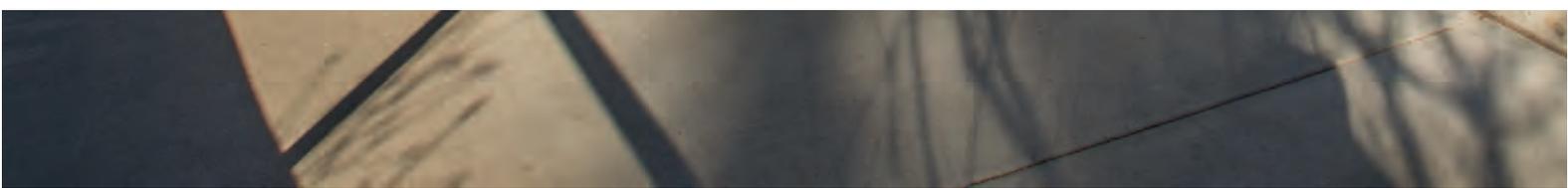




Oregon Zoo Bond Citizens' Oversight Committee

CALENDAR YEAR 2016 REPORT

Presented April 2017 to the Metro Council and the community



Cover: Entrance to the Nature Exploration Station (NESt) of the new Oregon Zoo Education Center. Commissioned artist Rob Ley's artwork titled *Ambiguous* in the plaza is based on the center's interpretive theme that "small things matter." (photo: Michael Durham)

April 3, 2017

RE: Oregon Zoo Bond Citizens' Oversight Committee Report for the Calendar Year 2016

Dear Metro Councilors and Residents of the Region:

In 2008 voters of the region expressed the value they place on animal welfare and water and energy conservation when they passed the \$125 million bond measure that funds habitat and infrastructure upgrades at the Oregon Zoo. The bond measure mandated an Oregon Zoo Bond Citizens' Oversight Committee ("the committee") to provide independent citizen review to help ensure that the public's money is well spent. Every year, the committee presents an annual report to the Metro Council and community, and this is the committee's report on bond progress from January through December 2016.

The report is divided into three required reporting items: (1) Assessment of Progress, (2) Spending Considerations, and (3) Project Modifications in Excess of Budget. In each section, the committee provides a narrative followed by a summary of findings and recommendations. For the recommendations from last year's 2015 report, you'll find an update on what was done to fulfill those recommendations, followed by new findings and recommendations from 2016. The new 2016 findings and recommendations are also summarized at the beginning of the report for your convenience.

If the 2015 report was dominated by the successful construction of Elephant Lands, the 2016 report focuses on construction of the new Oregon Zoo Education Center, which opened March 2, 2017. **The committee is pleased to report that in 2016, bond funds continued to be spent wisely, bond projects were advanced on schedule and within budget, and overall the bond program is on track to deliver on voter expectations.**

That last sentence is simple in expression but profound in its meaning. For seven years, a group of dedicated citizens has met regularly (five times in 2016) to review progress on the bond projects, analyze financials, and ask probing questions – all with the serious responsibility of delivering to the voters what they requested, and what we as taxpayers have funded. Members of the committee have rotated through terms of service, neither dropping that torch nor that commitment. Though each year brings a new project with additional learning and fresh challenges, the committee dives in with discipline, rigor and diverse expertise to ensure that the Oregon Zoo bond program keeps its promises.

With three years yet to go in the construction schedule, we are two-thirds of the way through. At this point, it seems significant that the Education Center opens with the theme of "small things matter." Individual members of the committee might humbly consider themselves a "small thing," but their hours of service added up over seven years is a testament to civic involvement that ensures accountability of the public trust.

It is my honor to thank the 17 other members of the Oregon Zoo Bond Citizens' Oversight Committee for their service, and the Oregon Zoo staff and Metro zoo bond staff for their hard work, professionalism and clear answers to the many questions we asked. We present this report as a team effort.

Sincerely,



Ruth G. Shelly
Oversight Committee Chair
Executive Director, Portland Children's Museum

Oregon Zoo Bond Citizens’ Oversight Committee Report

A report to the Metro Council and community regarding progress on the zoo bond program

Presented April 2017 for the calendar year 2016

Table of Contents

Introduction and bond measure language	3
Why the committee exists	4
The committee’s reporting requirement	4
<i>Figure 1, Bond Program sequence and progress</i>	6
2016 Findings and Recommendations Summary	7
Required Reporting Item 1: Assessment of Progress	12
A. Program initiatives	12
1. Animal Welfare: Overview.....	12
2. Conservation Education: Overview	13
3. Infrastructure and Sustainability: Overview.....	14
4. Diversity in Contracting: Overview	15
5. Program Governance and Structure: Overview	18
B. Ongoing and new bond projects	19
1. Education Center	19
2. Polar Passage	23
3. Interpretive Experience and Wayfinding.....	26
4. Percent for Art	27
C. Completed bond projects	28
1. Remote Elephant Center	28
2. Elephant Lands.....	28
3. Condors of the Columbia.....	32
4. Veterinary Medical Center	32

continued

5. Penguin Life Support System Upgrade	33
6. Comprehensive Capital Master Plan	33
7. Water Main Building.....	33
8. Land Use	33
Required Reporting Item 2: Spending Considerations.....	34
A. Overall program spending.....	34
1. Budget and Expenditures	34
<i>Figure 2, Bond Program Budgets and Expenditures</i>	<i>34</i>
<i>Figure 3, Bond Program Revenue Sources.....</i>	<i>35</i>
<i>Figure 4, Bond Program Resources.....</i>	<i>36</i>
2. Contracting Methods.....	38
B. Cost projections.....	39
1. Master Plan Implementation.....	39
2. Administrative Costs.....	41
3. Operating Costs	42
C. Independent financial audit	42
Required Reporting Item 3: Project modifications in excess of budget.....	43
How to learn more	43
Appendix A – Committee Membership	44
Appendix B – Zoo Bond Program Organization Structure	49

Oregon Zoo Bond Citizens' Oversight Committee Report

A report to the Metro Council and community regarding progress on the zoo bond program

Presented April 2017 for the calendar year 2016

In 2008 Portland area voters expressed the value they place on animal welfare and water and energy conservation when they passed the \$125 million bond measure that funds habitat and infrastructure upgrades at the Oregon Zoo. As mandated by the bond measure, the Oregon Zoo Bond Citizens' Oversight Committee ("the committee") provides independent citizen review to help ensure the public's money is well spent. The committee's charge is to determine if the zoo improvement program is on the right path in terms of structure, expenditures and achievement of defined goals. This is the committee's annual report to the Metro Council and the community, presenting its findings on how the program has progressed during the period from January through December 2016.

Zoo Bond Ballot Measure:

Bonds to Protect Animal Health and Safety; Conserve, Recycle Water

The zoo bond measure calls for updating and replacing old exhibits and facilities, increasing access to conservation education, and replacing utility systems to reduce water and energy use and lower operating costs.

- Provide more humane care for animals; update four outdated and undersized enclosures with larger, more natural and safer spaces.
- Protect animal health and safety; modernize zoo's substandard 45-year-old animal clinic determined deficient by the Association of Zoos and Aquariums.
- Increase access to conservation education; provide more space for summer camps, classes and hands-on learning for kids, adults and families.
- Improve water quality; replace the zoo's 1950s sewer system, reducing pollution by separating sewage from stormwater, harvesting runoff for reuse.
- Conserve, reuse water; install water recycling filtration systems; replace leaking, worn-out plumbing, irrigation systems, saving 11,000,000 gallons of water annually.

Why the committee exists

The Metro Council first appointed the committee in January 2010. The committee met five times in 2016: January (call-in meeting), February, April, September and November. Currently the committee has 18 members, who bring to the committee skill sets from a diverse set of backgrounds (see Appendix A).

The committee operates under a charter that incorporates the governance and reporting requirements of Metro Council Ordinance 10-1232. The Metro Council president appoints the chair of the committee, a position currently held by Ruth Shelly.

The committee meetings typically involve interactive presentations by the zoo bond staff team and other Oregon Zoo staff. Each meeting includes considerable discussion and question/answer time.

The committee operates at a high oversight level, reviewing the zoo improvement program to ensure that structure, expenditures and defined goals are on track. In most cases, the committee does not make specific project decisions. Members look at how decision-making occurs and how business is conducted. The committee seeks to help ensure that the right processes and controls are in place so that the best possible value can be realized from the voter-approved zoo bond funds. The attached organizational chart of the zoo bond program (Appendix B), illustrates the many different levels of interaction and oversight.

The 2008 zoo bond measure titled “Bonds to Protect Animal Health and Safety: Conserve, Recycle Water” (the “zoo bond”) called for a citizen oversight committee to do the following:

1. Assess progress in implementing the Oregon Zoo bond measure project improvements.
2. Report on project spending trends and current cost projections, and review and report on the annual independent financial audit of spending.
3. Consider and recommend project modifications intended to account for increases in construction costs in excess of budget estimates, to ensure that the purpose and promise of the Oregon Zoo bond measure is fully realized.

The committee's reporting requirement

The committee is required to report annually to the Metro Council regarding the progress of the zoo bond measure improvements, spending trends and cost projections, and project modifications. This document satisfies that requirement. This committee helps ensure the best value for the voters' investment and provides this report to the community as part of its oversight and stewardship.

In addition to the bond reporting requirements, the committee reviewed other requirements and goals for the program. These included the state requirement that 1.5 percent of construction cost on eligible projects be used for renewable energy installations. Metro requires that 1 percent of construction cost on projects of a certain size be used for commissioned artwork. Zoo bond-funded construction projects have an aspirational contracting goal of 15 percent participation from minority-owned, women-owned, emerging small business, and service-disabled veteran-owned firms. The committee also strives to maintain a focus on the visitor experience and how its recommendations impact this crucial component.

Starting with the 2015 report, the committee changed the format from previous years by focusing on the three main objectives of the ballot measure – animal welfare, conservation education, and infrastructure and sustainability – and diversity in contracting utilization, for each project. This report includes the committee's recommendations from the report issued in March 2016 that covered the calendar year 2015 (2015 Findings and Recommendations), and provides an update on the outcomes of those recommendations as applicable.

As noted above, this report fulfills the bond measure requirement to report annually to the Metro Council regarding the progress of the zoo bond measure improvements, spending trends and cost projections, and project modifications. Although of interest to the committee, it does not attempt to set measurable operations standards or include an analysis of operations of the new facilities constructed by the bond program. Some of that information is provided in a mid-program report, [Thanks to You, A Better Zoo, 2016 Bond Program Progress Report](#), posted on the zoo website, www.OregonZoo.org. In addition, in January 2015 in response to the committee's request, bond staff provided a memo outlining the estimated annual operational impacts of zoo bond projects. A more in-depth review of the impact on zoo operations will be provided to the committee after one full fiscal year (July to June) of operations in the new bond-constructed facilities, starting with an Elephant Lands operations report in 2017.

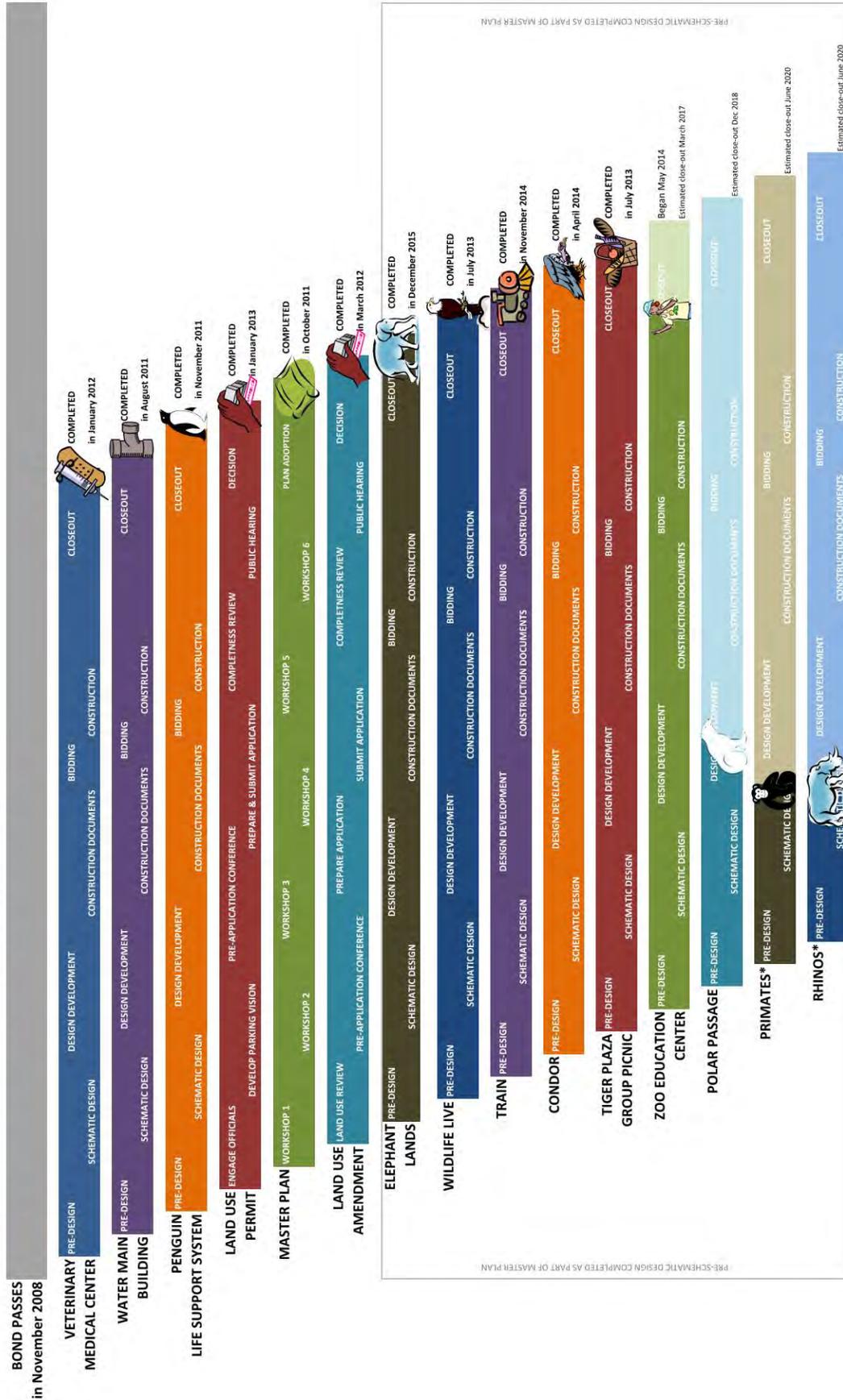
This Oversight Committee annual report includes some general diversity in contracting information, but more complete information is available in a new [Oregon Zoo Bond Program Equity in Contracting Quarterly Report](#), first issued by bond staff in September 2016, and provided to the committee and posted quarterly thereafter on the zoo website.

