

**Exhibit A**  
**Sandy River Conduit Relocation**  
**Post Project Evaluation**

The contract was exempted from competitive bidding requirements under ORS 279C.335 and City Code Title 5 Section 5.34.810 and 5.34.820 (Ordinance No. 180938) and had an approved budget under Ordinance 182136. A Design-Build Contractor was chosen through the required selection process for exempted projects.

ORS 279C.355 requires an evaluation report upon completion of a public improvement contract exempt from competitive bidding. The report must include information on the Guaranteed Maximum Price (GMP) if used; actual and estimated project costs; numbers of change orders; an analysis of the successes and failures of the design, engineering and construction; and an objective assessment of the use of the alternative contracting process as compared to the findings required by ORS 279C.355. The following is the report as required by ORS 279C.355 which shows that the use of an alternative method was in the City's best interest.

GMP, Costs and Change Orders.

The original contract amount was \$20,639,000. Change Orders No. 1 through 31 impacted the final contract amount by adding \$1,116,846.34 (5.4% of original contract price). The original contract amount included a \$200,000 allowance for bridge storage. Change Order No. 30 established the actual cost for bridge storage. The bridge allowance was subtracted from the original contract amount to determine final change order percentages on the contract price. The final contract amount with all change orders is \$21,755,846.34. The contract is now complete and all work necessary to complete the project has been executed in accordance with the contract documents and to the satisfaction of the Project Manager.

Objective assessment of the use of the alternative process.

The paragraphs in italics below are from the Findings dated March 28, 2007 (Ordinance No. 180938, Exhibit A). These statements were used to justify that the public improvement contract could use an alternative procurement process. The Project Manager's response states how the project achieved or not the expectations set forward in the initial document.

*(1) Competition.*

*As part of the vulnerability reduction program the PWB has decided to mitigate the risk of failure Conduits #2 and #4 by relocating the conduits under the Sandy River. Shafts on each side of the river will provide access for tunnel construction and house the connections to the conduit system. Relocation of the conduits from the aging steel bridge to a tunnel has been chosen by Portland Water Bureau (PWB) as the preferred means of protecting the conduits against potential hazards such as earthquakes, landslides, volcanic debris flows and vandalism.*

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*Alternative project delivery is being pursued because of the need for specialty expertise, equipment and risk allocation related to underground projects, lack of in-house expertise, cost savings and schedule acceleration resulting from the integrated nature of the project implementation. An alternatives analysis was undertaken by the PWB to evaluate which alternative procurement method would best meet the project constraints. The alternate contracting process will not limit competition or encourage favoritism in the selection process.*

*The Portland Water Bureau proposes to use an alternative procurement process to obtain a Design-Build contractor to design and construct this project. By utilizing the Design-Build (DB) procurement method, the Portland Water Bureau shall hire a professional Design-Build contractor who has singular responsibility for quality, cost and schedule adherence. This process allows for the selection of a company with the highest quality team and experience in Design-Build tunneling projects.*

Project Manager's response:

The DB team was selected using a two stage process. A Request for Qualifications (RFQ) was developed to determine what firms were in the marketplace that felt they were qualified to perform this project. Four responses were received. A selection committee reviewed the responses and invited the three most qualified responders to submit proposals in response to the PWB's Request for Proposals (RFP). A quality proposal was received from each of the short-listed DB teams. A selection committee composed of City staff and outside members in accordance with City requirements reviewed the proposals. The selection committee used a "best value" process to select the DB contractor based on a combination of technical merit and price. The Kiewit Pacific Co. team was selected. They were the top scoring team in a very tight, competitive process. All of the proposals were of very high quality. The fees of the proposals were within +/-10% of the mean. The two stage procurement process worked well to introduce the project to the market place and then to narrow down the proposers to the tight group of highly qualified teams.

(2) Public benefits.

