PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Nick Fish, Commissioner
David G. Shaff, Administrator

1120 SW 5th Avenue, Room 600
Portland, Oregon 97204-1926
Information: 503-823-7404
www.portlandoregon.gov/water

December 23, 2014

Responses for HLC Hearing #2 on 1/12/15

Dear Historic Landmark Commissioners:

Introduction:
Thank you for giving us the opportunity to respond to some of the issues raised in the December 1, 2014 land use hearing (LU 14-218444) for the Tabor Reservoir Adjustments. Below are the bureau's responses to the BDS recommended conditions of approval and a few of the key questions raised during the hearing.

Conditions of Approval:

BDS has recommended three conditions of approval to be appended to the decision in the Historic Resource Review.

The Portland Water Bureau accepts these conditions with the modifications shown below. These modifications are necessary to make the conditions implementable and achievable.

BDS recommendation:

(Note: Condition A is a standard condition included in all land use decisions.)

Condition A. As part of the building permit application submittal, the following development-related conditions (B through E) must be noted on each of the 4 required site plans or included as a sheet in the numbered set of plans. The sheet on which this information appears must be labeled "ZONING COMPLIANCE PAGE - Case File LU 14-218444 HR EN." All requirements must be graphically represented on the site plan, landscape, or other required plan and must be labeled "REQUIRED."

This is a standard condition and it is acceptable to the Portland Water Bureau.

Condition B. Following completion of the disconnection, Reservoirs #1, #5, and #6 must continue to hold water, allowing for empty periods only for maintenance and cleaning.

PWB response:
PWB proposes that this condition be amended to read:

> **Condition B. Following completion of the disconnection, Reservoirs #1, #5, and #6 must continue to hold water within the normal historic operating range for each reservoir until City Council directs otherwise, allowing for empty periods for maintenance, cleaning, to address system operational requirements, to maintain security, regulatory compliance, or for the safety of workers, the water system, or the public.**

Discussion:

1. Security, safety, and regulatory requirements.

The City needs to be able to empty the reservoirs not only for maintenance and cleaning, but also when it is necessary to do so to address system operational requirements, to maintain security, if directed to do so by regulatory authorities, and for the safety of workers, the water system, and the public.

Each reservoir is created by a dam, and PWB's Chief Engineer is responsible for ensuring that all of PWB's facilities are safe. The Federal Energy Regulatory Commission has overseen dam safety at Mount Tabor. Now that PWB is surrendering its permit to operate the hydroelectric generator at Reservoir 6, that authority reverts to the Oregon State Department of Water Resources. The regulating agency can direct the City to empty any or all of these reservoirs if it considers it necessary for safety reasons and the City must comply.

In addition, if the Chief Engineer determines that water in the reservoirs creates a safety hazard to the public or to workers, the Chief Engineer must retain authority to manage water levels until the hazard can be corrected.

The water system is complex and the demands placed upon it vary from day to day. Large fires, drought, heavy rainstorms, pipe breaks, and other events can make it necessary to redirect water flow. The same events could require changes in the management of the Mount Tabor reservoirs.

PWB must retain the ability to respond to emergencies and hazards without delay. The amended condition still requires water in the reservoirs while providing necessary management authority to respond to circumstances as they arise. PWB requests that the condition be amended as it proposes.

2. Normal operating levels.

BDS proposes that the reservoirs must continue to hold water, while some commenters demanded that they be kept "full." PWB does not keep any of the reservoirs "full," but rather keeps them within an operating range. This operating range presents the appearance that visitors to the park are accustomed to seeing. If the reservoirs were "full"

they would be spilling over the overflow. PWB historically maintains the reservoir depths between 65 and 85% full by volume.

PWB requests that the condition state that the reservoirs be kept at their normal operating range when containing water.

3. A time frame.

City Council plans to consider the future use of these reservoirs after this land use review has run its course. The City has already stated that it will re-fill the reservoirs and refresh them periodically until such time that City Council has adopted a plan for them.

PWB asks that this condition of approval include a clause specifying that the City will continue to keep the reservoirs full until such time that City Council directs otherwise, or adopts a different plan for them.

If City Council adopts a plan that requires a further historic resource review, the City will seek the appropriate historic review.

Condition C. The Portland Water Bureau shall develop an interpretation program that tells the history of the Mt. Tabor Reservoirs and the Bull Run water delivery system, including the proposed disconnection.

PWB response:

PWB recommends that this condition be modified to read:

Condition C. The City of Portland shall develop an appropriately scaled interpretation program that tells the history of the Mt. Tabor Reservoirs and the Bull Run water delivery system, including the proposed disconnection, within 5 years of the project's completion.

Discussion:

PWB accepts this condition of approval with the above modifications, and if it is included in the decision, will seek to have it funded in the city's budgeting process. As BDS has noted, the interpretive program will be processed through a subsequent Type II Historic Resource Review. This requirement must not be tied to issuance of the construction permit because the resulting delay would cause the City to violate its safe drinking water regulatory deadline. Instead, we recommend a period of five years for the implementation of the interpretative program. This is necessary to develop the program, seek and obtain land use approval and funding, and then fabricate and install an approved display. In addition, it will allow for coordination with Portland Parks and Recreation, which is beginning to plan for the capital projects that are to be funded by the recently-passed bond levy.

Condition D. In the event of any archaeological discovery, work will be stopped and the State Archaeologist will be notified.

PWB response:

PWB recommends that this provision be modified to read:

> **Condition D. The applicant will engage a qualified archaeologist to conduct a pedestrian survey of the work areas before the construction permits are issued. In the event of any archaeological discovery, work potentially affecting the archaeological resources will be delayed or stopped, the State Archaeologist will be notified, and the procedures specified by state regulations will be followed.**

Discussion:

In addition to the recommended condition from BDS, the Historic Landmarks Commission requested PWB to engage an archeologist to conduct a site survey and be available in the case of inadvertent discovery of artifacts. PWB will accomplish this before excavation begins in any area where inadvertent discoveries are likely.

As stated on pp. 112-113 of LU application narrative, PWB will have a plan to stop work and bring in a qualified archeologist to assess the situation and guide PWB in the appropriate (and legally required) procedures to address it. PWB Staff incorrectly stated during the hearing that this plan was described in Appendix C of the application materials (the Construction Management Plan). Nevertheless, this is required by state law and will be performed by PWB.

Responses to comments and recommendations entered in the record by opponents:

Many comments repeat the same points or make the same recommendation. Most comments fall into one or more of the following categories:

1. *PWB does not take care of these resources and therefore must be compelled to do so.*
   The current proposal—not the allegation of insufficient care—is the subject of the land use review. PWB is entering information into the record showing that the 2009 Mount Tabor Historic Structures Report is the maintenance and restoration plan that has guided its work in caring for the historic resources that it owns. The City has unofficially adopted this report and has been following its recommendations. During the hearing, staff mistakenly indicated that the work on Gatehouse 1 was the only work that has been done. That statement was in error and Attachment A is the tabular summary from the 2009 report which has been revised with additional columns showing what work has been done.

2. *Outside agencies should be enrolled to supervise PWB actions.*
   The proposed project is regulated by the City's Zoning and Building codes and will meet the requirements of those codes, subject to enforcement by City officials. Other agencies do not have jurisdiction.

3. *Water should be mandated in the reservoirs.*
   The City of Portland has already agreed to fill and refresh the reservoirs. PWB does not oppose such a condition of approval as long as it has appropriate exceptions and modifications as identified for Condition B in this letter.