This report makes various references to items that were presented to the committee in 2016 and prior years. The committee's meeting materials, minutes, annual reports, program fiscal audits and *Oregon Zoo Bond Program Equity in Contracting Quarterly Reports* can be found on the Oversight Committee meeting materials pages on the zoo's website: <http://www.oregonzoo.org/discover/new-zoo/oregon-zoo-bond-citizens-oversight-committee/oregon-zoo-bond-citizens-oversight>.

Figure 1

OREGON ZOO BOND PROGRAM

PROJECT SEQUENCE AND PROGRESS, AS OF DECEMBER 2016



* Future projects sequence subject to change

2016 Findings and Recommendations Summary

The committee's findings and recommendations for 2016 are compiled here for quick reference. They are listed again under each reporting item later in the report with more complete narrative and updates on the previous year's recommendations.

2016 Findings and Recommendations Summary

Diversity in Contracting: Overview

- The committee carries forward its 2015 recommendation that staff share the general contractor's Diversity in Workforce and Contracting plan with the committee prior to seeking subcontractor bids on a construction project, specifically Polar Passage.
- The committee carries forward its recommendation that when the 15 percent COBID utilization goal may not be reached because of specialty work, that alternative bidding practices such as those suggested for "2015 improved recruitment strategies of MWESB firms" should be implemented to maximize opportunity.
- The committee recommends tracking and reporting the contracting of COBID-certified firms used for project design and other services on the project, not just construction.
- The committee commends staff on their reflective process of analyzing what worked and lessons learned, accepting feedback and working to improve diversity in contracting, and recommends that they continue the successful approach of making data-driven decisions applied to future projects.

Program Governance and Structure: Overview

- The committee commends the bond program for continuing to keep all projects on track with a successful zoo executive leadership transition to Dr. Donald E. Moore.
- The committee appreciates Dr. Moore's professional experience and background, his enthusiasm and support of the bond projects, and his interface with the committee.
- The governance structure that guides the bond program is proving to be effective. As it did in 2015, the committee recommends preserving the current governance structure of the bond program reporting to the Metro deputy chief operating officer for appropriate oversight.

(continued)

2016 Findings and Recommendations Summary (continued)

Education Center

- The committee commends the Oregon Zoo for developing many partnerships to support programming in the new Education Center.
- The committee commends the Oregon Zoo for continuing zoo operations throughout bond projects construction, with minimal negative impact to zoo operations.
- The committee reviewed and made recommendations regarding project modifications for the Education Center to enhance opportunities for conservation education and reductions in greenhouse gas emissions and operating costs. These recommendations were approved by the Metro Council.
- To date, utilization of COBID-certified firms exceeded the 15 percent goal for the Education Center, and the committee recommends sharing final data in 2017.
- The committee recommends that staff analyze and share lessons learned on the Education Center contracting of COBID-certified firms.
- The committee commends inclusion of the following features in the Education Center to enhance infrastructure and sustainability, making the building a teaching tool:
 - Installation of 760 solar panels on the roof to help achieve net-zero energy operations
 - High-efficiency lighting and HVAC
 - Energy-efficient radiant-floor heating
 - Forest Stewardship Council (FSC)-certified wood
 - Bird-friendly lights and fritted glass to help prevent and deter window strikes
 - Native plants for wildlife and reduced irrigation
 - Green roofs on the wildlife garden shelter and bee hotel
 - Rain gardens to clean and detain stormwater
 - Material reuse: salvaged timbers from the old Elephant Museum building were used for garden shelter; salvaged Elephant Plaza concrete pavers were used in wildlife garden; redwood trees removed from site for construction were salvaged and used for outdoor tables and benches.

2016 Findings and Recommendations Summary (continued)

Polar Passage

- The committee recommends that staff analyze the use of saltwater for all of the Polar Passage swimming pools and bring the cost and program analysis to the committee for review.
- The committee recommends that the zoo develop a formal commitment to polar bear conservation and define how Polar Passage supports this conservation commitment.
- The committee carries forward its 2015 recommendation that staff share the general contractor's Diversity in Workforce and Contracting plan with the committee prior to seeking subcontractor bids on a construction project, specifically Polar Passage.

Interpretive Experience and Wayfinding

- The committee commends the zoo for updating and installing a new wayfinding system to support visitor navigation and trip planning on grounds.
- The committee recommends that staff share the outcomes and findings from the Elephant Lands and Education Center interpretive summative evaluations when they are available.

Percent for Art

- The committee commends the zoo for the successful restoration and reinstallation of the Willard Martin Mosaic at the new Education Center, funded in part from an Oregon Cultural Trust grant.
- The committee commends the successful art installation at the Education Center by commissioned artist Rob Ley.
- The committee recommends that the next commissioned art installation process be appropriately integrated with the Polar Passage and Central Plaza design.
- The committee recommends that the zoo document the new public art and develop an ongoing maintenance plan to support its commitment to this nonliving collection.

Elephant Lands

- The committee commends the zoo for receiving several awards and recognitions for Elephant Lands, including LEED Gold certification and Daily Journal of Commerce Project of the Year Award.
- The committee recommends publicly sharing, when complete, the outcomes of the studies currently underway that are assessing the impact of the new habitat on the elephants' well-being and health. The committee would also like to be aware of the research dissemination strategy.
- The committee recommends publicly sharing the outcomes of summative evaluations of the interpretive exhibits and how a resulting change in public perception and behavior may help elephants in the wild.

2016 Findings and Recommendations Summary (continued)

Budget and Expenditures

- The committee commends Metro for its conservative fiscal policy that have resulted in a AAA bond rating from S&P and Aaa from Moody's providing premiums on the sale of the bonds.
- The Oversight Committee found that careful attention to allocation of remaining bond funds was needed, and launched a budget subcommittee in fall 2016 for this detailed analysis. The Oversight Committee asks the budget subcommittee to recommend in 2017 a prioritized strategy for allocation of the remaining bond and other funds for construction and improvements at the Oregon Zoo.
- The committee commends the Zoo for successful management of projects to date, including Elephant Lands and the Education Center, within the approved budget and schedule.
- The committee commends the Oregon Zoo Foundation and zoo bond staff for a successful application to PGE's Renewable Development Fund to expand the solar installation on the Education Center.
- The committee congratulates and thanks the Oregon Zoo Foundation for its significant financial support of \$6 million to date, \$4 million of which supported the Education Center and Elephant Lands projects. The committee recommends that staff seek the Foundation's input on allocation of the remaining \$2 million.
- The committee recommends staff monitor code changes at the City of Portland, standards for animal welfare and cost escalations that may have financial and other impacts on the program.

Contracting Methods

- The committee commends Zoo Bond staff for the successful contracting and project development through use of the alternate contracting methods.
- The committee recommends that Zoo Bond staff continue to document cost savings and efficiencies through use of alternative contracting methods to inform future projects.
- The committee recognizes that although difficult to quantify, using CM/GC contracting results in a better overall mission-driven project, supports diversity in contracting and results in cost savings from fewer change orders.

2016 Findings and Recommendations Summary (continued)

Master Plan Implementation: Cost Projections

- The committee recommends staff continue to inform and update the Oversight Committee on cost trends in the construction industry, including materials costs.
- The committee recommends staff continue to review and validate budgets and cost escalation and their implications on the remaining planned projects.
- The committee recommends the staff continue to monitor changes to animal welfare standards that could have an impact on current and future projects.
- The committee recommends staff assess and monitor the zoo's draft conservation priorities (to be finalized in the Integrated Conservation Action Plan (ICAP)) for any upcoming changes that could affect project designs, construction or operation.

Administrative Costs: Cost Projections

- The committee recommends staff continue to monitor the reasonable assessment of administrative costs and their implications on the overall program budget, and provide a report at least annually to the full Oversight Committee.

Operating Costs: Cost Projections

- The committee recommends staff provide the operating expense data and revenue from Elephant Lands by December 2017, following the completion of one fiscal year of operation ending June 30, 2017.
- The committee recommends staff provide by December 2017 a preliminary report on the impact of the Education Center on operating costs and revenue.

REQUIRED REPORTING ITEM 1 | Assessment of Progress

Assess progress in implementing the Oregon Zoo bond measure project improvements

A. Program initiatives

1. Animal Welfare: Overview

Protecting animal health and safety was a priority in the ballot measure. The zoo is committed to providing its animals with the best care possible. Animal welfare is prioritized during design and monitored during all construction. The sequence and design of the bond-funded projects prioritizes animal welfare.

Animal welfare refers to an animal's collective physical, mental and emotional states over a period of time and is measured on a continuum from poor to excellent. The zoo aims to optimize the welfare potential of each animal through enrichment, enclosure design, nutrition, research programs, veterinary care, husbandry training, population management and staff training. For animals to thrive the zoo takes into account psychological aspects of welfare such as mental, emotional and social health. The zoo conducts continuous welfare assessments of individual animals and the species to analyze behavior, physiology, and physical appearance and health.

The ballot measure called for providing more indoor and outdoor space for elephants; replacing the zoo's 45-year-old animal hospital and quarantine facilities to protect animal health and safety; protecting the health of polar bears by replacing concrete structures and substrate with pools, more space and more humane conditions; and replacing plain and sterile areas for primates with trees, rocks and water.

The new Elephant Lands habitat provides more space, natural substrate and enrichment opportunities for the elephants. Expanded spaces and upgraded facilities will improve elephant health and welfare by providing more options for extending outside access, increasing exercise opportunities and offering a more natural and stimulating environment for elephants. Research outcomes will be available in 2017.

The new Veterinary Medical Center offers dramatic improvements in animal holding, climate controlled spaces, enclosure substrates to increase safety and comfort, reduced stress for animals, options for environmental enrichment and ability to control communicable diseases. The Association of Zoos and Aquariums (AZA) had deemed the zoo's former animal quarantine facility substandard. Built 45 years ago, it had inadequate lighting, heating, ventilation and drainage. The building had been noted for its rusty and crumbling walls and doors. Some surfaces were difficult to sanitize because of degradation and could have provided foreign objects subject to ingestion by animals. The facility's floor could damage the hooves of some animals. The Oregon Zoo is now recognized as having one of the most advanced animal hospitals in the country.

The new Condors of the Columbia exhibit offers opportunities for the birds to fly and provides the public with a rare opportunity to see this endangered Northwest native bird, increasing awareness of the need to protect this endangered species.

The new Education Center provides improved facilities for the invertebrate collection at the Insect Zoo and western pond turtles at the Species Conservation Lab. In addition, the Center's message of taking small actions on behalf of wildlife will benefit the conservation of animals worldwide.

In 2016 and 2017 the polar bear habitat will be designed to increase access to natural substrate, renovate and increase the efficiency of the water-filtration system, reduce temperatures, chill the pool water, and increase both land and pool space. The current exhibit is almost entirely concrete, generating a very high heat load in the summer, and is basically the same footprint as the original facilities from 1959. Although renovated in 1980, the entire exhibit needs improvements to enhance the welfare of the polar bears. Renovations over the years have completely enclosed the bears, creating visual barriers that prevent the bears from looking into the distance. The current space, both land and pools, do not meet the Manitoba protocols (see Polar Passage, page 23) established for zoo polar bears. The future habitat will provide long views, natural substrate, more space, and meet all requirements for polar bear habitats.

