

**City of Oak Harbor  
City Council Agenda Bill**

Bill No. 6.c.  
Date: December 3, 2013  
Subject: Wastewater Treatment Plant  
Project Delivery Method  
Resolution 13-32

**FROM: Cathy Rosen, Public Works Director  
Joe Stowell, City Engineer**

**INITIALED AS APPROVED FOR SUBMITTAL TO THE COUNCIL BY:**

 Scott Dudley, Mayor  
 Larry Cort, City Administrator  
 Doug Merriman, Finance Director  
 Grant Weed, Interim City Attorney, as to form

**PURPOSE**

The purpose of this agenda bill is to adopt Resolution 13-32 authorizing staff to pursue General Contractor / Construction Manager (GC/CM) alternative delivery method for the new wastewater treatment plant (WWTP).

**FISCAL IMPACT DESCRIPTION**

Funds Required:                     \$0  
Appropriation Source:                     N/A

**SUMMARY STATEMENT**

The City of Oak Harbor has been directed through our National Pollution Discharge Elimination System (NPDES) permit with the Washington Department of Ecology (DOE) to improve our wastewater treatment capacity by December 31, 2017. Existing facilities are nearing capacity and in need of constant maintenance. In an effort to meet this goal, one of the many tasks being researched by City staff is the project delivery method to be used in constructing the new WWTP.

On March 19, 2013, City Council approved a contract amendment with Carollo Engineers. One of the tasks in the amendment was to prepare a report comparing the delivery options for the WWTP project. A copy of the report is attached to this agenda bill. The report largely compares the three most likely project delivery options available to the City.

The traditional delivery method for public works construction projects is a competitive cost method as allowed by [RCW 39.04](#). This method is more commonly referred to as Design-Bid-Build (DBB). In this method, an engineer designs the project, the project is bid and the lowest responsive and responsible bidder is selected to perform the work. While this is a well used method, it doesn't take into account some of the intricacies of larger projects.

For projects over \$10 million, [RCW 39.10](#) allows government agencies to use alternative delivery methods for construction projects. I believe the RCW best explains the purpose of alternative delivery methods.

*"The legislature finds that the traditional process of awarding public works contracts in lump*

*sum to the lowest responsible bidder is a fair and objective method of selecting a contractor. However, under certain circumstances, alternative public works contracting procedures may best serve the public interest if such procedures are implemented in an open and fair process based on objective and equitable criteria.” RCW 39.10.200*

There are several alternative delivery methods listed in [RCW 39.10](#). The two most closely matched to our project are Design-Build (DB) and General Contractor/Construction Manager (GC/CM).

As discussed at the November 13<sup>th</sup> and 19<sup>th</sup> workshops, GC/CM will likely deliver a higher value project for the City while retaining the greatest possibility for cost savings. It also provides the greatest potential to maintain the construction schedule and address the unique drivers associated with this project.

In order to pursue the GC/CM alternative project delivery, the City must first get approval from the state Capital Project Advisory Review Board (CPARB). The Project Review Committee (PRC) meets every other month to consider applications from agencies seeking to use an alternative project delivery.

The following resolution is intended to formally direct staff to apply to the PRC to allow the City to use the General Contractor / Construction Manager alternative project delivery method for the new wastewater treatment facility.

#### **CITY COUNCIL WORKSHOP**

November 13, 2013 – Project funding and alternative project delivery were discussed.

November 19, 2013 – Project delivery options were discussed.

#### **RECOMMENDED ACTION**

Discuss and consider approval of Resolution 13-32

#### **ATTACHMENTS**

- Resolution 13-32
- Technical Memorandum – Project Delivery Analysis

CITY OF OAK HARBOR  
RESOLUTION NO. 13-32

**A Resolution of the City Of Oak Harbor Authorizing Staff to Pursue the General Contractor/Construction Manager Process as the Preferred Delivery Method for the Wastewater Treatment Plant Project**

WHEREAS, the City of Oak Harbor provides sanitary sewer service for the community; and

WHEREAS, National Pollution Discharge Elimination System Waste Discharge Permit No. WA0020567 from the Washington State Department of Ecology has directed the City of Oak Harbor to increase wastewater treatment capacity by December 31, 2017; and

WHEREAS, the City of Oak Harbor has researched project delivery methods allowed by RCW 39.04 and RCW 39.10; and

WHEREAS, the City of Oak Harbor has found that the General Contractor / Construction Manager alternative project delivery method will provide the most value to the City; and

WHEREAS, the City of Oak Harbor must have approval from the Washington State Capitol Projects Advisory Review Board, Project Review Committee to use the General Contractor / Construction Manager delivery method;

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Oak Harbor that staff seek approval from the Washington State Capitol Projects Advisory Review Board, Project Review Committee, to use the General Contractor / Construction Manager alternative project delivery method for the new wastewater treatment plant.

PASSED by the City Council and approved by its Mayor this 3<sup>rd</sup> day of December 2013.

CITY OF OAK HARBOR

\_\_\_\_\_  
SCOTT DUDLEY, MAYOR

Attest:

Approved as to form:

\_\_\_\_\_  
Valerie J. Loffler, City Clerk

\_\_\_\_\_  
Grant K. Weed, Interim City Attorney

**CITY OF OAK HARBOR**  
**WASTEWATER TREATMENT**  
**FACILITY PROJECT**  
**TECHNICAL MEMORANDUM**  
**PROJECT DELIVERY ANALYSIS**  
**FINAL**  
November 2013

**CITY OF OAK HARBOR**

**WASTEWATER TREATMENT  
FACILITY PROJECT**

**TECHNICAL MEMORANDUM**

**PROJECT DELIVERY ANALYSIS**

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## **1.0 INTRODUCTION AND PURPOSE**

The City of Oak Harbor (City), Washington is in the process of designing and constructing a new wastewater treatment facility (Project) to replace the City's two existing treatment facilities: a Rotating Biological Contactor (RBC) facility in the vicinity of Windjammer Park and the Seaplane Base Lagoon facility. The proposed new facility will be located at a site next to Windjammer Park, near the City's RBC facility. The City will utilize a Membrane Bioreactor (MBR) treatment process with ultraviolet (UV) disinfection to meet Project objectives for small footprint; high effluent quality; and ability to integrate into a location with high public visibility.

The City is considering alternatives to manage schedule, cost and risk during delivery of the Project, including traditional Design-Bid-Build (DBB) or alternative project delivery (APD) methods. The analysis presented herein identifies and evaluates various delivery methods to assist the City in selecting the most appropriate delivery method for the Project. The analysis identifies project delivery options that are allowed in the State of Washington and evaluates those viewed as being applicable using the following steps:

- **Identify Potential Delivery Methods** – Identify a variety of APD methods and establish the applicability of each to the City's characteristics, values, and needs as well as their applicability to the Project specifically. Based on applicability, select a short-list of delivery methods to be further evaluated.
- **Develop Evaluation Criteria** – Develop and define appropriate considerations to be used in the evaluation of short-listed delivery methods.
- **Evaluate Delivery Methods** – Compare each of the short-listed project delivery methods based on the selected considerations.

## **2.0 PROJECT BACKGROUND**

The City plans to construct a new MBR wastewater treatment facility to replace their existing two facilities. The new facility will be located near the existing RBC plant and will be sized for current flows with the ability to accommodate future flows. The total project cost of the wastewater treatment plant (WWTP) identified in the final Facilities Plan (August 2013) is estimated at approximately \$72 million. Through the City's existing National Discharge Elimination System (NPDES) Permit, the Washington State Department of Ecology (Ecology) requires design of the new facility to be complete by the end of 2014. Carollo Engineers (Carollo) has currently prepared a conceptual design for the Project, and is working with the City to complete the preliminary design early in 2014.