4. *The Historic Landmarks Commission should look at other alternatives to meeting LT2.*
   City Council has already selected the approaches to satisfy the requirements of LT2 and entered into a compliance agreement with US Environmental Protection Agency (EPA) and the Oregon Health Authority with enforceable completion dates. This issue is already decided, the City is legally obligated to comply, and the issue is not subject to reconsideration or revision in this land use review.

5. *PWB does not have to "unplug" the reservoirs.*
   On June 13, 2013, City Council announced that it was directing the Portland Water Bureau to proceed with work to comply with the LT2 rule as directed by the regulatory agencies. This announcement stated that the Mount Tabor Reservoirs were to be disconnected. The City is following the schedule and projects identified in its compliance agreement with EPA and OHA. The required approach is to disconnect the Mount Tabor Reservoirs. PWB must carry out this disconnection to comply with the Council's and the EPA's deadline.

6. *The Historic Landmarks Commission should consider alternative engineering solutions to this proposal.*

The Chief Engineer of the Portland Water Bureau has the sole responsibility to evaluate and recommend engineering solutions for the public water system. Alternative solutions have been evaluated, and the proposed approach was approved and recommended by the Chief Engineer and adopted by City Council in 2009.

7. *The Historic Landmarks Commission asked whether backflow devices could be used instead of an "air gap".*

This question was raised by a citizen prior to the hearing and the record contains the PWB response (HLC Hearing 12/1/14 Exhibit - PWB correspondence with S. Wax, November 24, 2014).

The "air gap" the Portland Water Bureau will use is the most practicable way to separate the reservoirs from the City's water supply system; backflow preventors are not practicable and would have a much greater impact on the historic district. As explained in the hearing, OAR 333-061-0070 requires either a) an air gap; b) an aboveground reduced pressure principle backflow prevention assembly (RP device); or c) a reduced pressure principle detector backflow prevention assembly (RPDA) in order to continue using the reservoirs as water features while protecting the water system from cross contamination. The largest RP or RPDA device certified and allowed in the State of Oregon is a 10-inch diameter device.

In short, in order to both fill the reservoirs with water and disconnect them from the potable water system, PWB must provide either air gaps or backflow preventers on the inlet and outlet pipes so that water from the reservoirs cannot accidentally reverse its flow and find its way into the drinking-water system.

A backflow prevention device is used when water must flow only in one direction and be prevented from reversing course and contaminating the drinking water system. An air gap is one method of backflow prevention by creating a separation between pipes in a manner that prevents water from a non-potable source coming into contact with the drinking water source. The "cuts-and-plug" is the Bureau's term used when a section of pipe is removed and the remaining ends of the pipe are blocked, either with a blind flange or a plug. The cut-and-plug is used for several applications, including to create an air gap.

All of the inlet pipes are larger than 24 inches in diameter, so there are no certified backflow prevention devices available for use on those pipes.

In addition, backflow prevention devices are large and intrusive. As shown in Attachment B, a cut-and-plug (air gap) removes about 10-feet of pipe and is buried and not visible. A 10-inch RP backflow device is approximately 13 feet long, 30-inches wide, and stands 6-feet high. In Oregon it is required to be in a tamper proof, freeze protected enclosure (building) that would roughly be at least 14-feet long, 10-feet wide and 8-feet high with doors on at least 2 sides and a removable roof opening. The total pipe length that would

need to be cut and removed to make room for a 10-inch diameter device is about 24-feet in length. Since the backflow device would be above ground, it would require land use review and a building permit, which could trigger additional requirements and make the structure and disturbance larger. Even a 10-inch RP (or RPBA) device would create a higher impact on the historic district and its resources than a cut-and-plug, which will be below ground and invisible. Attachment C is a copy of OAR 333-061-70 and 333-061-071.

8. *The MTNA requested that the Historic Landmarks Commission impose nine conditions of approval or mitigation measures on PWB before approving the proposed work.*

The nine conditions include creating plans for the future use of the reservoirs, maintenance and operations plans, an impact study, a preservation plan, a formal preservation agreement with SHPO that covers both the reservoirs and the park, and requirements for preservation work, provision of site "amenities, and creation of funding set-asides for several of these recommendations. None of these proposed conditions are appropriate in the context of the limited request for approval sought by PWB in this proceeding.

PWB has taken a careful engineering approach to disconnecting the reservoirs in order to limit impacts on the historic resources involved. It has also already agreed to re-fill the reservoirs after the project and to refresh the water in them periodically. The work proposed in this project keeps all of the historic structures in place. The proposal's net impacts to the historic districts are negligible.

As the application materials show, the only physical alterations to listed contributing resources consist of penetrations for vents and electrical conduit in the roof and walls of Gatehouse 6 East, caps installed on certain outlet pipes, and recessed screens installed in the two inlet weirs. No other exterior alterations affect any listed contributing historic resource as identified in the historic listing documents. Conditions of approval should be in proportion to the work actually proposed on the site.

City Council has announced that it will consider and ultimately adopt a plan for the future of the reservoirs. Requests for restoration projects, plans for future use, and the funding for such proposals, like those advocated by the Mount Tabor Neighborhood Association (MTNA), should be adopted legislatively by City Council with broad community input so that citywide concerns and priorities are considered. A legislative solution would be more appropriate for wide-ranging long-term plans such as those proposed by the MTNA.

9. City Land Ownership Is Questioned:

The City of Portland, a municipal corporation, owns the property devoted both to water and to parks use at Mt. Tabor. Neither the Water Bureau nor Portland Parks and Recreation is a separate legal entity capable of owning property in its own name. Each is an administrative unit of the single municipal corporation known as the City of Portland. The City Council possesses the ultimate authority to act on behalf of the City of

Portland. It is the Council that acquires real property, and that assigns to its respective Bureaus authority and responsibility for use and management of the property.

The Council considered the history of acquisition of Mt Tabor lands some years ago and determined which lands are properly managed by the Water Bureau and which by the Parks Bureau [Ordinance # 182457, included as Attachment D]. That is the authoritative announcement of management responsibility for all Mt. Tabor lands unless and until the Council acts again.

One citizen has expressed concerns that some unidentified deeds granting land ownership in Mt Tabor lands to the City may retain reversionary interests in favor of the prior owners. There is no evidence, however, that there are reversionary interests that threaten the City's continued use of the Mt Tabor lands. But even if that were true, it would have no bearing on this land use application. The City is not proposing any fundamental changes to the use of the lands involved that might trigger reversions. In any case, this Commission reviews land use proposals, not land title questions. The City owns the land subject to this proposal. If the successors to some prior owner of some land parcel appears some time to contest the City's ownership or operations on Mt. Tabor, there will be time and resources enough for the City fully to protect its interests.

