WHAT ARE THE REAL COSTS OF THE RESERVOIR DEMOLITION AND BURIAL PROJECT?

Friends of the Reservoirs Estimates		City of Portland Estimates	
• Mt Tabor reservoir burial	**$** 63.0 million	• Mt Tabor reservoir burial	**$** 63.0 million
• Washington Park burial	**$** 32.0 million		
• Partial storage replacement	**$** 58.0 million		
• 'What goes on top"	**$** 27.0 million	• 'What goes on top"	$14 million
• Maintenance yard relocation	$16.8 million		
• Yards park reconstruction	**$** 8.0 million		
• Washington Park covers	**$** 2.0 million		
• Washington Park piping	**$** 1.8 million		
Totals.	$208.6 million		$ 77 million
Total Including Approx Debt Service Cost	$392.9 million		$144.8 million

1) What are the sources for Friends of the Reservoirs estimates?

Mt. Tabor Reservoir Burial - $63 million: The burial cost estimates come from both the Water Bureau (WB) Capital Improvement Program (CIP) document dated January 2003 and the WB web site. The WB figures rely on estimates provided by the consultant, Montgomery, Watson, Harza (MWH). A higher estimate of $65 million is noted in the MWH Park Development Cost Estimate document November 2002 and in the WB comments to the EPA.

The following text is copied from the WB website on *1/20/04. "The* current budget for park improvements at Mt Tabor will be funded from the Open Reservoir Replacement Project budget in the Water Bureau. These funds are part of the Water Bureau's overall Capital Improvement Program. The project budget is now set at $77 million. Of this amount, *$14* million has been earmarked for the park improvements."

Washington Park Burial - $32 million: These burial cost estimates are taken from the same sources as those used to state the costs of demolishing and

burying the Mt. Tabor reservoirs.

Partial Storage Replacement - $58 million: This estimate comes from the CIP, January 2002 page 74, Open Reservoirs and page 77, Powell Butte Reservoirs, and the CIP, January 2003 page 72 (see attached). The Infrastructure Master Plan document (MWH, CH2MHILL 2000 pg. 3-4) states, "...the total amount of storage on the East Side of the city should not be reduced from what is currently available. Some of the storage on the east side of the city could be replaced at Powell Butte." Partial replacement of lost storage is also referred to in the report of the consultant, Montgomery Watson Harza (MWH) entitled "Mt. Tabor Reservoirs Alternatives Analysis to Secure Storage" (Mallon, Dec. 2002).

The 2001 CIP, Powell Butte Reservoirs, at page 80, discusses the plans to construct four additional reservoirs at Powell Butte, "Two of these 50 mg reservoirs are anticipated to reduce the system's dependence on the 100-year old reservoirs at Mt. Tabor and Washington Park will also allow the Bureau to safely operate the water system with one or more of the open reservoirs out of service."

The burial plan will result in the loss of half of the storage capacity at Mt. Tabor, a loss of approximately 70 million gallons (MG). The current storage capacity of Reservoir 6 is 35-37.5 MG per cell, 70-75 MG total (MWH Limitations on Park Use with Below Ground Storage and Park Development Cost Estimate- Alternative to Restore Existing Conditions Mallon Nov. 2002); it is to be replaced by a 20MG tank. Reservoir 5 will lose between 5 and 10 MG depending on the tank design (MWH, Mt. Tabor Preliminary Recommendations July 2002, Nov. 2002, May 2003), Reservoir I will be decommissioned, at a loss of 12 MG.

"What-Goes-on-Top" - $27 million: This cost comes from the estimate provided the Public Advisory Committee (PAC) on June 5, 2003 by Walker Macy, a MWH subcontractor who sat on the PAC as an ad hoc member (see attached). This estimate was for very simple designs that are now a part of the PAC "Guiding Principles" document (see attached). The design selected is much more elaborate. Chet Orloff, the PAC chair stated early on at a PAC meeting that the costs for a good park amenities design would be in the $30 million range.

Maintenance Yard Relocation - $16.8 million: The cost of relocating the maintenance yard is taken from the report of consultant MWH entitled "Mt. Tabor Reservoirs Alternatives Analysis to Secure Storage" (Mallon, Dec. 2002). A construction staging area is needed for heavy equipment as well

as the construction of a new road through the park to access Reservoir 5. Neighborhood impacts would be too severe for heavy equipment to travel via Main Street, Yamhill, Salmon or other potential park entryways and a staging area bordering any of these streets unacceptable.

