

**Justification and Work Plan
for Special Experimental Project No. 14 (SEP-14)
Construction Manager/General Contractor (CM/GC) Contract**

Sellwood Bridge Project (Multnomah County), CM/GC Project

October 29, 2010

INTRODUCTION AND PURPOSE

Multnomah County ("County") hereby submits this work plan for review and approval as a Construction Manager/General Contractor (CM/GC) project under the provisions of Special Experimental Project No. 14 (SEP-14) for the use of innovative contracting practices.

This document provides a justification for Federal Highway Administration's approval for Multnomah County to use the CM/GC method of delivery on the Sellwood Bridge Project and a Work Plan for how the Special Experimental Project will be monitored and reported. The CM/GC project delivery method is expected to result in a savings in time and cost, as well as creating a more effective product.

The State of Oregon has an exemption process that allows for the use of alternative contracting methods and many state and local government agencies in Oregon have successfully utilized CM/GC as a standard contracting practice for vertical (building) construction. In April 2010, the County obtained a State exception authorizing the use of the CM/GC contracting method. As part of that exemption, the County will assess and utilize the lessons learned, processes, and guidance from the Oregon Department of Transportation (ODOT), the TriMet Regional Transit District and David Evans and Associates Consultants (Multnomah County's owner representative) who have demonstrated effective and successful results in managing the CM/GC process as a means to ensure that program and project objectives are met.

Multnomah County developed a strategy for incorporating the lessons learned from previous CM/GC contracts in the state, in particular, ODOT's Willamette River Bridge (Eugene) project and TriMet's Clackamas Town Center Light Rail Line. Other lessons learned were gleaned from an ODOT workshop paneled by the experienced CM/GC owners Utah DOT and Arizona DOT.

PROJECT DESCRIPTION AND SCOPE OF WORK

The existing Sellwood Bridge is five miles south of downtown Portland, Oregon. It carried SE Tacoma St across the Willamette River and connects Oregon Highway 43 at its west end to Highways US 99E and Oregon 224 to the east. It also connects several SE Portland communities, such as the Sellwood neighborhood and suburban Clackamas County, with downtown Portland, Lake Oswego and Washington County. Its importance is evident in the current usage rate of 31,000 vehicles per day (it is a 2-lane bridge) and in the 1,400 daily trucks use even after the weight limit had been restricted to 32 tons in 1985.

In 2004, Multnomah County discovered extensive cracking in the Sellwood Bridge. In 2005, a new weight limit of 10 tons was posted that forced trucks, transit buses, and emergency vehicles to use alternate routes. Also, the existing two twelve-foot travel lanes and no shoulders with a 4' sidewalk has been identified as inadequate for bicyclists and pedestrians.

Multnomah County undertook a federally funded planning process that considered many viable alternatives including the "no-build" alternative. The Sellwood Bridge project produced a Draft Environmental Impact Statement in November 2008. The Board of County Commissioners selected a Preferred Alternative in February 2009. The project team has refined the preferred alternative and drafted a Final Environmental Impact Statement (FEIS), which received Federal approval and a Record of Decision (ROD) on September 30, 2010. Products of the NEPA process, Draft and Final Environmental Impact Statements and a Record of Decision, are available at the Sellwood Bridge website: www.sellwoodbridge.org.

Main construction components of the Preferred Alternative include:

- Constructing a new 2000 foot long Sellwood Bridge, under traffic, on an alignment 15' south of the existing centerline;
- Maintaining the existing 2 traffic lane configuration, while adding shoulder/bike lanes and sidewalks on either side;
- Removing the existing Sellwood Bridge;
- Constructing a new interchange with Highway 43, under traffic;
- Reconstructing approximately 2,600 feet of Oregon State Highway 43 roadway in the vicinity of the bridge, under traffic;
- Constraining the existing landslide and mitigating for potential future earth movement;
- Reconstructing parts of the Willamette Shoreline railroad, where the Sellwood Bridge Project is impacting the existing alignment and grade;
- Rehabilitating impacted properties in the project area, including any required mitigation of parks and historic properties.
- The new bridge will be able to accommodate future streetcar service into the Sellwood neighborhood as well as the Lake Oswego to Portland transit project;

Multnomah County considers completing this project its highest priority. The existing bridge is at risk of further subsidence and shifting of the ground due to the landslide at the west end.