Respectfully,

Teresa Elliott, PE
Portland Water Bureau

Attachments:
A – Revised table from 2009 Historic Structures Report
B – Air gap and backflow device comparison
C – OAR 333-061-070 and 333-061-071
D – Ordinance # 182457

Mount Tabor Reservoir Historic Structures Report 2009 (Table revised Dec. 2014)
Condition Analysis and Recommendations
TABULAR SUMMARY

Structure	Component	Observation	Recommendation	Priority (1) S	L	M	Cost (Est. 2009 Const only)	Contractor Skill Level (2)	Est. Actual Const. Cost	Status	Notes/ Dates
RESERVOIR 1											
GATEHOUSE 1											
GH1	CONC	Wall surface spalling, deterioration and exposed reinforcing	Clean exterior, test for absorption, apply sealer	X			$12,000	A	$200,023	done	Mt Tabor Gatehouse 1 Exterior Rehabilitation Proj Detailed accounting: FY 2010-2011 see 9WATR0000460 for the SHPO Grant research Planning/Design work (includes Cascade Design Professional services) COST: $46,694 // REFUNDED by SHPO Grant = $9300 // FY 2011-2012 see 8WATR0000617 COST: $162,629 for Construction. Completed September 2012 // Notes by: MDT & CJL
GH1	CONC	Wall openings and projections deteriorated	Clean exterior, test for absorption, rebuild severely deteriorated projections, apply sealer	X			$56,000	A			
GH1	CONC	Roofing in fair condition, ponding at drain, inadequate roof drip	Replace roofing, provide overflow drain	X			$25,000	B			1992: added metal parpet cap to roof edge (over the broad concrete parapet)
GH1	BALC	Iron work is rusted, ladder connections rusted	Further investigation needed, clean and repair rusted connections, repaint.		X		$8,000	B	$8,000	done	Rust stains on exterior walls from balcony were cleaned during the Mt Tabor Gatehouse 1 Exterior Rehabilitation project of 2012 - 8WATR0000617. Balcony was cleaned but not repaired. Cost estimated based on 2009 report. Balcony platform frame has been replaced with galvanized angle iron by Operating Engineers (date of work unknown, prior to historic nomination).
GH1	DOOR	Non-original main entry doors	Option A.1: Repaint doors, preserve cast-iron sills			X	--	C		done	Under PWB Proj #3366 - May 2009: Cost estimated based on 2009 report
			Option A.2: Repair and replace with units matching original design and materials			X	$6,000	C	$6,000		
			Option A.3: Repaired & repainted.			X					
GH1	WIND	South and west side wood members weathered, paint missing/oxidized; glass units need reputtying	Option A.1: Rehabilitate windows and deteriorated frame parts; select certain openings to be operable		X		$3,500	B	$3,500	done	Under PWB Proj #3366 - May 2009: Windows underwent refurbishing, repainting and reglazing. Exterior metal security grates were removed and re-installed inside in order to preserve historic character of original windows. Cost estimated based on 2009 Report, though are believed to be higher
			Option A.2: Rehabilitate all windows and deteriorated frame parts; all openings to be operable		X		$11,500	B	$11,500		

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GH1	INT	Damage to concrete floor deck; metal stair rusting	Option A.1a: Maintain wood restroom structure, stairway, equipment			X	--	B			
			Option A.1b: Maintain stairway, equipment			X		B		ongoing	Note there is a cost, it's not free
			Option A.2: Limited interpretive tours; signage, graphics		X		$4,000	-			
			Option A.3: Additional documentation, inventory and photographs of existing historic equipment		X		$4,000	--			
			Option A4 - structural evaluation & repair of interior metal stairs	X			---	C	$22,000	done	1) 1989-1992: Interior stairwell to lower level treads overlaid with expanded metal for safety/traction, 2) 1990: Surface mounted interior floodlights added along stairwell to lower level, 3) Dec 2007: several deteriorated anchorage points were replaced on the curved interior stairway to lower level
GH1	STEP	Substantial spalling; coating breaking up	Clean concrete surfaces, remove loose and deteriorated material; patch tests; patch spalled areas	X			$12,000	B			
			Subtotal				**$142,000**		**$251,023**		
RESERVOIR 1											
WEIR BUILDING											
WB1	CONC	Moisture entering at parapet capstone	Option A.1a: Concrete repair & seal	X			$28,000	A			
			Option A.1b: Roofing replacement	X			$19,000	C	$19,000	done	Cost estimated based on 2009 report
			Option A.2: Metal cap parapet	X			$52,000	B			
			Option A.3: Downspout repair		X		$5,500	B			
WB1	DOOR	Need repainting; slightly rusty light fixture	Option A.1a: Maintain existing doors; (painted door)			X	--	C		done	Cost estimated based on 2009 report
			Option A.1b: preserve historic light fixture			X					
			Option A.2: Restore wood doors and frames		X		$5,500	B			
WB1	WIND	Fair condition; new grating on interior planned	Maintain as is			X	--	C		done	done with the Deferred Maint. Project (3366) Cost based on 2009 Report
WB1	INT	No issues	Maintain as is			X	--	C			
RESERVOIR 1											
FOUNTAIN STRUCTURE											

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FS1	FS	Front level top has hole and corners spalled and broken; side walls have spalling; cup and chain missing; securing bolt deteriorated	Option A.1: Clean and patch damaged areas; brush out adjacent planting		X		$3,500	A			
			Option A.2: Clean and patch damaged areas; brushing; investigate-reconnect water source, replace cup and chain; provide signage		X		$7,000	A			
RESERVOIR 1											
SITE											
S1	RES	Breaks and spalls in concrete; weeds; unsound valve platform	Option A.1a: Routine maintenance; salvage historic materials from valve platform			X	--	C		done	done under the Deferred Maintenance projecct (3366). Cost based on 2009 report
			Option A.1b: Replaced valve platform w/ new platform. Existing was not salvageable	X				C			
			Option A.2: Remove bituminous patching, replacement liner		X						
			Subtotal				**$120,500**		**$19,000**		
S1	WALL	Substantial wear and deterioration; exposed reinforcement	Option A.1: Repair deteriorated surfaces and detail; preserve intact portions; clean, patch and repair damaged areas; test	X			$50,000	A	$100,000	proposed with current project	Cost estimated adjusted for inflation
			Option A.2: In addition to A.1, replace existing pole lighting, remove surface mounted conduit, provide entry lights at fence corner posts		X		$155,000	B			
S1	WALK	Broken slabs, corners, spalls, rough surface, settlement	Patch-replace damaged portions; control vegetation; preserve/maintain stair and railing, cast iron grates and lids		X		$16,000	C			
			Patch-replace damaged sidewalk; control vegetation		X			C	$16,000	done; ongoing	Sidewalk repairs were done during the Deferred Maintenance Project (3366). Cost based on 2009 report
S1	METR	Vandalism, damaged entry door frame, damaged concrete edges of opening	Monitor and remove graffiti; replace door			X	--	C		done; ongoing	Done during the Deferred Maintenance Project (3366)
RESERVOIR 5											
GATEHOUSE 5											
GH5	CONC	Wall spalling, weathered concrete capstones, interior concrete topping slab spider cracking; worn roofing membrane	Option A.1: Roof and flashing	X			$19,000	B		ongoing	Roof is cleaned and inspected annually

