plant

was purchased from Dale Services by American Water Company, which also owns the entire collection system and is the NPDES permittee for the facility. As a result, American Water Company is responsible for all operations, improvements to the facility, and ensuring the water quality of its discharge. Dale Services/American Water Company was not required by the Virginia Department of Environmental Quality ("Virginia DEQ") to install any treatment technology beyond what was required to meet ambient water quality standards or any RCRA requirements, although this could be required in other DBOO situations as discussed below.

The only other prominent DBOO arrangement EEC located involves a wastewater plant in Franklin, Ohio with a dry weather flow of 4.5 mgd. Franklin developed a "hybrid" of public and private ownership of the treatment plant in order to maintain their POTW status. In this case, the Miami Conservancy District ("District"), the sewer district for Franklin, sold the majority of the treatment plant to a private corporation, but retained ownership of the wastewater collection system and a small portion of the treatment process. Both the District and the private contractor (first Wheelabrator and now U.S. Filter/Veolia) that purchased the plant are NPDES co-permittees. A 20-year agreement was signed that made the private contractor responsible for financing all plant upgrades and expansions, operation and maintenance of the wastewater plant and administration of the industrial pretreatment program.

The agreement gave the District the option to repurchase the POTW at the end of the 20-year term. Additionally, the agreement established unit rates for sewage treatment, conditions for rate increases, operation and maintenance standards and allocation of environmental liability.

The City Manager of Franklin, Mr. Sam Coxson, stated in an article that private ownership has been successful as a viable alternative for funding-strapped small communities with strict NPDES regulations, as was the case in Franklin. For example, in Maryland, many smaller communities with similar funding and NPDES issues as Franklin have pursued the DBOO option. The Maryland Department of the Environment ("MDE") enacted strict nutrient total maximum daily limits ("TMDLs") in 2008 to protect the local Chesapeake Bay from excessive nutrient loading. The TMDLs resulted in wastewater treatment plants needing to upgrade treatment technologies for biological nutrient removal and enhanced nutrient removal to BAT levels. For smaller communities, the costs for the upgrades exceeded their available funding. Multiple private companies, including Maryland Environmental Services have purchased these smaller treatment plants to incorporate the updates, take over ownership and responsibility, and operate the plants. MDE has also implemented grants and low interest loan programs to assist with the costs of such upgrades.

Although the DBOO experiences in both Dale City and Franklin reportedly have been very positive, these private arrangements were entered into 51 (1965) and 21 (1995) years ago, respectively, and EEC has not been able to find any other analogous municipal wastewater plant DBOO examples since that time. The lack of additional examples is due to a number of factors discussed below, but often is the result of the more attractive financing available for publicly owned treatment plants and the specified national secondary treatment standards that allow a relatively broad range of treatment technologies.

B. DBFO Option Description

If a municipality is facing a capital funding challenge, municipalities and private companies often prefer a DBFO arrangement. Under this scenario, the private company provides the funding for the plant under a lease agreement that is usually at least 20 years in duration. These agreements allow municipalities to retain ownership of the facilities, but place the responsibility for regulatory compliance and costs of construction and operation on the private company. At the end of the established term, the municipality often has the option to take over operations of the facility, or to renew/extend the operations agreement with the private company.

These agreements are increasingly popular when immediate wastewater treatment plant upgrades are required due to environmental non-compliance or capacity issues, but the available funds for the upgrades are not available. By having the private company provide financing for the facility upgrades, advanced treatment technologies can often be implemented more easily to meet strict water quality effluent standards. Most municipalities that enter into this type of agreement include an option to buy back the wastewater treatment plant at any time during the lease period. Table 1 provides examples of some municipalities that have entered into this type of agreement (more detail can be found in Appendix 1).

Table 1: Municipalities with DBFO Wastewater Agreements

Municipality	Population[1]	Private Company	Lease Terms	Assets	Flow
Arvin, CA	20,000	Veolia Water	35 years	WWTP Upgrade	2.5 mgd
Santa Paula, CA	30,000	Santa Paula Water	30 years	New Water Recycling Facility	4.2 mgd
Woonsocket, RI	41,000	Veolia Water	20 years	WWTP Upgrade	16 mgd
Cranston, RI	80,000	Veolia Water	25 years	WWTP Upgrade	12.5 mgd
Quincy, WA	7,000	Earth Tech	20 years	WWTP Upgrade	4.4 mgd

[1] This is the population of the city, not necessarily the population that discharges to the WWTP.

Many of these DBFO examples are viewed as successful experiences. For example, in Arvin, California, the City of Arvin previously operated a 2 mgd plant that served a population of 15,000. However, unexpected population growth caused Arvin to encounter compliance issues with the California Regional Water Quality Control Board. In 2008, Arvin entered into a DBFO agreement with Veolia to upgrade the wastewater treatment plant to a 2.5 mgd plant and provide operations for the plant. Arvin reportedly recognized up-front savings of $1.7 million which helped Arvin to retire outstanding dept. Additionally, Veolia was able to maintain consistent compliance with regulatory requirements.

On the other hand, there are a few examples of DBFO agreements that have not worked out for the municipality. For example, the City of Santa Paula, California entered into a DBFO agreement with the Santa Paula Water Company and PERC Water in 2007. The membrane bioreactor ("MBR") water recycling facility was completed in December 2010, and was considered at the outset as a success story for the design and construction phases of the project. The private design and construction of the plant resulted in a savings of $18 million in construction costs, $1.8 million in operation costs, a capacity increase of 25 percent, and

avoidance of $8 million of accrued fines assessed by the State. However, the expensive private financing caused water and sewer rates to increase and local residents were paying the second highest rates in the county.

In 2015, the City of Santa Paula opted to buy back the facility due to consistent exceedances of the chloride limits and given its ability to take advantage of low bond rates. The initial treatment plant design requirements did not include requirements to meet the 100 mg/L chloride limit. Santa Paula instead opted to save money on treatment technologies by addressing the problem through source control, which later proved to be ineffective. The sale of the plant will reportedly save Santa Paula $9 million over time and will result in a $28-$37 decrease in average monthly sewer bills for residents. The City of Santa Paula is still working to identify the causes of the high chlorides, and still contracts with PERC Water for operations purposes.[2]

C. DBO Option Description

When a municipality needs to build a new wastewater plant or upgrade an existing plant, the DBO option tends to be the most preferred privatization solution, especially when the municipality is able to acquire sufficient financing for the facility. In the NRC Report regarding privatization of water and wastewater facilities (referenced in footnote 1), the National Research Council of the National Academy of Sciences commented on the DBO approach as follows (note that some of cited examples are water treatment facilities):

> The type of privatization that involves the design, construction, and operation of new, upgraded, or expanded treatment plants, pipes, pumps, and storage facilities has become an accepted option for municipal owners during the past 10 years. Under these DBO contracts, municipalities set design criteria and their guidelines for long-term agreements. Private firms compete on the quality of their technical submissions and their prices for managing the detailed design/engineering/procurement/construction services and for operation and maintenance (in some cases with fixed prices for major maintenance and repairs).
>
> Municipal governments and their financial advisors usually arrange project financing for DBO projects. The cities of Atlanta, Seattle, Phoenix, Houston and Tampa have completed or are building large new treatment plants or biosolids processing facilities procured as DBO projects. A substantial number of long-term management contracts for the private operation of existing municipal utility plants also include a capital upgrade or expansion component that is treated as a DBO project. *Id.* at 20-21.

Potential benefits of a DBO arrangement include:

[2] http://www.rockofthecoast.com/2014/01/18/the-great-santa-paula-chloride-caper/
http://www.vcstar.com/news/local/santa-paula/santa-paula-will-buy-wastewater-treatment-plant-ep-913480310-348917371.html

- Lower anticipated costs: When design, construction and operation are handled together from the outset, there are more opportunities for efficiency. The potential for cost savings also exists during the operations phase of the agreement as private companies typically have to agree to annual operation costs and must implement cost saving measures if they are not meeting operational budgets.

- Faster Schedules: The project timeframe can be shorter because all team members are involved from the start, with no "down time" usually associated with the transition of a project from one phase to the next in a more traditional arrangement. Additionally, the schedule for completion can be agreed upon in the initial contract, and the private company will be required to adhere to the time frame.

- Lower Overall Risks: In DBOs, control of the facility remains in the hands of the municipal owner while responsibility for performance and compliance are with the DBO partner. Both the owner and DBO partner can manage risk and liability through performance guarantees, insurance, the development of maximum total project cost guarantees early on, and the implementation of quality assurance and control processes. Additionally, with the DBO partner serving as the single point of contact, management of the project by the owner is often made easier.

Many municipalities have entered into DBO agreements. Table 2 refers to some typical DBO examples (more detail is available in Appendix 1).