Although the Preferred Alternative defines major elements of the project, there are several areas of the project where decisions remain. These include:

- The exact configuration and scope of various facilities on the Westside;
- How the Lake Oswego to Portland Transit project will be accommodated;

- What accommodations will be made for a Sellwood-bound streetcar line to access the new bridge;
- What architectural features will be included in the new bridge and other elements of the project;
- What streetscape amenities will be included;
- The exact extent of right of way necessary for the project (either temporary or permanent);
- How surface water from the project area will be managed.

Many of these elements will be determined through a public involvement process managed by the project team. Other elements will be decided through negotiations between Multnomah County and other agencies (sponsors of this project as well as other projects) as the designs of the other projects develop. The Lake Oswego to Portland Transit and the possible Tacoma Street Streetcar are at different stages of project development from the Sellwood Bridge project. The Lake Oswego to Portland project is starting its environmental phase and has not yet issued a Draft Environmental Impact Statement. The planning for the streetcar line across the Sellwood Bridge and along Tacoma Street is at the very early conceptual stage. Neither of these projects is as advanced in their development as is the Sellwood project. This creates challenges for the design of the Sellwood Bridge project.

The project will require permits from numerous agencies including the Army Corps of Engineers, National Marine Fisheries Service, City of Portland, United States Coast Guard, and Oregon Department of State Lands. The requirements included in these permits will need to be negotiated with the various agencies and will increase the technical complexity of the project. These requirements are frequently specific to particular means and methods of construction.

The new Sellwood Bridge will be constructed at approximately the same location as the existing bridge and will require roadway alignment adjustments in the immediate project area as the bridge design dictates. The new bridge will be designed and constructed to carry two lanes of traffic to accommodate the 20-year traffic projections. The number of traffic lanes and volume of traffic in the corridor are limited by Tacoma St. on the east end of the bridge, which is two lanes and is defined as two lanes in the Tacoma Street Main Street Plan, part of the City of Portland's Master Planning process. The bridge shall be designed for length and height to not preclude future transportation improvements, including planned transit projects, railroad and river navigational clearance requirements.

This project may also involve acquisition of property parcels, temporary construction easements, permanent easements, and mitigation / enhancement construction activities outside of existing County right-of-way.

APPROPRIATENESS OF CM/GC DELIVERY METHOD

The proposed CM/GC contracting method is an innovative process which has been considered and utilized by state and municipal transportation agencies for construction of highways, buildings and bridges. The CM/GC contracting method utilizes an integrated team approach to the planning, design and construction of a project in order

to control time and cost, and to assure quality for the project owner. The team consists of:

- 1) the County, its partner, ODOT, and its Owner's Representative firm (David Evans and Associates),
- 2) an Architecture and Engineering Firm (A&E) retained by the County, and
- 3) the CM/GC Contractor also retained by the County.

The CM/GC method includes both pre-construction and construction services. The A&E consultant will be selected utilizing a qualifications-based selection process. The CM/GC will be selected using a Best Value selection process based 70% on qualifications and 30% on fee.

The County wishes to utilize the CM/GC method as a means to

- be more adaptive to changing conditions and public involvement
- utilize the experience and skills of a highly qualified bridge contractor during design
- acquaint the contractor with the unique conditions and needs of the project
- control change orders and overall project costs
- shorten the duration of the project and its impacts

Historically the County has used the design-bid-build methods but has experience with the CM/GC method on a project to design and construct a new County Justice Center. With the increased demands on limited funds, the County is actively pursuing alternative delivery methods that have potential to enhance the use of tax dollars and allow for innovation in design and construction methods.

The traditional approach to managing transportation projects has been to use the design-bid-build (low bid) process. This sequential system works well on conventional transportation projects that do not require innovative or adaptive approaches to the design and construction phases of the projects. The majority of projects that the County delivers fall into this traditional category.

