CLACKAMAS COUNTY BOARD OF COUNTY COMMISSIONERS
Staff Presentation Worksheet

Presentation Date: 9/15/2015 Approximate Start Time: 2:00 Approximate Length: 0:30

Presentation Title: Kellogg Creek Water Resource Recovery Facility Improvements Project Construction Contracting Plan

Department: Water Environment Services
Presenters: Randy Rosane and Doug Waugh

REQUESTED BOARD ACTION:
Answer to policy question of: Does the Board of County Commissioners support an alternative to the traditional construction delivery method for the Kellogg Creek Wastewater Treatment Plant (KCWWTP) Improvements Project?

EXECUTIVE SUMMARY:
On April 23, 2015 the Board of County Commissioners (BCC) approved a Professional Engineering Services Agreement between Clackamas County Service District No.1 and Brown and Caldwell Inc. for Phase I of the KCWWTP Improvements Project. The refurbishment of the KCWWTP will encompass eleven distinct projects that will impact every major process while maintaining operations during the construction activities. This will require careful sequencing of all elements that will affect the various affected processes.

Staff and the Consultant have taken into account the KCWWTP must maintain operations during the construction activities and reviewed various construction contracting methods that could be used for a successful delivery.

Under the traditional design-bid-build method the design firm must fully complete construction plans and specifications before a single construction contract can be advertised, bid and awarded. Cost is based on the contractor's interpretation of the bid documents, and any modifications to the design or delays in the schedule are typically handled through the change order process.

Alternatively, the District can fast track the construction under several separate construction contracts; however, this would require separate bid packages which would increase the engineering costs and require the District to administer and manage multiple construction contracts simultaneously and within a small work area.

Public agencies have become increasingly vulnerable to costly claims, delays and litigation when disputes erupt between separate contractors trying to complete their work on schedule at the same site. This project will be at risk of such claims since the sequencing has to be such that the plant operations must be maintained and processes can't be taken out of service for any length of time.

Construction Management/General Contractor (CM/GC) construction delivery method allows a single prime contractor to be responsible for the overlapping construction activities while ensuring daily plant operations are not jeopardized. Reduction of the construction timeline can be realized by enabling the contractor selection process to be completed before detailed design is complete. The Engineering Consultant and the CM/GC can collaborate on various aspects of the design to allow for the earlier ordering of long-lead-time items, value engineering, and incorporation of preferred construction sequencing that ensures continuous plant operations and other aspects of the project to minimize cost and schedule.

This delivery approach allows for work to begin before the drawings and specifications are complete and for the CM/GC to share their expertise on constructability and cost-saving measures that otherwise could be lost in a traditional design methodology. CM/GC procurements provides a Guaranteed Maximum Price (GMP) earlier in the design process than traditional bidding, thus allowing staff to “design to cost” and make better decisions about project features with an experienced contractor advising us on cost as we finalize the design.

CM/GC delivery approach has been used with great success at operating water pollution control plants in the Willamette Valley for over the past ten (10) years. Water Environment Services used the approach in 2008 to deliver the Membrane Bioreactor Process Facility at the Tri-City WPCP as part of the Phase I expansion. Clackamas County constructed the Development Services Building and the Jail Renovation projects using the CM/GC delivery method. Organizations such as the City of Salem, Metropolitan Wastewater Management Commission and Clean Water Services have all utilized the CM/GC project delivery approach. Contactors are familiar with the approach and there are numerous firms who regularly work as CM/GC contractors.

FINANCIAL IMPLICATIONS:
Project is budgeted in 2015-2016 and is identified in the 5-year CIP. It will be paid for from service district revenue. No general funds are required.

LEGAL/POLICY REQUIREMENTS:
Local Contract Review Board Rule CO49-0620 and Oregon Revised Statue 279C.335-Criteria For Exemption From Competitive Findings

PUBLIC/GOVERNMENTAL PARTICIPATION:
Before final adoption of the findings exempting a contract for a public improvement from the requirement of competitive bidding, a public agency shall hold a public hearing. Notification of the public hearing shall be published in at least one trade newspaper of general statewide circulation a minimum of 14 days prior to the hearing.