Table 2: Municipalities with DBO Wastewater Agreements

Municipality	Population[1]	Private Company	Operation Term	WWTP Flow
Fillmore, CA	15,000	American Water	20 years	1.8 mgd
Plymouth, MA	58,000	American Water	20 years	3 mgd
Stockton, CA	300,000	CH2M	25 years	43 mgd
Fulton County, GA	984,000	American Water	20 years	24 mgd
Lynn, MA	91,000	Veolia	20 years	25 mgd
Spokane County, WA	480,000	CH2M	25 years	8 mgd
Wilsonville, OR	21,000	CH2M	15 years	4 mgd
Holyoke, MA	40,000	Aquarion, Kelda Group	25 years	37 mgd
Newport, RI	24,000	Earth Tech	20 years	10 mgd
Naugatuck, CT	31,000	Veolia	20 years	10 mgd

[1] This is the population of the city or county, not necessarily the population that discharges to the WWTP.

V.

PRIVATIZATION VIABILITY

Based on the experience of Farella and EEC, and our respective clients, we believe that the City should utilize the following factors to evaluate the viability of privatizing a wastewater facility using the DBOO, DBFO and DBO models:

- Financial
- Regulatory
- Permit/Technology
- Environmental Impact and Benefit
- Control, Accountability and Relationships
- Liability
- Contractual

We want to emphasize that these factors are not of equal importance. In almost all cases, the financial considerations are the leading factor and often are weighted much more heavily than the other factors. Regulatory, permit/technology and environmental issues also normally play an important role in a privatization decision. However, each of these factors has been important in particular situations, sometimes in hindsight when things have gone wrong, so it is important to address each of them. Ultimately, it will be up to the City Council to consider and decide on the relative importance of each factor. We will discuss each factor in the sections below.

A. Financial Considerations

There are several categories of important financial considerations that arise in many wastewater plant privatization scenarios. The most important (but by no means the only financing concerns) are (1) initial capital costs, (2) tax considerations, (3) end user rates, and (4) the financial strength and reliability of the private party. We will discuss each factor below.

1. Initial Capital Costs

One major attraction to the City of a DBOO or DBFO arrangement is that all of the construction and other costs associated with the building of a new wastewater facility will be borne by the private party. This can be an important benefit for many municipalities which are strapped for cash and are reluctant to take on large loan or bond obligations for the capital-intensive facilities that are needed. Rather, in these two scenarios, the private party will be responsible for providing all funding to build a plant that meets City specifications and DEQ permit requirements.

However, it is important to keep in mind that the private party is in the business of generating profits and it will recoup its investment in some manner from the City or the ratepayers. There are a few exceptions, such as where the private entity is willing to break even or take a loss during the design/build phase of the project to demonstrate its ability to effectively manage such arrangements over the longer operational term. If the private party is able to build a plant that meets NPDES permit requirements for less money than a plant directly financed by a municipality, those overall financing costs paid by the City and ratepayers would be less than the

costs if the municipality constructed the plant. However, if the private plant will essentially cost the same amount to build as a publicly financed plant, the eventual total capital costs may be higher to the municipality over the length of the contract because private party debt financing often is more expensive and the private party will want to maintain a profit margin.

Municipalities often have access to funding sources for public wastewater plants which would not be available to a private party. For example, municipalities usually have the ability to sell bonds or to borrow funds from State Revolving Funds that the federal government makes available to states under the federal Clean Water Act. In Oregon, DEQ administers the Oregon Clean Water State Revolving Fund ("Oregon SRF"), which provides low-interest loans to local governments for the planning, design and construction of wastewater treatment and other facilities. According to a DEQ fact sheet dated September 15, 2015, "[t]he low-interest rates and terms inherent with these loans make this program an attractive alternative to the municipal bond market." DEQ staff member Ms. Ranei Nomura stated in an interview that the Oregon SRF is well funded, with low interest rates and a strong repayment rate. In fact, the City was approved for a loan of approximately $19 million from the Oregon SRF for construction of the currently planned WWTP #2 as further discussed in Section A(5) herein.

In a DBOO arrangement, the private party will finance, build and own the plant and neither Oregon SRF loans (which are available only to eligible public agencies) nor municipal bond funding sources will be available. Instead, the private entity will fund the project up front either using its own funds, bonds or private capital debt funding sources. In both a DBFO and DBO scenario, the City would be the owner of the plant. In a DBO situation, the City would be able to utilize the usual array of public funding sources. In the DBFO situation, private funding could be utilized and it is unclear on exactly what public funding sources may be available. This topic will be revisited in the tax considerations section below.

In our interview with Ms. Nomura, we asked about the availability of the Oregon SRF for funding a wastewater plant in a DBFO or DBO scenario. She stated that, at this time, her understanding is that the Oregon SRF does not have any procedures for making loans available to an Oregon city that is planning a DBO arrangement. She clarified that the SRF rules do not prohibit such an arrangement, just that DEQ has not yet adopted procedures or funded a DBO project using this vehicle. Ms. Nomura also noted that Oregon's SRF is conservative in many aspects (apparently including the eligibility requirements) and may not be as flexible as other states' revolving fund programs, but that developing such procedures is on DEQ's "radar." She added that DEQ told the City of Sutherlin recently that no such procedures were available for its DBO project.

In 2011, the City of Wilsonville, Oregon entered into a DBO agreement for upgrades of its existing 2.3 mgd wastewater plant. The upgrades included increasing the capacity to 4 mgd with a future option to increase to 7 mgd, and also included improvements to upgrade the biosolids processing from a Class B product to a Class A product. To finance this project, the Wilsonville opted to use city bonds which resulted in an increase in the sewer rates for the citizens of Wilsonville. According to Wilsonville, this financing was preferred over pursuing a loan from the Oregon SRF or turning to a private firm for financing. This preference could be a result of the demographics or relatively high income characteristics of that city.

In sum, in DBOO and DBFO scenarios, a private entity would use private funding to pay for the costs of constructing a wastewater plant, although there may be a way to utilize bond or other public financing in a DBFO scenario because the City would own the plant. In a DBO arrangement, the City would be both financing and owning the plant, so we would expect that all forms of public funding, including SRF funding, would normally be available. However, the Oregon SRF has not yet adopted procedures for funding DBO arrangements, although it appears that they would be willing to discuss SRF opportunities with an applicant and determine whether and how this type of funding could be available. Indeed, since the Oregon SRF is part of a federally sponsored CWA program, the federal policies favoring privatization should provide additional support for considering funding in such DBO scenarios.

2. Tax and Related Considerations

Some privatization scenarios can have significant tax ramifications that should be carefully investigated. One issue that the City does not have, unlike many municipalities in similar circumstances, relates to situations where an existing wastewater plant is still encumbered by EPA grant funds or municipal bond financing. When a private party wants to purchase a plant or replace and own a plant with outstanding federal loans, the loan contract terms (which sometimes prohibit a transfer of the facility or a requirement that it remain publicly owned) and federal tax laws and regulations can prevent or impede the transfer. If municipal bonds have been used, the municipality must be careful about what actions it takes because it may lose the tax-exempt status of the bonds. These concerns are not applicable here because the City reports that the current WWTP #2 has no existing loans.

A second situation in which tax questions can arise relate to situations where a private party raises funds to finance a wastewater treatment plant and would like to use either private or public bond financing. The EPA 2000 Guidance provides the following commentary:

> When private companies must acquire capital to fund improvements to the wastewater facilities or financial contributions to the local government, the debt is usually acquired in the form of taxable private bonds. However, the IRS has defined certain limited situations where private companies can finance wastewater treatment facilities with the proceeds of tax-exempt qualified private bonds.
>
> Even though the nominal interest rate differential between tax-exempt and taxable bonds may be significant, the actual costs of the capital may not have a great impact on the privatization decision. The private party may be able to offset the higher capital costs by the tax deductibility of interest costs and depreciation expenses. *Id*. at 17.

The potential tax and financing issues relating to privately funded wastewater plants are complicated and dynamic in nature and are well beyond the scope of this report. Accordingly, if

the City proceeds further with privatization will want to get expert advice on this subject and "vet" these issues thoroughly with a private partner.

3. End User Rates

A very important question arising in connection with wastewater plant privatization is what the impact of privatization will be on the sewer rates paid by residential users and businesses. EPA provides the following general commentary on this subject:

> The attraction of lower or stable user fees over the period of the privatization contract is one of the main reasons local governments explore privatization. Often privatization will result in a reduction in user fees with a guarantee that service charges from the private entity will remain stable with increases occurring only to reflect inflation or to reflect increased costs stemming from changes in regulatory requirements, treatment processes, or facility upgrades/expansions. Conditions that clearly state why and how changes in service fees will occur are important in the privatization process. *Id*. at 16.

In the scope, we were instructed not to analyze either the currently planned new WWTP #2 or any private party proposal to fund and replace WWTP #2. Accordingly, we are not in a position to offer any opinion on how any proposals could affect end user rates. However, we can recommend economic experts who could make these kinds of calculations for the current proposals or for the proposals from any bidders on a privatization RFP.