There are certain types of projects that require a unique approach to construction management; projects that are better managed in a non-linear approach. These types of projects can be identified by the following criteria:

1. A high degree of project complexity:

The Sellwood Project is a large project with a high level of technical complexity. In the preferred alternative the County committed to only minimal closures of the Tacoma Street Corridor to traffic. It is anticipated that the bridge will be constructed in phases so that traffic can be maintained throughout the project. In the FEIS, it was proposed that the south half will be built first, then the old bridge will be demolished, and the north half of the bridge will be constructed. In addition to the bridge, the interchange at Highway 43 will also need to be constructed in phases to coordinate with the construction of the bridge and to coordinate with the modifications to Highway 43. Additional complexity is added by the congestion on the west side of the project. Demands in the constrained area include the bridge and interchange, accommodating the Lake Oswego to Portland transit project as well as a future streetcar tracks and station, a multi-

use path, a habitat park, riparian areas, access for the floating home community, and Highway 43. Through the CM/GC process, it is expected that the selected CM/GC contractor, due to their expertise, will provide innovative means and methods for constructing the new bridge and interchange while maintaining traffic that will enhance the effectiveness of the design team as well as reducing costs.

The CM/GC Best Value selection process is based on qualifications plus fee as a major factor. The fee is, however, less important than the overall qualifications and specialized expertise. The County will score proposers by such factors as:

- their established experience in building similar projects;
- their qualifications in the areas of major bridge construction and landslides;
- their strategy for how to efficiently stage and build this specific project;
- their experience working on projects with high public involvement; and
- their references from previous owners and engineering firms.

A low bid process does not provide the opportunity to select the most qualified contractor with the specialized expertise needed for the project.

2. Unusual site conditions:

The West hillside presents many technical issues. The site is a historic landslide. The West slope moved approximately 3 feet between 1925 and 1960. Measurements indicate that the slope continues to move between 1/8" and 1/4" per year. Mitigating this slide condition will require advance geotechnical engineering and construction. This work must be sequenced appropriately with other work on the project. In addition, approximately 14 acres of impervious surface will require water treatment in an area where water increases the tendency for the earth to slide. The CM/GC will bring specialized experience in construction techniques dealing with these problem areas.

3. A high likelihood of change:

Two streetcar projects being advanced by other agencies must be accommodated within the project footprint, even though their development is well behind the Sellwood project. In addition, public involvement will continue to cause many aspects of the Sellwood project to evolve over time. The CM/GC method allows for the Contractor to become acquainted with the wide variety of project issues and expectations so that as key information develops, the design can adapt accordingly.

4. High risks relating to safety, schedules and cost:

Safe traffic flow must be maintained across the Willamette River and along Highway 43 during the four to five years of construction. It is crucial that all work be highly coordinated to avoid unnecessary delay and safety risks to the traveling public and to ensure efficiency in construction. The CM/GC process may reduce safety risks by:

- screening potential contractors based on their safety record and approach;
- cooperatively planning the work sequencing with input from the owner, designer, and contractor; and

- encouraging ongoing safety input from the entire Project Team.

A year or more can be lost if in-water work windows are missed while the design advances in a linear manner. CM/GC allows for design and construction to overlap, with opportunities to complete the project a year early. In addition, the Project has been granted environmental clearances based on conditions that raise constructability issues. CM/GC involvement early in design provides an opportunity for innovative construction methods to be used that will meet these conditions.

The Sellwood Bridge Project has a tight budget. With design-bid-build, the contractor doesn't see the plans until they are complete. At that point the contractor may wish to make suggestions about how they can build the project more efficiently. Savings from these value engineering measures are divided between Multnomah County and the contractor. Under CM/GC, those savings accrue mainly to the County.

On a CM/GC method project, the relationship of the owner, construction contractor, and designer fosters a team approach to on-going value engineering during design – all within the context of public involvement. By focusing on high cost areas such as in-water methods and optimal material choices, multiple options and innovations can be analyzed to evaluate costs and benefits. In the event that prices continue to climb or funding contributions fall short, CM/GC allows the team to reduce project scope so that the project always stays within budget.