The primate habitat will be upgraded to provide more complex spaces. Indoor and outdoor areas would give primates a sustainable and enriching environment. Zookeepers will be able to rotate the animals into a variety of habitats in the reworked exhibit thus providing a more enriching environment. New holding spaces would enhance animal care and welfare.

The rhinoceros habitat will also be expanded to provide more space for this critically endangered species.

2. Conservation Education: Overview

The ballot measure highlighted a need to increase conservation education opportunities for zoo visitors. The zoo aims to inspire visitors to take conservation action, increase its capacity to invite and engage diverse audiences in conservation education, engage other conservation partners in providing resources and programming to the zoo's 1.6 million annual visitors, and advance conservation education in the region by fostering connection and dialogue between different sectors and issues.

The zoo's education programs are of high quality and filled to capacity every year, even though they are provided in limited and inadequate space: two 12-year-old modular trailers, a former storage space, a basement and leased off-site space are used for group presentations. Camps get bumped all summer for competing uses, and the basement space is shared with the zoo's catering program.

Completed in March 2017, the Education Center creates a dedicated space for education programming at the zoo. Zoo audiences will make lasting connections with zoo partners and other visitors to share experiences, ideas and resources about safe places for individuals and families to be out in nature. Zoo visitors will learn and share ways to make environmentally responsible choices and to take meaningful conservation actions in their homes and communities. Visitors will understand that small things aggregate to have a big impact, a key concept about nature, conservation and personal actions. They will understand that nature is nearby and buzzing with activity in urban settings, even in our backyards and gardens. Exhibits and activities in the Education Center will motivate visitors to make their backyards, gardens and communities more wildlife-friendly. Through live displays, zoo audiences will learn to have a personal connection to and appreciation for small animals such as insects and other

invertebrates. Lastly, zoo audiences will gain awareness of and possibly support the conservation efforts of the Oregon Zoo and its partners.

3. Infrastructure and Sustainability: Overview

The ballot measure called for the zoo to conserve and reuse water, requiring significant infrastructure upgrades. Most of the zoo's infrastructure dates back to the 1950s and 1960s. Pipes, plumbing and irrigation systems are outdated, leaking and well past their useful lives. The most expensive utility cost at the zoo is water, and leaking pipes, run-off, inadequate filtration systems, and lack of water storage all contribute to wasting water and increasing costs. Literally millions of gallons of water per year and thousands of dollars will be saved through a major rebuilding of the zoo's water distribution system. In addition, new buildings are being designed to capture solar warmth, and provide natural light and ventilation.

In its Comprehensive Capital Master Plan, the Oregon Zoo detailed its commitment to creating an efficient and sustainable campus constantly striving to increase conservation of resources, and improvement and expansion of services. The bond funds have provided for the replacement of many of the original buildings, antiquated building/operational systems and animal habitats. The Oregon Zoo strives to be an efficient and sustainable campus.

The physical location of the zoo presents development challenges due to natural landforms, steep grades and unstable soil conditions. Projects are shaped using the design team's study of vegetation, geology, hydrology, landforms, topography, circulation, potable water network and existing infrastructure, age of existing buildings and suitability of land for development. Capital improvements, enhancements and sustainable features have been incorporated to improve site infrastructure, including the new train route and trestle, new service road, sanitary sewer line replacement, improved stormwater management, and energy and water saving measures. One energy-saving feature is a geothermal loop installed underground in Elephant Lands that when complete, will capture heat used to cool the polar bear pools and transfer it to help heat Elephant Lands.

In the past, outdated facilities have been obstacles to the zoo's goal of modeling best practices. Some of the zoo's plumbing and wiring is original to the late 1950s. These aged systems are being updated as projects are completed. In addition, projects will be designed and constructed to achieve or exceed U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) Silver certification. The Veterinary Medical Center and Elephant Lands both received LEED Gold Certifications, and the goal has been set for the Education Center also to achieve LEED Gold.

Oregon zoo bond project sustainability and infrastructure goals:

- Achieve LEED Silver or higher certification in each project.
- Reduce zoo-wide greenhouse gas emissions 80 percent below 2008 levels by 2050, from building operations and maintenance and through energy efficiency and resource conservation.
- Produce on-site renewable energy with solar panels generating electricity to meet state requirements to invest 1.5 percent of capital construction cost of eligible projects in renewable energy.
- Reduce zoo-wide water use 50 percent below 2008 levels by 2025.

As Oregon's biggest paid attraction based on annual attendance, the Oregon Zoo has a wonderful opportunity to communicate sustainable practices and sustainability principles while enhancing exhibits.

The Oregon Zoo has made significant improvements in new and renovated facilities, infrastructure, and habitats incorporating sustainable elements that build synergy for the care of animals, the visitor experience, and service and operations.

On projects to date, the zoo has separated the old combined sewer system into isolated stormwater and sanitary sewer pipes, and built stormwater planters and bioswales to naturally filter and clean stormwater before sending it downstream; this practice will continue on the remaining projects.

The zoo installed an underground stormwater storage facility under the Elephant Lands encounter habitat capable of storing and slowly releasing storm runoff from the entire zoo in a ten-year rain event. In addition, the zoo implemented water reuse or reclaimed water systems for nonpotable water demands (rain water harvesting) on the Veterinary Medical Center and Elephant Lands, as well as on the Education Center still under construction. The zoo has installed water filtration and circulation systems to reuse water in the penguinarium and Elephant Lands, and will also do so in the Polar Passage pools.

The zoo has designed landscape areas with native, climate-adaptive plant species on projects to date and will continue to do so on remaining projects.

The new Education Center includes many features to enhance infrastructure and sustainability, detailed on pages 20 to 22 of this report.

4. Diversity in Contracting: Overview

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).¹ The aspirational contracting goal for the zoo bond-funded construction projects is 15 percent participation from COBID firms.

On the nearly complete Education Center project, the COBID utilization rate as of December 31, 2016, was 29 percent—almost double the aspiration goal. Overall as of that date, the bond program has spent approximately \$70.1 million on COBID-eligible construction contracts, and \$9.8 million, or 14 percent, of that was on COBID firms. Of that COBID spending, 37 percent (\$3.6 million) went to minority-owned businesses, 43 percent (\$4.2 million) to emerging small businesses, and 20 percent (\$2 million) to women-owned businesses.

A full accounting of the bond program diversity in contracting activities is now detailed in a quarterly report, first issued in September 2017. The [Equity in Contracting Quarterly Report](#) is posted on the zoo website, and distributed through Metro's community and construction networks.

¹ Metro now refers to MWESB firms as COBID (Certification Office for Business Inclusion and Diversity)-certified firms to align with the state's certification program for minority-owned businesses, women-owned businesses, emerging small businesses and service-disabled veteran-owned businesses.

Efforts to increase these numbers include evaluation during the procurement of goods and services, outreach to COBID firms to encourage participation, mentoring of COBID firms, and breaking projects down to increase accessibility to bid.

Improved recruitment strategies of COBID firms included:

- General contractor starts recruiting COBIDs earlier to help get them ready by bid day, and hosting workshops either at their office or onsite before bid day.
- Breaking down bid packages for subcontractors so that they are not overwhelming for smaller firms to bid.

Early in the bond program, Metro used a different method of calculating COBID utilization (COBID utilization percentage was calculated based on the value of contract dollars available to subcontractors; excluding the value of the general contractor's self-performed work). Metro revised its methodology in 2014 to include the total contract value (including the general contractor's self-performed work and overhead costs), and this report has updated all COBID utilization reporting to be consistent with the current method. Metro's revised methodology for calculating COBID utilization deducts the value of the scopes of work deemed ineligible to COBID firms from the total construction contract amount to determine the base for utilization rate calculation. For example, for the Condors of the Columbia project, this methodology resulted in removing the specialized aviary mesh installation scope of work, with a subcontract value of \$157,845, from the base calculation. Only three firms nationwide provide the mesh installation, and none of them was a certified COBID firm.

To determine if a scope of work is ineligible, the Metro project manager and contractor contact and search the Oregon Procurement Information Network (ORPIN), State of Oregon COBID website, Oregon chapter of National Association of Minority Contractors and minority business chambers of commerce to determine if any vendors in the area are eligible to perform the specialized work. The outcome of this search is documented in the project Minority Utilization Report. Metro's procurement manager must approve the request for any specialized work deemed ineligible to COBID contractors and is responsible for tracking and reporting COBID contractor utilization.

Diversity in Contracting: Overview

2015 Recommendations *with updates*:

- The committee recommends that MWESB quarterly and annual reporting be broken down to report individual categories related to minority, women and emerging small business for each project to enable better tracking and planning.

Update: Staff provided the first quarterly report that demonstrated the tools, efforts and outcomes in contracting with MWESB-certified firms (now COBID-certified, see footnote). The report was broken down by certification for each project, where data were available.

- The committee recommends that the RFPs for the prime construction contractor include one of the scoring criteria to be a description of efforts the contractor will take to enhance the diversity of the workforce on the entire project.

Update: The Polar Passage RFP for construction services included scoring criteria for workforce diversity strategies.

2016 Findings and Recommendations:

- The committee carries forward its 2015 recommendation that staff share the general contractor's Diversity in Workforce and Contracting plan with the committee prior to seeking subcontractor bids on a construction project, specifically Polar Passage.
- The committee carries forward its recommendation that when the 15 percent COBID utilization goal may not be reached because of specialty work, that alternative bidding practices such as those suggested for "2015 improved recruitment strategies of MWESB firms" should be implemented to maximize opportunity.
- The committee recommends tracking and reporting the contracting of COBID-certified firms used for project design and other services on the project, not just construction.
- The committee commends staff on their reflective process of analyzing what worked and lessons learned, accepting feedback and working to improve diversity in contracting, and recommends that they continue the successful approach of making data-driven decisions applied to future projects.

5. Program Governance and Structure: Overview

Prior to the start of the zoo bond construction projects, the Metro Auditor recommended improved accountability through clarity of the organizational structure. The Auditor suggested clearly delineating roles and responsibilities and lines of authority.² The governance structure set up for the zoo bond program separated bond program project planning and construction activity from zoo operations. The zoo bond program team reports directly to the Metro deputy chief operating officer. In addition, bond program expenditure authority is separate from zoo operations with limited authority designated to the bond program director and overall authority designated to the Metro deputy chief operating officer.

A follow-up audit demonstrated that separating the bond program from zoo operations created a separate project management function better suited to address financial oversight, scheduling and information sharing.³ This robust governance and oversight structure continues to guide the bond program and is proving to be effective in ensuring careful and diligent stewardship of bond funds.

In February 2016, Dr. Donald E. Moore joined the zoo as the new director.

Program Governance and Structure

2016 Findings and Recommendations:

- The committee commends the bond program for continuing to keep all projects on track with a successful zoo executive leadership transition to Dr. Donald E. Moore.
- The committee appreciates Dr. Moore's professional experience and background, his enthusiasm and support of the bond projects, and his interface with the committee.
- The governance structure that guides the bond program is proving to be effective. As it did in 2015, the committee recommends preserving the current governance structure of the bond program reporting to the Metro deputy chief operating officer for appropriate oversight.

² Metro audit issued in November 2009 entitled "Oregon Zoo Capital Construction: Metro's readiness to construct 2008 bond projects," p. 21.

³ Metro audit issued October 26, 2011, entitled "Zoo Capital Construction Program Audit Follow-up," p. 5.

REQUIRED REPORTING ITEM 1 | Assessment of Progress

B. Ongoing and new bond projects

1. Education Center

The Education Center design offers a highly interactive, engaging facility that provides multiple avenues for learning about nature and conservation. Key features of the site include the Nature Exploration Station (NESt), the Backyard Habitat, Insect Zoo, a species recovery lab raising western pond turtles, classrooms, a flexible events space, a café and offices. Design of the Education Center kicked off in summer 2014, with schematic design approval in fall 2014. More than 3,600 people in the metro region influenced key interpretive themes and potential activities at the Education Center via online and site surveys. Construction began in September 2015, with the grand opening on March 2, 2017.

The construction has a significant impact on the visitor experience, zoo classes and camps, and zoo operations. Access in and out of the project site onto busy Washington Park roadways was a safety challenge and concern. Close coordination between construction and facility operations was required. The Metro Council approved an alternative procurement for construction management by a general contractor, which helps address these risks, as well as encouraging more minority-owned, women-owned and emerging small business contractor participation. The design team and construction contractors worked closely with zoo staff and stakeholders to minimize the negative impacts to visitors and surrounding neighbors during construction.

Animal Welfare – In addition to new improved facilities for the invertebrate collection at the Insect Zoo and western pond turtles at the Species Conservation Lab, the NESt's message of taking small actions on behalf of wildlife will benefit the conservation of animals worldwide.