Unique aspects of the Project will influence the delivery approach. They include:

- Portions of the site are located within the 100-year floodplain, and must be ‘built-up’ approximately 3-feet to meet Ecology and City requirements for development in the floodplain;
- The existing soils on the Project site, to a depth of approximately 20 to 30 feet, are of poor structural quality and must be improved to meet seismic and other structural design requirements;
- Means to control groundwater during construction must be well developed due to the elevation of the groundwater table and the site’s location adjacent to Oak Harbor;
- 
- The presence of cultural resources is likely at the Project site. Discovering such resources during construction will affect both construction schedule and cost;
- 
- The site is located adjacent to an existing park and commercial corridor of the City, so the Project must meet City goals for aesthetics, noise, odor, etc. during construction and once the facility has been placed into operation;
- The UV and Membrane equipment will be pre-procured by the City prior to construction, such that attributes of the equipment (i.e., the equipment configuration, sizing, etc.) will be known and incorporated into the design.

As with all public works projects, cost competitiveness, cost certainty, and staying within project budget are also important objectives. Due to the size and unique aspects of the Project, in addition to a relatively short schedule and the need to control costs, the City recognizes a potential benefit in considering APD methods.

## **2.1 State and Local Procurement Requirements**

### **2.1.1 State of Washington**

Per Chapter 39.10 of the Revised Code of Washington (RCW), the State of Washington allows for “alternative public works contracting.” Specifically, RCW Chapter 39.10 allows the use of Design-Build (D/B), General Contractor/Construction Manager (GC/CM), or Job-Order Contracting (JOC) for projects exceeding \$10 million, in accordance with the following definitions:

- “Design-build procedure” means a contract between a public body and another party in which the party agrees to both design and build the facility, portion of the facility, or other item specified in the contract.

- “General contractor/construction manager” means firm with which a public body has selected to provide services during design phase and negotiated a maximum allowable construction cost to act as construction manager during the construction phase.
- “Job order contract” means a contract in which the contractor agrees to a fixed period, indefinite quantity delivery order contract which provides for the use of negotiated, definitive work orders for public works as defined in RCW 39.04.010.

Some of the key aspects of the requirements for each delivery method are provided below. As discussed in Section 3, JOC is not applicable for large, complex projects such as the City’s new WWTP.

To utilize “alternative public works contracting” under the State’s requirements, the public entity that is sponsoring the project must either be certified to perform the desired APD, or must obtain approval for the particular project in which they would like to use alternative delivery. To obtain approval to use D/B or GC/CM for a particular project, the public entity must submit an application to the Capital Projects Advisory Review Board (CPARB) with conceptual information about the project including cost and schedule, funding status, and experience performing alternative delivery projects. The CPARB meets every two months and is required to provide notice to the public entity of their decision within ten days of the meeting at which an application is considered.

#### **2.1.1.1 Design-Build**

For D/B contracting, Washington State requirements:

- allow for a combination of costs, qualifications, and other criteria be used to select a preferred design-builder;
- do not stipulate a specific level of design be used as the basis for the D/B proposal and bid;
- dictate that honorarium payments are made to finalists submitting responsive proposals that are not awarded the D/B contract and that the payments are sufficient to generate meaningful competition among potential proposers on D/B projects;
- do not exclude any of the common variants of D/B, which includes: prescriptive-, performance-, and progressive-based D/B. Design-build-operate (DBO) is also allowed for up to three years of operation.

#### **2.1.1.2 General Contractor/Construction Manager**

For GC/CM contracting, Washington State requirements:

- allow for qualifications, and other criteria, in addition to fee and general conditions costs be used to select a preferred GC/CM;

- restrict the amount of the work that the GC/CM can self-perform to 30 percent. All self-performed work (as to be performed by the GC/CM) not included in the GC/CM's general conditions shall be competitively bid and compared to GC/CM's proposed cost prior to authorization of the work;
- require that the design progress to 90 percent completion prior to negotiation of the Maximum Allowable Construction Costs (MACC);
- dictate that all suppliers and subcontractors must be procured via a competitive bid process with the exclusion that major (>\$3 Million contracts) may be selected via a best-value selection (i.e., costs plus other criteria used to select preferred subcontractor).

### **2.1.2 City of Oak Harbor**

The City's Purchasing and Bidding General Provisions does not specifically address the use of APD methods. A legal review of the City's provisions is recommended if the City chooses to utilize an APD method. Accordingly, modifications to the City's provisions may be required to satisfy the selected APD method for the Project, as well as establish appropriate provisions for future projects. The City's General Provisions do allow for the consideration of factors in addition to price when selecting a low bidder, such as qualifications and experience

## **2.2 Drivers for Alternative Project Delivery**

Historically, major construction projects in the water and wastewater industry have been delivered as DBB. In this traditional method, an owner contracts with a design professional, the design professional prepares design and bidding contract documents, and construction contractors provide bids on the project based on information provided in the contract documents. For a variety of reasons discussed in this section, APD methods are more frequently being considered and used in the delivery of water and wastewater facilities across the United States, including Washington State. There are numerous factors that can influence an owner to consider APD. Table 1 presents some common drivers seen in the industry, and identifies those determined to be specifically applicable to the City's Project.

<b>Table 1 Drivers for Consideration of Alternative Project Delivery Wastewater Treatment Facility Project City of Oak Harbor, Washington</b>		
<b>Driver</b>	<b>Description</b>	<b>Applicability to the Project</b>
Qualification-Based Selection	The traditional form of DBB requires cost-based selection of general contractors. APD methods have provisions that allow owners to consider qualifications in the selection process.	Yes
Early Negotiation of Pricing	In a DBB process, the cost of the facility is not determined until the design is complete and the project has been bid. APD methods can provide an avenue for obtaining fixed pricing earlier in the project. The point at which price is established depends on the method selected and the way in which the method is executed.	Yes
Collaborative Design Development	There is limited opportunity for collaboration between the design professional and the general contractor in a traditional DBB delivery format. Most APD methods specifically provide for such collaboration during the design phase.	Yes
Minimization of Change Orders	Because APD methods provide for collaboration between the design professional and the general contractor throughout the design process, there are typically fewer change orders associated with projects delivered by alternate means. With some APD methods, design related change orders can be virtually eliminated. Minimization of change orders can reduce project cost.	Yes
Shortened Project Schedules	APD methods can shorten the overall project schedule by eliminating the need for a separate bid phase, and/or allowing early release of certain components or long lead-time equipment. There are also opportunities to shorten schedules by releasing portions of the project for construction while other portions are still undergoing design refinement. Shortened project schedules can also reduce project cost and/or help to manage risk.	Yes
Risk Allocation Control	Under the DBB process, the owner retains much of the risk associated with the project (i.e., errors and omissions) through their contract with their design consultant. Since the contractor is not contractually tied to the designer, the owner must resolve issues related to the design. To varying degrees, APD enables an Owner to reduce its risk position in these matters.	Yes
Improved Efficiency	Because APD methods provide for collaboration between the design professional and the general contractor to varying degrees, the completion of design process and resolution of conflicts that may arise during construction are typically more expedient than under the DBB process.	Yes
Cost Escalation Control	By establishing a fixed price earlier, cost uncertainty associated with market volatility can be reduced.	Yes
Equipment Procurement Schedule	APD methods allow early procurement of long-lead time equipment, which can help in meeting the overall project schedule and can reduce cost by minimizing escalation potential on large equipment.	Yes
Competitive Bidding Elements	Some APD methods allow elements or subcontracts from the overall construction project to be procured separately. This increases competition and provides local vendors with an opportunity to provide certain materials or services.	Yes
Alternative Financing Options	Some APD methods include provisions for alternate financing in which the design/contractor finances the project.	No

### **3.0 REVIEW OF ALTERNATIVE PROJECT DELIVERY METHODS**

The DBB delivery method has been used throughout the water and wastewater industry and continues to be the “traditional” method of project delivery. As a general rule, the DBB method provides the owner with a significant amount of control over the project, but the timeline for implementation can be longer than with many APD methods. Although there are means to allow pre-qualification of contractors, DBB typically requires contractor selection to be based on low cost rather than qualifications.