4. Private Party Financial Position

It is very important in any privatization arrangement that the City carefully evaluate the financial strength and reliability of the private party that will be designing, building, operating and perhaps owning the wastewater plant. There are a variety of scenarios in which the private party could fail to complete its obligations and the City could be left "holding the bag" and thereby ending up spending considerably more money to fix the problems. In our interview with Ms. Nomura, she mentioned that the financial strength of a private partner is a major concern of both DEQ and EPA when evaluating a privatization arrangement.

Such scenarios include a private entity having insufficient capitalization to complete the plant, having overall financial cash flow and other issues that prevent it from completing the plant as designed and on schedule, or having unexpected costs arise during construction that exceed its financial ability to pay. Since the private entity will be constructing the plant before it begins receiving revenues from plant operation, it must have the financial strength to bridge the gap. These financial issues can also arise after construction of the plant as plant facility performance maintenance or other issues arise. If it does not have sufficient funds, a private plant owner or operator may be motivated to "cut corners" or to defer needed maintenance to save money, which could become a major financial problem as time goes on.

The private party's financial issues can become the City's issues. If a plant owner goes out of business or even goes into a Chapter 11 bankruptcy, the City may need to take over plant construction or operation. Or, as several municipalities have done, if there are serious private party performance issues, the City may need to terminate the contract and either take over the project or quickly find a new partner involved at this late time, which will likely lead to increased costs. These issues should be addressed in the privatization contract.

5. Coos Bay Financing Considerations

We understand that the City has been approved for approximately $19 million in financing from the Oregon SRF to cover part of the cost of the currently planned new plant. It has also reportedly expended approximately $2.75 million in state-funded loans in connection with planning for the currently planned WWTP #2. In addition, approximately 25% of the influent flows to new WWTP #2 will be from the adjacent town of Charleston under an Agreement between the Charleston Sanitary District and the City. In approximately June 2016, Charleston was approved for $8.5 million in funding from the U. S. Department of Agriculture ("DOA"), reportedly consisting of a combination grant/loan to pay for its proportionate share of the capital cost of the currently planned plant and related facilities. We have heard, but have not independently verified, that this funding may not remain available if there is a long delay in building the currently planned new WWTP #2.

It is our understanding that the current plan for the new WWTP#2 is a 2 mgd dry weather design flow SBR with UV disinfection and biosolids treatment. Some concern has been expressed by the City Council that the estimated total cost for design and construction may be unusually high for this flow rate and level of treatment, particularly when compared to other SBR systems.[3] This is important because the likelihood of pursuing a privatization option is greatly increased if the privatization plan is likely to be less expensive than the current plan. Also, more private companies will be interested in providing privatization bids if they believe the current plan is unusually expensive. Farella and EEC would need to understand much more about the current plan in order to comment on the cost of the current plan.

We have not examined the terms, conditions and time deadlines for the funding sources for constructing the new plant. However, if in fact the new privatized plant will be owned by a private entity, we understand that it would no longer qualify as a POTW and the State Revolving Funds would no longer be available. We do not know the terms of the DOA loan, but a similar limitation may (or may not) apply. However, there are a few important considerations to keep in mind.

First, if a private entity privately finances and then owns the plant, it would obtain its own funding and would not need to rely on public grants and loans. It is certainly possible that the cost of this financing to the private entity could be higher than the public funding obtained by the City and Charleston, but if the cost of the privatized plant is lower or if there are other

[3] For example, Coquille, Oregon recently constructed a 6.1 mgd SBR plant upgrade for $8.1 million. This is a much higher design flow rate at a much lower cost, but this was a plant upgrade; therefore, without knowing much more about the details of Coquille's upgrades, it is impossible to use this as a comparison. However, there are some industry standard unit measurements that could be consulted for purposes of determining whether the cost of the currently-planned new plant falls within the normal range of expected costs.

economic or strategic considerations that reduce the overall cost, this private financing could still result in lower overall costs to the wastewater users.

Second, a reason why many municipalities and private entities do not pursue a model in which the private company owns the wastewater plant is that, by taking such ownership, the plant will no longer be eligible for public funding. Rather, a municipality will often retain ownership of some or all of the plant in part to keep itself eligible for public funding. If the amount of public financing needed is less because the plant is not as expensive as an alternative or because it is partly financed with private funds, this reduces the amount of public funds used and keeps such funds available for other projects.

B. Regulatory Considerations

It is important to evaluate the regulatory context for any wastewater plant privatization decision. There are several aspects to this analysis, including the privatization laws and policies of the federal and Oregon governments, the DEQ/City Mutual Agreement and Order and the timing issues raised by the potential switch to a privatized plant. We will discuss each topic below.

1. Federal/State Laws And Policies Affecting Privatization

In the last 30 years, there has been an accelerating trend toward privatization of a wide variety of traditional government services and projects, ranging from airport, road and prison projects to government services in areas such as health and education. The water and wastewater sector has been one of many municipal service areas affected by this trend. This trend has been driven by a number of factors, including the fact that many municipalities are strapped for cash, particularly when the projects require large capital outlays, as is the case for wastewater collection systems and treatment facilities. Moreover, for many types of projects such as wastewater facilities, there are demonstrated efficiencies and experience considerations that mean that privatization can result in equivalent or better service for a lower price.

At the federal government level, there has been a recognition that privatization of wastewater services can provide many benefits to citizens and many initiatives have been taken to facilitate the decision of a municipality to privatize its wastewater services. In 1992, President George Bush issued Executive Order No. 12803, entitled "Infrastructure Privatization," which set forth federal policies aimed at encouraging privatization of state and local government assets, including wastewater treatment facilities. Among other things, it contains the following excerpts:

> Consistent with the principles of federalism enumerated in Executive Order No. 12612, and in order to allow the private sector to provide for infrastructure modernization and expansion, State and local governments should have greater freedom to privatize infrastructure assets. . . .
>
> State and local governments are in the best position to assess and respond to local needs. State and local governments should,

> subject to assuring continued compliance with Federal requirements that public use be on reasonable and nondiscriminatory terms, have maximum possible freedom to make decisions concerning the maintenance and disposition of their federally financed infrastructure assets. . . .
>
> To the extent permitted by law, the head of each executive department and agency shall undertake the following actions: (a) Review those procedures affecting the management and disposition of federally financed infrastructure assets owned by State and local governments and modify those procedures to encourage appropriate privatization of those assets consistent with this order; … and … Approve State and local governments' requests to privatize infrastructure assets, consistent with the criteria in Section 4 of this order. . . .

Although this executive order was the most prominent of the federal privatization initiatives, it was followed by several others. For example, Executive Order 12875 directed federal agencies to review regulatory requirements for wastewater privatization and Executive Order 12893 encouraged federal agencies to work in conjunction with state and local governments to remove legal and regulatory barriers to privatization. All of this led to the re-examination of federal policies and rules in financial, tax and environmental areas that were viewed as an impediment to appropriate privatization and many of these were modified to facilitate the policies in the executive orders.

We have not found any corresponding municipal facility or wastewater service privatization policies that have been issued by the State of Oregon. In our interview with DEQ's Ms. Nomura, we asked if Oregon had enacted or DEQ had adopted any policies that would favor, disfavor or bar the privatization of municipal wastewater plants. Ms. Nomura responded that she did not know of any such policies – rather she believed that DEQ was "neutral" on this issue. We have not found any Oregon law or policy that would prohibit the City from entering into any of the three types of privatization arrangements for WWTP #2 addressed by this report.

In this context, we want to comment on some statements we have seen in a few City documents that discuss Oregon Public Contracting Rules used by DEQ that, if applied, would supposedly have the potential to impede or altogether bar the City from pursuing a privatization arrangement. In particular, these rules provide that DEQ may require that plans and specifications for the construction of treatment works be submitted to the Department for review and, if DEQ decides to require such submittal, no construction can occur until after DEQ approves them. O.R.S. § 468B.055. This and related provisions are implemented by DEQ rules that specify the procedures and criteria relating to such review. One of these provisions provides for exemptions from the plan submittal requirements, at DEQ's discretion, if certain criteria can be met. In one City document, City staff contends that the City has too small a population to qualify for this exemption.

However, we do not agree with such contentions. DEQ's rules do contain an exemption that applies to wastewater projects in municipalities with a population of less than 30,000 people.

In fact, we understand that Wilsonville, Oregon (discussed above), which has a similar population to Coos Bay, recently used a DBO model for the building of its wastewater plant facilities. EEC interviewed Mr. Eric Mende, employed by Wilsonville, who said that he is very pleased with the DBO arrangement and that they did successfully obtain, after an arduous process, a DEQ exemption from Oregon's Public Contracting Rules. In sum, the City may be able to obtain an exemption from these Public Contracting Rules but, if not exempt, the City would only need to comply with the longer time period before beginning construction rather than being barred from pursuing the privatization arrangement.

2. WWTP #2 Enforcement Issues

On August 21, 2003, DEQ and the City entered into Mutual Agreement and Order No. WQ/M-WR-03-022 ("MAO") relating to WWTP #2. The parties jointly recognized the need to construct new and expanded wastewater treatment facilities. In recognition of this fact, the MAO set interim effluent limitations for fecal coliform, total residual chlorine and ammonia, and it included a compliance schedule (with deadlines) for upgrading the facility's collection and treatment facilities. The MAO has been amended on several occasions since that time.