OPTIONS:
1) Use traditional design-bid-build sealed bid construction delivery
2) Use CM/GC construction contracting.

RECOMMENDATIONS

District staff recommends a CM/GC alternative bidding approach because it offers us the ability to:

1) Control the design while allowing staff and the engineering design firm to work with the contractor during design to find cost savings,
2) Ensure that project sequencing doesn't disrupt operations and lengthen the construction timeline, and
3) Obtain a Guaranteed Maximum Price earlier in the design process than traditional bidding, allowing staff to "design to cost" and make better decisions about project features with a experienced contractor advising us on cost as we finalize the design.

ATTACHMENTS:
Draft Findings: ORS 279C.335 Criteria For Exemption From Competitive for the Kellogg Creek Water Pollution Control Plant (KCWPCP) Improvement Project

SUBMITTED BY:
Division Director/Head Approval DW
Department Director/Head Approval GG
County Administrator Approval _____

For information on this issue or copies of attachments, please contact Randy Rosane @ 503-742-4573

OREGON REVISED STATUTE 279C.335 – CRITERIA FOR EXEMPTION FROM COMPETITIVE BIDDING
DRAFT FINDINGS

KELLOGG CREEK WATER POLLUTION CONTROL PLANT (KCWPCP) – IMPROVEMENT PROJECT

July 8, 2015

OREGON REVISED STATUTE (ORS) 279C.335 REQUIREMENTS/STAFF FINDING:

(a) The exemption is unlikely to encourage favoritism in awarding public improvement contracts or substantially diminish competition for public improvement contracts.

The exemption is unlikely to encourage favoritism in awarding the public improvement contract or substantially diminish competition as presented in the following:

i. Favoritism will not be encouraged based on the following:

a. As part of the selection process, the evaluation of the proposals and the selection of the construction manager/general contractor (CM/GC) will be performed by a selection committee and not a single person. The committee members will consist of individuals familiar with the needs of the project and the requirements of the proposed delivery process. The committee members will evaluate the proposals based on criteria contained in the Request for Proposals (RFP) documents.

b. The procurement documents will include clearly stated elements the proposers will be asked to address, the point value for each element will be provided, and the scoring criteria will be presented in the procurement documents. This will allow the proposers to understand how they will be scored and prepare their responses to maximize their scores. The points awarded by the committee will be tallied and the winner will be the proposer with the most points.

c. The selection criteria will include, but not be limited to a combination of elements relating to similar project experience, CM/GC experience, job site safety, references, and their proposed overhead and profit percentage.

***FINDING** – Because the selection committee will consist of a qualified and experienced group of individuals, the selection criteria and scoring methodology will be clearly presented, and the selection criteria will include a combination of categories applicable to a successful project delivery, the recommended exemption from the competitive procurement process established by ORS 279C.335 will be unlikely to encourage favoritism.*

ii. Competition will not be substantially diminished based on the following:

a. Based on the qualification requirements to be included in the RFP documents, there will be a sufficient number of area contractors meeting the minimum requirements and available to respond to the RFP.

b. The CM/GC will be required to procure their subcontractors and suppliers by competitive offer in a manner that will not encourage favoritism or substantially diminish competition. The process will conform to the open and competitive nature of public procurement, taking into account industry subcontracting practices.

The process will include public advertisements, a fixed date and time when bid periods will close, and public openings of the bids received. The CM/GC will make an award recommendation to District staff. District staff will approve the recommendation of the CM/GC unless it is determined to be inappropriate by District staff.