The use of APD methods on public works projects is on the rise as owners recognize the benefits that APD provides (see Table 1). The use of APD methods generally stems from a desire to obtain involvement of the construction contractor earlier than it would occur under a DBB method. Recognizing the benefits of early contractor involvement, as well as other benefits of APD, many state legislatures have enacted legislation that allows the use of APD. Because of such legislative changes, the use of APD for public sector projects is becoming more commonplace throughout the nation.

Some of the most common APD methods include GC/CM, JOC, Engineer-Procure-Construction Management (EPCM), and D/B (and its variants, such as prescriptive, performance, and progressive). Each method has specific advantages and disadvantages that make them more or less applicable to different organizations, and even to different projects within the same organization. Therefore, while all of these APD methods have their place in the construction industry, selection of the most appropriate method will be driven by the unique needs of owners and their project(s).

A comparative matrix of commonly used project delivery methods is presented in Appendix A. The matrix provides a brief description of each method, its contractual and working relationships, and the legal considerations pertinent to the City. Table 2 presents a summary of the delivery methods allowed within the State of Washington and provides an opinion regarding their applicability to this Project. These methods are explained in further detail in the following sections.

<b>Table 2      Applicability of Project Delivery Methods Wastewater Treatment Facility Project City of Oak Harbor, Washington</b>			
<b>Delivery Method</b>	<b>Allowed in Washington State</b>	<b>Applicability to City's Project</b>	<b>Comments</b>
Design-Bid-Build (DBB)	Yes	Yes	City's "traditional" and current delivery method
General Contractor / Construction Manager (GC/CM)	Yes	Yes	Very applicable, not currently addressed by City's procurement rules
Engineer-Procure-Construction Manager (EPCM)	Most Likely <sup>(1)</sup>	No	Limited experience in the wastewater industry, most commonly used in oil/gas and chemical processing
Job Order Contracting (JOC)	Yes	No	Not applicable to large, complex construction projects
<b>Design-Build (D/B) Variants</b>			
Performance D/B	Yes	No	Not currently addressed by City procurement rules, provides City with limited control within key Project drivers/goals
Prescriptive D/B	Yes	Yes	Applicable, not currently addressed by City procurement rules
Progressive D/B	Yes	No	Not currently addressed by City procurement rules, not frequently used in Washington State (Project approval may be difficult)
Design-Build-Operate	Yes	No	Not currently addressed by City procurement rules, City does not plan to use contract operator
<b>Notes:</b>			
(1) Use of EPCM on public works projects are unknown and the method is not specifically identified with Washington State regulations; however, the delivery method attributes are common to Progressive D/B, which has been used.			

While all of the D/B variants listed above are allowed by the State of Washington, Prescriptive D/B is considered most applicable to the Project. Following is a brief summary of each D/B variant, with reasons each is or is not considered applicable to the Project.

- Performance D/B – The design-builder is selected based on a combination of qualifications and a bid price. Design-builder selection is early in the design process (i.e. approximately 5 to 10 percent design completion) and the contract requirements are based on performance criteria and a conceptual design. This method provides the owner with the very limited control over the project, as the design-builder is provided increased flexibility in the design and construction as long as performance criteria are met. Because of the Project’s site-specific constraints within a high-visibility area, the City has a desire to provide a high-degree of input into equipment/material quality and the aesthetic aspects. This delivery method does not allow sufficient level of control to the City within these areas and is therefore not considered applicable to the Project.
- Prescriptive D/B – The design-builder is selected based on a combination of qualifications and a bid price. Design-builder selection is based on preliminary design concept (i.e., between 20 and 50 percent design completion). This variant provides the Owner with additional control and a higher degree of project specification (hence, the term “prescriptive”) over the design when compared to Performance D/B.
- Progressive D/B - The design-builder is selected early in the design process (often at or before conceptual design) with the selection being based primarily on qualifications. Cost elements such as design-phase fees may be a part of the selection. Once the design-builder is selected, they work with the owner to “progress” the design while developing “open book” cost model. When the owner believes the level of design and costs are satisfactory, the owner can negotiate a Guaranteed Maximum Price (GMP) or lump sum (i.e., stipulated price). Self-performance and subcontracted work items (including cost competitiveness) are typically agreed upon prior to entering into the construction contract.

Among the D/B variants, this method provides the most control to the owner. It should be noted, however, that Progressive D/B is very similar to GC/CM, with the exception that the owner is contracting with a single entity for both design and construction (rather than two entities under GC/CM). Progressive D/B has not been widely used in the State of Washington. Because this is the first APD project being undertaken by the City, implementation of a lesser-used process in the State of Washington may be problematic, and could lead to Project delays and assignment of unknown risks to the City.

### **3.1 Applicable Delivery Methods for Oak Harbor**

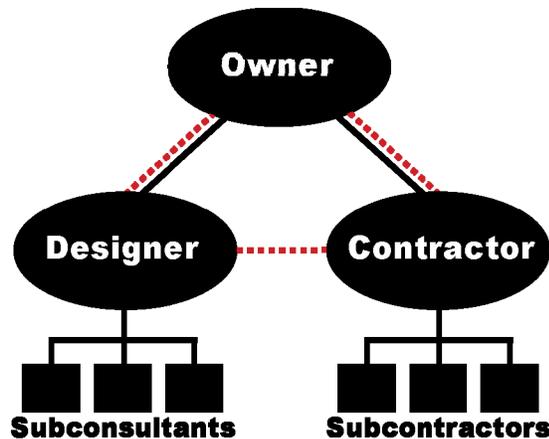
Some of the key differences between the commonly used project delivery methods lie in the contractual and working relationships employed, and in how/when project costs are established. The following sections provide additional detail for the three “short-listed” project delivery methods identified in Table 2 that are allowed in Washington State and applicable to the Project: DBB, GC/CM, and Prescriptive D/B.

### 3.1.1 Design-Bid-Build

The DBB method is the traditional method of project delivery historically used for water and wastewater capital projects in the United States. This method involves three basic participants; design professional, general contractor, and the contracting agency (owner).

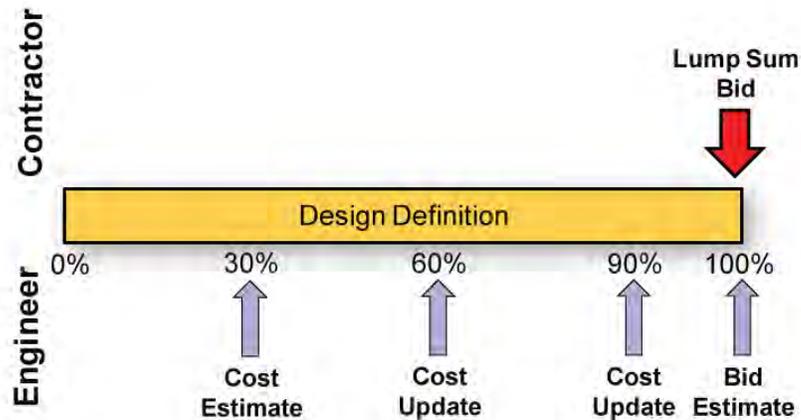
The contractual and working relationships of the different parties involved in a DBB project are presented in Figure 1. This arrangement shows that the relationship between the design professional and the general contractor is strictly a working relationship (not a contractual relationship). Because the general contractor is not procured until design is complete, there is little or no opportunity for collaboration between the design professional and the general contractor during design. In an attempt to integrate the expertise of the participants, techniques including constructability reviews, operability reviews, and value engineering are often incorporated into the design stage, prior to construction. However, the contractor performing those reviews will not necessarily be the contractor that wins the construction contract.