WWTP #2 has been operating under the MAO (a type of DEQ enforcement order) since 2003. In March 2012, the parties executed Amendment No. 3 to the MAO, which put in place a seven milestones for design, bids and construction of the new plant. We understand that the City has already met the first five deadlines. The sixth deadline requires that the new plant be placed in service by June 16, 2018. Accordingly, under the currently operative MAO, the City is not in immediate jeopardy of violating an MAO compliance deadline or incurring stipulated penalties. However, depending on how quickly a plant is started, such penalties could begin in June 2018.

By letter dated June 27, 2016, DEQ notified the City that it planned to unilaterally amend the MAO's compliance schedule, stipulated penalty amounts and termination provisions. On July 18, 2016, the City filed a Contest, Answer and Request for Contested Case Hearing contending that these amendments were not lawful, appropriate or reasonable. In a "Department Order" dated August 1, 2016, DEQ adopted a revised form of the unilateral amendments to the MAO that it had noticed in the June 27 letter. The major change is that the new compliance deadlines have later milestone dates, with the first deadline for beginning site preparation work now set on November 23, 2016. The City has the right to challenge this Department Order through a contested case hearing and other administrative and then judicial avenues.

If this matter is not resolved in the City's favor at the contested case hearing, the City would have several levels of administrative and judicial appeals that it could pursue. If these unilateral DEQ amendments are upheld, the City would face penalties of $1600 per day for each day that it does not meet the new compliance schedule deadlines. Moreover, DEQ would have a new MAO termination right that could theoretically be used to terminate the MAO and seek other (and higher) enforcement penalties. At this time, it is not known if DEQ's unilateral amendments will be upheld in administrative and judicial appeals.

That being said, if the City pursues the privatization route, it will likely want to have a full discussion with DEQ about the feasibility of a privatization alternative and the schedule it plans to pursue. The City could request that the current MAO be amended to accommodate that

need and it is certainly possible that DEQ will be receptive to a mutually agreeable amendment so long as the City takes action expeditiously. If such an amendment occurred, the City would not be subject to the penalties identified above and would have sufficient time to implement privatization.

3. Regulatory Timing Considerations

Although there are many factors to be further evaluated, if the City chooses to pursue one of the privatization options, the completion date for the new WWTP #2 is expected to be later than for the currently planned plant due to the added factors of the bidding process, the redesign of the plant, the involvement of EPA in the DEQ approval and permitting process and contract negotiations with the private party.

Based on our interview with Ms. Nomura, if the City chooses to pursue the DBOO option, this choice would result in a longer regulatory review period for the NPDES permit because of the novelty of the issue. DEQ has never addressed this scenario, and the EPA and Oregon Department of Justice would be closely involved in the contract review and DEQ NPDES permit approval process. Our estimate is that this could add as much as 1-2 years to the completion date of the project as compared to the DBFO and DBO options due the triggering of greater regulatory scrutiny.

The time frames for the design, construction and start-up phases of the wastewater plant will most likely be similar for DBFO and DBO projects assuming there are no significant issues procuring the funding for the project. This is typically because the financing for the project can occur simultaneously with the initial design phases for the plant. The typical design-build wastewater treatment project duration is 2 - 4 years depending on the level of project complexity.

For the DBO project in Wilsonville, Oregon, the total project time was three years and two months from contract approval (July 2011) to final operations commenced (September 2014). Project delays included delays in governmental approvals for permits and negotiations between Wilsonville and the private contractor for change order requests. According to reports submitted by Wilsonville's oversight contractor, the scheduled time frame for each phase of the project was as follows:

1. Contract approval through initial design = 6 months
    a. There is typically a 2 month transition period once the contract is approved and prior to the beginning of design
    b. Submissions of applications for anticipated construction permits can also occur during this period
2. Initial design to final design = 6 months
    a. Additional construction permits and costs for materials are established during this time
    b. Time frame could be extended due to permit issues or revisions in designs
3. Construction start to construction completion = 2 years
    a. Depends on complexity and identified issues
    b. Weather factors such as rain could impede construction during winter months

4. Startup Testing Period = 6 months

When this experience is applied to the City's WWTP #2 project, an additional time period would need to be added for the Request for Proposal ("RFP") process and negotiation of a contract with the successful bidder, which could last another 6 months, resulting in a total time frame of 2.5 – 4.5 years. This could be shortened by as much as 9 months since much of the current plant design work may be able to be utilized and if all parties are working together to expedite the process. Therefore, if the RFP process for a new City privatized plant began by the end of 2016, a DBFO or DBO project could potentially be completed by October 2018, at the earliest, or longer if there were issues or delays.

C. Permit and Technology Considerations

Pursuant to the Clean Water Act, EPA has established technology standards that must be met by municipal wastewater plants (POTWs) that discharge into waters of the United States. In brief, POTWs such as the current WWTP #2 must contain technology that is capable of meeting secondary treatment standards, which require a plant to achieve 85 percent removal of total suspended solids ("TSS") and biochemical oxygen demand materials ("BOD"), along with specified weekly and monthly concentration limitations for TSS and BOD, and must have a pH between 6 and 9. 40 C.F.R. Part 133. Oregon Administrative Rules establish slightly more stringent minimum discharge criteria for TSS and BOD.

The Clean Water Act mandates that a second tier of effluent limitations must be imposed if there is a reasonable potential for the discharged effluent to cause or contribute to a violation of a State water quality standard in the receiving waters. A reasonable potential analysis conducted in connection with the current permit found that an effluent limit was needed for chlorine (resulting from the chlorination process) and potentially for copper. The NPDES permitting process for applying water quality standards to POTWs is predictable and well-understood by DEQ and the municipal discharger community. In contrast, the development of technology-based effluent limits is more complex, less-frequently used in the regulatory community, and can be the subject of disagreements and challenges.

We have assumed, as directed by the Scope, that a new privatized plant would incorporate Best Available Technology Economically Achievable (commonly referred to as "BAT"). Although the particular type of BAT that would be used is not specified, we will assume, based on research into other privatization projects and initial discussions with DEQ, that it includes such advanced technologies as a sequencing batch reactor ("SBR") and a membrane bioreactor ("MBR").

In the sections below, we will discuss the two major types of NPDES permit issues that arise in connection with the DBOO model of privatization, in situations where the private partner owns the wastewater plants.

1. Treatment Technology Based Permit Limits and Best Available Technology Economically Achievable (BAT)

Wastewater effluent limits in NPDES permits are generally based on available treatment technology or ambient water quality standards. When a given pollutant is subject to both a treatment technology-based standard and also a water quality-based standard, the most stringent standard applies. Technology requirements can be different for POTWs versus privately owned treatment works. The CWA requires POTWs to meet the "secondary treatment" technology standard described above. Sections 307 and 402 of the CWA also require POTWs to implement a pretreatment program to generally control toxic pollutants discharged by commercial and industrial users of the POTW sewage system.

In contrast, privately owned treatment works are not subject to secondary treatment requirements. Instead, they must meet other treatment technology requirements of the CWA including Best Conventional Treatment ("BCT") for conventional pollutants, BAT for toxic pollutants and New Source Performance Standards ("NSPS"). The conventional pollutants regulated under BCT include BOD5, TSS, fecal coliform, pH, and oil and grease. Toxic pollutants are defined under section 307(a)(1) of the Act and are regulated using BAT. Toxic pollutants include 126 metals and man-made organic compounds. NPDES permits that reflect BAT may contain many effluent limits because a large number of chemicals are available for control under BAT. Effluent limitations based on NSPS represent a high level of pollution control because such performance can be incorporated into the design of the facility.

The Act does not authorize pretreatment programs for privately owned treatment works. Consequently, effluent limits and controls for toxic pollutants are based on BAT or NSPS and expressed as conditions of the NPDES permit. It may be necessary for commercial and industrial users to be co-permittees under the NPDES permit to implement toxic pollutant controls. Finally, the CWA provides BPJ as a basis for site-specific permit requirements.

The SBR activated sludge process that is currently designed for the City is a commonly used municipal wastewater treatment technology that will consistently meet or exceed secondary treatment standards. Standard activated sludge treatment or MBR activated sludge/filtration processes are other examples of commonly used municipal wastewater treatment technologies that will consistently meet or exceed these secondary treatment standards. Due to its filtration technology, an MBR will provide higher effluent quality than an SBR will, but since both technologies will achieve secondary treatment effluent standards, both would typically be considered BAT. Municipal wastewater MBRs are typically (but not always) more expensive than SBRs; therefore, MBRs are typically the preferred technology only when there are extreme space limitations requiring an MBR or the required effluent discharge standards cannot be achieved with an SBR.