***FINDING** – Because the pool of proposers will be adequate in number and qualifications, and because of the process the CM/GC will be required to follow in acquiring their subcontractors and suppliers, the recommended exemption from the competitive procurement process established by ORS 279C.335 will be unlikely to substantially diminish competition.*

(b) Awarding a public improvement contract under the exemption will likely result in substantial cost savings and other benefits to the contracting agency …, or the public. In approving a finding under this paragraph, …, the local contract review board shall consider the type, cost, and amount of the contract, and, to the extent applicable to the particular public improvement contract or class of public improvement contracts, the following:

(A) <u>How many persons are available to bid?</u>

Over the past 10 years, the use of the CM/GC process has expanded significantly in the delivery of wastewater treatment projects. Here in the Willamette Valley, this process has been used by the City of Salem, Metropolitan Wastewater Management Commission (Eugene/Springfield), and Clean Water Services. In 2009, Water Environment Services used this delivery approach to deliver the liquid treatment train expansion at the Tri-City Water Pollution Control Plant that including the membrane bioreactor (MBR) process.

As a result of the widespread use of this method, there are numerous wastewater treatment contractors experienced in the use of this delivery approach. This will provide for a pool of experienced contractors ready to propose and capable of completing the project.

FINDING *– Because the pool of proposers will be adequate in number and qualifications, the number of available proposers is not a reason to withhold the exemption.*

(B) <u>The construction budget and the projected operating costs for the completed public improvement.</u>

With regard to the construction budget, the use of a CM/GC project delivery approach will provide significant benefits to the project. Among these benefits are the following:

a) *The ability to perform work while the design is being completed will allow the project to be completed in a shorter overall time as compared to design–bid–build. This will reduce the potential risk of a process failure resulting in an environmental failure.*
b) *The CM/GC will prioritize the bid packages during the design. This will reduce the likelihood of schedule delay, provide for the ordering of long-lead-time equipment, and provide for the timely investigation of existing underground piping at the site. The latter is an especially significant budget risk reduction opportunity.*
c) *The CM/GC will be preparing several cost estimates during the design. To do this, it will call on its relationships with suppliers and subcontractors to confirm pricing and keep the project within budget. In this way, there is no "bid opening surprise" because the team is regularly checking the price with the person responsible to build the project.*
d) *The CM/GC will also complete constructability reviews during the preparation of cost estimates. Constructability is often a source of high bids and/or change orders during construction. With the CM/GC on the team during design, this issue can be minimized.*

With regard to projected operating costs for the completed public improvement, the use of a CM/GC project delivery approach will also provide benefits to the project in this area. The CM/GC delivery approach typically will save calendar time during project delivery compared to the typical design–bid–build process. This results from the three primary elements described below.

- *First, the procurement of the CM/GC occurs in parallel with the design process. The bid period in a typical design–bid–build process occurs in a "start to finish" fashion. As a result, design–bid–build takes more time.*
- *Second is the opportunity for processing early work packages in parallel with the design. This can include completing work impacted by wet weather during dry periods and/or ordering long-lead-time equipment. This is particularly important for process equipment replacement work related to the influent pump station, primary and secondary sludge*

pump stations, secondary process aeration blowers, and site power distribution system components of proposed improvements.

- *Third, the CM/GC can prioritize the design and construct the project in a sequence to allow for the expeditious and economic completion of the work.*

The time saved on the delivery of the project means the new improvements are in service sooner than if the project were to be delivered using the design–bid–build process. The implementation of the new improvements at the plant will provide operational cost savings because some of the new equipment and process improvements will reduce the energy consumption of the plant when implemented. This is applicable to both the waste activated sludge and the influent pumping equipment. This reduction in energy usage will put downward pressure on the operating costs of the plant for the time period represented by the early delivery compared to utilizing design–bid–build.

***FINDING** – As a result of the expedited completion of the project using the CM/GC approach that will provide an extended time period when the energy savings at the plant will be realized, and the flexibility and certainty the CM/GC process offers in capital budgeting and value engineering, the capital and operating budgets will benefit from approving the exemption.*

(C) Public benefits that may result from granting the exemption.

The ability to perform work while the design is being completed will allow the project to be completed in a shorter overall time as compared to design–bid–build. This will reduce the potential risk of a process failure resulting in an environmental failure.