Conservation Education – The Education Center will facilitate the development of Metro's environmental literacy framework and will be a place where regional conservation education partners can connect with each other and the community. Working with partners, the framework outcomes have been molded into the overarching themes for the Education Center, including the big idea that "Small Things Matter":

Small animals matter. While visitors to the zoo care about many larger animals such as elephants, orangutans and polar bears, Education Center exhibits and experiences – like the new, improved Insect Zoo – ensure they don't forget the smaller and often underappreciated inhabitants of our world including insects, turtles and microorganisms which are critical to a functioning and healthy natural system.

Small habitats matter. Small habitats found in gardens, stormwater basins, highway medians, parks, and natural areas all over the region are important to a well functioning ecosystem.

Small actions matter. Small individual actions and choices can make a big difference. An exhibit in the Education Center's Nature Exploration Station highlights "wildlife heroes" – everyday people who have taken action on behalf of wildlife and wild places. An adjacent "Take Action Now" exhibit encourages visitors to follow these heroes' example and pledge to do more to help.

The zoo is developing partnerships with like-minded conservation organizations to deliver collaborative educational programs and access to office space in the new facility. Key partners include the U.S. Fish and Wildlife Service, which has dedicated staff and resources to provide ongoing year-round programming; the Intertwine Alliance, which will be using the space to convene and plan among regional conservation education organizations; and Metro's Property and Environmental Services and Parks and Nature divisions, which will provide content and resources for programs and exhibits on natural gardening, waste reduction and sustainability. Oregon State University Master Gardeners will support the demonstration garden to foster awareness about backyard habitats. Dozens of additional partners participate in a partnership and programming advisory group. A list of more than 30 primary partners was [presented at the Oversight Committee November 9, 2016, meeting](#), and many more are also involved.

Infrastructure and Sustainability – This project includes the completed demolition of the Tiger Plaza structures, a portion of infrastructure work identified in the Master Plan to address stormwater and site utilities, and visitor and revenue-generating amenities for Discovery Plaza. The Education Center will be a “building that teaches” with sustainable elements prominently on display and interpreted through an interactive sustainability dashboard exhibit. The LEED-certified building will feature rain water reuse in restrooms, solar panels for energy production, bird-friendly glazing, Forest Stewardship Council-certified wood and efficient heating and cooling systems. The Oregon Zoo Foundation and zoo staff have developed a new partnership with SolarWorld, the largest U.S. manufacturer of solar panels and a leader in solar technology, to provide solar panels at cost. With the goal to produce as much energy that is consumed, the zoo aims to achieve a net-zero energy operations certification for the NEST building. Funding from Portland General Electric's Renewable Development Fund supported the expansion of the solar panel installation to help achieve this goal. Green Living signs and a sustainability dashboard will interpret the resource conservation efforts and outcomes of the new facility.

Diversity in Contracting – A preliminary estimate of the Education Center total contract expenditures that will be awarded to COBID firms shows the zoo bond program will greatly exceed its target. As of December 31, 2016, the project had a 29.1 percent COBID utilization rate, based on COBID-eligible construction contract spending.

Education Center

2015 Findings and Recommendations *with updates:*

- The committee recommends that the bond program apply for a renewable energy grant from Portland General Electric in spring 2016 if the grant program receives pending approvals and is opened for application. Receipt of this grant would significantly expand the building's solar panels and create a net-zero energy operations facility that can serve as a teaching tool.

Update: Portland General Electric awarded the Oregon Zoo and Oregon Zoo Foundation \$385,000 to support the expansion of the solar installation at the Education Center. This expansion will help the zoo achieve a net-zero energy operations building.

- The committee commends the Oregon Zoo Foundation, zoo bond staff and SolarWorld for developing a partnership to save funds on the procurement of solar panels.

Update: The committee commends the Oregon Zoo Foundation for a successful education campaign that raised \$1.7 million to support the capital investment and programming at the new Education Center.

- The committee recommends the zoo staff share, prior to the opening of the new Education Center, the status of partnership development to deliver nature, conservation and sustainability programming and resources in the new facility.

Update: The zoo's education curator shared the partnership development strategy and outcomes with the committee in April and November 2016. The zoo is developing partnerships with like-minded conservation organizations to deliver collaborative educational programs and access to office space in the new facility.

- The committee commends the extensive outreach conducted by the CM/GC contractor to secure COBID subcontractors, surpassing the 15 percent aspirational goal.

Update: The Education Center COBID utilization rate as of December 31, 2016, was 29.1 percent of the COBID-eligible construction contract dollars.

(continued)

Education Center (continued)

2016 Findings and Recommendations:

- The committee commends the Oregon Zoo for developing many partnerships to support programming in the new Education Center.
- The committee commends the Oregon Zoo for continuing zoo operations throughout bond projects construction, with minimal negative impact to zoo operations.
- The committee reviewed and made recommendations regarding project modifications for the Education Center to enhance opportunities for conservation education and reductions in greenhouse gas emissions and operating costs. These recommendations were approved by the Metro Council.
- To date, utilization of COBID-certified firms exceeded the 15 percent goal for the Education Center, and the committee recommends sharing final data in 2017.
- The committee recommends that staff analyze and share lessons learned on the Education Center contracting of COBID-certified firms.
- The committee commends inclusion of the following features in the Education Center to enhance infrastructure and sustainability, making the building a teaching tool:
 - Installation of 760 solar panels on the roof to help achieve net-zero energy operations
 - High-efficiency lighting and HVAC
 - Energy-efficient radiant-floor heating
 - Forest Stewardship Council (FSC)-certified wood
 - Bird-friendly lights and fritted glass to help prevent and deter window strikes
 - Native plants for wildlife and reduced irrigation
 - Green roofs on the wildlife garden shelter and bee hotel
 - Rain gardens to clean and detain stormwater
 - Material reuse: salvaged timbers from the old Elephant Museum building were used for garden shelter; salvaged Elephant Plaza concrete pavers were used in wildlife garden; redwood trees removed from site for construction were salvaged and used for outdoor tables and benches.

2. Polar Passage

Planning and design work for the new polar bear habitat, Polar Passage, included in the bond is underway. The vision is to develop a new and larger habitat to encourage and promote exploring, digging, swimming, scratching and other natural behaviors. As the world's largest land predators, polar bears need space, and the proposed upgrade will offer them not only more room, but also a safer and more natural and diverse habitat to explore.

Animal Welfare – As envisioned, the project will expand the bears' access to natural substrate and habitat, renovate and increase the efficiency of the water-filtration system, reduce temperatures, chill the pool water, and increase both land and pool space. New holding areas will have better lighting and ventilation, allowing for better animal care. The original scope included one saltwater pool, and staff is analyzing the use of saltwater for all the pools, as it is the natural water source for polar bears and offers significant animal welfare benefits. This would be a change in the original scope, so costs continue to be analyzed.

The Manitoba protocols for polar bears are formally known as Manitoba, Canada's Polar Bear Protection Act. These standards establish the necessary minimum requirements of any facility that might want to receive an orphaned animal from Manitoba (Western Hudson Bay population/Churchill area). The regulations identify exhibit and off-exhibit space, holding area, maternity den, pools, viewing distance, barrier heights, exhibit complexity, animal care, enrichment and education requirements. Adhering to the Manitoba protocols is important for designing Polar Passage so that the zoo could qualify to receive polar bears from Canada, if available. In Churchill, Manitoba, polar bears in the wild that interact inappropriately and repeatedly with humans have had to be euthanized. Polar Passage could be a future home for these types of bears. The Association of Zoos and Aquariums' Species Survival Plan for polar bears has asked that all polar bear facilities aspire to the Manitoba standards.

As marine mammals, polar bears' eye and coat health is best served with access to saltwater, which is planned for at least one pool in Polar Passage. (Saltwater is not specified by the Manitoba protocols.)

Conservation Education – Development of this new habitat also provides the Oregon Zoo the opportunity to educate guests about climate change, as well as the conservation research the zoo conducts with polar bears to assess the impacts of such change. A key component of the new polar bear exhibit will be to bring the zoo's research and positive reinforcement training activities to the forefront of the visitor experience. One of the main objectives of the interpretive messaging will be to introduce facts about climate change, polar bear conservation, and actions visitors can take to preserve polar bears and their arctic habitat. As with all bond projects, the effectiveness of the interpretive exhibits with visitors will be assessed after the project is complete.

Infrastructure and Sustainability – Infrastructure work associated with the polar bear project includes a public plaza with guest amenities, visitor path upgrades, and the final phase of upgrading utilities as part of the bond program implementation. The polar bear project will also connect to the geothermal "slinky" system installed during the construction of Elephant Lands to exchange heat and cooling between the habitats. The geothermal system will help save energy by transferring energy used to cool Polar Passage and use it to help heat Elephant Lands.

Diversity in Contracting – The approval to utilize CM/GC for this project will allow for more outreach to COBID contractors during the design phase.

Percent-for-Art – The final of three major bond program Percent-for-Art installations will be developed in conjunction with the Polar Passage project. The team of Edwin and Veronica Dam de Nogales was selected in November 2016 as the commissioned artists. The Polar Passage design and conservation messages related to the iconic polar bear were a major consideration in artist selection.

Polar Passage

2015 Findings and Recommendations *with updates*:

- The committee agrees with the construction of Polar Passage using the Construction Management/General Contractor (CM/GC) alternate procurement method to ensure strong project oversight by staff, to create a team from the start of the project that works more cooperatively to solve problems and finds the best way to design and build the project, and to best address the needs of this complex project with difficult site conditions.

Update: Lease Crutcher Lewis was awarded the CM/GC contract for Polar Passage. The zoo is benefitting from the general contractor's participation in the design of Polar Passage. Lease Crutcher Lewis assists in the design process by identify cost effective solutions and options in partnership with CLR Design.

- The committee recommends an updated cost escalation analysis to ensure the budget is adequate to meet the original intent of the ballot measure.

Update: A Budget Subcommittee was formed to recommend a strategy to the Zoo Bond Citizens' Oversight Committee regarding allocation of the remaining bond funds. In September 2016, the subcommittee drafted guiding principles and a work plan and shared them with the committee, and staff provided an updated cost escalation analysis.

- The committee recommends staff bring major project modifications before the committee for review.

Update: The subcommittee will review project modifications and budget allocation for the remaining projects, and bring initial recommendations to the full oversight committee in early 2017.

- The committee recommends continued outreach efforts to MWESB contractors, with an emphasis not only on diverse business ownership, but also diverse workforce.

Update: The Polar Passage CM/GC contractor is doing outreach to COBID-certified firms and working to develop a diverse workforce. The planned outreach and workforce development was included in the [September 2016 Equity in Contracting Quarterly Report](#). Once the project design is finalized, the CM/GC contractor will provide a specific work plan for achieving diversity in contracting goals.

Polar Passage (continued)

2016 Findings and Recommendations:

- The committee recommends that staff analyze the use of saltwater for all of the Polar Passage swimming pools and bring the cost and program analysis to the committee for review.
- The committee recommends that the zoo develop a formal commitment to polar bear conservation and define how Polar Passage supports this conservation commitment.
- The committee carries forward its 2015 recommendation that staff share the general contractor's Diversity in Workforce and Contracting plan with the committee prior to seeking subcontractor bids on a construction project, specifically Polar Passage.

3. Interpretive Experience and Wayfinding

The zoo's overall interpretive goals, including both bond project and non bond project initiatives, are to create a more synergistic experience for guests across the entire campus and to position the zoo itself – its environmental resources and stewardship of those resources, husbandry and animal care practices, and conservation programs – as an essential part of that experience.

Each project has interpretive themes and goals. Visitors are engaged as part of the front-end (goal setting), formative (design) and summative (effectiveness) evaluations. Animal welfare, sustainability/green living, and conservation education are common threads through each project's interpretive elements.

A new interpretive Elephant Lands app completed in 2015 represents the zoo's first initiative to use smart phone technology to enhance the educational experience. With the new free app, funded by the Oregon Zoo Foundation, visitors can locate individual elephants and record and share observations about the herd by using elephant identification stations. The app also features a pledge that users can take to share a commitment to elephant conservation. Outcomes will be reported in an Elephant Lands operating report in 2017.

Installation of the campus wayfinding system made significant progress in 2016. Zoo staff and consultants implemented a system to aid visitor navigation and trip planning on grounds.

Interpretive Experience and Wayfinding

2015 Finding *with update*:

- The committee appreciates the support of the Oregon Zoo Foundation in funding the Elephant Lands app to enhance the visitors' educational experience.

Update: The zoo developed and launched the first smart phone application to enhance the visitors' educational experience at Elephant Lands.

2016 Findings and Recommendations:

- The committee commends the zoo for updating and installing a new wayfinding system to support visitor navigation and trip planning on grounds.
- The committee recommends that staff share the outcomes and findings from the Elephant Lands and Education Center interpretive summative evaluations when they are available.