**Figure 1**  
**Contractual/Working Relationships – DBB**



Projects delivered via a DBB structure typically follow a sequential approach for the design, construction, and operation of the facility. Because of this sequential approach to project delivery, cost certainty is not established until the design is 100 percent complete and the general contractor provides a lump sum bid for the work at the completion of design, as shown in Figure 2. Since cost certainty is not established until the design is complete, there is limited opportunity to reduce project costs by eliminating or modifying portions of the design if the cost is higher than expected. This method also provides little protection against cost escalation of material costs that can potentially occur over the duration of the detailed design phase, and leaves the owner open to cost increases resulting from change orders while the project is under construction.

**Figure 2  
Cost Model Timeline – DBB**



Selection of the design professional using the DBB method is typically completed through a quality-based selection (QBS) process. The design team’s responsibilities include determining facility requirements and implicitly defining many of the risk elements of the project. The design professional is responsible for the engineering design of the facility and the development of contract documents for competitive bidding by the owner.

Selection of the contractor however is typically a price-based, low-bid selection. Washington State and the City allow for additional evaluation criteria to be used in selection of a contractor to ensure that certain minimum qualifications are met. This offers some quality protection in the low-bid selection process. After the contractor is selected, either the design professional, an independent engineer, or owner staff assures that the contractor’s performance is in compliance with the contract documents and assists in resolving any issues or conflicts or both. Under this model, the owner retains design liability because the contractor is contracted directly with the owner and is not contractually tied to the designer. While the risk may ultimately lie with the designer, the owner would be contractually obligated to resolve the issue with the contractor.

The relative advantages and disadvantages of the DBB delivery approach are generally summarized in Table 3.

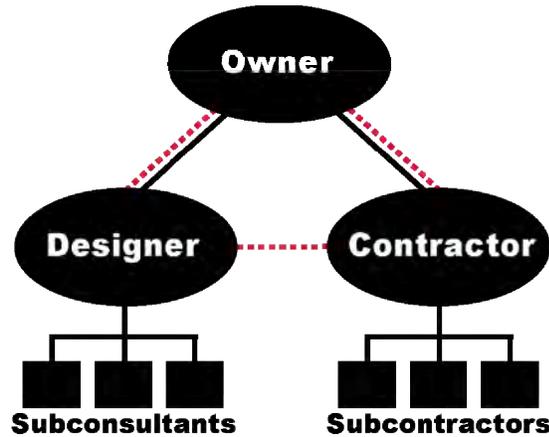
<b>Table 3 Advantages and Disadvantages of Design-Bid-Build Wastewater Treatment Facility Project City of Oak Harbor, Washington</b>	
<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"> <li>• Institutional compatibility (typical contracting process)</li> <li>• High level of design control</li> <li>• Increased flexibility in defining project</li> <li>• Cost competitiveness</li> <li>• Some control over construction quality when qualifications based evaluation criteria are used in the bid process</li> <li>• Improved design efficiency and added project control through pre-selection of major equipment is possible</li> </ul>	<ul style="list-style-type: none"> <li>• Design and constructability risk assigned to the owner since the designer is contracted by the owner separately from the contractor</li> <li>• Limited opportunity for contractor input on potential cost saving measures during design</li> <li>• Cost certainty not obtained until after design is complete and the project has been bid</li> <li>• Increased potential for change orders adds further uncertainty to cost</li> <li>• Longer schedule than most APD methods</li> </ul>

### 3.1.2 General Contractor/Construction Manager

For GC/CM, there are two major participants contacted with the owner, similar to DBB. Both the design professional and the GC/CM are each contracted directly by the owner through separate QBS processes (although the selection process for the GC/CM also includes a price component). In this delivery method, the design professional is responsible for the design while the GC/CM is responsible for delivering the construction work. The GC/CM is placed “at risk” in the project for delivering the work by a specific date and within a Maximum Allowable Construction Cost (MACC).

The contractual and working relationships associated with the GC/CM delivery method are essentially the same as those presented for the DBB method, as shown in Figure 3, with one important exception – the preconstruction role of the contractor (i.e., GC/CM). Because the GC/CM is typically retained shortly after the selection of the design professional, at an early stage of design, the GC/CM can provide input throughout the design process and detailed estimates of construction costs. Typical pre-construction services for the GC/CM include value analysis, constructability reviews, cost estimating/validation, scheduling, and recommendations for trade packaging to reduce cost and risk or to increase competition amongst local subcontractors.

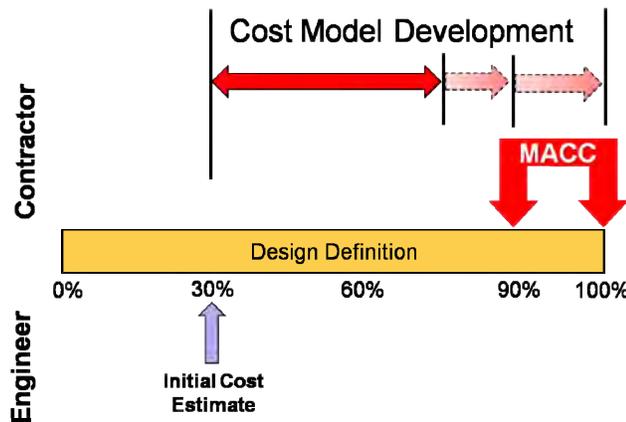
**Figure 3**  
**Contractual/Working Relationships – GC/CM**



As presented in Figure 4, the point at which the MACC is negotiated can vary, but typically occurs when the design is between 60 and 75 percent complete. In Washington State, the design must be at least 90 percent complete before the MACC can be negotiated. The earlier the MACC is established, the more risk the GC/CM assumes and the higher the GC/CM's contingency is likely to be. Early work release packages (i.e., mini-MACCs) are allowed prior to establishing the final MACC.

Should the GC/CM and owner not be able to reach agreement on an acceptable MACC, the owner maintains the right to complete the design and proceed with DBB procurement. Once the MACC is established, changes in the project scope may impact the MACC, just as it would the lump sum price under the DBB method. However, change orders are less likely to occur under the GC/CM process due primarily to collaboration during design.

**Figure 4**  
**Cost Model Timeline – CM/GC**



Using the GC/CM method, the GC/CM typically self-performs portions of the construction and selects (and manages) qualified construction subcontractors for the remaining work. In Washington State, the GC/CM must competitively bid for any work they wish to self-perform and they are limited to performing a maximum of 30 percent of the value of the Project construction cost.

Under the GC/CM model, the owner retains the design liability because, like DBB, the contractor is not contractually tied to the designer. Some of the design risk is mitigated, when compared to the DBB model, because of the early involvement of the contractor during design.

The GC/CM method is best suited for larger projects (new or existing rehabilitation) that are schedule driven, difficult to define, require critical construction input during the design phase, or where a defined fixed budget has to be met without the risk of “surprises” during bid openings. This method is least suited for small projects, or where projects are very well defined and/or have limited risk.