These benefits include improved reliability of the treatment facilities, thereby reducing the likelihood of a permit violation resulting from a mechanical or electrical failure. Additionally, with the construction of new facilities and the incorporation of current techniques and technology in the treatment process, the neighboring properties and users will enjoy the benefits these aspects can bring as they relate to the management of noise, odor, and general environmental protection.

***FINDING** – Because the expedited delivery of the proposed improvements, granting the exemption will provide public benefits.*

(D) Whether value engineering techniques may decrease the cost of the public improvement.

One of the key benefits of the CM/GC process is the opportunity to allow the design engineer to work side-by-side with the contractor before the

project design is complete and before the final price is established. This combination—the construction experience of the CM/GC and the knowledge of the plant operation and processes offered by the design engineer and the District staff—will be a significant benefit to the project. This will result in cost savings as the team collaborates on the sequencing of the work elements; how to address construction within a developed and operating wastewater treatment facility; and issues related to construction, testing, and commissioning of the plant improvements.

***FINDING** – Because of the opportunity for collaboration between the design engineer and the CM/GC to resolve some of the operational and constructability complexities, value engineering will likely decrease costs if the exemption is approved.*

(E) <u>The cost and availability of specialized expertise that is necessary for the public improvement.</u>

The experience and knowledge of the CM/GC is a valuable asset to the design team. This value is difficult for a design consultant to provide for two reasons. First, the CM/GC's core business is the efficient and ecumenical delivery of wastewater facilities. The experience, knowledge, and relationships the CM/GC will bring to the identification of project risks, control of costs and schedule, and the input on constructability will be nearly impossible to obtain, at any reasonable cost, from a design consultant in a design–bid–build process.

During the design process, the CM/GC will participate in evaluating the construction sequencing, the schedule impact of long-lead-time items, constructability, and materials and equipment being proposed to accomplish the functional goals of the project and provide advice regarding the pro and con aspects to the overall project construction cost. In doing so, it will be able to make recommendations to minimize costs, manage the schedule, and identify and address risks. CM/GC input related to the management of costs and schedule without sacrificing quality or functionality will be a value not available in the design–bid–build process.

The value engineering component will be especially useful to address the construction activities planned within the plant. This will be an opportunity to minimize negative impacts to the operation of the wastewater treatment process and reduce the likelihood of a permit violation. Recommendations made during the design phase will be incorporated in the project, allowing this work to be bid in a competitive market and reducing the need for change orders during the construction phase.

This design phase participation combined with obtaining this input from the organization responsible to ultimately control costs and delivery schedule is a benefit to the project not available in the design–bid–build process.

***FINDING** – Because the CM/GC is available to provide input on design and will be vested in making the design work within the budget and schedule parameters, providing the specialized expertise needed for the project will be helped by granting the exemption.*

(F) Any likely increases in public safety.

When compared to the design–bid–build process, the CM/GC process typically is considered to reduce the total project time needed to design and deliver a project. Less calendar time on a project means the improvements are completed and in service sooner when compared to design–bid–build. As this project provides improvements serving to protect the environment, this time savings provides the environmental protection goal sooner. As the facility discharges into the Willamette River, minimizing the likelihood for a permit violation is a public safety benefit.

In addition, the proposers will be asked to submit the safety history of their company and provide their workers' compensation insurance rating. This will be used in the evaluation of the proposers. The emphasis on job site safety will provide two benefits. First, a positive relationship exists between job site safety and the commitment a contractor has toward planning work. Second is the benefit of job site safety during construction of this project.

Utilizing the CM/GC process and being able to use job site safety as a selection criteria will help to provide a safer workplace for the contractor's employees, District staff, and visitors to the plant. This is a public safety benefit.

***FINDING** – Because of the expedited delivery schedule and the opportunity to use safety records as a selection criteria, granting the exemption will likely increase public safety.*

(G) Whether granting the exemption may reduce risks to the contracting agency or the public that are related to the public improvement.

