



Metro

**Oregon Zoo Education Center Project
Post-Construction CM/GC Evaluation
Construction Management by General Contractor**

Evaluation of public improvement projects more than \$100,000 not contracted by competitive bidding (<http://www.oregonlaws.org/ors/279C.355>)

Date: December 13, 2018

Distribution: Submitted to the Metro Contract Review Board

Project Name: Education Center

Solicitation: RFP 2646

Project Description: Provide services in a two-step process: preconstruction phase services and construction phase services to complete the Education Center and related infrastructure construction projects.

Owner: Metro
600 NE Grand Ave.
Portland, OR 97232

Project Mgr.: Brent Shelby, Project Manager, Oregon Zoo
Kate Giraud, Project Manager, Oregon Zoo

Location: Oregon Zoo
4001 SW Canyon Road
Portland, OR 97221

Contractor: Fortis Construction
1705 SW Taylor St, #200
Portland, OR 97205

Metro contract number: 932732

Actual project (CM/GC) cost: \$14,478,062

Contract start date: 6-2-2014

Substantial completion date: 12-28-2016

Date of last contract payment to CM/GC or credit to owner: 11-16-2018

Original project (CM/GC) estimated cost (from RFP):	\$10,819,500*
* Includes the estimated cost for an Add Alternate: South Entry stormwater improvements	
Guaranteed Maximum Price:	\$13,019,416
Change Orders	\$1,458,646
Total cost	\$14,478,062
Difference between original estimated CM/GC cost and actual CM/GC cost:	\$1,458,646
Percentage of Change Orders against original budget:	11%
Percentage of Change Orders against original budget (with PGE grant factored out):	8%
PGE grant amount \$385,334	
The number of project change orders issued by Metro:	
• Number of Early Work Amendments and GMP Amendment:	8
• Change orders correcting contract language (\$0 change to scope of work):	2
• Number of Change Orders after GMP that changed scope of work:	23

1. Project Narrative

The Education Center is the fifth project to be completed under the \$125 million bond measure approved by voters in 2008 to enhance animal welfare, conservation education, and sustainable infrastructure. The new buildings provide much-needed dedicated spaces for educational activities and programs that engage thousands of Oregon Zoo visitors each year. The Nature Exploration Station (NESt) is the primary attraction for zoo visitors and is home to the Insect Zoo and Species Conservation Lab, where endangered western pond turtles are reared for release. The NESt also features displays encouraging visitors to build personal relationships with nature and take action on behalf of wildlife. In addition, the Education Center was envisioned as a shared recourse to connect educators and wildlife experts from across the region with zoo visitors. That vision is being realized through collaborations with public agencies such as Metro and the U.S. Fish and Wildlife Service, as well as nonprofit conservation agencies from around the region.

The architect, design consultants, and CM/GC coordinated with zoo staff and external stakeholders through fifteen months of design workshops, resulting in a design that prioritized the zoo's education and teen programming, as well as conservation and sustainability messaging.

The zoo, Oregon Zoo Foundation and the CM/GC partnered with SolarWorld, which committed to providing solar panels and associated gear at its manufactured cost. There are 760 solar panels installed on the roofs of the Education Center buildings and nearby train station to help achieve net-zero energy operations.

The Education Center achieved Leadership in Energy and Environmental Design (LEED) Platinum certification and is in the process of qualifying as a net-zero building due to the solar panels added to the project. Other sustainability features include:

- Rainwater collected from the roof is stored in a 10,000-gallon underground storage tank and is used to flush toilets and urinals.
- A groundwater reclamation system captures groundwater from a water curtain that was installed many years ago to help slow landslide activity. The water previously went to the combined sewer system.
- Stormwater management systems detain and clean stormwater before it is released into the city’s storm system.
- High efficiency lighting and heating and cooling systems are controlled through a digital controls system, helping to save energy.
- Radiant floor heating is installed in the Nature Exploration Station
- Bird friendly window systems and exterior lighting are installed to help prevent and deter window strikes.
- The use of Forest Stewardship Council (FSC) certified wood promotes sustainable forest management, helps protect water quality, and prevents loss of natural forest cover.
- The wildlife garden and nature play area incorporate wood salvaged from the old Elephant Museum building and pavers recycled from the former elephant plaza picnic area.
- Two garden structures feature green roofs.
- Ninety species of Willamette Valley native plants within the landscape require limited irrigation and provide food and shelter for native wildlife.
- Zoo staff provide ongoing educational programs and opportunities for visitors to connect with nature

2. Procurement

The Education Center project General Contractor was selected through a competitive Request for Proposal process in which applicants were evaluated on the following:

Proposal Content	Percentage of Total Score
Project Work Plan/Approach, Section VI.A and VI.B	25%
1. Demonstration of understanding of the project objectives	
2. Approach of phase services	
3. Approach to managing construction to minimize impact	
4. Performance work plan and schedule	
Project Staffing Experience, Section IV, VI.C and VI.D	25%
1. Staffing/Personnel assigned to project	
2. Experience with similar projects (scope and budget)	
Cost/Budget, Section VI.E	20%
1. Plan to manage costs within budget	

2. Fee for preconstruction services
3. Hourly rates, fees and other expenses
4. Construction phase fee as a fixed percentage amount

Diversity, Section VI.F **20%**

1. Workforce Diversity
2. Subcontractor, consultant and supplier utilization history
3. Workforce Diversity Development Plan

Sustainable Business Practices, Section VI.G **10%**

1. Environmental Impact
2. Support of local business and markets
3. Employee compensation structure

Total **100%**

Five well-qualified construction firms submitted proposals to manage the construction of the Education Center. The proposals were evaluated by a review committee consisting of six zoo staff members, one Metro staff member, and one external design team member. The evaluation committee completed the scoring phase and selected the top three firms for in-person interviews. After the interviews were conducted and scored, the committee selected Fortis Construction to manage the construction.