In the Scope, we have been directed to assume that the chosen technology for the privately owned plant will meet the applicable BAT standards. If this is in fact the chosen technology and if it operates as designed (including addressing the WWTP #2 high peak flow factor), an advanced treatment technology such as MBR could be expected to provide a higher level of treatment than SBR or other conventional secondary treatment technologies, with corresponding environmental benefits. In our view, the degree of environmental benefit is a key

question that should be answered to determine if a higher level of treatment is an overall significant benefit.

Ms. Nomura of DEQ was asked what the basis of the effluent limits would be in an NPDES permit for a privately owned treatment works and what level of treatment would be required. Ms. Nomura explained that the limits would be based on a combination of water quality standards and the treatment technology requirements under the CWA. She has not researched the precise requirements, but believes the technology-based effluent limits may be based on NSPS and DEQ's BPJ. The treatment technology evaluation for an NPDES permit is very resource intensive and DEQ is unsure whether it would perform this work in-house or seek outside assistance.

Based on an e-mail sent to City Manager Rodger Craddock, DEQ stated to the City that the term "BAT" is commonly used, but does not quite fit with the process DEQ would use to establish the effluent limitations for a privately-owned facility. DEQ notes that it would need to review what is being required in other states, review existing technology and costs of such technology, and consult with EPA to develop NSPS.

In the case of Dale City, Virginia, Dale City was reportedly not required to install treatment technology beyond what was required to meet their water quality standards. In light of the CWA requirements concerning BCT, BAT and NSPS consideration for privately owned wastewater plants, it is not known whether the Virginia DEQ consulted with EPA before making these decisions.

2. Privately Owned Treatment Works Pretreatment Program

The goals of the CWA are to restore and maintain the integrity of the nation's waters by eliminating the introduction of pollutants into the nation's navigable waters and to achieve fishable and swimmable water quality levels. The CWA's NPDES Permit Program represents one of the key components established to accomplish the goals of the CWA. The NPDES Permit Program generally requires that persons who make point source discharges of pollutants to waters of the United States (i.e., direct dischargers) must obtain an NPDES permit.

In addition to addressing these direct discharges, the CWA also established a regulatory program to address indirect discharges from industries to POTWs through the National Pretreatment Program, which is a component of the NPDES Permit Program. The National Pretreatment Program requires industrial and commercial dischargers, called industrial users, to obtain permits or other control mechanisms to discharge wastewater to the POTW. Such a permit may specify the effluent quality that necessitates that an industrial user pretreat or otherwise control pollutants in its wastewater before discharging it to a POTW.

Under the Industrial Pretreatment Program, and specifically, under the Domestic Sewage Exclusion, specified in 40 C.F.R. § 261.4(a)(1)(ii), hazardous wastes mixed with domestic sewage are exempt from the RCRA waste regulations and, instead, are subject to regulation under the CWA and the pretreatment program. The purpose of the Domestic Sewage Exclusion is to separate the coverage of RCRA and the Clean Water Act by avoiding having both the RCRA and the CWA legal regimes applying to treatment of the same wastewater. However, if

the POTW status were to be removed, the Domestic Sewage Exclusion would no longer apply and hazardous wastes mixed with domestic sewage potentially would be subject to additional regulation under RCRA. Consequently, the privately owned treatment works may be regulated under RCRA as a treatment, storage, or disposal ("TSD") facility and other RCRA requirements may apply to both the industries discharging to the sewer system and the treatment plant receiving and treating such wastes.

In this scenario, if the facility becomes privately owned, it would no longer be classified as a POTW, would no longer be subject to the National Pretreatment Program, and would be required to obtain a new NPDES permit and possibly a RCRA permit in its own name. Consequently, the facility and any industrial or commercial dischargers of concern into the facility would be regulated under the CWA and may also be subject to requirements under RCRA. The private ownership status means that industrial pretreatment requirements under the POTW status of the Clean Water Act may be replaced by RCRA requirements. In such a situation, where the wastewater treatment facility is designated as a RCRA hazardous waste TSD facility, more strenuous treatment standards and higher treatment costs may occur.

The potential pretreatment program complications involving a privately owned treatment works are discussed in the EPA 1987 Memo:

> Where the treatment plant is sold but the collection system remains in public ownership, pretreatment requirements no longer apply. All contributors to the system are now subject to any requirements imposed under 40 CFR 122.44(m), which applies to privately owned treatment works. Under that provision, the Director may issue one permit under which some or all contributors are co-permittees or may issue separate permits. The publicly owned collection system is now a contributor to a privately owned treatment works and, as such, may also be made a co-permittee. This will help to ensure that the collection system will continue to be operated as an integral part of the treatment system, thereby maximizing efficiency and avoiding conflicting interests between public and private parties.

Ms. Nomura of the Oregon DEQ was asked how treatment plant contributors (e.g., industrial or commercial dischargers) would be regulated if the treatment plant was privately owned. She said they would have to look into it, but she stated that the DEQ may regulate them similarly to how they are regulated in a POTW pretreatment program. However, since the private treatment plant owner would not be permitting the industrial or commercial dischargers of concern, the DEQ may issue separate permits to the dischargers or may make them co-permittees of the treatment plant's NPDES permit.

Based on an email received from Mr. Craddock, industrial and commercial facilities that discharge into current WWTP #2 include small fish processing plants in the Charleston area, the Port of Coos Bay shipyard, Southwestern Oregon Community College and Oregon Institute of Marine Biology. These facilities reportedly are not currently classified as significant industrial

users by the City and are not currently permitted by the City. Based on DEQ's comments to this point, if the treatment plant was privately owned, these facilities may not need to be permitted by DEQ, or be required to install pretreatment. However, DEQ would likely need to formally weigh in on these facilities in light of EPA guidance concerning evaluating RCRA-type toxic controls for dischargers of concern.

Finally, in late 2016, EPA anticipates promulgating technology-based categorical wastewater discharge standards for mercury from dental facilities. There are approximately 30 dental facilities in Coos Bay. This new rule will likely not have a major impact on Coos Bay wastewater planning and operations due to current State law. Oregon is one of 12 states that implemented a mandatory state-wide program to reduce dental mercury discharges. Oregon Revised Statutes 679.520 currently requires the installation and operation of dental amalgam separators. This provision took effect in 2011.

D. Environmental Impact and Benefit Considerations

The Coos Bay estuary is an environmentally vibrant and ecologically important area that provides habitat for a wide variety of fish, bird, mollusk and other species. It is the second largest estuary in Oregon and encompasses approximately 54 square miles of open channels and tidal flats on the southwestern Oregon coast. The portion of Coos Bay in which the current outfall for WWTP #2 discharges (sometimes referred to as the "Lower Bay") is identified by one study as "an area of exceptional natural productivity and a prime aesthetic and recreational resource." Natural Resources of Coos Bay Estuary, Oregon Department of Fish and Wildlife, at 58 (1979).

It is beyond the scope of this document to catalogue the many environmental, species, economic and recreational attributes of the Coos Bay estuary. However, it is pertinent to this analysis to identify a few key components. Three species of fish listed as "threatened" under the federal Endangered Species Act – coho salmon, green sturgeon and eulachon – utilize Coos Bay for their migration and feeding activities and the Bay has been formally designated as ESA "critical habitat" for these species and Magnuson Fisheries "essential fish habitat." The Bay is also home to a commercial oyster growing industry and many clams and other shellfish are collected in areas of the Lower Bay. This portion of the Bay has been identified as a prime location for recreational fishing and there is a designated marine estuary to the south. According to the Portland Audubon Society, "Coos Bay hosts hundreds of thousands of waterfowl during winter and migration periods, and tens of thousands of shorebirds of many species during spring and fall migration."

However, the Bay has displayed some environmental problems. First, Coos Bay has been included on Oregon's impaired waters list (sometimes called a "Section 303(d) list") for fecal coliform contamination (an indicator for the presence of bacteria), including in the Lower Bay. This listing obligates the State to take action, through NPDES permit limits and Total Maximum Daily Load ("TMDL") calculations to address these issues. Ms. Nomura stated in an email: "There will be a TMDL for the Coos Bay Sub-basin but the schedule has not been determined. It will be a relatively complex TMDL with lots of interests that will need to be involved. The 2010 assessment lists areas (sloughs) of Coos Bay as impaired for dissolved oxygen (DO) in addition to bacteria. EPA proposes to list areas of Coos Bay for arsenic in 2012. The upper watershed

has biocriteria and temperature impairments. So as of right now the Coos Sub-basin TMDL will address bacteria, dissolved oxygen (DO), biocriteria, temperature, and probably arsenic." These upcoming TMDLs will likely lead to more stringent discharge limitations in the future for both point sources (like WWTP #2) and nonpoint sources.

Fecal coliform issues have had recreational, health and economic impacts in Coos Bay. In 2011, the Food and Drug Administration (FDA) conducted a study to evaluate the effects on shellfish from effluent discharges from the area wastewater treatment plants. During the study it was identified that there have been periods of time when discharges from wastewater treatment plants resulted in elevated levels of fecal coliform and the dilution factors were not achieved for the mixing zones being studied. *FDA Study Coos Bay Final Report September, 2015*.