Yards/Park Reconstruction - $8 million: This project also includes alterations in Mt. Tabor yard and nursery though this has not had a public review and was added at the end of the PAC process. The cost of the yard and nursery area reconstruction is a placeholder figure in line with other estimates for park amenities. This money may come from the Park's budget.

Washington Park Covers and Piping - $3.8 million: This is the costs approved by City Council via ordinance in March 2003. We have not checked to see if there have been any amendments to the scope of work on these contracts.

2) Why does the Friends' estimate differ so much from the City's?

The City has not published a single comprehensive budget that includes all of the associated costs. Their figures are only released piecemeal and using gross generalizations. For example, Commissioner Saltzman stated to the *Tribune* (July 25, 2003) that the costs for both Mt. Tabor and Washington Park are $107 million and that the costs may go higher.

3) Are the Friends= cost estimates conservative, middle-of-the-road, or inflated?

We believe that these estimates are middle of the road. Cost overruns in government construction projects are a common occurrence. In the *Journal of the American Planning Association,* Summer 2002, Bent Flyvbjerg presents results from the first statistically significant study of cost escalation in public works projects that shows that costs estimates from consultants are Ahighly and systematically misleading. Underestimation cannot be explained by error and is best explained by strategic misrepresentation, that is, lying. The policy implications are clear: legislators, administrators, investors, media representatives, and members of the public who value honest numbers should not trust cost estimates and cost-benefit analysis produced by project promoters and their analysts.@[1]

The OHSU tram project is a recent local example of how dramatically costs can increase, in this case doubling prior to the start of construction.

Many examples of significant WB project cost increases exist in the Infrastructure Master Plan (MWH, CH2MHILL 2000). This document is used to guide the Water

Bureau=s CIP. The year 200C) estimate for the reservoir burial project, which is expected to take place over a period of 20-25 years, was $60 million. One year later, in 2003 the WB estimate rose to $107 million. Similarly, construction of a 50 MG tank at Powell Butte, to be built within 5 years, was estimated at $28 million in 2000. By 2003 that estimate rose to $58 million.

4) Are there other related costs that have not yet been calculated?

There seem to be a number of related costs that have not been either calculated or incorporated into the overall costs. For example:

! It is unclear if the shut-off /isolation valve project costs are included in the burial cost.

! Dollars in the multimillion range will be needed for park amenities at the Washington Park reservoir sites if those reservoirs are buried as planned.

! The maintenance costs of the AWhat goes on top@ proposals were estimated to equal the costs of maintenance of the reservoirs. ~ Walker Macy estimate, attached.) There will be pumps and filters associated with shallow ponds that will need to be cleaned and maintained. It is unclear whether this maintenance responsibility will ultimately fall with parks or the Water Bureau. Important details regarding implementation and maintenance of amenities are unclear. According to the Bureau **of Parks and Recreation** 20/20 Vision there is a **$57** million **backlog** in maintenance **projects** waiting for **funding.** $58 million is needed to maintain existing assets.

! There will be maintenance costs associated with cleaning the sediment that will still flow into the buried tanks. The overflow tank will need to be cleaned.

! Discussions have taken place with park neighbors regarding whole house air conditioning/filtering systems being offered as mitigation for the years of construction dust they will experience if this project goes forward.

! The Mt. labor Reservoir 5 liner, installed in 1998, cost ratepayers over a million dollars, and if adequately cared for (baring reservoir demolition and burial), should last for another 25 years.

5) How has the City stated that it will pay for this project?

Since September 2002, when the first AWhat goes on top@ public meeting was held, the Water Bureau has stated in their literature that 40% of $63 million estimate of the project costs would come from about a 7% water rate increase often stating

that this will cost the average rate payer $1.32 per month. They further stated that 40% would be funded by delays or deferral of other capital improvement projects, i.e. the vulnerable Sandy River Crossing and the equally vulnerable East/West Transmission line presently set on a fault line. The WB also claimed that 15% of the $63 million was to come from Federal monies, but this money has **never materialized** and there is no evidence that it ever will. The WB claimed that the remaining 5% was to come from savings in operating and maintenance. We see no evidence of any maintenance savings from demolishing the reservoirs and replacing them with buried tanks.