4. Percent for Art

The zoo bond program is taking a programmatic approach to meeting Metro's 1 percent-for-art requirement. In addition to art installed at the Veterinary Medical Center, the art appropriation for the remainder of the construction projects was pooled for the whole program to fund three major commissions at three plazas (instead of a small art installation at each project). The first commissioned artist, Catherine Widgery, created "Forest Lights" for Elephant Lands and the east plaza, which opened in December 2015 (see Elephant Lands in the next section).

For the second major art commission, the Regional Arts and Culture Council, on behalf of Metro and in conjunction with the Oregon Zoo Public Art Advisory Committee (which includes a member of the Zoo Oversight Committee), issued in 2014 a request for qualifications (RFQ) to select a second commissioned artist to create art for the Education Center and west plaza project. From the 232 artists from around the country who responded to the RFQ, the art committee selected Rob Ley, a public artist from Los Angeles. Mr. Ley's art, titled *Ambiguous*, was installed in 2016 near the Education Center entrance. His conceptual approach is based on the Education Center's interpretive theme that "small things matter," particularly how many small parts contribute to a whole. He looked to nature for design inspiration, particularly images of small parts like spores, pollen, eggs, seeds and rhizomes. The form is made with 2,500 triangles that compose the sculpture; 10,000 unique angled bends and 15,000 rivets turn all of these separate pieces into a singular, monolithic form.

The third major art commission selection process was completed in 2016 in conjunction with the design of the new Polar Passage. The Oregon Zoo Public Art Advisory Committee selected the artist team of Edwin and Veronica Dam de Nogales of Ontario, Canada, out of 179 responses to the RFQ.

Percent for Art

2015 Recommendation *with update*:

- The committee recommends continued partnership with the Regional Arts and Culture Council to assist with artist solicitation and selection.

Update: The committee commends the Regional Arts and Culture Council for leading a successful artist solicitation and selection process for Polar Passage.

2016 Findings and Recommendations:

- The committee commends the zoo for the successful restoration and reinstallation of the Willard Martin Mosaic at the new Education Center, funded in part by an Oregon Cultural Trust grant.
- The committee commends the successful art installation at the Education Center by commissioned artist Rob Ley.
- The committee recommends that the next commissioned art installation process be appropriately integrated with the Polar Passage and Central Plaza design.
- The committee recommends that the zoo document the new public art and develop an ongoing maintenance plan to support its commitment to this nonliving collection.

REQUIRED REPORTING ITEM 1 | Assessment of Progress

C. Completed bond projects

1. Remote Elephant Center, deemed not feasible and cancelled February 2016

While a Remote Elephant Center was not included among the list of projects approved by voters when passing Measure 26-96, zoo and Metro staff conducted feasibility analyses of potential sites, operational plans and financials, per the Metro Council's direction as stated in Attachment A of Resolution No. 08-3945, approved in 2008.

In February 2016 the Metro Council unanimously approved a formal resolution to suspend pursuit of the Remote Elephant Center project due to lack of financial viability, difficulty securing suitable property and the ability to achieve the zoo's vision for elephants through the new onsite Elephant Lands. Metro informed the public by issuing a press release and posting the decision on the zoo and Metro websites, and it was covered by local media as well. The committee is working with staff on fund reallocation.

2. Elephant Lands, December 2015

In recognition that elephants are the Oregon Zoo's signature species, Metro prioritized the onsite Elephant Habitat (known as "Elephant Lands") project in terms of timing and the financial resources dedicated to it. The project was substantially complete in December 2015, within its approved schedule and budget. The grand opening to the public was held on December 15, 2015, with several hundred people attending.

As part of the elephant habitat expansion, a number of related subprojects were also completed. These include: 1) relocation of the train loop, 2) a new perimeter service road, 3) relocation of the Wild Life Live! program and 4) water and energy sustainability measures, including Leadership in Energy and Environmental Design (LEED) Gold certification for the elephant buildings and site, and a new campus geothermal loop to reduce the use of fossil fuels for heating and cooling. The Elephant Lands project was completed using a Construction Management/General Contractor (CM/GC) alternative procurement approach.

Of particular note, the low percentage of cost for change-order work for this large project is to be commended. A project of this size and scope would generally average change orders that increase costs by around 10 percent of the construction cost. The Elephant Lands number has been particularly low, around 5 percent of the guaranteed maximum price, which shows one of the benefits of utilizing CM/GC.

Two totem poles were displaced in the construction of Elephant Lands, which created an opportunity for a complete restoration by the Lelooska tribe and artist Ray Losey prior to relocating the poles. With significant engagement of the Native American community, the zoo hosted a well-attended totem pole rededication event to celebrate the Native American culture, history and meaning of the poles.

Elephant Lands also includes work by the first major commissioned artist under the 1 percent-for-art program, Catherine Widgery, whose artwork welcomes guests to Forest Hall, the elephants' new indoor habitat.

The Wild Life Live! facility was displaced due to the construction of Elephant Lands. The bond program renovated an under-utilized animal holding facility at the zoo and successfully relocated the Wild Life Live! program. The relocation resulted in improved living quarters for the program animals, and Wild Life Live! staff are pleased with the new headquarters.

Animal Welfare – The Elephant Lands project significantly expands the elephant habitat, allowing for an evolution in the way the elephants use their space in support of the zoo's vision for elephants to live in family herds. The design of the habitat sought every opportunity to encourage natural behaviors and nurture family dynamics. The project elements include Forest Hall and the Elephant Barn, the North Meadow Habitat, Encounter Habitat and the South Habitat on a six-acre site.

Throughout the habitat, feeding stations, mud wallows, and water features including a 160,000-gallon pool provide many activity choices and encourage the elephants to be active 14 to 16 hours a day, just as they would in their natural environment. Deep sand groundcover blankets the entire habitat, including most of the indoor areas. State-of-the-art heating and ventilation systems with open doors allow the herd to move inside and out as they please.

In planning for Elephant Lands, the zoo hired a consultant team that included architects expert in the design of animal habitats who drew upon the best features of state-of-the-art elephant facilities around the world. Working with elephant care staff, the design team crafted Elephant Lands to meet the psychological and social requirements of the elephant herd as well as its physical needs.

The zoo's research staff has been monitoring the zoo's elephant herd for more than four years, from September 2012 to December 2016, to study the effect of Elephant Lands on the herd. Their findings are expected to provide scientifically credible documentation of the effects of the new habitat on the elephants' welfare and quality of life, findings that will likely prove valuable to other elephant care facilities.

Researchers started monitoring in the old habitat to establish baseline data on the herd's general health, hormone levels and behavior. They continued monitoring as the herd transitioned into the new Elephant Lands habitats. As of December 2016, the elephants have been in the new Forest Hall and barn for one year. Staff will continue to monitor the herd for years to come.

Samples collected measured the elephants' behavior diversity and how they spent their time (7,446 video clips totaling 250 hours), distance walked and recumbence (154 sessions with GPS bracelets), and stress and reproductive hormones (1,493 fecal samples). The zoo also has 20 prior years of hormone data. Dedicated zoo volunteers did most of the videotaping. Processing the data and samples will take an estimated 3,000 hours, and the goal is to be complete by July 2017. Analysis of the data will look at standard welfare variables of housing features and management practices, as well as additional variables for this study: construction and moves, life events (births, deaths and transfers), and reproductive status and cycle phase.

Although the study is not complete, the researchers are observing some great changes as a result of Elephant Lands. Anecdotal observations show the elephants are using their resources – such as feeders and food delivery locations, habitat features and enrichment elements – more than they did before Elephant Lands. The animals are walking and foraging for food throughout the habitat by checking all the feeders, which are programmed to deliver food unpredictably. This is a change from the old habitat where keepers delivered the food on a schedule. The elephants are also showing a greater variability in social interactions since the new habitat allows them to choose where to be, who to be with, or whether to be alone. The new habitat complexity appears to be correlated with the elephants vocalizing more with each other when out of view of one another. Researchers noted that the elephants at the Oregon Zoo are utilizing the many new resources available to them. The Committee looks forward to receiving the final results of the study in 2017.

Conservation Education – Art, interpretive signs and other displays installed with the project provide the public with many opportunities to understand the impacts of human activities on wild elephant habitat and to get an up-close experience with these amazing creatures. The Elephant Lands interpretive experience has three main themes:

- **Being an elephant: the mind, body and life of an elephant.** This natural history content helps enrich guests' understanding of elephants as remarkable, unique creatures.
- **Elephant Lands is the Oregon Zoo's vision for elephant care in practice.** These highlights show how elements in and around the habitat enrich the lives of the zoo's elephant herd.
- **Humans and elephants: a shared history.** This exploration of the long, complex history that elephants and humans have shared includes current conservation issues and celebrates more than 60 years of elephants at the Oregon Zoo.

A life-sized wall graphic of Packy, the former senior male elephant, allows visitors to appreciate the height and size of an elephant, while a model of an elephant trunk allows them to experience its feel and texture. As mentioned, the Elephant Lands interpretive experience also includes the zoo's first smart phone application. Features of the app, released in December 2015, provide visitors with tools for identifying individual elephants in the herd.

Infrastructure and Sustainability – Completion of the six-acre Elephant Lands project exemplifies the zoo's commitment to sustainability through the incorporation of a variety of elements including energy efficiency, sustainable building materials, solar preheating hot water, use of day lighting, stormwater management and the first portion of a new geothermal "slinky" system that will redistribute heat created from cooling the polar bear exhibit and move it to Elephant Lands where it is needed to warm the elephants. The zoo received technical assistance and nearly \$150,000 in rebates and incentives from the Energy Trust of Oregon for energy efficiency investments at Elephant Lands.

In 2015 the Portland Business Journal staff nominated Elephant Lands for a PBJ Better Bricks award, primarily for the project's focus on sustainability and use of cross-laminated timber (CLT) for the roof of the Elephant Plaza restroom, the first commercial building in Oregon to use CLT. Cross-laminated timber is a new engineered wood product made of 2-by-6s glued together in huge sheets and crosshatched in three to nine layers. Made of a naturally renewable resource, CLT is considered a greener choice since it takes less energy to produce than steel and concrete and can be made of smaller, lower-grade timber that avoids cutting old-growth trees.

Infrastructure improvements as part of Elephant Lands include a new service road, which provides a safer environment for visitors by removing most service and construction vehicles from pedestrian paths and by improving emergency vehicle access. In addition, the zoo train tracks were rerouted to provide more space for the elephants and offer better views of the animals.

The zoo received LEED Gold certification for Elephant Lands. In addition, the zoo received recognition as the Project of the Year by the Daily Journal of Commerce, as well as several industry awards.

Diversity in Contracting – Elephant Lands achieved a COBID utilization rate of 10 percent of the COBID-eligible contract value, with \$4.4 million going to COBID-certified firms. Due to the project's complexity, scale and specialization, the 15 percent COBID goal was harder to reach. Also, 25 percent of the subcontractors that bid on the project were COBID firms, but not all of them had the lowest bid, so some were not awarded the work. The scopes of work deemed ineligible for COBID firms, and deducted from the total construction contract amount to determine the base for the utilization rate calculation, include: elephant doors and gates, crane, elevators and specialty rock work.

Elephant Lands

2015 Findings and Recommendations *with updates*:

- The committee recommends publicly sharing when complete the outcomes of the studies currently underway that are assessing the impact of the new habitat on the elephants' well-being and health.

Update: The zoo's conservation and research staff updated the committee with preliminary findings and the data analysis completion timeline of 2017.

- The committee applauds the innovation of the Elephant Lands design and construction team in the first commercial utilization of cross-laminated timber in Oregon. The committee recommends the bond program continue to identify innovative sustainability investments.

Update: The zoo received LEED Gold certification for Elephant Lands.

2016 Findings and Recommendations:

- The committee commends the zoo for receiving several awards and recognitions for Elephant Lands, including LEED Gold certification and Daily Journal of Commerce Project of the Year Award.
- The committee recommends publicly sharing, when complete, the outcomes of the studies currently underway that are assessing the impact of the new habitat on the elephants' well-being and health. The committee would also like to be aware of the research dissemination strategy.
- The committee recommends publicly sharing the outcomes of summative evaluations of the interpretive exhibits and how a resulting change in public perception and behavior may help elephants in the wild.

3. Condors of the Columbia, 2014

Condors of the Columbia officially opened to the public in May 2014. Construction was completed on amended schedule and *under* budget by \$412,983. The construction completion date was later than the estimated schedule in the Comprehensive Capital Master Plan, but approved and updated due to the need for a longer design and construction period and the discovery of hidden underground challenges on site. Condors of the Columbia highlights the Oregon Zoo's successful condor breeding program and aims to inspire visitors to learn more about the conservation of these iconic birds.

The interpretative features at the Condors of the Columbia exhibit were designed to illustrate the zoo's role in California condor conservation and to inspire audiences to take conservation action. To validate the efficacy of the interpretive experience, an evaluator was contracted to analyze visitor tracking studies and intercept surveys. The evaluator concluded that Condors of the Columbia was highly successful in meeting the intended outcomes.