One important advantage of a new WWTP #2 is that it would improve upon the current chlorination/dechlorination approach to addressing bacterial contamination in the plant effluent. The current WWTP #2 design is an SBR with UV disinfection. Based on a DEQ e-mail sent to Mr. Craddock, "the SBR meets State water quality standards for the foreseeable future," It has been reported by some that MBR with UV disinfection will provide significantly cleaner effluent to the Bay than a SBR with UV disinfection would. However, the degree of pollutant removal depends on the constituent being considered (e.g., bacteria vs. viruses vs. copper), plus MBRs may have significant potential limitations in peak flow situations. Therefore, claims of cleaner effluent for any technology need to be carefully scrutinized. That being said, it is possible that DEQ may require an upgrade to MBR or other higher level of treatment in the future for environmental protection reasons, so it is reasonable for the City to assess whether it wants to go to that higher level of technology now or to do it in stages. We understand that the currently planned design allows for an upgrade to MBR in the future, if necessary, to meet currently unanticipated water quality standards.

E. Control, Accountability and Relationship Considerations

We have been directed to assume that the new privatized wastewater plant would be designed, built, financed, operated and owned by a private entity. This structure has the major advantage of putting responsibility that would otherwise be borne by the City onto the private entity that will be in charge of these tasks. This owner/operator, if thoroughly vetted, should have the background, experience and capabilities to build and run such plant with a high level of expertise and in an efficient manner that minimizes unnecessary costs.

However, if not carefully planned, there can be control and accountability issues that arise from this situation. Since a private plant owner must use much of its own resources and, not unexpectedly, is motivated by profit, there may be an incentive for some private owners to "cut corners" or defer needed maintenance or upgrades. If the customers are not happy with the service, responsiveness or rates of the private operator, they will likely complain to City officials, who will want to address the problems, but may be constrained because they only have their contract rights as between the City and the private contractor.

There is also a "relationship" issue that the City needs to keep in mind in this situation. As discussed above, 25 percent of the plant influent is from Charleston and, in making decisions regarding new WWTP #2, the City will want Charleston to have an opportunity to offer opinions

relating to potential privatization paths. We understand that the City has been receiving the views of Charleston during its current deliberations regarding WWTP #2 and we assume this approach will continue.

Control and accountability have been an issue for some municipalities. For example, the City of Richmond, California reportedly had concerns in late 2011 regarding the value of services that were provided through their public-private partnership for O&M of their wastewater systems. Anticipated savings over the life of the 10-year contract were $75 million; however, based on their total budgeted amount for contracted services, Richmond appeared to be paying higher than anticipated costs for managing the private operations contract. This increase was reportedly attributed to deferred maintenance activities at the WWTP and reductions in staffing which resulted in savings to the private contractor but not the City of Richmond. Under the existing contract, Richmond lacked the control to regulate the staffing of the private contractor and to oversee significant adjustments in operational decisions. The lack of staff resulted in some tasks being deferred to the City of Richmond causing strains on Richmond's operational budgets. The actual savings to the City of Richmond for private operations was unknown. *West Yost Associates, Private-Public Operations TM 6/22/2012*.

Indeed, privatization of municipal services can sometimes be controversial because of a perceived public perception (sometimes realized) that there will a loss of transparency and accountability for the actions of the private owner/operator. Although this issue can be more intense for water supply and delivery services (which are often considered a basic and important right), it can also be an important consideration when privatizing wastewater services as well.

The City of Novato, California experienced this issue during start-up of its plant. Its new $90 million wastewater plant was designed and built under a DBO agreement. Shortly after the plant came online, the local public began complaining about strong odors coming from the plant. This was a disappointment to the City of Novato given that $2 million of the budget had been spent on odor control technologies. Novato worked closely with their contracted operator to ensure the odor issues were resolved.

On the other hand, the City of Wilsonville, Oregon is one of many examples where the relationship between Wilsonville and the DBO contractor reportedly ensured successful construction and operation of the treatment plant, controlled costs, and achieved consistent compliance with water quality standards. Other successful DBOO, DBFO and DBO examples are provided in Appendix 1.

When entering into a public-private contract of any type, it is important that there are clear roles and responsibilities established between the parties, including checks and balances, and transitional plans in place in case the unexpected happens. Examples include (some of which are highlighted in the contractual provision section):

F. Liability Considerations

One important motivation for pursuing a DBOO scenario is that the private entity assumes all responsibility for every aspect of the wastewater plant's life cycle. The plant owner

will be responsible for obtaining and complying with all permits and, in most situations, for responsibility for any problems that ensue.

However, there are some special issues that could arise in this situation. First, in this case, we have been asked to assume that the private owner will own the wastewater treatment facilities, but that the City will continue to own the collection system and the outfall through which the treated effluent will be discharged to waters of the United States. This raises the question of whether DEQ -- which will issue the NPDES permit -- will take the position that the ownership of the outfall and the collection system would require the City to become a co-permittee with the private operator on the permit, thereby creating joint liability for any violations or other issues that occur.

The basic duty to apply for an NPDES permit is expressed in broad terms in EPA's permitting regulations. Section 122.21(a)(1) of these regulations provides in pertinent part:

> Any person who discharges or proposes to discharge pollutants … must submit a complete application to the Director in accordance with this section … .

This provision captures the broad array of ownership circumstances under which discharges occur and reflects the CWA's broad application of the NPDES permitting program. The duty to apply for a permit, however, is narrowed by the provisions of 40 C.F.R. 122.21(b) which state:

> (b) *Who applies?* When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.

The objective of these regulations is to be action-forcing and make clear who must apply for a permit. Once a permit application has been submitted, the permit-issuing authority has some discretion in determining who shall be named as the holder of the permit based on site-specific circumstances. Often there is a combination of co-permittees as necessary to address the various requirements of the CWA. This, in turn, may result in both the owner and operator of a treatment plant being named as co-permittees.

Ms. Nomura of DEQ emphasized that private treatment plant ownership would be a new situation for the DEQ, but she would expect the treatment plant NPDES permit holder to be the private owner/operator. She stated that EPA and the Oregon DOJ will want to review the permit and any agreement between the City and private party because privately-owned treatment works for municipal wastewater are rare. Also, the DEQ would evaluate whether the collection system would need to be separately permitted. She explained that the DEQ may look at how collection systems are permitted in states such as California where collection system permitting is common.

The other issue that has occasionally arisen in the case examples is where the chosen private entity, whether operating under a DBO, DBOF or DBOO arrangement, runs out of money, goes bankrupt, fails to build an acceptable plant or meet its performance obligations over time. In those situations, the City would either be forced or take action to step into the place of the private entity to ensure that wastewater treatment plants and operations occur as expected. In

these scenarios, the City essentially has no choice but to assume the responsibilities of the private entity as it will ultimately have responsibility for ensuring that these services are provided to its citizens.

G. Contractual Considerations

One important ingredient for a successful privatization arrangement is a contract that is carefully designed to protect a municipality from potential financial, regulatory, environmental and other risks. The terms of this contract will also to demonstrate to the regulatory agencies and potential lenders that appropriate precautions have been taken to anticipate and address these risks. Although a well-negotiated contract is not an ironclad guarantee, it does help to avoid, minimize or mitigate the City's liability exposure when and if problems arise.

Before selecting a privatization bidder or reaching the contract stage, the City should carefully investigate its potential private partner. Since the City will be entering into a long-term relationship with this partner, it should evaluate that party's capital position, cash flow, proposed financial arrangements and its financial track record in similar arrangements. It should also assess the depth and breadth of the party's experience with privatization projects and independently determine the views of the prior municipal partners. Since the private party's compliance with the NPDES permit and other regulatory requirements is essential, its relationships with DEQ and environmental compliance history will be important to investigate. The City will also want to carefully assess the performance of the particular proposed treatment technology, the experience of the party's management and employees and its familiarity with the monitoring, reporting and communication needs of a municipality like the City.

It is beyond the scope of this report to identify all of the terms that should be included in a DBOO, DBFO or DBO contract. Indeed, the terms could vary substantially depending on which of these arrangements is chosen. We will not address here the kind of standard contract terms that are required for these types of public agency contracts in Oregon. Rather, we will identify key terms that should be addressed in these specific types of privatization arrangements:

1. Facility Construction

- Require the private party to design and build a facility that will reliably treat the current and anticipated influent flows and that will consistently meet the specifications of the NPDES permit and other regulatory requirements;

- Include a customized set of performance tests and independent verifications to insure that each of the treatment works in the plant, particularly if it is not a standard plant for this type and amount of influent, can consistently achieve the plant performance objectives and permit requirements;

- Require the private party to provide wastewater treatment facilities that will perform for an agreed-upon time period or, alternatively, for their design life, with a companion provision requiring the private party to repair or replace any facilities that suffer problems before that period has occurred;

- Require the private party (in DBOO and DBFO arrangements) to finance all plant upgrades and expansions;

- Assure, through independent means, that the private party has sufficient capitalization, financing and cash flow to complete the project;

- Obtain a construction performance and payment bond to ensure that funds will be available to complete the construction if the private party fails to complete performance;
- Require the private party to obtain standard forms of insurance, with the City as a named insured, to protect against the standard array of construction risks;

- Provide specified deadlines, backed by financial penalties for any delays, to ensure timely performance;

- Include a provision that give the City the right to take over construction of the plant if any substantial non-performance occurs; and

- If the private party will own the plant (the DBOO scenario), include a provision that authorizes the City to buy back the plant at any time and which specifies when the private party will transfer ownership of the plant to the City if no earlier termination occurs.