We recently learned that the City intends to fund most reservoir-related capital improvement projects via the mechanism of water revenue bonds. The Water Bureau never advised that the project would be financed with revenue bonds that necessarily carry a heavy debt retirement cost.

This month, January 2004, City Council passed an ordinance issuing water revenue bonds to fund the Sandy River Crossing project and the East/West Transmission project, both of which were deferral projects under the WB=s scenario for providing 40% of the $63 million from monies already budgeted for the deferred projects.

6) What impact will the reservoir project likely have on water rates?

Residential water rates rose 9% (Bureau of Water Works Water Rate presentation to Council May 21, 2003) in fiscal year 2003, following an 8.7% increase in fiscal year 2002. A similar rate increase is expected in the 2004 fiscal year budget.

The cost to ratepayers for retiring revenue bonds is a 1% rate increase for every $5-6 million in costs. This figure has been stated in public meetings by Water Bureau officials and is a figure that has previously been provided the Portland Utility Review Board by Walter Bureau personnel. Thus, this $200 million project alone would result in a 40% increase in water rates.

The overall cost of all CIP projects nearly doubles as a result of paying for these projects with revenue bonds. See attached example of the costs of retiring the $35 million 2000 Series A water revenue bonds.

7) Besides the reservoir project, what other capital improvement projects will increase water rates in the next 10 years?

The January 2003 CIP estimates there will be $750 million spent for CIP over the next 10 years~. These estimates are given in 2003 dollars. A new CIP document is issued each January. The reservoir panel should request a copy of the January

2004 CIP document.

8) Do other city budgets benefit from revenue raised through water rates?

All general fund budgets receive money from water rates in the form of a franchise fee of 7.5%.

9) What is the impact of the Water Bureau=s financial problems on the rest of the city?

As a result of three consecutive years of problems found by independent auditors of the Water Bureau=s financial activities, the City=s debt rating is threatened.

10) Are other citizen ratepayers concerned about the costs of the reservoir project?

Yes. Numerous citizens including the Portland Water Users Coalition comprised of 13 large water users, the former PURB chair, Jim Abrahamson who initially supported the decision, small businesses on both sides of the river, and thousands of citizens have objected to the excessive cost.

1. Bent Flyvgjerg, Mette Skamris Holm, and Soren Buhl, *Underestimating Costs in Public Works Projects: Error* or *Lie,* Vol. 68, No.3, pg. 279 Summer 2002, Journal of the American Planning Association, American Planning Association, Chicago, IL.

Appendix

Section: Costs

A. Capital Improvement Program, January 2002, page 74, Open Reservoirs. Documents that replacement of some of the lost storage will be at Powell Butte.

B. Capital Improvement Program, January 2002, page 77, Powell Butte Reservoir. Documents that two 50 MG tanks will reduce the systems dependence on Mt.

Tabor and Washington Park reservoirs and will allow the Bureau to safely operate the system with one or more of the reservoirs out of service.

C. Capital Improvement Program, January 2001, page 80, Powell Butte Reservoirs. States that two of the four planned 50 MG reservoirs are anticipated to reduce the systems dependence on the Mt. Tabor and Washington Park reservoirs and will allow the Bureau to safely operate the system with one or more reservoir our of service.

D. June 5, 2003 Public Advisory Committee Order of Magnitude Annual Operations and Maintenance Costs Combination of Park Development Alternatives. Shows the significant annual costs associated with maintenance of simple park designs.

E. June 5, 2003 Public Advisory Committee Order of Magnitude Capital Cost Estimates Combination of Park Development Alternatives. Shows the costs for the rudimentary designs examples A, B, and C ranging from $23 million to $27 million.

F. Water System Revenue Bonds Annual Debt Service. Columns 2 and 3 show that the cost of retiring the 2000 Series A Water Revenue Bonds is nearly equal to the cost of the principle.

G. October 3, 2003 letter from the Water Bureau and Park Bureau directors to the Mayor. Discusses various costs associated with the reservoir project at Mt. Tabor. Must be read.

H. “Understanding Costs in Public Works Projects.” Statistically significant study showing that consultants consistently underestimate the cost of public works projects.

I. “One million here, $100 million there. . . .” Article from the Portland Tribune.