Some of the major lessons learned that have been incorporated into the Requests for Proposals, Contracts and Specifications are:

1. **Fast-Track the final design process:** The design (A&E) firm shall provide an overall Schedule and Staffing Plan for delivering the 60%, 90 % and 100% plans in accordance with the County's fast-track schedule. The A&E contract contains liquidated damages of \$5,000/day if the A&E fails to deliver complete plans by the dates of their own plan.
2. **A table that clearly defines what the CM/GC fee contains and does not contain.** This table also defines the General Conditions cost items that will be negotiated closer to the start of construction when the specific details, schedule and requirements of the construction phase are better understood.
3. **A Step-by-Step Development of the Guaranteed Maximum Price (GMP):** The CM/GC contractor shall be required to provide Preliminary GMPs at the 30%, 60%, and 90% design review stages. This allows the County (and its independent cost estimate reviewer) a means of examining the contractor's Open Book cost estimates and questioning their method, assumptions and prices early in the design cycle. This process will also aid in formal discussions regarding the allocation of risk dollars between the Owner's and the CM/GC's contingency budgets, which is expected to conserve that contingency and reduce the overall cost of the project.
4. **An early Final Guaranteed Maximum Price (GMP):** The design of the project will reach 90% for the bridge work and 60% for the interchange by January 9,

2012, more than 6 months before any construction begins. The CM/GC will quote their GMP at this point and there will be adequate time to negotiate the GMP Amendment before the County has to commit to using the CM/GC contractor. If it is not possible to reach agreement on the GMP, then the County will have the ability to exit from the CM/GC contract and advertise the final documents through the traditional Low Bid / Build process.

5. There are complex funding scenarios:

The Sellwood Bridge Project has an estimated cost of \$330 million, which is expected to be funded from a combination of sources:

- | | |
|---|---------------|
| • Carry forward from Planning Phase (Federal) | \$ 11 Million |
| • Multnomah County Vehicle Registration Fee | \$127 Million |
| • City of Portland Transportation Grant | \$100 Million |
| • State of Oregon (Jobs Transportation Act funds) | \$ 30 Million |
| • Reauthorization (Federal) | \$ 40 Million |
| • Clackamas County | \$ 22 Million |

The variety of funding sources can create more demands and more uncertainty than a typical project with more unified funding. Selecting a CM/GC contractor that has a history of working with a wide range of public agencies on projects brings additional expertise to the Project Team. Having them involved early on in the design phase results in them having a deeper understanding of the funding milieu and a greater flexibility when it comes to problem solving

The CM/GC experiment is to determine to what extent this project delivery method performs the following goals:

1. Due to overlapping design and construction activities, the Project will take less time to design and construct than the current projected schedule;
2. Due to an understanding of the contractor's input, the Project will come in at or below the current projected budget;
3. Due to contractor involvement early on, the Project will have more flexibility with problem solving;
4. Due to the contractor's engagement in the public process, the Project will have vigorous and effective public involvement and community acceptance;
5. Due to the CM/GC contractor's presence on the design team, they will be able to contribute to innovative solutions early in the design process;
6. Due to the collective expertise of the design team, on-going Value Engineering, and friendly over-the-shoulder reviews, the Project will have higher quality construction documents and fewer change orders. and
7. Due to Best Value contractor selection method and due to the knowledge, understanding, and commitment to solving the project issues that the contractor

will gain over the months of collaborating on the design team, there will be minimal claims

WORK PLAN

PROCESS AND PHASING

Phase 1: CM/GC Selection Process (*Estimated duration: 6 months*)

The County's procedures for procurement of the CM/GC contractor will be designed to encourage competition. It is anticipated that many qualified candidates will compete for this contract due to the size of the project, however due to time constraints, a 2-Step Request for Qualifications submittal is not possible.

The CM/GC contractor will be selected through the County's standard Request for Proposal ("RFP") process which is an open competitive process. The RFP sets out guidance for how a proposal should be structured and what the potential contractors should submit. There will be a mandatory Pre-Proposal Conference in which County will further explain project and the submittal process and answer questions from the Proposers. The selection criteria are clearly stated in the RFP and will include: experience in delivering similar projects, evidence of quality in previous work; innovative ideas for improving and streamlining construction, available resources to meet schedule requirements; experience in CM/GC contracting, evidence of successful schedule and budget management, references from previous owners they have worked for, and their fee statement. There will be no stipends for proposals.