The relative advantages and disadvantages of a GC/CM delivery are summarized in Table 4.

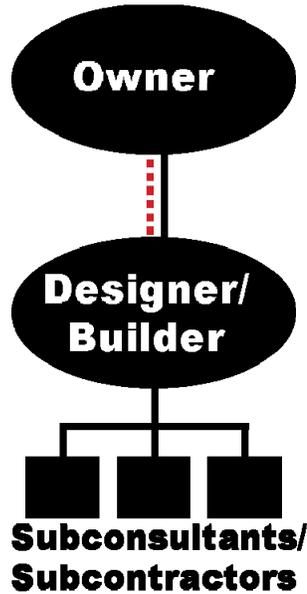
<b>Table 4 Advantages and Disadvantages of GC/CM Wastewater Treatment Facility Project City of Oak Harbor, Washington</b>	
<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"> <li>• High level of design control</li> <li>• Increased flexibility in defining project</li> <li>• Cost competitiveness</li> <li>• Improved certainty related to cost is established earlier in the project</li> <li>• Improved “team building” and collaboration between all parties</li> <li>• Improved opportunity for contractor input and involvement during design, which can save time and money</li> <li>• Increased control over quality</li> <li>• Potential for early release packages (schedule advantage)</li> <li>• Potential to bid packages that maximize participation of local subcontractors</li> </ul>	<ul style="list-style-type: none"> <li>• New contracting method for the City (will require modifications to procurement rules and contract documents)</li> <li>• Much of the design risk is still assigned to the owner since the designer is contracted separately from the contractor, although some risk is mitigated by early involvement by the contractor</li> <li>• May not result in lowest possible cost, but cost competitiveness is gained through “open book” negotiations and bidding of subcontract work</li> </ul>

### 3.1.3 Prescriptive Design-Build

Unlike DBB or the other APD methods, Prescriptive D/B delivery calls for a single entity, contracted by the City, to be responsible for furnishing both design and construction services. The D/B firm self-performs the work it has the ability to perform (e.g. design, concrete, etc.), and then contracts directly with professional consultants and both design-

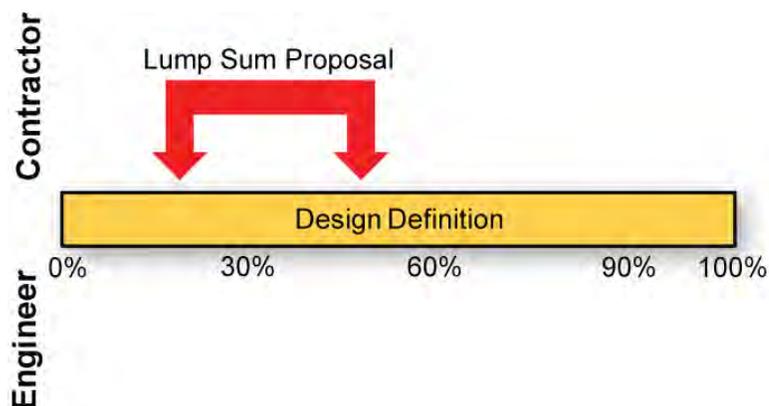
build and trade subcontractors for the balance of the project. Because D/B is a single point of responsibility for both design and construction, the D/B firm assumes both design and construction liability. A summary of the contractual and working relationships associated with the D/B delivery method is presented in Figure 5.

**Figure 5**  
**Contractual/Working Relationships – D/B**



In the Prescriptive-Based D/B method, the procurement of the design-builder is based upon a design provided by the owner that is approximately 20 to 30 percent complete (sometimes even as high as 50 percent complete). Based on the preliminary design, the cost of the proposed facility is established via a lump sum proposal provided by the design-builder as part of its Proposal as shown in Figure 6.

**Figure 6**  
**Cost Model Timeline – Prescriptive-Based D/B**



Selection of the design-builder using the Prescriptive-Based D/B method is based on the proposal offering the best overall value to the owner in terms of qualifications, technical and business merit, and/or project costs. There is substantial flexibility in procurement in terms of how to assess the weighting of price and non-price selection factors. The owner has the ability to decide each of these issues (among other specific D/B procurement issues) by considering specific project criteria and goals. Independent technical, legal, and/or financial consultant(s) may serve as owner's agent(s) in managing the procurement process, establishing performance criteria, and monitoring performance.

This delivery method requires the owner to be knowledgeable of its needs and objectives for the project and be directly involved in the process. A key element to success is trust between the owner and the design-builder, and the opportunity and necessity for the design professional and contractor to work closely together to develop the winning proposal. For this method, the owner would provide the design-builder with a description of the desired end product or project outcome. The design-builder is responsible for developing the detailed design and specifications, selection of material and equipment, constructing the facility and meeting performance requirements.

The relative advantages and disadvantages of a Prescriptive-Based D/B delivery are summarized in Table 5.

<b>Table 5 Advantages and Disadvantages of Prescriptive D/B Wastewater Treatment Facility Project City of Oak Harbor, Washington</b>	
<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"> <li>• Early establishment of construction cost and construction schedule</li> <li>• Clear project definition at time of design-builder selection</li> <li>• More risk transferred to the design-builder (compared to DBB or GC/CM) due to the contractual relationship between the designer and the contractor</li> <li>• Single contract between owner and design-builder (single point of accountability)</li> </ul>	<ul style="list-style-type: none"> <li>• New contracting method for the City (will require modifications to procurement rules and contract documents)</li> <li>• Reduced owner control (compared to DBB or GC/CM)</li> <li>• Extended procurement phase</li> <li>• Higher cost associated with preparation of RFP</li> <li>• Potential for decreased competition due to cost of preparing proposal (can be offset by providing a stipend to proposers, which adds cost)</li> </ul>

### **3.2 Use of Alternative Project Delivery in Washington State**

Alternative project delivery is commonly used for water and wastewater projects in Washington State. Of the APD methods discussed above, GC/CM is the most commonly used for water and wastewater projects in Washington. Table 6 presents a summary of some of the similarly sized projects initiated in Washington in recent years. This table demonstrates the prevalence of the use of GC/CM in the state.

<b>Table 6 Alternative Project Delivery in Washington State Wastewater Treatment Facility Project City of Oak Harbor, Washington</b>						
<b>Project</b>	<b>Approximate Construction Cost</b>	<b>Owner Contact</b>	<b>Design Engineer</b>	<b>Method</b>	<b>Contractor</b>	<b>Approximate Completion Date</b>
Water Pollution Control Facility (WPCF) Phase B Everett, WA	\$35 Million	City of Everett Tim Marks (retired) (253) 315-9344	Brown & Caldwell	GC/CM	Hoffman Construction	April 2007
Brightwater Wastewater Treatment Plant (WWTP) Liquid Stream King Co, WA	\$315 Million	King County WTD Stan Hummel (206) 263-9457	CH2M Hill, Inc.	GC/CM	Hoffman Construction	September 2011
Post Point WWTP Bellingham, WA	\$50 Million	City of Bellingham Fritz Anthony (360) 778-7924	Carollo Engineers	GC/CM	Mortenson Construction	March 2014 (anticipated)
Green River Filtration Plant Tacoma, WA	\$150 Million	Tacoma Water Randy Krueger (253) 502-8202	MWH Global, Inc.	GC/CM	Hoffman Construction	November 2014 (anticipated)
WPCF Phase C1 Everett, WA	\$29 Million	City of Everett John Nottingham (425) 257-8872	Carollo Engineers	GC/CM	IMCO Construction	December 2015 (anticipated)
Chambers Creek WWTP Pierce Co, WA	\$240 Million	Pierce County Ryan Dooley (253) 798-4280	Brown & Caldwell	GC/CM	Mortenson Construction	July 2016 (anticipated)
Water Treatment Plant Improvements Anacortes, WA	\$56 Million	City of Anacortes Fred Buckenmeyer (360) 293-1919	HDR	DBB	IMCO Construction	April 2013
Wastewater Treatment Plant Lake Stevens, WA	\$119 Million	Lake Stevens Sewer District Rick Lewellen (425) 334-8588	Gray & Osborne	DBB	Balfour Beatty	April 2012
Wastewater Treatment Plant Carnation, WA	\$13.3 Million	King County WTD Jeff Lundt (206) 684-1320	Carollo Engineers	DBB	Harbor Pacific	December 2008
Wastewater Treatment Plant Blaine, WA	\$30 Million	City of Blaine Ravyn Whitewolf (360) 332-8820	Brown & Caldwell	DBB	Stellar J	January 2011