The exhibit was not a candidate for LEED certification because it did not meet minimum square-footage requirements.

Diversity in Contracting – The project accomplished a COBID utilization rate of 26 percent; 19 percent were emerging small businesses and 7 percent were minority-owned businesses. The specialty netting scope was deemed ineligible for COBID firms, and the value was deducted from the calculation.

4. Veterinary Medical Center, 2012

The grand opening of the VMC was celebrated in January 2012. The Veterinary Medical Center replaced the substandard veterinary and quarantine buildings with a new facility that meets standards set by the Association of Zoos and Aquariums. The Veterinary Medical Center was prioritized as the first bond project for animal health and safety.

Diversity in Contracting – Of the total contract value, the project achieved a 10 percent⁴ COBID utilization rate. Five percent were emerging small businesses, 4 percent were women-owned businesses, and 1 percent were minority-owned businesses.

⁴Metro's calculation methodology at the time of this project was to exclude the cost of prime contractor self-performed work. Out of the \$4,214,163 available in subcontracts (*i.e.*, work not performed directly by the prime contractor), 17 percent of the dollars went to contractors certified as a MBE, WBE or ESB. This number was previously reported in Metro's annual MWESB report.

5. Penguin Life Support System Upgrade, 2012

The penguin water filtration project was completed in 2012. The goal of the upgrade was to conserve water and improve water quality. Zoo staff estimates that water use has decreased by more than 90 percent as the pool water is filtered versus frequently dumped.

Diversity in Contracting – The project accomplished an MWESB utilization rate of 6 percent; all 6 percent were emerging small businesses.

6. Comprehensive Capital Master Plan, 2011

The Comprehensive Capital Master Plan was completed and approved by the Metro Council in September 2011. It addresses project sequencing, scope, programming and budgeting for bond projects.

7. Water Main Building, 2011

The Water Main Building was completed in 2011 and prevents nonpotable water from entering the water system. It was a crucial upgrade to save water at the zoo, including the capture and reuse of rainwater at the Veterinary Medical Center.

8. Land Use, 2011

Metro completed and received approval for three land use applications with the City of Portland: (1) an amendment to the existing Conditional Use Master Plan to allow work to proceed on the Elephant Lands project and the Condors of the Columbia project, (2) West Lot land use application and (3) an application for a new Conditional Use Master Plan for the next 10 years for the remainder of the specific bond projects and some of the overall master plan improvements.

Parking management responsibilities were turned over to Portland Parks & Recreation as part of the land use process. Impacted parties formed the Washington Park Transportation Management Association (WPTMA). Paid parking for the shared lot and throughout Washington Park was implemented in January 2014. In 2015 the WPTMA was renamed Explore Washington Park with a new website and branding.

REQUIRED REPORTING ITEM 2 | Spending Considerations

Report on spending trends, current cost projections and independent financial auditors' report

A. Overall program spending

1. Budget and Expenditures

The zoo bond program is divided into four main areas: construction projects, planning projects, land use processes and program administration. As of December 30, 2016, the total amount budgeted for all program activities is \$136.8 million.

Figure 2

Oregon Zoo Bond Program Budgets and Expenditures

as of December 31, 2016

Project	Project Budget	Project Expenditures	Forecasted Expenditures	% Complete
Master Plan/Land Use Permits	\$ 3,304,011	\$ 3,197,675	\$ 3,197,675	100%
Veterinary Medical Center	\$ 9,464,299	\$ 8,840,329	\$ 8,840,329	100%
Penguin Life Support System	\$ 1,800,000	\$ 1,762,250	\$ 1,762,250	100%
Water Main Building	\$ 267,459	\$ 242,495	\$ 242,495	100%
Condors of the Columbia	\$ 2,628,592	\$ 2,215,609	\$ 2,215,609	100%
Elephant Lands	\$ 57,561,443	\$ 57,453,810	\$ 57,561,443	100%
Remote Elephant Center	\$ 117,864	\$ 117,864	\$ 117,864	100%
Education Center	\$ 17,504,125	\$ 16,390,844	\$ 17,504,125	94%
Interpretives/Wayfinding	\$ 2,489,647	\$ 2,206,648	\$ 2,489,647	89%
Percent-for-Art	\$ 843,154	\$ 554,314	\$ 842,467	66%
Program Administration	\$ 3,912,881	\$ 4,631,886	\$ 7,200,000	64%
Polar Passage	\$ 22,707,853	\$ 551,151	\$ 22,707,853	2%
Primate/Rhino Habitats	\$ 14,240,221	\$ 1,909	\$ 14,240,221	0.01%
Totals	\$ 136,841,549	\$ 98,166,783	\$ 138,921,976	
Zoo Bond Program Forecasted Revenues			\$ 148,172,062	

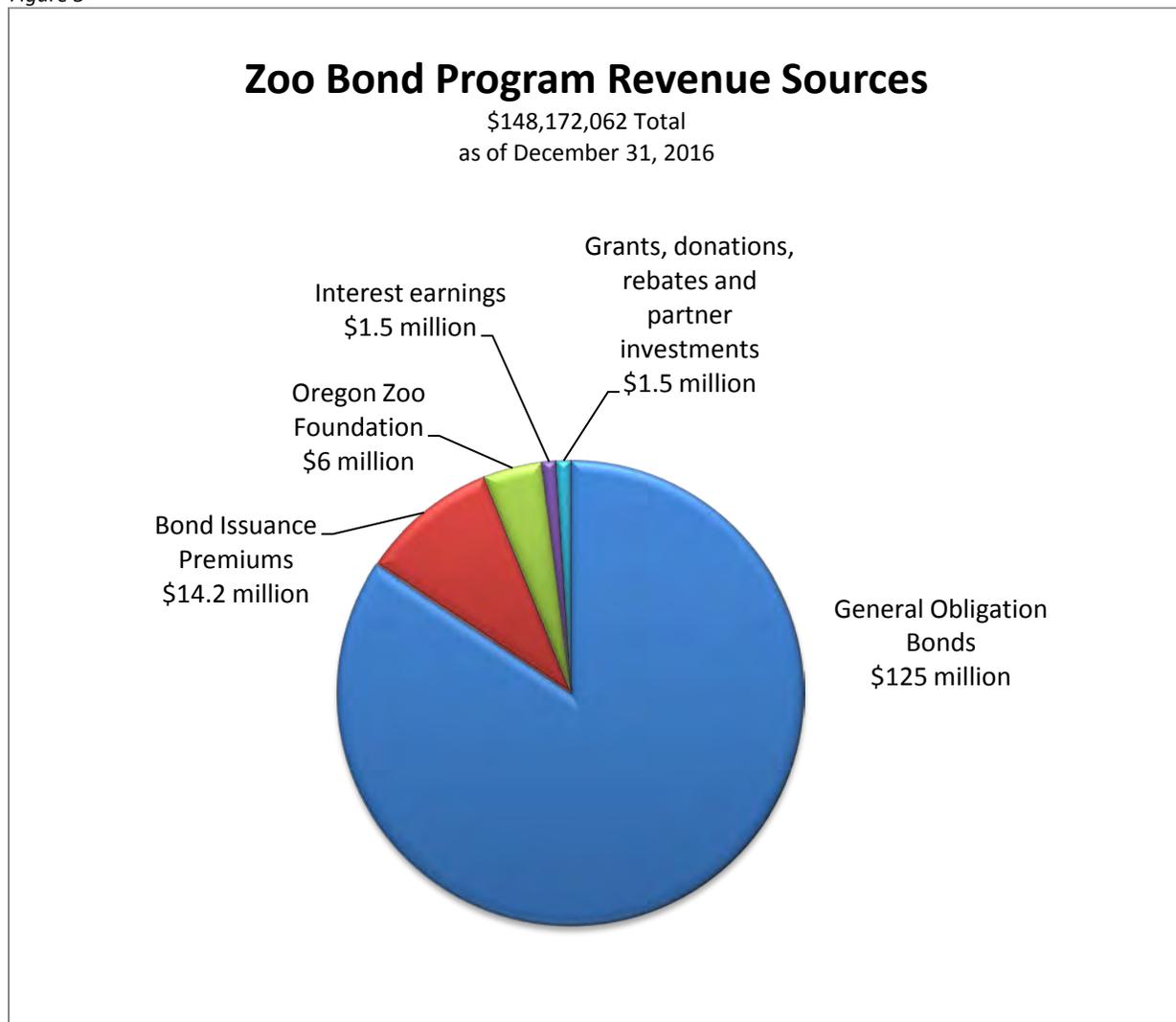
In January 2017, \$2,249,640 was added to the Program Administration forecasted total expenditures, for a new total of \$7.2 million, based on updated data. Staff will seek a budget amendment in Spring 2017.

The Comprehensive Capital Master Plan process is complete, as well as construction of the Veterinary Medical Center, the Penguin Life Support System Upgrade project, the Water Main Building, Condors of the Columbia, Elephant Lands, and the major land use approval processes. The Education Center is 94 percent complete. These projects represent \$98.2 million (66 percent) of the \$148.2 million total resources, and were completed on time and within budget.

The planned projects for 2017-2019 include completing construction of the Education Center, the design and construction of the new Polar Passage and related infrastructure, and the design and construction of the new Primate and Rhino improvements. In addition, the program continues to plan campus and program-level interpretive design, and projects to meet the one-percent-for-art requirement.

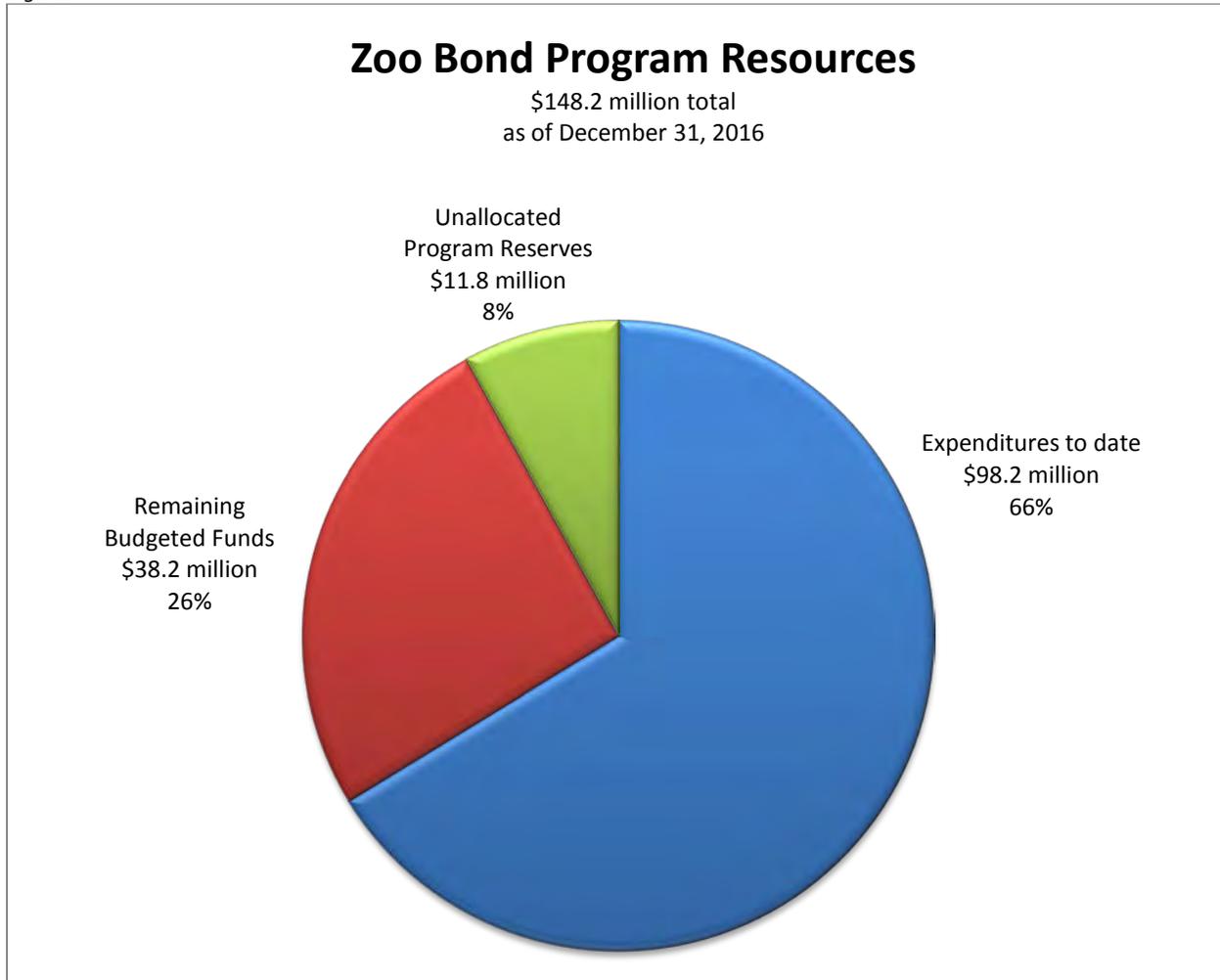
Funding sources total approximately \$148.2 million and include \$125 million from general obligation bond measure proceeds, \$6 million from the Oregon Zoo Foundation, an expected \$1.5 million in grants, donations, and partner contributions, approximately \$1.5 million in anticipated investment earnings and \$14.2 million from bond sale premium proceeds.