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			Option A.1b: Clean concrete exterior; test for water absorption, renew sealer to parapet; preserve-repair historic light fixtures	X			$16,000	A			
GH5	CONC		Option A.2: Replace downspouts, remove surface conduit		X		$6,000	B		done	done under the Deferred Maintenance projecct (3366). - Replaced downspouts. (ML)
GH5	BALC	Balcony not needed for operations	Alter; install protective guardrail, remove/salvage exterior light fixture; cap conduit		X		$1,600	C			-Operating Engineers removed platform and installed a guardrail on exterior of door opening. Light fixture remains in place (Date unknown).
			Backdoor was repaird and painted.		X			C	$1,600	done	Done during the Deferred Maint project 3366. Cost based on 2009 report
			Subtotal				**$384,100**		**$135,000**		
GH5	DOOR	Bottoms rusted out, moderate damage to side door	Option A.1: Maintain non-original doors, retain cast iron sills			X	--	C			
			Option A.2: Restore wood doors and frames; Restored existing steel door		X		$8,000	B			
GH5	DOOR		Option A.2b: Replaced door and CI sill with new architectural steel door.		X			C	$8,000	done	Replaced door and CI sill with new architectural steel door during Deferred Maint. Project 3366. Cost based on 2009 report
GH5	WIND	South and west sides: weathered, paint missing, sills deteriorated	Preserve			X	--	C		done	Cost based on 2009 report
GH5	INT	Metal stair rusting, exposed gearing and valve stems	Option A.1a: Maintain restroom structure, Removed restroom structure			X	--	C		done	Restroom over the drinking water was not allowed and unsanitary. Restroom removed under the Def. Maint project (3366). Cost based on the 2009 report.
			Option A.1b: Maintain metal stairway, historic equipment								
			Option A.2: Provide add'l documentation, inventory and photographs of historic equipment		X		$4,000	--			
GH5			Option A3 - structural eval & repair of interior metal stairs					C	$18,000	done	Done under the Deferred Maint project (3366)
GH5			Option A4 - interior metal tank & stair - repaint					C		done	By Op's/Industrial Painters.
GH5	STEP	Spalling	Clean, test, patch	X			$4,000	B	$4,000	done	Done under the Deferred Maint project (3366). Cost based on 2009 report
GH5	STEP	Spalling	Replace handrails	X				C		done	under the Deferred Maint project (3366) - replace handrails. (ML)

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RESERVOIR 5											
HYPOCHLORITE BUILDING (WEIR HOUSE)											
WH5	CONC	Soiling, some loose termination points, roof drains susceptible to clogging, visible roof equipment	Roof repair & flashing	X			$13,500	C		ongoing	Roof is cleaned and inspected annually
			Clean concrete; test for water absorption; breathable sealer to flat capstone; minor roof repairs	X			$5,000	B			
WH5	DOOR	Need repainting	Remove hoist crane, replace doors similar to original, repaint		X		$4,500	B			
WH5	DOOR		Repaint	X			--	C	$4,500	done	Done under the Deferred Maint project (3366). Cost based on 2009 report
WH5	WIND	Need repainting	Option A.1: Repaint and caulk			X	--	C		done	under the Deferred Maint project (3366) - Installed metal screen protectors. And glazing for 1 window. Other windows were fine (ML)
			Option A.2: Replace windows		X		$18,000	B			
WH5	INT	No significant issues	No scheduled work								
			Subtotal				**$57,000**		**$34,500**		
RESERVOIR 5											
SITE											
S5	RES	New liner has abated deterioration	Preserve and maintain			X	--	C			Replacement approx. every 15-20 yrs
S5	WALL	Defects at cap end joints, no fence lighting in place	Option A.1: Clean, minor patching		X		$11,500	B			
			Option A.2: Maintain			X	--	C			
S5	WALL		Option A.3: Replace existing non-historic pole lighting around perimeter walkway		X		$250,000	B			
			Option A.3: Fence lighting; restore iron fence post tops; install LED lighting		X		TBD	B			
S5	WALK	Broken slabs, corners, spalls, rough surfaces, settlement	Minor patching or replacement, preserve cast iron grates and lids		X		$11,500	C	$11,500	done	under the Deferred Maint project (3366) - replaced flag post/ segments of walkway. (ML) Cost based on 2009 report
S5	STAIR	Portions of stairway replaced/patched, finish not match original pattern	Option A.1: Minor patching/replacement, preserve historic railing		X		$5,000	C	$5,000	done	Stairs and all railing internal to reservoir replaced during liner project, 1998. Dam embankment stairwell repaired and handrail modified as part of a separate project.

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Structure	Component	Observation	Recommendation	Priority (1)			Cost (Est. 2009 Const only)	Contractor Skill Level (2)	Est. Actual Const. Cost	Status	Notes/ Dates
				S	L	M					
			Option A.2: In addition to A.1, repair/replace newer concrete with matching finish		X		$10,000	B			
T1	Tunnel	(Not Accessed)	Preserve - ongoing maintenance			X	--	C			
T6	Tunnel	Paint	Preserve - ongoing maintenance			X	--	C			
RESERVOIR 5											
OTHER FEATURES											
OT5	ROAD	Roadway repaved, curb on westside added	Option A.1: Preserve; ongoing maintenance			X		C		done	Done under the Deferred Maint project (3366). Cost based on 2009 report Note: roadway patched, not repaved. West side curb installed as separate project with repair of stairs on dam embankment and fence.
			Option A.2: Possible historic paving restoration		X			C		done	Done under the Deferred Maint project (3366). Cost based on 2009 report
OT5	HOUS	Cobblestone remains of old house foundation	Option A.1: Protect existing historic walls			X	--	C			
			Option A.2: Provide historic interpretive information on the house		X		$2,000				
			Subtotal				**$290,000**		**$16,500**		note original estimated cost is at least $290,000 since items were identified TBD
RESERVOIR 6											
GATEHOUSE 6											
IGH6	CONC	Spalling, soiling, weathered capstones, spider cracking, door slab breakup, worn roofing membrane, roof ponding	Option A.1: Replace roofing, drains	X			$19,000	C		ongoing	Roof is cleaned and inspected annually
			Option A.1: Minor exterior cleaning, renew parapet as needed	X			$16,000	B			
			Option A.2: Remove surface conduit		X		$5,000	C			
			Option A.3: New breathable sealer		X		$26,000	B			
IGH6	BALC	Iron work rusted, upper portion of ladder deformed	Inspect metal connections, clean and repair connection and damaged parts, repaint		X		$8,000	B			
IGH6	DOOR	Rusting, need repainting, weathered exterior facing	Option A.1: Repaint doors, frames; maintain wood door (existing steel) door, frame, sills,; patch side door landing			X	--	C			

(1)
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L: Long-term (5-10 yrs)
M: Maintenance (Varies/ongoing)

(2)
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C: Qualified contractor or PWB Personnel

Mount Tabor Reservoir Historic Structures Report 2009 (Table revised Dec. 2014)
Condition Analysis and Recommendations
TABULAR SUMMARY