## **4.0 EVALUATION OF POTENTIAL DELIVERY METHODS**

### **4.1 Considerations for Selecting a Delivery Method**

The goal of this analysis and memorandum is to provide the City with the information needed to compare the delivery methods applicable to the Project and assist in determining the preferred delivery method for implementing the Project. In order to accomplish this goal, considerations were developed as a basis for qualitatively comparing the short-listed delivery methods. The qualitative comparison of the short-listed delivery methods is intended to allow the City to select the approach most suitable for the Project.

Five main categories were identified for the Project including: Quality and Owner Preference; Schedule; Cost; Staff/Consultant Resources; and Risk Allocation.

Within each of these categories, more specific considerations were identified. Table 7 lists these considerations and provides a brief definition of each.

### **4.2 Summary of Potential Delivery Methods**

The evaluation in this section is intended to highlight the relative advantages and disadvantages of the short-listed delivery methods in specific relation to the Project and City requirements. Table 8 presents a qualitative summary of the relative ranking of each short-listed project delivery method based on each consideration. A summary of the key reasons behind the ranking is presented in the following sections.

<b>Table 7 Considerations for APD Wastewater Treatment Facility Project City of Oak Harbor, Washington</b>	
<b>Consideration</b>	<b>Definition</b>
<b>QUALITY AND OWNER PREFERENCE</b>	
Ability to Accommodate O&M Preferences	The ability for the City to incorporate its operations and maintenance preferences into the design using the delivery method.
Control Over Builder/Facility Quality	The ability for the City to exercise control of the direction of the project using the delivery method and the extent to which the delivery method impacts the quality of the project including opportunities to specify specific materials and/or equipment.
<b>SCHEDULE</b>	
Overall Schedule Duration	The extent to which the delivery method impacts the project implementation schedule.
Flexibility to Control/Adjust Schedule	The extent to which the delivery method allows for adjustments to the project schedule if construction issues or improvements are identified (i.e., early release packages).
<b>COST</b>	
Overall Cost	The extent to which the delivery method results in the lowest construction cost.
Cost Certainty for Budgeting Purposes	The point at which the delivery method provides cost certainty; and the probability of escalation or future change orders affecting the ultimate construction cost.
Flexibility to Control Costs	The ability of the delivery method to control project costs through the life of the project.
<b>STAFF/CONSULTANT RESOURCES</b>	
Resources Needed to Execute the Project	The extent to which the delivery method will impact the City's staffing needs or its need to procure/utilize consultant resources.
<b>RISK ALLOCATION</b>	
Allocation of Risk	How the delivery method allocates financial and contractual risk.
Impact on Public	The extent to which the delivery method will reduce or minimize the impact to the public.
Legislative and Legal	The ability of the delivery method to readily meet State and City procurement rules and standard policies.

<b>Table 8 Qualitative Evaluation of APD Methods Wastewater Treatment Facility Project City of Oak Harbor, Washington</b>			
<b>Criteria</b>	<b>DBB</b>	<b>GC/CM</b>	<b>D/B</b>
<b>QUALITY AND OWNER PREFERENCE</b>			
Ability to Accommodate O&M Preferences	Higher	Higher	Lower
Control Over Builder/Facility Quality	Moderate	Higher	Lower
<b>SCHEDULE</b>			
Overall Schedule Duration	Moderate	Shorter	Shorter
Flexibility to Control/ Adjust Schedule	Lower	Higher	Lower
<b>COST</b>			
Overall Cost	Moderate	Moderate	Lower
Cost Certainty for Budgeting Purposes	Lower	Moderate	Higher
Flexibility to Control Costs	Lower	Higher	Moderate
<b>STAFF/CONSULTANT RESOURCES</b>			
Resources Needed to Execute the Project	Lower	Moderate	Higher
<b>RISK ALLOCATION</b>			
Allocation of Risk	Higher	Moderate	Lower
Impact on Public	Moderate	Lower	Higher
Legislative and Legal	Lower	Higher	Higher

#### **4.2.1 Quality and Owner Preference**

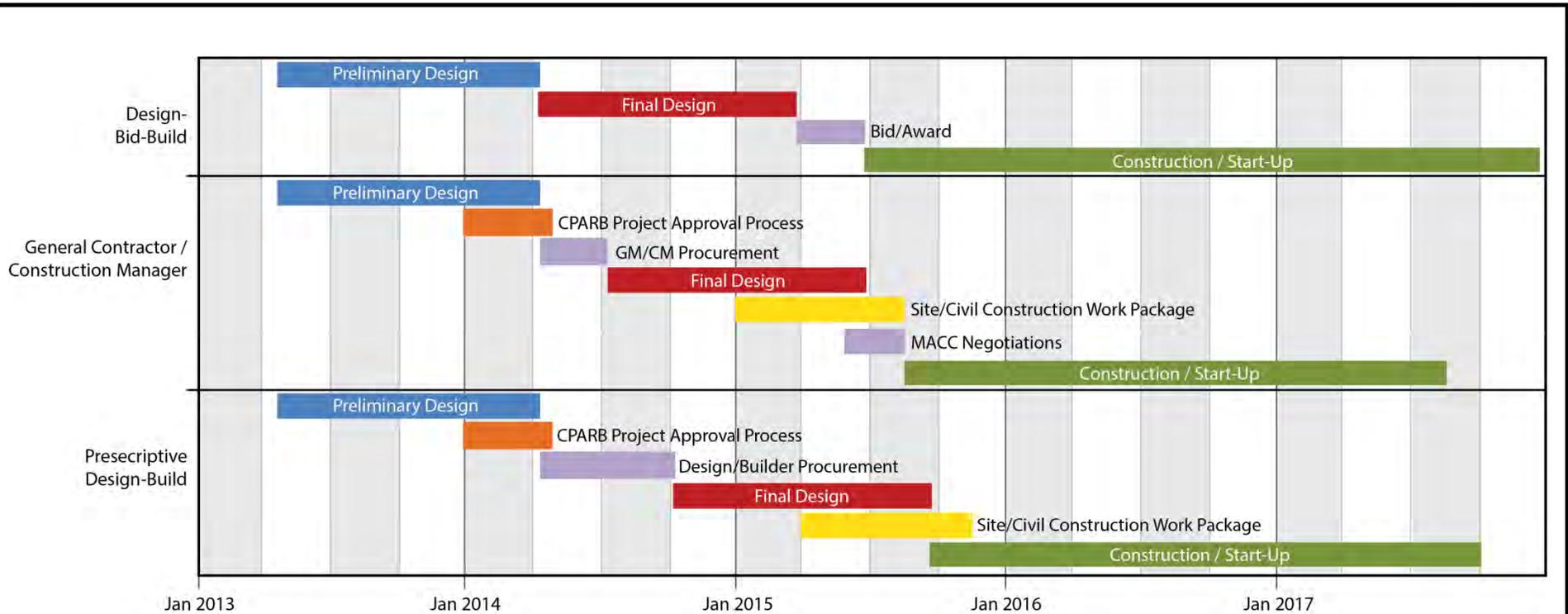
The following lists the primary points in comparing the short-listed delivery methods relative to the Quality and Owner Preference category and considerations:

- DBB and GC/CM allow the City to provide input into the design through 100 percent and 90 percent, respectively. Thus, the incorporation of the City's O&M preferences and the City's control over the direction of the design is maximized with DBB and GC/CM. With D/B, the City is afforded the opportunity to review the design deliverables after the 30 to 50 percent design (level in which lump sum contract is established) but any adjustments to the design directed by the City could result in a change order and increase in contract price.
- DBB will result in quality materials and equipment being utilized by the contractor since the contract documents (drawings and specifications) will be prepared by the Engineer who will reflect the City's quality preferences. However, there is no opportunity for City involvement in subcontractor procurement through DBB, so poorly qualified subcontractors could affect the quality of construction.
- GC/CM provides the same benefit of quality materials and equipment as DBB. However, GC/CM delivery provides the additional benefit of having the general contractor/construction manager involved in the design development process, which can result in innovative and added-value approaches being incorporated into the design (i.e., the general contractor/construction manager brings an additional, unique perspective to the design that supplements that of the City and Engineer).
- The State regulations related to GC/CM allow for best-value selection of major subcontractors (>\$3 Million) allowing for the City to be involved in selecting subcontractors based upon a combination of costs, qualifications and other criteria deemed important. The City may also stipulate that the general contractor/construction manager pre-qualify all subcontractors to promote a quality work product.
- D/B does not provide the same level of control over quality as the other short-listed delivery methods since the City is not able to direct the design and project delivery after the lump sum contract is in effect - the City can make changes subsequent to the lump sum contract but it could result in a change order.
- The City does not have control over the Contractor selected when using DBB because selection is based solely on low bid (pre-qualification of contractors or use of the City's Provision to consider other factors than cost can provide City some control).
- GC/CM allows for the City the flexibility of rejecting MACC and going DBB if costs cannot be agreed upon (i.e., contractual 'off-ramp').

#### **4.2.2 Schedule**

Preliminary schedules for each of the short-listed schedules is presented in Figure 7. The following lists the primary points in comparing the short-listed delivery methods relative to the Schedule category of considerations:

- GC/CM results in a slightly shorter schedule than D/B and DBB.
- Both GC/CM and D/B allow for an early release construction package to be developed so that the contractor can complete the earthwork and cultural resources mitigation work in parallel to the completion of the remainder of the final design.
- GC/CM affords the greatest flexibility during construction to make adjustments resulting from issues or opportunities for improvements. Included in the MACC is an agreed upon contingency dollar amount that can be utilized to address construction issues without resulting in a change to the contract price. The working relationship developed between GC/CM and Engineer during design allows for greater collaboration during construction in addressing issues.
- D/B also affords flexibility during construction as the Engineer and Contractor are the same entity so they can most efficiently work together to resolve an issue or implement improvements identified.
- Determination of construction schedule occurs earliest for D/B delivery since the lump sum bid proposal (with schedule) will occur at 30 to 50 percent design.



**Schedule Assumptions:**

- 1) Final Design duration is 12 months.
- 2) The total construction duration is approximately 30 months.
- 3) The City begins Capital Projects Advisory Review Board process and that the process will take approximately 3 months from initiation.
- 4) The Bid/Award process using DBB and the procurement process using GC/CM is similar (approximately 3 months).
- 5) The procurement process using Prescriptive D/B will be a two-step qualifications- and cost-based selection, and will take approximately 6 months.
- 6) A Site/Civil Construction Work Package is released early under both the GC/CM and Prescriptive D/B models.

**PRELIMINARY PROJECT DELIVERY SCHEDULES**

FIGURE 7

CITY OF OAK HARBOR  
PROJECT DELIVERY ANALYSIS



### **4.2.3 Cost**

The following lists the primary points in comparing the short-listed delivery methods relative to the Cost category of considerations:

- GC/CM provides a higher level of cost certainty relative to DBB due to the contractor's involvement during design (minimizes constructability issues); the 'open-book' cost development process; the contingency that is part of MACC to be used for changes; and the cost competitiveness procurement process using well-defined, 90 percent contract documents.
- DBB could be argued to provide the highest level of cost competitiveness because it is a low bid procurement process based upon completely defined, 100 percent contract documents. However, due the level of design required for a MACC to be established (i.e., 90 percent), and the fact that the majority of the project costs will be competitively bid, the cost competitiveness of GC/CM is comparable to DBB.
- Determination of costs will occur earliest for D/B delivery since the lump sum bid proposal will occur at 30 to 50 percent design. D/B also minimizes the affect of changes in materials escalation costs since the D/B accepts that risk and includes that in their lump sum bid proposal.
- GC/CM provides the best opportunity to design to set budget because detailed cost estimates are developed by the GC/CM at several stages of the project.
- Because 'open-book' construction cost estimates are provided by the GC/CM at each design milestone, the City is able to direct adjustments to the design to accommodate the project budget based upon accurate construction costs (ex., if costs estimates are lower than project budget, City may choose to adjust the design to add enhancements to improve O&M or visual aspects).

### **4.2.4 Staff/Consultant Resources**

The following lists the primary points in comparing the short-listed delivery methods relative to the Staff/Consultant Resources category and considerations:

- D/B and GC/CM will require additional City staff resources or a consultant to administer the CPARB approval process; and the procurement and oversight of the design/builder or general contractor/construction manager. These additional costs for APD methods that are not required for the traditional DBB method.

### **4.2.5 Risk**

The following lists the primary points in comparing the short-listed delivery methods relative to the Risk category and considerations:

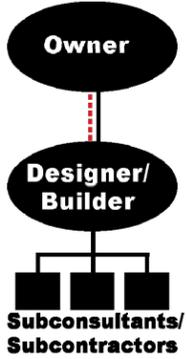
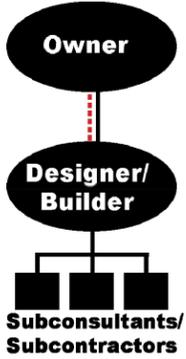
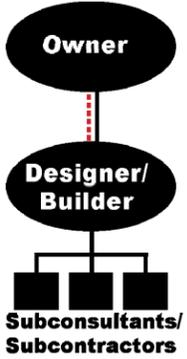
- Both GC/CM and D/B are new delivery methods to the City and it would likely be required that the City's procurement provisions be modified and accepted by City Council to accommodate GC/CM or D/B. In addition, the use of either delivery methods would need to be approved by the CPARB.
- For DBB and GC/CM, design errors and omissions (E&O) are legally the City's responsibility, so the City carries that risk. For D/B, the risks associated with E&O are the responsibility of the design-builder due to the contractual relationship between the designer and the contractor.
- For GC/CM, the involvement of the General Contractor/Construction Manager during the design process reduces the probability of design changes during construction, particularly since the design will be 90 percent complete prior to the MACC agreement. This minimizes the risks of design E&O that are legally the responsibility of the City.
- The use of GC/CM optimizes the assignment of risk to the appropriate party since risk assignment can be negotiated during the design development process leading up to the MACC – the City can decide to accept certain risks to minimize the financial results of carrying that risk, or the City can assign particular risks to the GC/CM that they do not want to carry (e.g. soil conditions).
- The collaborative relationship between the City, Engineer and Contractor in a GC/CM arrangement results in less risk related to construction within public area since the GC/CM.