Figure 3



The remaining \$11.8 million that is not budgeted to a specific project as of year's end is considered additional program contingency. Sources of the unallocated funds include the unspent bond funds from the Remote Elephant Center project, premium funds received on the bond sales, and donations from the Oregon Zoo Foundation. All of this program contingency is above and beyond the individual project contingencies, which are built into each project budget.

Figure 4



Metro’s conservative fiscal policy and excellent AAA bond rating from S&P and Aaa from Moody’s have resulted in premiums on the sale of the bonds. This has put the program in a solid position to complete the remaining projects, despite significant cost escalation in the region. Project budgets and scopes were defined in 2011 and will need to be analyzed and potentially modified to address cost escalation. Of principal concern to this committee is completion of all bond projects with the remaining funding without sacrificing bond program and animal welfare objectives.

The Oversight Committee charter outlines the committee’s role to “consider and recommend project modifications if inflationary increases in construction costs exceed current budget estimates.” The committee has set up a budget subcommittee to review construction cost escalation and project modifications. In 2017, the subcommittee will make a recommendation to the full committee regarding the allocation of remaining bond funds. The Oversight Committee will provide a recommendation to the Metro Council.

Budget and Expenditures

2016 Findings and Recommendations:

- The committee commends Metro for its conservative fiscal policy that has resulted in a AAA bond rating from S&P and Aaa from Moody's providing premiums on the sale of the bonds.
- The committee commends the zoo for successful management of projects to date, including Elephant Lands and the Education Center, within the approved budget and schedule.
- The committee commends the Oregon Zoo Foundation and zoo bond staff for a successful application to PGE's Renewable Development Fund to expand the solar installation on the Education Center.
- The Oversight Committee found that careful attention to allocation of remaining bond funds was needed, and launched a budget subcommittee in fall 2016 for this detailed analysis. The Oversight Committee asks the budget subcommittee to recommend in 2017 a prioritized strategy for allocation of the remaining bond and other funds for construction and improvements at the Oregon Zoo.
- The committee congratulates and thanks the Oregon Zoo Foundation for its significant financial support of \$6 million to date, \$4 million of which supported the Education Center and Elephant Lands projects. The committee recommends that staff seek the Foundation's input on allocation of the remaining \$2 million.
- The committee recommends staff monitor code changes at the City of Portland, standards for animal welfare, and cost escalations that may have financial and other impacts on the program.

2. Contracting Methods

The program received Metro Council approval to use an alternative general contractor procurement method called the Construction Management by General Contractor approach for the Elephant Lands, Education Center and Polar Passage projects and related infrastructure. This approach worked well for the Elephant Lands project and, given the complexity of the zoo bond-funded projects and the possibility of simultaneous construction projects, the committee continues to support the consideration of alternative contracting methods such as this in order to reduce risk and achieve the most cost-effective and efficient use of the zoo bond funds.

Contracting Methods

2015 Findings and Recommendations *with updates*:

- The committee and Metro Council supported the use of Construction Management by General Contractor (CM/GC) for the Polar Passage construction.

Update: The involvement of the CM/GC in the design phase of Polar Passage has been critical to the value engineering process to date.

- The committee supports the continued consideration of alternative contracting methods.

Update: Some of the many benefits to using CM/GC as an alternative procurement method on Elephant Lands were constructability analysis from the beginning of design, informed value engineering through design and construction, which kept the project on budget, and gaining the knowledge to identify four distinct phases of construction so certain aspects of the project could be competitively bid to subcontractors, benefiting the schedule, budget and zoo operations.

2016 Findings and Recommendations:

- The committee commends Zoo Bond staff for the successful contracting and project development through use of the alternate contracting methods.
- The committee recommends that Zoo Bond staff continue to document cost savings and efficiencies through use of alternative contracting methods to inform future projects.
- The committee recognizes that although difficult to quantify, using CM/GC contracting results in a better overall mission-driven project, supports diversity in contracting and results in cost savings from fewer change orders.

REQUIRED REPORTING ITEM 2 | Spending Considerations

B. Cost projections

1. Master Plan Implementation

The Comprehensive Capital Master Plan describes the zoo's vision and goals, the purpose and intent for each facility, and includes a budget, sequence and timeline of construction projects that will bring the future vision to reality. This representation of the zoo's future is an essential tool to coordinate the development of the zoo's separate facilities into a coherent, effective and unique institution with a clear and recognizable theme and mission.

The Metro Council approved the master plan in 2011, which included the budgets for the bond-funded projects. The CCMP has been and will continue to be a crucial element to ensure efficient and effective use of bond proceeds. As part of the CCMP process, each project budget was developed with a contingency fund for both design and construction. Annual cost escalation due to inflation was also incorporated into each project budget. In addition, the overall program has a contingency fund. The Education Center budget was updated to reflect cost escalation. Funds still remain in program contingency to cover future needs.

The committee commends the economy and efficiency with which the program has been run, and recommends its continuance. Of principal concern to this committee is completion of all bond projects with the remaining funding without sacrificing bond program and animal welfare objectives.

In September 2016 the committee launched a budget subcommittee to make a recommendation to the full committee in the spring of 2017 on allocation of the remaining unbudgeted bond program funds.

Master Plan Implementation: Cost Projections

2015 Findings and Recommendations *with updates:*

- The committee is concerned with the escalating cost of construction and would like a regular report on the effect it will have on the final projects.

Update: Staff provided cost escalation updates to the committee throughout the year. The Polar Passage project budget was amended to address cost escalation in the region. Additional amendments may be needed as cost escalation forecasts are updated. The primate and rhino project budgets will be assessed given the forecasted 27 percent (vs. 6 percent originally estimated in 2011) escalation of construction costs.

- The committee would like a report on the funds available after the next bond sale and the Metro Council decision on the Remote Elephant Center.

Update: Staff provided a report in the fall of 2016 to the committee regarding the unallocated funds available (then an estimated \$12 million). The budget subcommittee will review and advise on how those funds should be allocated given cost escalation and project modifications.

- The committee recommends a subcommittee review the remaining commitments and budgets, unallocated resources, and cost escalation to ensure the resources are available to complete all bond commitments.

Update: A subcommittee began meeting in the fall of 2016 to focus on fund allocation and project modification. The subcommittee is continuing to meet and will make a recommendation to the full committee in the spring of 2017.

2016 Findings and Recommendations:

- The committee recommends staff continue to inform and update the Oversight Committee on cost trends in the construction industry, including materials costs.
- The committee recommends staff continue to review and validate budgets and cost escalation and their implications on the remaining planned projects.
- The committee recommends the staff continue to monitor changes to animal welfare standards that could have an impact on current and future projects.
- The committee recommends staff assess and monitor the zoo's draft conservation priorities (to be finalized in the Integrated Conservation Action Plan (ICAP)) for any upcoming changes that could affect project designs, construction or operation.

2. Administrative Costs

Metro's central services support the zoo bond program with budget management, bond sales, legal support, procurement of goods and services, and information services.

Administration costs and the actual costs of issuing the bonds total \$4.6 million (4.7 percent) of the zoo bond program's total expenditures through December 31, 2016. This percentage is comparable to other local public bond-funded construction projects. An analysis of the Beaverton School District, Portland Public School District and Portland Community College bond programs resulted in a range of administrative costs between 3.8 percent and 7.2 percent of the total program budget.

Originally staff projected that total administrative overhead costs for the zoo bond program would be \$3.9 million, about 3 percent of total expenditures. Metro adopts a cost allocation plan in which costs for centralized services are allocated on a reasonable basis. The same methodology for allocation is applied and charged to all Metro programs. The Oregon Department of Transportation reviews Metro's cost allocation plan for compliance with federal rules.

In 2016 the Oversight Committee received an update on the revised numbers and a detailed explanation about how Metro allocates resources for central services. These updates made it clear that Metro and zoo staff have taken steps to control these overhead costs to ensure voter-approved funds are spent efficiently to achieve the bond program objectives, while maintaining proper controls and providing needed administrative support.

Administrative Costs: Cost Projections

2015 Recommendations *with updates*:

- A report on the administration costs, including allocated central service costs, and bond issuance costs was provided to the committee in January 2015. The committee recommends updating the budget allocation for administration and bond issuance costs to reflect the revised forecasted expenditures.

Update: The forecasted expenditures for administrative and bond issuance costs were updated in December 2016. The budget allocation will be considered in 2017.

- The committee recommends an annual report regarding the administration and bond issuance costs.

Update: Staff updated the committee on the forecasted administrative costs at meetings in 2016.

2016 Finding and Recommendation:

- The committee recommends staff continue to monitor the reasonable assessment of administrative costs and their implications on the overall program budget, and provide a report at least annually to the full Oversight Committee.

3. Operating Costs

The Oregon Zoo staff anticipates that some future operating costs of the zoo will increase upon completion of the bond-funded projects, but will be offset by additional revenue-generating opportunities and the enhancements and efficiencies gained through new technologies and the modernization of zoo infrastructure. The committee believes it is important that staff continue to monitor this assumption as project planning matures, to allow reasonable financial planning by zoo staff.

Operating Costs: Cost Projections

2015 Recommendation *with update*:

- The committee recommends that staff provide by December 2016 a report on the impact of Elephant Lands on operating costs and revenue.

Update: Data will be analyzed in the fall of 2017 after a full fiscal year of operations.

2016 Findings and Recommendations:

- The committee recommends staff provide the operating expense data and revenue from Elephant Lands by December 2017, following the completion of one fiscal year of operation ending June 30, 2017.
- The committee recommends staff provide by December 2017 a preliminary report on the impact of the Education Center on operating costs and revenue.

REQUIRED REPORTING ITEM 2 | Spending Considerations

C. Independent financial audit

Moss Adams issued the annual independent financial audit report of the zoo bond program on November 17, 2016. The auditors reported that nothing came to their attention that caused them to believe that Metro failed to comply with the provisions of the bond measure. No specific management letter comments were made. Notice of the audit report was published on December 21, 2016, in the Daily Journal of Commerce, and the audit report was posted on the zoo website.

REQUIRED REPORTING ITEM 3 | Project modifications in excess of budget

Consider and recommend project modifications intended to account for increases in construction costs in excess of budget estimates

- **No project modifications are recommended at this time.**

In September 2016, the Oversight Committee launched a budget subcommittee charged with recommending in spring 2017 a prioritized strategy for project modifications and allocation of the remaining bond funds.

How to learn more

We encourage you to learn more about the Oregon Zoo's bond program by visiting www.oregonzoo.org/newzoo.

We also welcome your feedback about what you would like to hear from us next year. Would you like us to focus on specific areas of concern or processes? Please contact us with any ideas, suggestions or questions.

Email: zobond@oregonzoo.org

Phone: 503-914-6028

Appendix A – Committee Membership

Ruth Shelly – Committee Chair

Ruth Shelly, executive director of Portland Children's Museum, leads a learning complex that consists of a children's museum, private preschool, public K-5 charter school, and research center with a total staff of 37 full-time and 28 part-time employees; \$3.8 million annual budget; and almost 300,000 visitors annually. Shelly is a lifelong museum professional who started in exhibit design and moved to administration, serving in art, history, natural history, and science museums – as well as an aquarium – before entering the children's museum field. She has served on museum association boards at the state, regional and national level. In her present role, Shelly is at the nexus of informal, formal and professional learning, and she is particularly interested in the role that museums can play in shaping the future of educational systems in the United States. Prior to moving to Portland in 2013, Shelly served as Executive Director of the Madison Children's Museum during its move to a renovated historical building, which became the first LEED-certified museum in Wisconsin, and a 2011 recipient of the IMLS National Medal for Museum and Library Service.

Daniel Aja

Daniel Aja is the senior vice president and chief medical officer at Banfield Pet Hospital, where he leads internal and external medicine initiatives at the world's largest veterinary practice. Prior to joining Banfield in 2014, Dr. Aja served as director of U.S. professional and veterinary affairs at Hill's Pet Nutrition. Previously, he owned and directed the Cherry Bend Animal Hospital in Traverse City, Michigan. Dr. Aja earned his veterinary medical degree from the college of Veterinary Medicine at Michigan State University, and has more than 32 years of experience, credibility and commitment to delivering the highest quality of veterinary medicine. He is a past president of the American Animal Hospital Association and served on the Michigan State Board of Veterinary Medicine. He is also the founding board member of Partners for Healthy Pets, a committee of the American Veterinary Medical Foundation created to ensure pets receive the preventative health care they deserve.

Noah Bishop

Noah Bishop is an attorney and the proud father of two young zoo enthusiasts. A graduate of Lewis and Clark Law School, he has focused his practice on debtor-creditor law, and now runs his own law firm, Bishop Bankruptcy Law. He volunteers at The Bankruptcy Clinic, a free service provided by the lawyers of the Oregon State Bar.