Structure	Component	Observation	Recommendation	Priority (1)			Cost (Est. 2009 Const only)	Contractor Skill Level (2)	Est. Actual Const. Cost	Status	Notes/ Dates
				S	L	M					
IGH6	DOOR	Rusting, need repainting, weathered exterior facing	Option A.1b: Repaint doors, frames; maintain wood back door and steel front door			X	--	C		done	Done under the Deferred Maint project (3366). Cost based on 2009 report
			Option A.2: Replace metal doors and frame; repair existing wood door, frame and hardware		X		$5,000	B			
IGH6	WIND	Weathered wood members, paint missing/oxidized, need reputtying	Option A.1: Rehabilitate windows and deteriorated frame parts, repaint, repair select openings, evaluate interior security grill		X		$4,000	B			
			Option A.2: Rehabilitate all windows and deteriorated frame parts, repair all openings		X		$16,000	B			
IGH6	WIND		Option A.3. Paint Windows & install security screens inside, rather than outside	X				C	$4,000	done	Cost based on 2009 report. ~~U~~nder the Deferred Maint project (3366) - Removed security screen on interior (north side). Re-painted sills. (ML)
IGH6	INT	No issues	Option A.1: Ongoing maintenance			X	--	C			
			Option A.2: Additional documentation, inventory and photographs		X		$4,000	--			
IGH6	STEP	Spalling	Clean concrete surfaces, remove loose and deteriorated material; patch tests; patch spalled areas	X			$8,000	B			
			Subtotal				**$403,000**		**$20,500**		
RESERVOIR 6											
GATEHOUSE 6											
OG6	CONC	Areas of spalling; exposed, corroding reinforcing bars; soiling; weathered capstones; cracking; worn roof membrane	Option A.1: roofing, roof drains	X			$19,000	C		ongoing	Roof is cleaned and inspected annually
			Option A.1: Clean soiled exterior; test for water absorption	X			$22,000	B			
			Option A.2: Repair; remove surface conduit as other project allow		X		$5,000	C			
OG6	BALC	Iron work rusted, original wheel valves rusted and inoperable	Further inspection, clean and repair connections and damaged parts, repaint		X		$8,000	B			
OG6	DOOR	Some rusting, weathered exterior facing, need repainting	Option A.1: Repaint doors and frames, maintain cast iron sills			X	--	C		done	Done under the Deferred Maint project (3366). Cost based on 2009 report
			Option A.2: Replace metal doors and frame, repair existing wood door, frame and hardware		X		$5,000	B			
OG6	WIND	Weathered, missing/oxidized paint, need reputtying	Option A.1a: Rehabilitate windows and deteriorated frame parts, repaint, repair select openings, evaluate interior security grill		X		$4,000	B			

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TABULAR SUMMARY

Structure	Component	Observation	Recommendation	Priority (1)			Cost (Est. 2009 Const only)	Contractor Skill Level (2)	Est. Actual Const. Cost	Status	Notes/ Dates
				S	L	M					
OG6	WIND	Weathered, missing/oxidized paint, need reputtying	Option A.1b: replace windows (4 ea), no painting except replaced windows. Moved security grill inside		X			C	$4,000	done	Done under the Deferred Maint project (3366). Cost based on 2009 report. (ML)
			Subtotal				**$63,000**		**$4,000**		
			Option A.2: Rehabilitate windows and deteriorated frame parts; repair all openings		X		$14,000	B			
OG6	INT	Corroded wheeled gate operator on exterior balcony corroded, stem cover needs repair/replace	Option A.1: Preserve existing office, historic light fixture, wood doors and trims; preserve metal stairway and equipment; add new equipment as needed			X	--	C			
			Option A.2: Addition documentation, inventory and photographs of equipment		X		$4,000	--			
RESERVOIR 6											
SITE											
S6	RES	Reservoir structure in good condition	Option A.1: Preserve the existing structure and liner			X	--	C			
			Option A.2: Remove bituminous patching, new replacement liner		X		TBD	C			note original estimated cost was left blank
S6	WALL	Normal wear and tear, fencing in good condition, lighting discontinued	Option A.1: Clean and provide minor conc patching		X		$16,000	B			
			Option A.1: Metal framing repairs		X		$110,000	B			
			Option A.2: Replace existing non historic pole lighting with historically compatible design		X		$370,000	B			
			Option A.3: Fence lighting; repair-restore fence post tops; install new LED lighting		X			B			
S6	WALK	Many damaged areas, little base remaining for concrete slabs	Provide minor patching or replacement at damaged areas; preserve assorted cast iron grates and lids		X		$12,000	C	$12,000	done	Done under the Deferred Maint project (3366). Cost based on 2009 report. Replace majority of sidewalk south side, misc. north and east side. (ML)
			Subtotal				**$526,000**		**$12,000**		note original estimated cost is at least $526,000 since items were identified TBD
RESERVOIR 7											
BUILDING											

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Mount Tabor Reservoir Historic Structures Report 2009 (Table revised Dec. 2014)
Condition Analysis and Recommendations
TABULAR SUMMARY

Structure	Component	Observation	Recommendation	Priority (1)			Cost (Est. 2009 Const only)	Contractor Skill Level (2)	Est. Actual Const. Cost	Status	Notes/ Dates
				S	L	M					
B7	BUILD	Drainage problems, water damage, some deterioration, nonhistoric door hardware and security, frame molding partially missing, badly deteriorated wood louver vents	Option A.1: Roof and upper wall	X			$6,000	B		ongoing	Roof is cleaned and inspected annually
			Option A.1: Repair wood door and frame, repair louver vents where venting required	X			$6,000	B			
			Option A.2: In addition to A.1, restore louver vents on sidewalls		X		$2,500	B			
RESERVOIR 7											
UNDERGROUND TANK STRUCTURE											
TS7	TANK	New top; good condition	Ongoing maintenance as required			X	--	C			
			Subtotal				**$14,500**		**$0**		
			Total all pages				**$2,000,100**		**$492,523**		note original estimated cost is at least $1.59 Million since items were identified TBD

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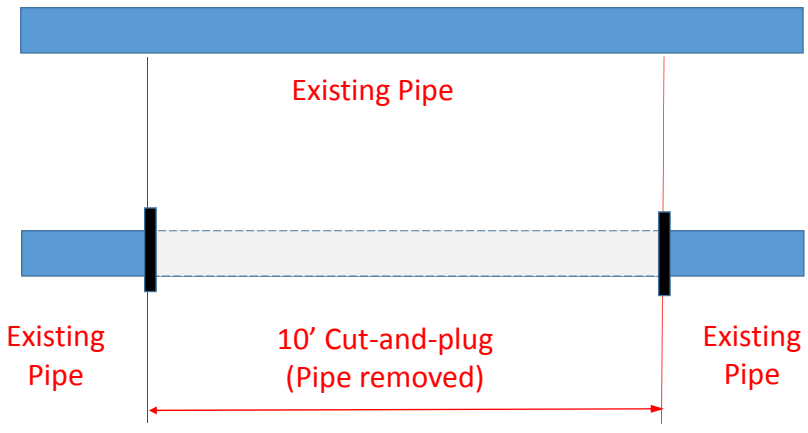
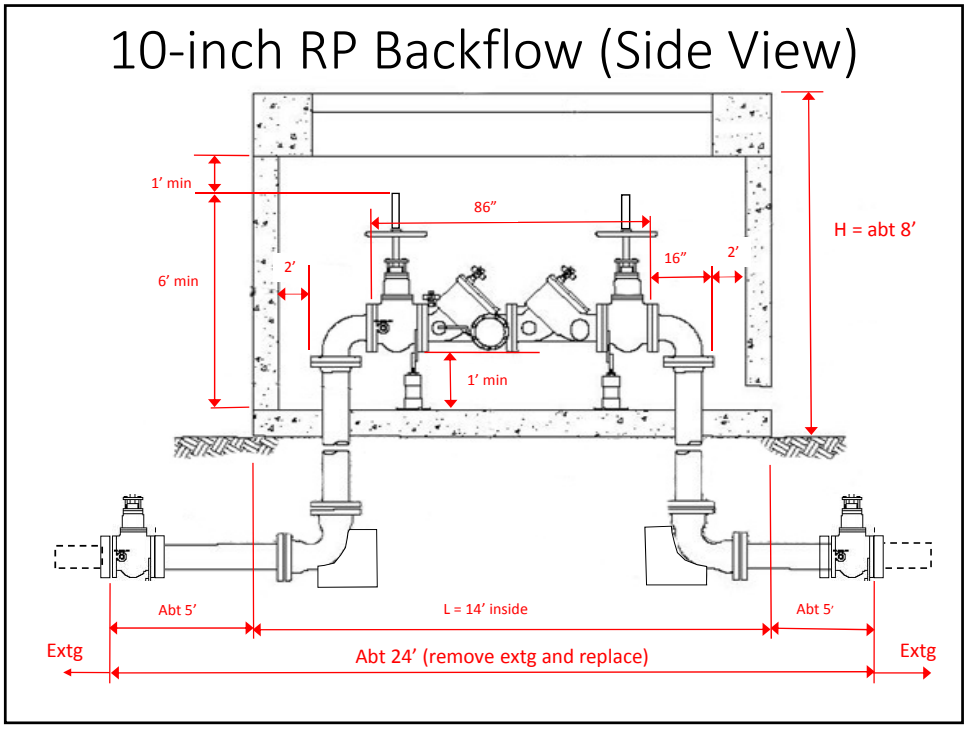
Air Gap & RP Backflow Comparison