After the proposals are submitted, the evaluation process will include the following steps:

- a) Proposals will be evaluated by an Evaluation Panel consisting of at least seven County and non-County professionals well acquainted with the Sellwood Bridge Project.
- b) Proposals will be checked for completeness and compliance with the minimum requirements listed in the RFP. Complete and responsive proposals will then be evaluated under the criteria stated within the RFP.
- c) Members of the Evaluation Panel will independently score the proposals. The independent scores of each panel member will be combined into overall scores for each proposer. The highest scoring Proposers will be put into the competitive range group. A Proposer that the Evaluation Panel considers as not having a reasonable chance of being determined as the top ranked Proposer based on their written proposal as submitted, will not be put into the competitive range group.
- d) The competitive range group of Proposers will move on to the next phase of the evaluation process. This group of proposers will receive an invitation to a face-to-face interview after an appropriate protest period.
- e) The Evaluation Panel will conduct interviews with the short-listed proposers.

- f) The Evaluation Panel will score the interviews, and these scores will be combined with the written proposal scores to yield a total score for each of the short listed proposers. Based upon these final scores, the Evaluation Panel will rank the Proposers and provide an award recommendation to the Multnomah County Board of Commissioners.
- g) Upon expiration of the mandatory award protest period, the County will attempt to negotiate a contract with the top ranked firm. If negotiations are not successful, negotiations will be conducted with the next ranked firm. At the successful conclusion of negotiations, the County will enter into a contract with the successful CM/GC proposer. The contract will be for Pre-Construction Services with the intent to follow on with Construction Service Amendments. The contract will contain the terms and conditions which the County intends to incorporate into the construction amendments.

Phase 2: Pre-Construction Phase Services (Estimated duration: 18 months)

Pre-Construction Phase services may include:

- Co-locate key CM/GC staff with the A&E and County staff, attend joint meetings;
- Review and evaluate with A&E and County all preliminary (60%), advanced (90%), and final (100%) design documents at milestones established by the County;
- Provide recommendations on design alternatives, value engineering, and constructability, provide cost estimates for innovations under consideration;
- Prepare and periodically update a project schedule and overall cost estimates;
- Participate in determination of which work is self-performed and which is to be awarded to subcontractors;
- Develop a Guaranteed Maximum Price (GMP) within the County's established Target GMP.

At a County-specified point (at 90% design) during the Pre-construction Phase, the CM/GC will be required to submit a GMP for the project. The CM/GC and County will negotiate a GMP Amendment based on the supporting documents and estimate submitted by the CM/GC. If the GMP is successfully negotiated, the County will enter into a contract amendment with the CM/GC for Construction Phase Services contingent on FHWA approval. If negotiations are unsuccessful, the CM/GC contract language allows the County to terminate the CM/GC contract with no additional cost and release the project for bid using the traditional method of project delivery.

Phase 3: Construction Phase Services (Estimated duration: 48 months)

Construction Phase Services may include:

- Schedule, coordinate and manage site operations and construction activities;
- Coordinate with various federal, state and local agencies and utility companies;
- Procure materials and equipment;

- Provide, implement and document quality controls in accordance with the County's and ODOT's QC/QA program;
- Address all federal, state and local permitting requirements;
- Maintain a safe work site for all project participants;
- Manage self-performed work (contract will require the CM/GC to self-perform at least 30% of the work), and subcontractor work (contract will require at least 30% to be performed by subcontractors);
- Complete construction of the project as described by final plans and specifications within the GMP.

MEASURES

Performance of the CM/GC contracting method will be measured and evaluated on the basis of cost and time savings, impacts on the traveling public, impacts to the environment, improvements in project constructability, increased quality, and any other factors of particular significance.

REPORTING

An initial report focusing on industry reaction to the CM/GC process, issues encountered and lessons learned, will be submitted to FHWA within 60 days after award of the CM/GC Pre-Construction phase contract.

Interim reports will be prepared and submitted on an annual basis until completion of the experiment. These reports will focus on the effects on work performance and monitoring, quality, completion time, claims, and other contract administration or legal issues.

The final report will be prepared and submitted within 90 days of completion of the experiment and County acceptance of the project. The final report will contain an overall evaluation of the project innovations, along with suggestions, lessons learned, and recommendations pertaining to the use of innovations on other projects.