Linda S. Craig

Linda S. Craig recently retired from her tax and accounting practice, Linda S. Craig, LLC. She is familiar with citizen oversight committees, having served five years, including a term as chairperson, on the Metro Natural Areas Performance Oversight Committee. She was also on the Advisory Committee for Clean Water Services in Washington County. Since moving to Portland in 1970, she has been on several boards of directors of conservation organizations, including many years with the Audubon Society of Portland. Now she is treasurer of the Xerces Society, an international not-for-profit dedicated to the protection of invertebrate species and their habitats.

Appendix A – continued

Heidi Goertzen

Heidi Goertzen is the chief compliance officer for Ferguson Wellman Capital Management, overseeing the company's regulatory and compliance matters. Prior to joining the firm, she worked for RVK, Inc. as an investment analyst for several years before serving as investment associate for seven years. She earned a B.S. in finance from Linfield College and holds a MBA with a concentration in finance from the University of Portland's Pamplin School of Business.

Susan Hartnett

Susan Hartnett has more than 25 years of experience in urban planning and development. Her career includes more than 20 years with City of Portland bureaus, including planning, transportation and water; she currently serves as the spectator venues program manager in the Office of Management and Finance. Hartnett has also worked for the City of Tigard, Oregon Health & Science University, the City of Chicago and several private sector companies. She earned her Bachelor of Science in criminalistics from the University of Illinois and her master's in urban and regional planning from Portland State University, and is an active member of the American Institute of Certified Planners.

Deborah Herron

Deborah Herron is the director of public affairs and government relations for Walmart in Oregon and several other Western states. Walmart has been a strong supporter of the Oregon Zoo, and Herron has been instrumental in ensuring this connection, including serving on the Oregon Zoo Foundation's Board of Trustees. Previous to her work at Walmart, she was a principal at Vox Public Relations in Portland. She is well known and connected in the public affairs community, bringing collaboration, curiosity, careful thinking, passion, enthusiasm and a solution-oriented approach to engage audiences.

Jill Mellen

Jill Mellen is a research biologist whose areas of expertise include animals, animal welfare and enhancing guest experiences in informal learning settings such as zoos and aquariums. Dr. Mellen has worked in the zoo and aquarium field for more than three decades. Most recently she was the Education and Science Director at Disney's Animal Kingdom, where she researched a range of topics from elephant welfare to inspiring children to conservation action. Within the Association and Zoos and Aquariums, Dr. Mellen has held many leadership positions. Her current projects include coordinating studies on marine animal welfare. Early in her career, Dr. Mellen worked at the Oregon Zoo, and has moved back to Portland after her retirement from the Disney Company.

Mickey Lee

Mickey Lee is an energy advisor with NW Natural working with construction contractors and clients to ensure new service is effective and efficient, and utilizing her background in workforce equity, construction and relationship management. Prior to that, she was a project manager at MPower Oregon, where she oversaw the rehab development of energy and water efficiency in the multifamily affordable housing market across the state of Oregon. She has a background in project development

Appendix A – continued

and management, working with clients across the US to mitigate carbon emissions. Her work has a strong emphasis on environmental and social equity. She has been recognized nationally for helping to bridge the gap between private and public entities. She holds an MBA in sustainable development from Bainbridge Graduate Institute at Pinchot University and is accredited through the national Building Performance Institute.

Daniel Morris

Daniel Morris is research director for Our Oregon, studying government finances and budget priorities. Educated in Portland Public Schools, he went on to earn a master's degree in physics from the University of Michigan and a doctorate in public health from Saint Louis University. As an epidemiologist, Dr. Morris led studies on topics ranging from tobacco tax evasion to tracking obesity with driver licenses.

Robyn K. Pierce

Robyn K. Pierce is a professional consultant with Pierce, Bonyhadi & Associates. She assists colleges, universities and school districts with planning, development, design and construction of academic, research, housing and student service facilities. She served eight years as the director of facilities and planning at Portland State University (PSU), where she managed a department of 160 staff and had an active role in more than 1.5 million square feet of campus growth and development, including nine LEED-certified buildings and three public-private and public-public partnership projects. She managed annual budgets exceeding \$100 million, including construction budgets. Pierce remains dedicated to supporting women and minority contractors in all facets of project development. She completed her undergraduate degree at the University of Oregon and master's degree at PSU.

Katherine A. Porras

Katherine A. Porras is an investment associate at Meyer Memorial Trust, responsible for monitoring and analyzing the foundation's investments, while researching environmental, social and governance factors on portfolio holdings to inform the alignment of the investment strategy to the organization's mission. Ms. Porras has experience working in finance, legal services, and performing arts. She earned an MBA with a focus in finance from Willamette University's Atkinson Graduate School of Management. She looks forward to contributing to the zoo, its staff and the Oregonian community at large.

Mike Schofield

Mike Schofield is the chief financial officer of the Gresham-Barlow School District. He previously served as business manager for the Forest Grove School District, managing the school district's finances and \$65.3 million worth of construction and school improvements included in a successful bond measure. Prior to that, he served as the chief financial officer of the Northwest Regional Education Service District. Schofield has more than 25 years of managing finances for various public education entities. He is a graduate of Portland State University and holds a Certified Management Accountant.

Appendix A – continued

Kevin Spellman

Kevin Spellman is a business consultant and trainer for construction contractors and industry professionals, following a 28-year career with commercial contractor Emerick Construction, including 18 years as president. In his Spellman Consulting, Inc. practice, he works with contractors on business strategies, development of contract management tools and techniques, and effective operational procedures. He has been an adjunct instructor in the Civil Engineering Department at Oregon State University, and at Portland Community College. He has served on several local boards, including Multnomah Education Service District, and currently chairs the Bond Accountability Committee for Portland Public Schools' bond program.

Dick Stenson

Dick Stenson retired in 2014 after more than 20 years as Tuality Helathcare president and chief executive officer. He was previously administrator of Straub Clinic & Hospital and Straub Health Plan in Honolulu, after working in San Francisco as administrator of Harkness Community Hospital and Upjohn Medical Group. He has a BS degree from the University of California, Berkeley and master's degrees in healthcare and business administration from Tulane and Loyola universities in New Orleans. Stenson is a fellow in the American College of Healthcare Executives and the American College of Medical Practice Executives. He serves on the boards of Hillsboro Community Foundation, Portland Community College Foundation, Virginia Garcia Clinic Foundation, Native American Rehabilitation Association of the Northwest, Community Action, Commission on Children, Washington County Public Health, Intel Community Advisory Panel, Vision Action Network, Pacific University Acorn Foundation, Tuality Foundation, and Greater Hillsboro Chamber of Commerce.

Christine L. Taylor

Christi Taylor is an attorney with Miller Nash Graham & Dunn's business practice team and focuses on construction and general business law. She also has a particularly strong interest in energy law. In her construction practice, she assists clients through the process of building complex projects, including drafting and negotiating contracts for construction. In her general business practice, she assists clients with entity formation, contract drafting and review, corporate governance, and sales and acquisitions. Before transitioning to Miller Nash's business team, she spent three years practicing with the firm's commercial litigation group and focused on disputes involving construction claims and defects, corporate governance and insurance recovery. Ms. Taylor is also a huge polar bear fan!

Tom Turnbull

Tom Turnbull specializes in providing business and legal advice to high-growth companies and entrepreneurs. He is a co-founder and vice president of business development with OpenSesame, the largest source for elearning content in the world with more than 20,000 online courses. Turnbull previously served on the Oregon Museum of Science and Industry board of trustees for five years. He has an MBA in finance and entrepreneurial studies from New York University, a JD from the University of Washington School of Law, and a BA in philosophy from the University of Puget Sound.

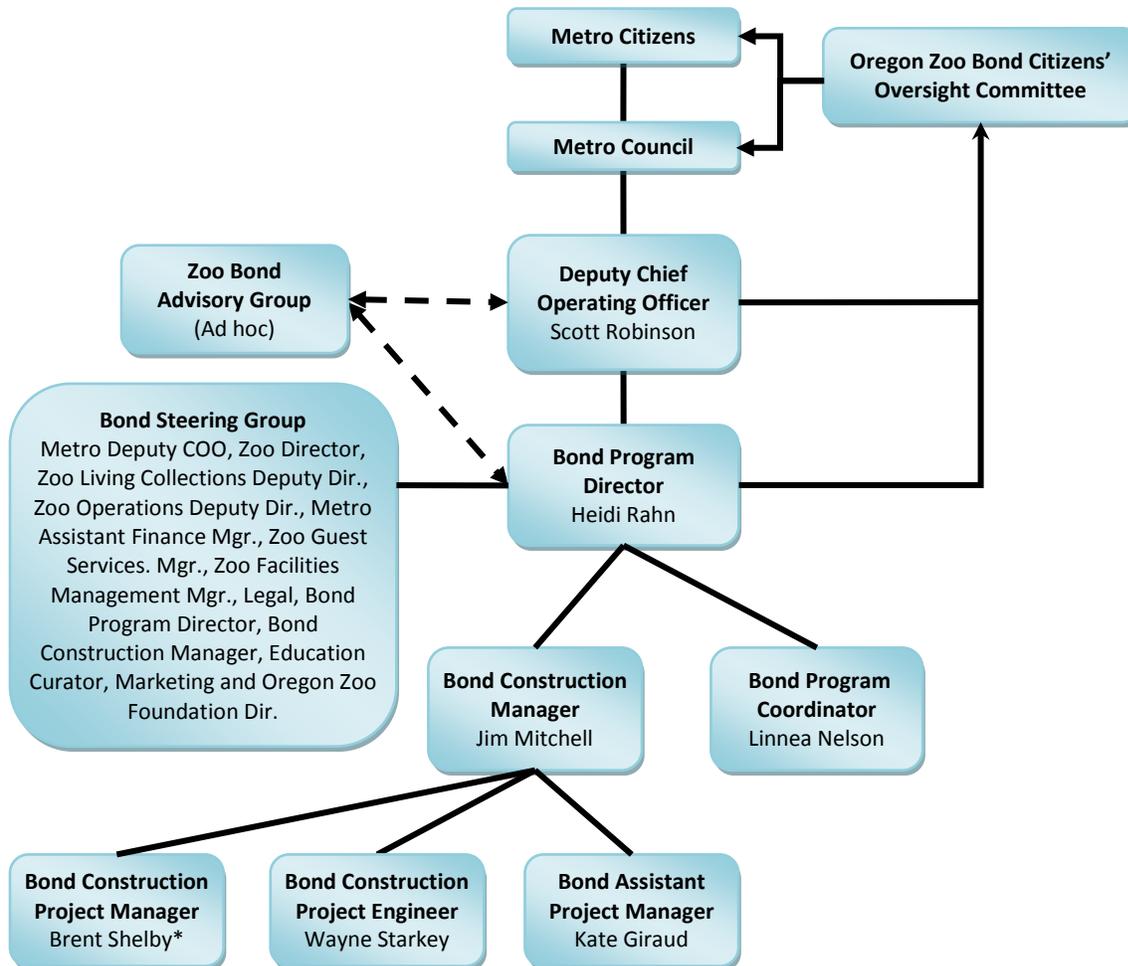
Appendix A – continued

Karen Weylandt

Karen Weylandt has served at Providence Health & Services for more than 25 years, and is currently chief planning and design officer for the five-state health system. She has worked in the building, construction and improvement of Providence hospitals, outpatient clinics, surgery centers and educational facilities from Alaska to California. Her leadership for the planning and construction of Providence Newberg Medical Center resulted in the first hospital in the country to earn a LEED Gold designation. She also directed the planning and construction for the Providence Cancer Center in Portland. Weylandt's recent projects include a major expansion of services for Providence's downtown Seattle facilities, and a master plan for the south campus expansion at St. John's Hospital in Santa Monica, California. Weylandt earned a degree as a registered nurse and a master's degree in health care administration. For the past seven years she has served on the Oregon Facility Authority Board, and she also served several years on the Oregon Humane Society Board.

Appendix B

Zoo Bond Program Organization Structure



External Consultant and Contractor Contributions

Bond Construction Projects: Design consultants and construction contractors managed by bond construction and project managers.

Zoo Staff Contributions

Animal Welfare, Guest Experience, Facilities Impacts, Conservation Education, Grant Administration, Finance, Procurement, Marketing, and Public Relations and Involvement.

Oregon Zoo Foundation Contributions

Financial, Grant Administration, Donor Management and Communications.

Metro Contributions

Governance, Civil Engineering, Real Estate, Planning/Permitting, Program Delivery, Historical Investigations, Legal, Finance, Procurement, Human Resources, Sustainability, Diversity/Equity/Inclusion, and Risk Management.

Solid Lines = Primary responsibility for or relationship to

Dashed Lines = Secondary/support for or relationship to

*Brent Shelby accepted another position within Metro effective March 27, 2017.