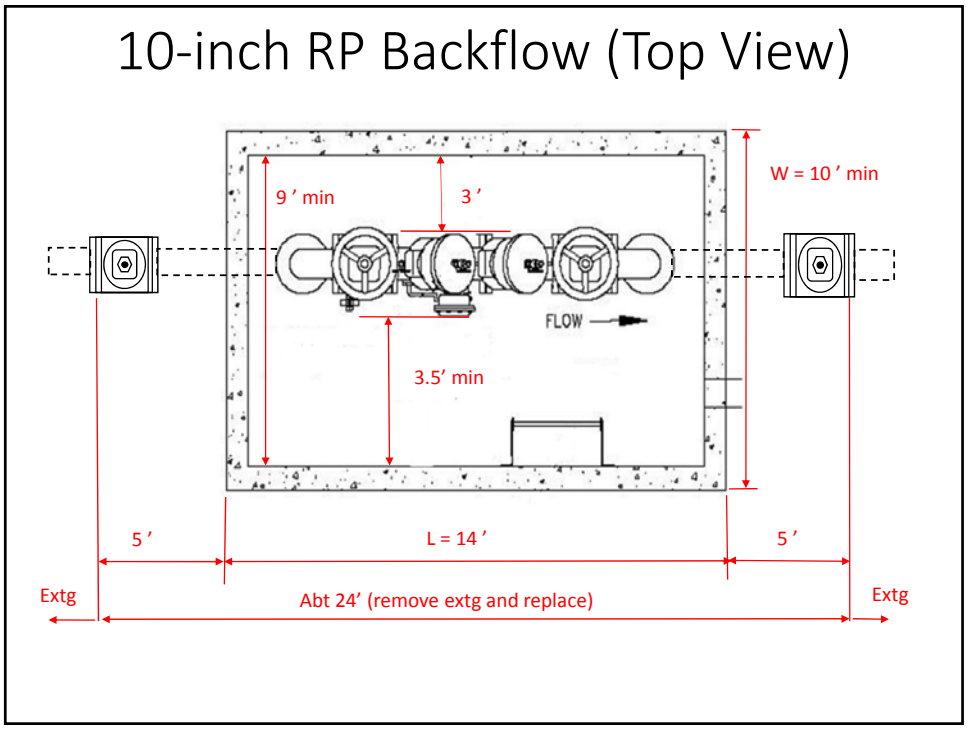
10-inch RP device in California

8-inch RP device in Portland

10-foot Air Gap




10-inch RP Backflow (Side View)
1' min
6' min
86"
2'
16"
2'
H = abt 8'
1' min
Abt 5'
L = 14' inside
Abt 5'
Extg
Abt 24' (remove extg and replace)
Extg


10-inch RP Backflow (Top View)
9 ' min
3 '
W = 10 ' min
FLOW
3.5' min
5 '
L = 14 '
5 '
Extg
Abt 24' (remove extg and replace)
Extg

333-061-0070 Cross Connection Control Requirements

(1) Water suppliers shall undertake cross connection control programs to protect the public water systems from pollution and contamination.

(2) The water supplier's responsibility for cross connection control shall begin at the water supply source, include all public treatment, storage, and distribution facilities under the water supplier's control, and end at the point of delivery to the water user's premises.

(3) Water suppliers shall develop and implement cross connection control programs that meet the minimum requirements set forth in these rules.

(4) Water suppliers shall develop a procedure to coordinate cross connection control requirements with the appropriate local administrative authorit having jurisdiction.

(5) The water supplier shall ensure that inspections of approved air gaps, approved devices, and inspections and tests of approved backflow prevention assemblies protecting the public water system are conducted:
  (a) At the time of installation, any repair or relocation;
  (b) At least annually;
  (c) More frequently than annually for approved backflow prevention assemblies that repeatedly fail, or are protecting health hazard cross connections, as determined by the water supplier;
  (d) After a backflow incident; or
  (e) After an approved air gap is re-plumbed.

(6) Approved air gaps, approved devices, or approved backflow prevention assemblies, found not to be functioning properly shall be repaired, replaced or re-plumbed by the water user or premises owner, as defined in the water supplier's local ordinance or enabling authority, or the water supplier may take action in accordance with subsection (9)(a) of these rules.(7) A water user or premises owner who obtains water from a water supplier must notify the water supplier if they add any chemicals or substance to the water.

(8) Premises isolation requirements:
  (a) For service connections to premises listed or defined in Table 48 (Premises Requiring Isolation), the water supplier shall ensure an approved backflow prevention assembly or an approved air gap is installed;
    (A) Premises with cross connections not listed or defined in Table 48 (Premises Requiring Isolation), shall be individually evaluated. The water supplier shall require the installation of an approved backflow prevention assembly or an approved air gap commensurate with the degree of hazard on the premises, as defined in Table 49 (Backflow Prevention Methods);
    (B) In lieu of premise isolation, the water supplier may accept an in-premises approved backflow prevention assembly as protection for the public water system when the approved backflow prevention assembly is installed, maintained and tested in accordance with these rules.

(b) Where premises isolation is used to protect against a cross connection, the following requirements apply;
  (A) The water supplier shall:
    (i) Ensure the approved backflow prevention assembly is installed at a location adjacent to the service connection or point of delivery;
    (ii) Ensure any alternate location used must be with the approval of the water supplier and must meet the water supplier's cross connection control requirements; and
    (iii) Notify the premises owner and water user, in writing, of thermal expansion concerns.
  (B) The premises owner shall:
    (i) Ensure no cross connections exist between the point of delivery from the public water system and the approved backflow prevention assemblies, when these are installed in an alternate location; and
    (ii) Assume responsibility for testing, maintenance, and repair of the installed approved backflow prevention assembly to protect against the hazard.

(c) Where unique conditions exist, but not limited to, extreme terrain or pipe elevation changes, or structures greater than three stories in height, even with no actual or potential health hazard, an approved backflow prevention assembly may be installed at the point of delivery; and

(d) Where the water supplier chooses to use premises isolation by the installation of an approved backflow prevention assembly on a one- or two-family dwelling under the jurisdiction of the Oregon Plumbing Specialty Code and there is no actual or potential cross connection, the water supplier shall:
  (A) Install the approved backflow prevention assembly at the point of delivery;
  (B) Notify the premises owner and water user in writing of thermal expansion concerns; and
  (C) Take responsibility for testing, maintenance and repair of the installed approved backflow prevention assembly.