The zoo continues to demonstrate its commitment to increase contracting opportunities for minority-owned enterprises, women-owned enterprises, emerging small businesses, and service-disabled veteran-owned enterprises that are certified by the State of Oregon Certification Office of Business Inclusion and Diversity (COBID firms; formerly referred to as MWESB). The Oregon Zoo bond program has an aspirational COBID-utilization goal of 15 percent (by dollar value of COBID-eligible work) for each construction project. Scopes of work that are not provided by COBID firms are not included in the COBID-eligible contract dollars. Percentages are expressed as a percent of the COBID-eligible contract dollars, which include all general contractor costs. The CM/GC process offers a distinct advantage over the traditional design-bid-build method in achieving COBID participation. Additionally, the CM/GC procurement method enables the zoo to specifically request and evaluate the proposer’s approach to COBID outreach and mentoring partnerships.

The Education Center project distributed nearly \$4.3 million to COBID contractors and represented a utilization rate of 29.5 percent of the eligible contract dollars, far exceeding the Bond Program’s goal of 15 percent utilization. That utilization has the following breakdown:

Emerging small businesses	22.24%
Minority-owned businesses	0.18%
Women-owned businesses	<u>7.04%</u>
Total COBID utilization	29.46%

3. Cost Savings and Value Engineering

The CM/GC process allows zoo staff and the project architect to work with the general contractor early in the design phase. This helps reduce construction costs and timeline by providing early input

on constructability, reduces redesign and change orders, and provides opportunities for the architect and CM/GC to solve complex design challenges.

During the design of the Education Center, there were three scope checks and construction cost estimates with the architect, CM/GC, and an independent architectural estimator. During this process, more than \$2.7 million of cost reductions were identified and implemented to align project scope with the budget. However, due to construction costs still exceeding the established budget, the design team and CM/GC further adjusted the scope and accepted post-bid reductions.

4. Construction Phasing

The Education Center CM/GC contract with Fortis Construction included Early Work Amendments (EWAs) for two primary purposes: to manage construction cost escalation and to expedite the construction schedule by approving early site work while the building permits were under review with the City of Portland.

Metro executed the first two EWAs to initiate site work while the building construction documents were under review for permit with the City of Portland. The EWAs were combined into one single site work bid package, but were divided into two differently funded scopes of work. EWA-1 included the construction of a new underground storm line and was 80 percent funded by the City of Portland. It was critical for this amendment to be properly itemized in order to accurately track reimbursement. EWA-2 included the remaining bond-funded project-specific work (demolition, grading, utilities, asphalt paving, etc.).

The third EWA was executed to begin construction of the Nature Exploration Station, the classroom building, and train station based on the building construction bid package. Once the design for the interpretive elements and Insect Zoo was complete, the CM/GC was able to complete competitive bidding and establish the guaranteed maximum price (GMP).

In addition, phasing the construction allowed the CM/GC to effectively work around the zoo's scheduled activities, reduce impacts on revenue opportunities, and limit overall disruption to visitors. The project site was situated near one of the main entrances to Washington Park and primary access points to the zoo, Children's Museum, and World Forestry Center. The CM/GC worked with Portland Parks & Recreation (PP&R) staff throughout the project to coordinate site and utility work on PP&R property, ensure safety and mitigate traffic impacts.

5. Competitive Bidding and Funding Source

The primary funding source for the Education Center project is from the general obligation bond approved by voters as part of the Oregon Zoo's 2008 bond measure. The train station, which was built as part of the Education Center project, was funded by Oregon Zoo operations. The City of Portland primarily funded the design and installation of the South Entry underground stormwater pipe.

The PGE Renewable Development Fund grant provided the zoo an opportunity to expand the solar array system onto all three buildings – the Nature Exploration Station, the classroom building and the train station. PGE awarded the zoo a grant for \$385,334, which helped cover the manufacturing and installation costs of additional solar panels in the effort to achieve net-zero building energy.

This project was a true collaboration with external stakeholders and the funding sources reflect that. The Oregon Zoo foundation contributed \$488,000 for interpretive elements installed throughout the Nature Exploration Station and \$170,000 for the NW Species Conservation Lab. Metro Parks & Nature contributed \$65,000 for the development and installation of the Metro Parks Finder touch screen monitor in the Nature Exploration Station. Metro Solid Waste provided \$129,294 for the backyard habitat interpretive elements and the Wildlife Garden sculptures.

This report is also available on the Metro website:

oregonmetro.gov/how-metro-works/contract-opportunities/doing-business-metro

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