2. Plant Operation

- Require the private partner to operate and maintain the plant to consistently achieve all requirements of the NPDES permit and any other regulatory requirements;

- Provide financial penalties for any violation of NPDES permit requirements and a City termination right if there are chronic violation issues;

- Provide an independent monitoring system – perhaps using a third party vendor – to perform confirmation sampling of the treated wastewater to ensure that the private party is providing accurate effluent sampling results to DEQ and the City. Although the City will likely want the private party to be fully responsible for the sampling, monitoring and reporting program specified by the NPDES permit, this independent verification can be an important assurance;

- Require the plant operator to administer the municipal industrial pretreatment program;

- Require the plant operator to retain key personnel and require City approval for changes;

- Provide for regular inspections of plant facilities to ensure that the plant is properly maintained, either through the private party or utilizing an independent consultant. In either case, make sure the reports are provided promptly to the City;

- Ensure that operator implements a comprehensive preventive maintenance program;

- To ensure transparency, require the private party to prepare periodic reports (usually annual) and to appear before the City Council to reports on developments and answer questions from the Council and the public; and

- Specify a set of financial penalties for any failures to meet the performance objectives of the plant.

3. Other Financial, Regulatory and Administrative Issues

- Include provisions that address the procedures, calculations and limitations for revising wastewater plant user fees;

- Consider negotiating unit rates for wastewater treatment and provide tight conditions on when and how much sewer rate increases can be;

- In some situations, such as a DBO arrangement, include development of maximum total project cost guarantees;

- Allocate responsibility for environmental liability in a variety of situations, including potential government enforcement action, citizen suit actions, natural resource damage actions or if other types of claims such as those arising under RCRA;

- Agree on an expedited conflict resolution procedure; and

- Build transparency into the contract provisions to avoid citizen complaints that decisions are being made without appropriate public notice and input.

VI.

THE ADVANTAGES AND DISADVANTAGES OF PRIVATIZING WWTP #2 IN THE CURRENT REGULATORY CONTEXT

We believe that privatization of new WWTP #2 can be a viable option for the City, both in general and in the current regulatory context. After a relatively bumpy start several decades ago, there is an increasing trend toward the privatization of wastewater facilities and, if done carefully, it certainly could succeed here. Indeed, the City has apparently had a very good experience with its privatized wastewater system operation and maintenance contract. Although a DBOO, DBFO or DBO arrangement is more complicated and invokes a wider range of issues than an operation and maintenance contract, this experience demonstrates how, with sufficient controls, a privatization scenario can be successful.

The major advantages of these privatization models for WWTP #2 are: (1) under the DBOO and DBFO scenarios, the City would not incur the debt needed to finance the cost of the new plant, including the unknown cost of potential change orders and other charges; (2) a private party under one of these arrangements may be able to construct the plant for a significantly lower cost, depending on the technology and procurement process used; (3) if the private partner

proposed to build a plant that had a higher level of wastewater treatment, the cleaner effluent would represent an environmental benefit to the Coos Bay environment and to the fisheries and shellfish businesses that depend on it; (4) the City would avoid most of the direct administrative, financial and management issues involved in a major construction project and ensuing plant regulatory and operational issues; and (5) the City may not be a permittee for the plant itself, which would lessen its regulatory liability exposure, although its ownership of the collection system and plant outfall may possibly result in co-permittee status anyway.

The major disadvantages of these three privatization models for WWTP #2 are: (1) if the City adopted the DBOO model (in which the private party, rather than the City owned the plant), the series of significant permitting, technological and pretreatment issues (discussed above) could greatly complicate and slow down the privatization process; (2) the City is operating under a tight enforcement order from DEQ that could erect impediments to a smooth privatization scenario and, if challenges to the latest unilateral DEQ amendments to the MAO are upheld, the City will be exposed to large penalties and other enforcement issues; (3) depending on the privatization scenario chosen, the City will lose control over many aspects of its wastewater construction and operations, which could become an issue if the private partner had financial issues, failed to meet permit or other performance standards or took actions that resulted in higher end user rates.

In our opinion, not all of the privatization models are better candidates for the City to utilize at this time for WWTP #2. We believe that the DBOO model, in which the private party, rather than the City, owns all of new WWTP #2 is the least attractive of these options. The most prominent issues with DBOO arise from the fact that, since the plant will not be 100% owned by the City, it will not be deemed to be a POTW, which means that there is a risk that it will not automatically qualify for the Clean Water Act's secondary treatment standards and it may (or may not) be subject to RCRA's hazardous waste TSD facility regulations and permit requirements. In addition, if the private partner does not have ready access to private funding sources, the loss of the ability to pursue public funding may make it less attractive. Finally, some potential private partners may shy away from an ownership scenario because it is rare and presents more difficult regulatory issues. Therefore, the City may have difficulty attracting DBOO bids.

There is certainly the possibility that the City could receive a DBOO proposal that could surmount these concerns and work for the City in this situation. However, if the City decides to proceed along the DBOO route, the City would want to make sure the DBOO bidders are prepared to address the additional layers of regulation resulting from plant ownership. The City should also conduct its own investigation to ensure that these concerns will be addressed adequately so the City is not put in a difficult position later if things do not go well.

The DBFO and DBO arrangements, in which the City retains ownership of WWTP #2, would avoid many of these issues. The City could likely pursue a wide range of public financing options, including municipal bonds, which will make the funding less expensive, which will keep end user rates lower. This would be of particular benefit if the private partner proposed to build a cheaper plant (it has not done so to date for DBO situations). It is unclear if the State would make SRF funds available for the plant, although the City should certainly pursue this option.

The WWTP would still qualify for secondary treatment standards as a POTW and avoid the possibility that the plant would be governed by RCRA. On the other hand, the City may be a co-permittee on the plant's NPDES permit, along with the private partner, because the City would own the collection system and the plant outfall. This situation would mean that the City would continue to have liability for plant performance, even though it will have lesser control.

The DBFO scenario is probably the best option from the City's viewpoint because it would not involve the City in obtaining financing and meeting loan obligations for the plant. Since the City would still own the plant, it should still qualify as a POTW and be subject to the usual array of municipal secondary treatment and industrial pretreatment standards. This scenario would also likely involve a faster and less complicated NPDES permit process with DEQ because it would not have the private ownership aspect that would be unique in Oregon for a plant of this nature, which would trigger new and unknown approval processes.

The major complications for all three of these privatization approaches to WWTP #2 arise from the timing of this privatization decision and the MAO's legal requirements. DEQ has just unilaterally announced modifications to the MAO which, if upheld by an administrative officer and a state court judge, would result in penalties being levied for failure to start construction of a new plant by November 2016. The process of soliciting and analyzing privatization proposals, preparing a design, obtaining a new NPDES permit (and possibly a RCRA permit) and being ready to construct the plant will take some time, so there is a danger that these penalties will be incurred. On the other hand, it is possible that the new compliance dates and penalty increase will not be upheld and the current dates will remain.

Indeed, although it would have been more advantageous for the privatization question to have come up earlier, it is a good idea, with important potential benefits for the taxpayers and wastewater facility users, for the City to be considering a privatization option for this facility or for other similar facilities in the future. Many municipalities have undertaken the same kind of analysis and many of them have adopted privatization models which have been successful. In recognition of the financial needs of local governments, EPA and other federal government agencies have policies encouraging and facilitating such privatization. Although Oregon does not appear to have taken policy positions, the City has a reasonable policy position that DEQ should recognize the legitimacy and sincerity of the City's consideration of privatization and not erect barriers to its completion. If the City decides to pursue privatization, we suggest that the City meet with DEQ to discuss potential modifications of the MAO to allow a privatization model to be pursued.

A corollary of this timing is that a great deal of effort has already gone into the current wastewater plant design, approvals, planned financing and contractor selection, and the beginning of site work could reportedly proceed about two months after the green light is given to move forward. Thus, there are substantial resources already invested and momentum generated for the currently planned plant. This could be an important reason to continue on the current path. On the other hand, if the City was concerned with the financial costs and environmental issues arising from the current approach, it could be very prudent to pursue a privatization path through a bidding process, along with parallel regulatory discussions, to be in a position to compare the costs and benefits of this alternative path.