(9) In community water systems, water suppliers shall implement a cross connection control program directly, or by written agreement with another agency experienced in cross connection control. The local cross connection program shall consist of the following elements:

(a) Local ordinance or enabling authority that authorizes discontinuing water service to premises for:
  (A) Failure to remove or eliminate an existing unprotected or potential cross connection;
  (B) Failure to install a required approved backflow prevention assembly;

(C) Failure to maintain an approved backflow prevention assembly; or
(D) Failure to conduct the required testing of an approved backflow prevention assembly.

(b) A written program plan for community water systems with 300 or more service connections shall include the following:
(A) A list of premises where health hazard cross connections exist, including, but not limited to, those listed in Table 48 (Premises Requiring Isolation);
(B) A current list of certified cross connection control staff members;
(C) Procedures for evaluating the degree of hazard posed by a water user's premises;
(D) A procedure for notifying the water user if a non-health hazard or health hazard is identified, and for informing the water user of any corrective action required;
(E) The type of protection required to prevent backflow into the public water supply, commensurate with the degree of hazard that exists on the water user's premises, as defined in Table 49 (Backflow Prevention Methods);
(F) A description of what corrective actions will be taken if a water user fails to comply with the water supplier's cross connection control requirements;
(G) Current records of approved backflow prevention assemblies installed, inspections completed, backflow prevention assembly test results on backflow prevention assemblies and verification of current Backflow Assembly Tester certification; and
(H) A public education program about cross connection control.

(c) The water supplier shall prepare and submit a cross connection control Annual Summary Report to the Authority, on forms provided by the Authority, before the last working day of March each year.

(d) In community water systems having 300 or more service connections, water suppliers shall ensure at least one person is certified as a Cross Connection Control Specialist, unless specifically exempted from this requirement by the Authority.

(10) Fees: Community water systems shall submit to the Authority an annual cross connection program implementation fee, based on the number of service connections, as follows:

Service Connections:	Fee:
15-99	$30.
100-999	$75.
1,000-9,999	$200.
10,000 or more	$350.

(a) Billing invoices will be mailed to water systems in the first week of November each year and are due by January first of the following year;
(b) Fees are payable to Oregon Health Authority by check or money order;
(c) A late fee of 50 percent of the original amount will be added to the total amount due and will be assessed after January 31 of each year.

(11) In transient or non-transient non-community water systems, the water supplier that owns and/or operates the system shall:
(a) Ensure no cross connections exist, or are isolated from the potable water system with an approved backflow prevention assembly, as required in section (12) of this rule;
(b) Ensure approved backflow prevention assemblies are installed at, or near, the cross connection; and
(c) Conduct an annual cross connection survey and inspection to ensure compliance with these rules, and test all backflow assemblies annually. All building permits and related inspections are to be made by the Department of Consumer and Business Services, Building Codes Division, as required by ORS 447.020.

(12) Approved backflow prevention assemblies and devices required under these rules shall be approved by the University of Southern California, Foundation for Cross-Connection Control and Hydraulic Research, or other equivalent testing laboratories approved by the Authority.

(13) Backflow prevention assemblies installed before the effective date of these rules that were approved at the time of installation, but are not currently approved, shall be permitted to remain in service provided the assemblies are not moved, the piping systems are not significantly remodeled or modified, the assemblies are properly maintained, and they are commensurate with the degree of hazard they were installed to protect. The assemblies must be tested at least annually and perform satisfactorily to the testing procedures set forth in these rules.

(14) Tests performed by Authority-certified Backflow Assembly Testers shall be in conformance with procedures established by the University of Southern California, Foundation for Cross Connection Control and Hydraulic Research, Manual of Cross-Connection Control, 10th Edition, or other equivalent testing procedures approved by the Authority.

(15) Backflow prevention assemblies shall be tested by Authority-certified Backflow Assembly Testers, except as otherwise provided for journeyman plumbers or apprentice plumbers in OAR 333-061-0072 of these rules (Backflow Assembly Tester Certification). The Backflow Assembly Tester must produce three copies of all test reports. One copy must be maintained in the Tester's permanent records, one copy must be provided to the water user or property owner, and one copy must be provided to the water supplier.
(a) Test reports must be provided within 10 working days; and

(b) The test reports must be in a manner and form acceptable to the water supplier.

(16) All approved backflow prevention assemblies subject to these rules shall be installed in accordance with OAR 333-061-0071 and the Oregon Plumbing Specialty Code.

(17) The Authority shall establish an advisory board for cross connection control issues consisting of not more than nine members, and including representation from the following:

(a) Oregon licensed Plumbers;
(b) Authority certified Backflow Assembly Testers;
(c) Authority certified Cross Connection Specialists;
(d) Water Suppliers;
(e) The general public;
(f) Authority certified Instructors of Backflow Assembly Testers or Cross Connection Specialists;
(g) Backflow assembly manufacturers or authorized representatives;
(h) Engineers experienced in water systems, cross connection control and/or backflow prevention; and
(i) Oregon certified Plumbing Inspectors.

Table 48

Premises Requiring Isolation* By an Approved Air Gap **or** Reduced Pressure Principle Type Of Assembly Health Hazard
1. Agricultural (e.g. farms, dairies)
2. Beverage bottling plants**
3. Car washes
4. Chemical plants
5. Commercial laundries and dry cleaners
6. Premises where both reclaimed and potable water are used
7. Film processing plants
8. Food processing plants
9. Medical centers (e.g., hospitals, medical clinics, nursing homes, veterinary clinics, dental clinics, blood plasma centers)
10. Premises with irrigation systems that use the water supplier's water with chemical additions (e.g., parks, playgrounds, golf courses, cemeteries, housing estates)
11. Laboratories
12. Metal plating industries
13. Mortuaries
14. Petroleum processing or storage plants
15. Piers and docks

16.	Radioactive material processing plants and nuclear reactors
17.	Wastewater lift stations and pumping stations
18.	Wastewater treatment plants
19.	Premises with piping under pressure for conveying liquids other than potable water and the piping is installed in proximity to potable water piping
20.	Premises with an auxiliary water supply that is connected to a potable water supply
21.	Premises where the water supplier is denied access or restricted access for survey
22.	Premises where the water is being treated by the addition of chemical or other additives

* Refer to OAR 333-061-0070(8) premises isolation requirements.
** A Double Check Valve Backflow Prevention Assembly could be used if the water supplier determines there is only a non-health hazard at a beverage bottling plant.