This project needs to be implemented soon as the condition of the plant infrastructure has exceeded its design life. The use of the CM/GC process will allow the project to be completed sooner when compared to the design–bid–build process. This will greatly reduce the risk of a permit

violation related to a failure of the existing infrastructure, thus resulting in a risk reduction related to environmental damage.

Also, by granting the exemption, the District will be able to coordinate the procurement of long-lead-time items without accepting the risk related to the owner purchase of these items and assignment of the contract to a contractor. Furthermore, the District can identify budget and schedule risk elements and assign the responsibility to manage them (or avoid them) to the team member with the greatest ability to produce an acceptable outcome. These risk elements may include elements such as fuel, reduced availability of materials, delayed shipping of equipment, yard pipe condition and location, and scheduled maintenance work.

***FINDING** – Because of the expedited delivery schedule and the flexibility of the CM/GC process to address the needs of the project, granting the exemption will likely reduce risks to the public and the contracting agency.*

(H) Whether granting the exemption will affect the sources of funding for the public improvement.

With regard to this project, granting the exemption will not impact the source of funding as the District has decided to fund this with revenue generated from sewer rates. However, granting the exemption will enable District staff to budget the required revenue to complete the work with greater certainty than in the case of the design–bid–build process.

A design–bid–build contractor will typically try to finish a project in the shortest time possible. This approach does not always fit the needs of the District's revenue stream. Furthermore, with the CM/GC as part of the team, an expenditure curve can be developed to meet the District's revenue availability and assist in the budgeting process. This expenditure rate can then be incorporated into the Guaranteed Maximum Price Amendment to ensure predictability related to the funding needs of the project.

***FINDING** – While granting the exemption will not have an adverse effect on the funding source, the exemption will facilitate managing cash flow and annual budgeting.*

(I) Whether granting the exemption will better enable the contracting agency to control the impact that market conditions may have on the cost and time necessary to complete the public improvement.

The CM/GC delivery approach typically will save calendar time over the delivery of the same project using the typical design–bid–build process. This results from three primary elements, described as follows.

- *First, the procurement of the CM/GC occurs in parallel with the design process. The bid period in a typical design–bid–build process occurs in a "start to finish" fashion. As a result, design–bid–build takes more time.*

- *Second is the opportunity for processing early work packages in parallel with the design. This can include completing seasonally impacted work at the most opportune time, ordering long-lead-time equipment, and processing quality assurance submittals such as shop drawings and cut sheets in parallel with the design process.*

- *Third, the CM/GC can prioritize the design and construct the project in a sequence to allow for the expeditious and economic completion of the work. By granting the exemption, the project will take less time, resulting in other cost and safety benefits.*

Also, as a result of approving the exemption, the District will be better able to coordinate the procurement of long-lead-time items without accepting the risk related to the owner purchase of these items and assignment to a contractor. Additionally, if the project team becomes aware of a material or equipment thought to become problematic to the timely completion of the project, it will have the flexibility to address it as a result of the proposed exemption.

***FINDING** – As a result of the collaboration between the CM/GC and the design team, and the flexibility the process provides in identifying risks and assigning them to the team member best suited to address them, granting the exemption will allow the District to control the impact that market conditions may have on the cost of and time necessary to complete the public improvement.*

(J) Whether granting the exemption will better enable the contracting agency to address the size and technical complexity of the public improvement.

This project includes 11 interdependent and technically complex elements. It is anticipated the projects will be completed in a sequenced manner to finish higher priority improvements earlier. The various elements will be sequenced to meet the needs of the treatment works and the construction of the program in a cost-effective manner. The use of the CM/GC delivery method will allow the designers and CM/GC to collaborate to develop the most effective approach in implementing these various improvements while addressing the complex requirements of a fully operational plant being utilized to protect the environment.

In order to construct some of the improvements, the CM/GC will be asked to construct and/or provide temporary improvements, such as above-ground piping, bypass pumping, and structural support for trenches and nearby piping. The location and condition of the existing underground piping is not fully known. As a result of these items, the CM/GC process can be used to address the complexities of the treatment plant and keep it fully operational while minimizing delays in work, interruptions to plant operations, and the likelihood that plant operations will violate the operating permit of the facility.