Another approach to consider is that the City may not be able to conclude whether the privatization option is superior to the current plan until the privatization bids have been received and the true privatization costs are known. It is possible that the City will review the bids and determine that a DBFO or DBO option will be the best overall option for the City and its rate payers. It is also quite possible that the City will determine that the current plan is superior. Without the privatization bids, it is difficult to truly compare.

VII.

RECOMMENDATION

In sum, we believe privatization of WWTP #2 is a viable option for the City. We recommend, if the City decides to pursue this avenue, that it adopt a DBFO or DBO approach rather than a DBOO approach. Although the City will continue to own the facility and have regulatory liability as a permittee on the NPDES permit, we think the City would likely be a co-permittee anyway in a DBOO scenario. As an owner, the City will be able to exert a greater amount of control to ensure that the interests of its citizens and businesses are protected. We also suspect that a DBOO model would not be as attractive to potential private partners, which could limit the number of interested bidders.

The question of whether to proceed with a DBO or DBFO model would depend in large part on how the City would like to approach the plant financing. It will also be important to proactively incorporate into the contract with the private partner the kinds of contractual protections that will be necessary to avoid the pitfalls that have been problematic for some other municipalities.

Finally, we want to be clear that we have only analyzed whether privatization is a "viable" option for the City for WWTP #2, not whether or not the City should pursue it. We understand that the assessment of viability is meant as a threshold determination on whether to continue with the privatization process. It is up to the City Council not only to assess the viability of privatization, but also to determine, either now or after private partner bids are received, whether the City should move forward with privatization here.

APPENDIX 1

Appendix 1

DBOO Examples

Municipality	Contract Year	Private Company	Flow (MGD)	Reported Positives	Reported Negatives	References
Dale City, VA.	1965-2013 2013-present	Dale Water Services American Water	9	• Experienced operator • No industries; no RCRA toxic control program • American Water is the NPDES permittee and is responsible for maintaining compliance • User rates have been stable over time • City is pleased with the private ownership of the plant • City has power to purchase the treatment plant back at any time • Avoided E.O. 12803 review	• American Water has no access to public sector funding and completely finances all expenses • Subject to taxation laws that other public entities are not • City lacks control over treatment plant decisions	http://www.amwater.com/vaaw/about-us/prince-william-system/page22144.html EPA – Response To Congress On Privatization Of Wastewater Facilities
Franklin, OH.	1995	Wheelabrator United Water/ Veolia	4.5	• Sale allowed the city to retire outstanding local debt of over $2 million • Avoided RCRA by retaining ownership of a portion of the treatment system • Option to buy back plant at the end of the contract • Reduced user rates by 28% • Only rate increases are due to inflation	• First of its kind with little to no examples of other successes • Had to gain E.O. 12803 approval • Transaction took 2 years due to contract issues and gaining regulatory approval • Required to be joint permittees on NPDES permit • Little oversight for regulatory compliance and treatment effectiveness	http://lwv.org/content/privatization-publicly-owned-waste-water-treatment-plant EPA – Response To Congress On Privatization Of Wastewater Facilities

DBFO Examples

Municipality	Contract Year	Private Company	Lease Term	Assets	Flow (MGD)	Reported Positives	Reported Negatives	References
Arvin, CA.	1998	Veolia Water	35 years	WWTP Upgrade	2.5	• Immediate capital for plant expansion • Experienced operator • Reported savings of $1.7 million • Remission of regulatory enforcement		http://www.veolianorthamerica.com /en/arvin-california
Santa Paula, CA.	2007	Santa Paula Water	30 years	New Water Recycling Facility	4.2	• Reduced construction and operation costs • Increased capacity by 25% • Construction completed 7 months ahead of schedule • 70% reduction in facility footprint	• Effluent violations • Bought back plant prior to agreement terms due to effluent violations and available low bond rates	http://www.waterindustry.org /Water-Facts/Santa%20Paula-1.htm http://vcportal.ventura.org /GDJ/docs/ reports/2012-13/ Santa_Paula_Waste_Water_ Treatment_Plant.pdf
Woonsocket, RI.	1999	CH2M / Veolia Water	20 years	WWTP Upgrade	16	• Upgrade of aged equipment to meet stringent TMDLs • Experienced operators	• Complex contract agreement • Strong public scrutiny including petitions again privatization	http://waterdesignbuild.com/water-design-build-projects/woonsocket-wastewater-treatment-facility-dbo-ri/ http://www.wwdmag.com/rhode-island-community-expand-veolia-public-private-partnership

Municipality	Contract Year	Private Company	Lease Term	Assets	Flow (MGD)	Reported Positives	Reported Negatives	References
Cranston, RI.	1997	Triton Ocean State / Veolia Water	25 years	WWTP Upgrade	12.5	• Initial estimated cost of $50 million. Actual cost of $20 million • Regained regulatory compliance • Immediate financing for needed plant upgrades • Lower user fees and long-term rate stabilization • Received awards for most efficient large plant	• Reduced savings due to repayment of $5 million EPA Construction Grant • Public/Private Contract was lengthy and complex	http://veolianorthamerica.com /en/cranston-r-i https://usmayors.org/bestpractices /private /cranston.htm http://www.pwfinance.net/ document/ research_reprints/-3%20Cranston%20water.pdf
Quincy, WA.	2000	Earth Tech	20 years	WWTP Upgrade	4.4	• Immediate financing • Upgrades to meet stringent WQS • Experienced operators	• Uncertainty due to first DBFO contract in the State; led to complex contract agreements	http://www.waterworld.com/articles/ 2000/10/earth-tech-wins-new-wastewater- contract-in-washington.html http://www.prnewswire.com/news-releases/earth-tech-wins-new-wastewater-contract-in-washington-state-75159517.html

DBO Examples

Municipality	Contract Year	Private Company	Operation Term	Flow (MGD)	Reported Positives	Reported Negatives	References
Fillmore, CA	2007	American Water	20 years	1.8	• 15% less cost than plants of similar size • $10 million savings • Comply with strict WQS • Guaranteed costs	• Complex contracts • Less control over operations decisions	http://www.waterworld.com/articles /print/ volume-25/issue-1/editorial-feature /dbo-project-delivers-savings-on-mbr-facility.html http://www.amwater.com/files/ ProjectSheet015_ Fillmore.pdf http://www.watertechnology.net /projects/Fillmore-water-recycling-programme-project/
Plymouth, MA.	2001	Veolia	20 years	3	• Transferred compliance burden to contractor • Experience in design and operation of WWTPs • Upgrade of aged equipment	• Sued for improper operation of the WWTP resulting in raw sewage discharge	http://www.mass.gov/ago/news-and-updates/press-releases/2016/2016-04-21-wastewater.html http://www.waterindustry.org/Water-Facts/pwf-scorecard.htm
Stockton, CA.	2005	CH2M	25 years	43	• Forecasted $150 million in savings over 20 years • Transferred compliance burden to contractor • Experienced operators	• Strong public opposition • Complex contracts • Contract and compliance issues halted the project and contract	http://www.businesswire.com/news /home/ 20030220005291/ en/OMI-Thames- Water-City-Stockton-Sign- 20-Year-Contract http://inthesetimes.com/article/380/ a_watershed_victory
Lynn, MA.	2001	Veolia	20 years	25		• Higher operating costs than projected reduced actual savings	http://www.mass.gov/ig/publications/ reports-and-recommendations/archive-publications/2004-2000/privatization-wastewater-facilities-lynn-ma-june-2001.html

Municipality	Contract Year	Private Company	Operation Term	Flow (MGD)	Reported Positives	Reported Negatives	References
Spokane County, WA.	2011	CH2M	25 years	8	• Comply with stringent WQS • Savings by using methane generation for power • Allows for capacity expansion to 24 MGD	• Strong public opposition • Increased rates to repay bond •	http://www.hdrinc.com/portfolio/spokane-county-regional-water-reclamation-facility-dbo-owner-s-representative
Wilsonville, OR. Contacted Eric Mende with the City	2011	CH2M	15 years	4	• Experienced operators • Cost savings for design and operations • Single firm to handle any problems • Increased plant capacity • City is happy with DBO agreement	• Increased user rates • May need future upgrades depending on regulatory authority • First DBO contract in the State • Complex and complicated contract agreements	http://www.wilsonvillewwtp.com/ http://www.wilsonvillewwtp.com/files/75652733.pdf
Holyoke, MA.	2009	AECOM	25 years	37	• Completed under budget • Completed ahead of schedule • Maintained compliance with CSO requirements	• Only received one bid from RFP • Required special permission through MA Legislature • Complex contracts required	http://waterdesignbuild.com/water-design-build-projects/holyoke-cso-wastewater-treatment-project/ http://waterdesignbuild.com/wp-content/uploads/CSHolyokeMADBO.pdf
Newport, RI.	2012	Earth Tech / Tyco Flow Control	20 years	10	• 25% projected savings • Established guidelines for performance standards • Odor reduction throughout the plant		http://www.waterworld.com/articles/2001/01/tyco-flow-control-wins-wastewater-contract-for-newport-ri.html