*Portland Water Bureau must meet its commitment to the City of Portland to provide quality potable water to its 800,000 customers and maintain water storage and fire fighting capacity during construction. The conduits involved in this project carry two-thirds of the total capacity of water available from the Bull Run. A single point of contact and an integrated team of qualified engineers and contractors, selected through the Design-Build method, provide more assurance that construction of the project will proceed smoothly with a minimal amount of interruptions and project delays than the traditional procurement method.*

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*The Sandy River is an environmentally sensitive area with endangered salmon present. Therefore, it is important that the Design-Build contractor team has a thorough understanding of the requirements to protect these resources and that historic and environmental permitting is effectively coordinated.*

*Alternative contracting will allow the PWB to select a high quality contractor with experienced staff to manage and develop construction approaches and methods that minimize impacts on the river and surrounding areas. This type of best value selection would not be possible using the traditional "low bid" contracting method.*

Project Manager's response:

The alternative procurement method resulted in the selection of a qualified DB contractor team for the specialized requirements of the project construction. Two members of the DB team were not common in low bid situations; an Environmental manager and a Public Relations officer. Both of these elements of the team assured that the neighborhood was informed of what was going on during the project and that environmental permit requirements were met. Having a single point of responsibility for these elements, as well as design and construction allowed the PWB to achieve maximum flexibility for the sequencing of construction, constructability reviews, construction staging and assuring that environmental compliance was maintained. It is estimated that using the DB procurement method cut 14 months off the schedule when compared to a conventional Design-Bid-Build (DBB) method.

(3) Value Engineering.

*Value engineering is defined as a process by which multiple subject experts evaluate and propose the most cost effective ways to deliver a project without reducing project quality and functionality. Value engineering will be enhanced on this project because the proposals can be incorporated into the final design, rather than have the proposals come after the design is already completed, which may limit the amount of change that can be accomplished to the project.*

Project Manager's response:

Because the design and build responsibilities were combined into a single team, the project benefited from early and ongoing value engineering, constructability reviews, and schedule refinement. By consolidating design and construction it allowed the possibility of some construction work starting before all elements of the design were completed. This integration resulted in significant time and cost savings to the project versus the conventional DBB method. For a project of this size a formal Value Engineering (VE) study would have been required by the PWB and therefore this cost was eliminated. This was not undertaken as the value engineering was constantly happening throughout all stages of the project.

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*(4) Specialized Expertise Required.*

*Maintaining the water supply to the public while constructing a tunnel beneath the Sandy River and providing for the disposition of the 100-year-old bridge is highly specialized work. This project will require a highly qualified team with the experience and the equipment necessary to mitigate the greater risks inherent in underground construction.*

Project Manager's response:

Kiewit Pacific Co. had the expertise in tunneling methodology and truss bridge structures which ensured the PWB an optimum design that remained practical and within budget and schedule. The DB selection method provided the best opportunity to select not just a qualified contractor, but the most knowledgeable contractor available with the necessary expertise and equipment for this project.

Tunneling is very dependant on construction method. By using the DB procurement method, the PWB was able to solicit the tunneling construction community and have them present the best match to the project parameters and their skill sets. The PWB received three proposals with three different tunneling construction methods, all of which were viable. The PWB was able to select the method that best suited the technical and environmental conditions of the project. Conventional DBB methods would have required the PWB to select a tunneling method prior to bidding and potentially eliminating the most economical tunneling method or the one best suited to the project.

*(5) Public Safety.*

*The Project has been given high priority in keeping with the Portland Water Bureau plan to reduce system vulnerability. The construction activities cannot interfere with Portland Water Bureau's mission of providing high quality water that meets all regulatory standards at all times. An inadvertent interruption of the water supply would not be conducive to public safety. The Design-Build procurement method allows the City to judge the relative safety record of competing contractors in more depth than the traditional low bid procurement method because the latter method simply sets a minimum standard that all contractors must meet.*

Project Manager's response:

The shutdown and activation of the conduits as the flow was transferred to the new sections of conduit was a complicated effort. This work required close coordination during the design process and construction to assure uninterrupted water flow. Having the design builder involved throughout the project design facilitated the coordination and plan development that assured a seamless transfer.