**ALTERNATIVE PROJECT DELIVERY METHODOLOGY –  
COMPARATIVE MATRIX**

# ALTERNATIVE PROJECT DELIVERY METHODOLOGY – COMPARATIVE MATRIX

		Design-Bid-Build (DBB)	General Contractor / Construction Manager (GC/CM)	Engineer-Procure-Construction Manager (EPCM)	Job Order Contracting (JOC)
<b>ALTERNATE TERMINOLOGY</b>		Competitive Bidding	Construction Manager-at-Risk (CMAR)	Program Manager-at-Risk (PMAR)	Delivery Order Contracting, Work Order Contracting
<b>GENERAL DESCRIPTION</b>		A project delivery method where the owner selects an engineer to design and develop construction documents, from which the owner solicits lump sum bids. Selection is based on the lowest responsible bid and the contractor serves as a single point of responsibility for construction. Owner procurement rules may allow some variations to the “traditional” design-bid-build project delivery method in order to increase the level of control over certain project elements, if desired. Options include potential pre-qualification of contractors and/or specific suppliers, pre-selection and/or pre-purchase of selected equipment, or other non-standard variations.	A project delivery method where the construction manager (CM) serves as the general contractor (GC) providing pre-construction and construction services, while the engineer completes design under a separate contract, with the intent of promoting enhanced collaboration between all parties during design development. Qualification-based selection (QBS) of the GC/CM is typically done early in the design process. In Washington, the maximum allowable construction cost (MACC), or guaranteed maximum price (GMP), is negotiated when the construction documents are at least 90 percent complete. If an acceptable MACC is not reached, the Owner maintains the option to bid out the construction work.	A project delivery method where the Owner selects an EPCM (typically an engineer) as the overall agent to design, procure, and manage the construction process. The EPCM is not the constructor, but instead is the construction manager. The EPCM typically is contracted under a professional services agreement. The constructor may be contracted by the EPCM or directly by the Owner.	A project delivery method commonly utilized for contracting the minor repair, rehabilitation, or alterations of facilities when the work is of a recurring nature but the delivery times, type and quantities of work are indefinite.
<b>PRICING STRUCTURE</b>		Fixed Bid Price (Lump Sum)	Negotiated GMP or MACC	Negotiated (for EPCM) + Fixed Bid Price or GMP (for Contractor)	Negotiated GMP or Negotiated Unit Pricing w/ Markups
<b>TOOLS / ELEMENTS</b>					
<b>Method</b>	Legislative / Regulatory State of Washington	ALLOWED	ALLOWED (REQUIRES APPROVAL)	POSSIBLE (WOULD REQUIRE APPROVAL)	ALLOWED (WITH RESTRICTIONS)
	City of Oak Harbor	ALLOWED	CHANGES REQUIRED	CHANGES REQUIRED	CHANGES REQUIRED
	Selection Process				
	Qualifications-Based	NO	YES	YES	YES
	Price-Based	YES	NOT LIKELY	NOT LIKELY	NO
	Pre-Selection	POSSIBLE AS A VARIATION	POSSIBLE	POSSIBLE	POSSIBLE
	Pre-Purchase (by Owner)	POSSIBLE AS A VARIATION	POSSIBLE	POSSIBLE	POSSIBLE
Pre-Purchase (by Contractor)	NO	POSSIBLE	POSSIBLE	POSSIBLE	
<b>Implementation</b>	Pre-Qualification				
	General Contractors	POSSIBLE AS A VARIATION	--	POSSIBLE	--
	Subcontractors	NOT LIKELY	POSSIBLE	POSSIBLE	POSSIBLE
	Suppliers	POSSIBLE AS A VARIATION	POSSIBLE	POSSIBLE	POSSIBLE
	Multiple Contracts	POSSIBLE AS A VARIATION	NOT LIKELY	POSSIBLE	POSSIBLE
	Multiple Phases	NOT LIKELY	POSSIBLE	POSSIBLE	POSSIBLE
Incentives	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	

— Contractual Relationship    ..... Working Relationship

<b>ALTERNATIVE PROJECT DELIVERY METHODOLOGY – COMPARATIVE MATRIX</b>					
		<b>“Performance” Design/Build (D/B)</b>	<b>“Prescriptive” Design/Build (D/B)</b>	<b>“Progressive” Design/Build (D/B)</b>	<b>Design-Build-Operate (DBO)</b>
<b>ALTERNATE TERMINOLOGY</b>		Traditional Design/Build, Lump Sum Design/Build, Engineer-Procure-Construct (EPC)	Lump Sum Design/Build, Engineer-Procure-Construct (EPC)	Engineer-Procure-Construct (EPC)	--
<b>GENERAL DESCRIPTION</b>		A project delivery method that typically uses a two-step procurement process, requiring short-listed design-builders to propose lump sum best value solutions on the Owner's project performance criteria, but with little or no pre-developed design. The selected designer-builder works under a single contract and is required to deliver a facility that meets the performance criteria at the proposed price.	A project delivery method that typically uses a two-step procurement process, requiring short-listed design-builders to propose lump sum solutions based on the Owner's specifications and project concept, usually using a design developed by others provided in the RFP. The selected design-builder works under a single contract and is required to deliver a facility that meets the Owner's specifications at the proposed price.	A project delivery method that uses a qualifications-based selection (QBS), often with a proposed fee structure) similar to CM/GC, but combines separate design and construction procurements into one competition and selection of a single-contract design-build entity. Once selected, design commences and a construction estimate is "progressively" developed in an open-book format until a GMP can be agreed upon between the design-builder and Owner. If a GMP is not agreed upon, the Owner maintains the option to bid out the construction work.	An alternative form of the design-build project delivery method where the facility is operated privately under a fixed term contract following construction and start-up. Typically uses a two-step procurement process similar to either the performance-based or prescriptive-based D/B, but also includes technical and cost proposals associated with operations. In Washington, the DBO procedure may not be used to procure operations and maintenance services for a period longer than three years.
<b>PRICING STRUCTURE</b>		Fixed Bid Price (Lump Sum)	Fixed Bid Price (Lump Sum)	Negotiated GMP or Negotiated Stipulated Price (Lump Sum)	Fixed Bid Price (Lump Sum)
<b>TOOLS / ELEMENTS</b>					
<b>Method</b>	Legislative / Regulatory State of Washington	ALLOWED (REQUIRES APPROVAL)	ALLOWED (REQUIRES APPROVAL)	ALLOWED (REQUIRES APPROVAL)	ALLOWED (REQUIRES APPROVAL)
	City of Oak Harbor	CHANGES REQUIRED	CHANGES REQUIRED	CHANGES REQUIRED	CHANGES REQUIRED
	Selection Process				
	Qualifications-Based	YES	YES	YES	YES
	Price-Based	YES	YES	NOT LIKELY	YES
<b>Implementation</b>	Pre-Selection	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE
	Pre-Purchase (by Owner)	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE
	Pre-Purchase (by Contractor)	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE
	Pre-Qualification				
	General Contractors	--	--	--	--
	Subcontractors	NOT LIKELY	NOT LIKELY	POSSIBLE	NOT LIKELY
	Suppliers	NOT LIKELY	NOT LIKELY	POSSIBLE	NOT LIKELY
	Multiple Contracts	NOT LIKELY	NOT LIKELY	NOT LIKELY	NOT LIKELY
	Multiple Phases	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE
Incentives	POSSIBLE	POSSIBLE	POSSIBLE	POSSIBLE	

— Contractual Relationship      ..... Working Relationship