***FINDING** – As a result of the collaboration between the CM/GC and the design team, and the value engineering opportunities in the CM/GC process, granting the exemption will allow the District and the contracting agency to address the size and technical complexity of the public improvement.*

(K) Whether the public improvement involves new construction or renovates or remodels an existing structure.

The project is includes a combination of rehabilitating existing facilities and installing/constructing new facilities. As a result, utilizing the CM/GC to advise the project team regarding construction methods, sequencing, and coordination with facility operations will be a great advantage. This advantage cannot be maximized in the same way using the standard design–bid–build process.

***FINDING** – As a result of the need to rehabilitate the plant while it operates, the collaboration of the CM/GC and the design team and the opportunity for the CM/GC to coordinate with plant operators will be significant advantages to the project.*

(L) Whether the public improvement will be occupied or unoccupied during construction.

The wastewater treatment facility is currently fully operational and must be generally kept operational during the construction of the proposed improvements. However, the use of the CM/GC approach will minimize risk to the budget due to changes in the work related to operational requirements the contractor may not be able to anticipate.

These unanticipated issues may result in an interruption to the process and a corresponding permit violation. However, by using the CM/GC approach, the likelihood of this type of an occurrence can be minimized by proper investigation and coordination with the CM/GC.

***FINDING** – As a result of the need to rehabilitate the existing plant while it operates, the collaboration of the CM/GC and the design team and the*

opportunity for the CM/GC to coordinate with the plant operators will be significant advantages to the project.

(M) Whether the public improvement will require a single phase of construction work or multiple phases of construction work to address specific project conditions.

This project includes 11 interdependent and technically complex elements. It is anticipated the projects will be completed in a sequenced manner to finish higher priority improvements earlier. The various elements will be sequenced to meet the needs of the treatment works and the construction of the program in a cost-effective manner. The use of the CM/GC delivery method will allow the designers and CM/GC to collaborate to develop the most effective approach to implementing these various improvements while addressing the complex requirements of a fully operational plant being utilized to protect the environment.

The use of the CM/GC delivery method will allow the designers and CM/GC to collaborate to develop the most effective approach to implementing these various improvements while addressing the requirements of a fully operational plant being utilized to protect the environment.

***FINDING** – As a result of the flexibility in sequencing and scheduling the work inherent in the CM/GC process and the opportunity for the CM/GC to coordinate with the design team, the phasing and sequencing needs of the project will greatly benefit by granting the exemption.*

(N) Whether the contracting agency has, or has retained under contract, and will use a contracting agency, consultants and legal counsel that have necessary expertise and substantial experience in alternative contracting methods to assist in developing the alternative contracting method that the contracting agency will use to award the public improvement contract and to help negotiate, administer and enforce the terms of the public improvement contract.

County staff, including purchasing, legal, and engineering staff, have previous experience utilizing the CM/GC process. It was implemented at the Tri-Cities Plant to deliver the MBR project in 2008 and 2009. In addition, staff has also participated in training related to the most recent legislative changes pertaining to the utilization of the CM/GC delivery approach.

In addition to staff experience, the District has engaged Brown and Caldwell as a consultant to assist in this process. Brown and Caldwell has delivered numerous CM/GC projects in Oregon and Washington, including successful efforts in Eugene for the Metropolitan Wastewater

Management Commission and for Clean Water Services at their facility in Hillsboro.

Based on the overall experience of District staff and the District's use of CM/GC delivery for capital projects, in combination with the experience of the Brown and Caldwell team, the District has assembled the appropriate team to meet the needs of this delivery method.

***FINDING** – Based on past Clackamas County experience with CM/GC and engaging Brown and Caldwell and its alternative delivery sub-consultant specialist (Project Delivery Group) on the project team, the District and this consultant team has the experience required to implement this delivery method.*