Water delivery via the large diameter conduits was not disrupted during the project. However, there were several cases where the local distribution main was damaged and put out of service, requiring a boil water notice. During an after action review of these instances it was determined there was a failure in

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communication between the DB team and the subcontractor performing the surface work. This data will now be used by PWB for process improvements to future projects.

*(6) Market Conditions.*

*The Design-Build selection method reaches the same or greater market of construction contractors as the conventional bidding process would. The specialized skills necessary to construct a tunnel beneath the Sandy River will require outreach to the state and national market place. Competitive contracting to this market will be obtained during the solicitation for qualifications and proposals. The two stage RFP/RFQ process will allow the City to assess the market conditions before expending significant effort in designing a project not well suited to the contracting market. This early interaction mitigates the risk of project design not matching well with the market's innovations in subsurface design and construction.*

Project Manager's response:

The estimated construction cost for the tunnel project was on the lower end of projects bid using DB. The DB process and the risk sharing strategies provided by this method allowed the PWB to attract interest from high quality contractors that would not have normally bid on a project in this budget range.

State certified Minority Women and Emerging Small Businesses received \$1,902,727, or 19.9% of the total subcontract dollars.

*(7) Technical Complexity.*

*This project included several features that are technically complex. The major technical challenges of this project are related to the tunneling means and methods, tunnel size and depth, and geotechnical conditions, which shall require very specialized construction expertise and equipment. Other technical challenges include Maintaining operations of significant elements of the water supply system during the project; significant permitting requirements related to tunneling under an environmentally sensitive river; and, construction issues related to the disposition of the historical pin truss bridge without damage. The Design Build selection process taps into the creativity of the proposers, who may, and probably will, suggest different design and construction processes to resolve these technical issues.*

Project Manager's response:

Underground work is always challenging and risky. It requires a high degree of competence and care to create a safe and successful project. This project was made even more challenging by the size of the conduits being installed into the tunnel and the overall environmental constraints due to its location beneath a salmon bearing stream. The DB process allowed the PWB to select some of the most highly skilled underground contractors in the country. The PWB was able to

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assess all elements of the DB team and make a selection that provided good coverage of all the key elements of the project.

The integrated nature of the DB team facilitated early and constant feedback between the designers and the contractors. The PWB was also an integral member of the team, being present during all aspects of the project development and quality assurance.

*(8) Funding Sources.*

*The Sandy River Conduit Relocation project budget had an approximate project cost of \$21,000,000 in the Capital Improvement Program. The amount was to cover costs for fees for design, construction, permitting, management, Portland Water Bureau management, and contingency.*

Project Manager's response:

The contract incurred change orders of approximately 5.4% of the original total contract amount. Of this amount, just over half \$649,938 (3.2% of original contract amount) were due to differing site conditions and operational constraints not anticipated at the time of the performance specification development. The remainder was due to the PWB electing to incorporate several improvements during the course of the contract. These improvements totaled \$495,549 (2.3% of original contract amount). This magnitude of change orders (3.2%) is well within historical norms for a project of this technical complication and size. There were no claims issued on this contract.

Conclusion

This was the first DB project undertaken by the PWB. The project was successfully constructed as designed within the establish project parameters and schedules. The contracted work was completed without safety infraction or serious injury. The crossing is now delivering water to Portland as imagined and with significantly less vulnerability than the previous configuration.

The DB procurement and operational method presented challenges to the PWB, both administratively and culturally. The PWB historically manages the quality control of a project. Under this contract, quality control was part of the DB teams scope of work. The PWB was responsible for quality assurance. This fact mandated an entirely new suite of documents applicable to the DB processes. Significantly greater amounts of manpower were deemed necessary than originally anticipated to assure that the work was completed per the Contract requirements.

This methodology was appropriate for this public improvement contract and should continue to be viewed as a viable contracting option on selected projects.