Table 49

Backflow Prevention Methods Used For Premises Isolation	
DEGREE OF IDENTIFIED HAZARD	
Non-Health Hazard (Pollutant)	Health Hazard (Contaminant)
Backsiphonage or Backpressure	Backsiphonage or Backpressure
Air Gap (AG)	Air Gap (AG)
Reduced Pressure Principle Backflow Prevention Assembly (RP)	Reduced Pressure Principle Backflow Prevention Assembly (RP)
Reduced Pressure Principle-Detector Backflow Prevention Assembly (RPDA)	Reduced Pressure Principle-Detector Backflow Prevention Assembly (RPDA)
Double Check Valve Backflow Prevention Assembly (DC)	
Double Check-Detector Backflow Prevention Assembly (DCDA)	

Stat. Auth.: ORS 448.131
Stats. Implemented: ORS 431.110, 431.150, 448.131, 448.150, 448.268, 448.271, 448.273, 448.278, 448.279, 448.295 & 448.300

333-061-0071 Backflow Prevention Assembly Installation and Operation Standards

(1) Any approved backflow prevention assembly required by OAR 333-061-0070 shall be installed in a manner that:
  (a) Facilitates its proper operation, maintenance, inspection, and in-line testing using standard installation procedures approved by the Authority, such as, but not limited to, University of Southern California, Manual of Cross-Connection Control, 10th Edition, the Pacific Northwest Section American Water Works Association, Cross Connection Control Manual, 7th Edition, or the local administrative authority having jurisdiction;
  (b) Precludes the possibility of continuous submersion of an approved backflow prevention assembly, and precludes the possibility of any submersion of the relief valve on a reduced pressure principle backflow prevention assembly; and
  (c) Maintains compliance with all applicable safety regulations and the Oregon Plumbing Specialty Code.

(2) For premises isolation installation:
  (a) The approved backflow prevention assembly shall be installed at a location adjacent to the service connection or point of delivery; or
  (b) Any alternate location must be with the advance approval of the water supplier and must meet the water supplier's cross connection control requirements; and
  (c) The premises owner shall ensure no cross connections exist between the point of delivery from the public water system and the approved backflow prevention assembly.

(3) Bypass piping installed around any approved backflow prevention assembly must be equipped with an approved backflow prevention assembly to:
  (a) Afford at least the same level of protection as the approved backflow prevention assembly being bypassed; and
  (b) Comply with all requirements of these rules.

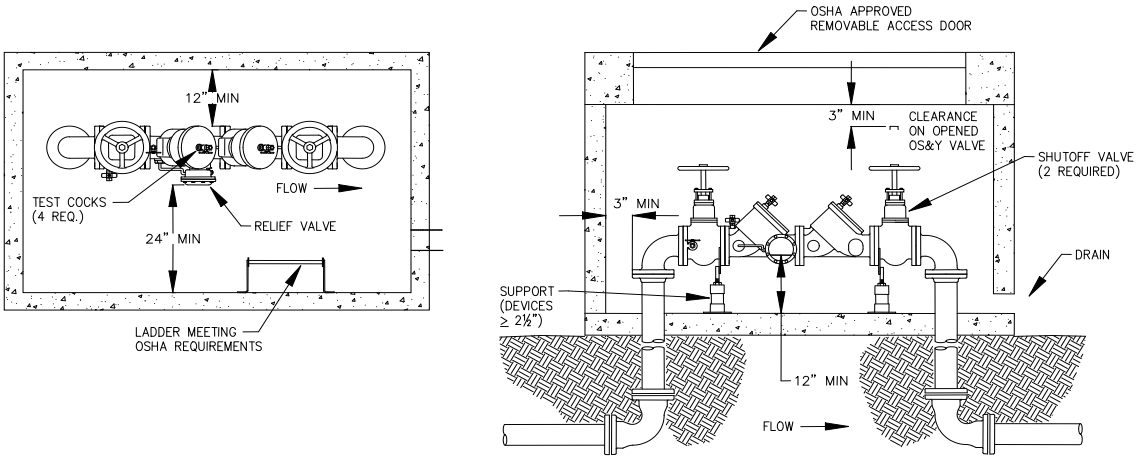
(4) All Oregon Plumbing Specialty Code approved residential multi-purpose fire suppression systems constructed of potable water piping and materials do not require a backflow prevention assembly.

(5) Stand-alone fire suppression systems shall be protected commensurate with the degree of hazard, as defined in Table 49 (Backflow Prevention Methods).

(6) Stand-alone irrigation systems shall be protected commensurate with the degree of hazard, as defined in Table 49 (Backflow Prevention Methods).

(7) A Reduced Pressure Principle Backflow Prevention Assembly (RP) or Reduced Pressure Principle-Detector Backflow Prevention Assembly (RPDA):

Figure 1



(a) Shall conform to bottom and side clearances when the assembly is installed inside a building. Access doors may be provided on the top or sides of an above-ground vault;

(b) Shall always be installed horizontally, never vertically, unless they are specifically approved for vertical installation;

(c) Shall always be installed above the 100 year (1 percent) flood level unless approved by the appropriate local administrative authority having jurisdiction;

(d) Shall never have extended or plugged relief valves;

(e) Shall be protected from freezing when necessary;

(f) Shall be provided with an approved air gap drain;

(g) Shall not be installed in an enclosed vault or box unless a bore-sighted drain to daylight is provided;

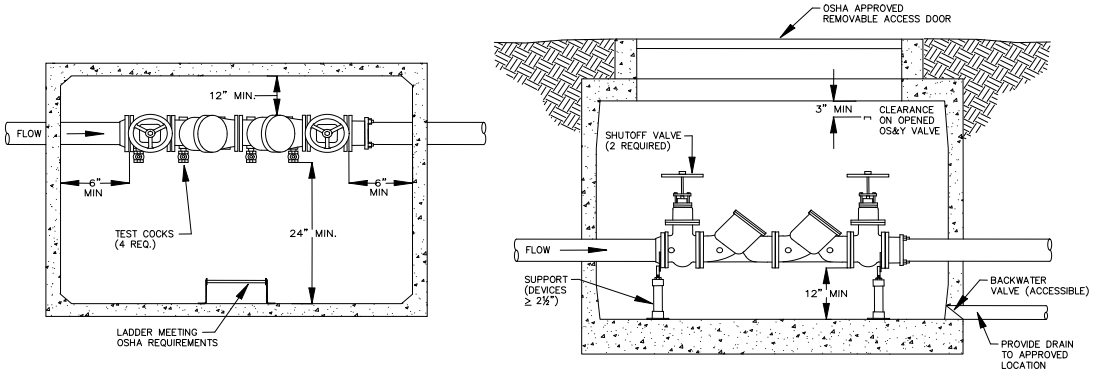
(h) May be installed with reduced clearances if the pipes are two inches in diameter or smaller, are accessible for testing and repairing, and approved by the appropriate local administrative authority having jurisdiction;

(i) Shall not be installed at a height greater than five feet unless there is a permanently installed platform meeting Oregon Occupational Safety and Health Administration (OR-OSHA) standards to facilitate servicing the assembly; and

(j) Be used to protect against a non-health hazard or health hazard for backsiphonage or backpressure conditions.

(8) A Double Check Valve Backflow Prevention Assembly (DC) or Double Check Detector Backflow Prevention Assembly (DCDA):

Figure 2



(a) Shall conform to bottom and side clearances when the assembly is installed inside a building;

(b) May be installed vertically as well as horizontally provided the assembly is specifically listed for that orientation in the Authority's Approved Backflow Prevention Assembly List.

(c) May be installed below grade in a vault, provided that water-tight fitted plugs or caps are installed in the test cocks, and the assembly shall not be subject to continuous immersion;

(d) Shall not be installed at a height greater than five feet unless there is a permanently installed platform meeting Oregon Occupational Safety and Health Administration (OR-OSHA) standards to facilitate servicing the assembly;

(e) May be installed with reduced clearances if the pipes are two inches in diameter or smaller, provided that they are accessible for testing and repairing, and approved by the appropriate local administrative authority having jurisdiction;

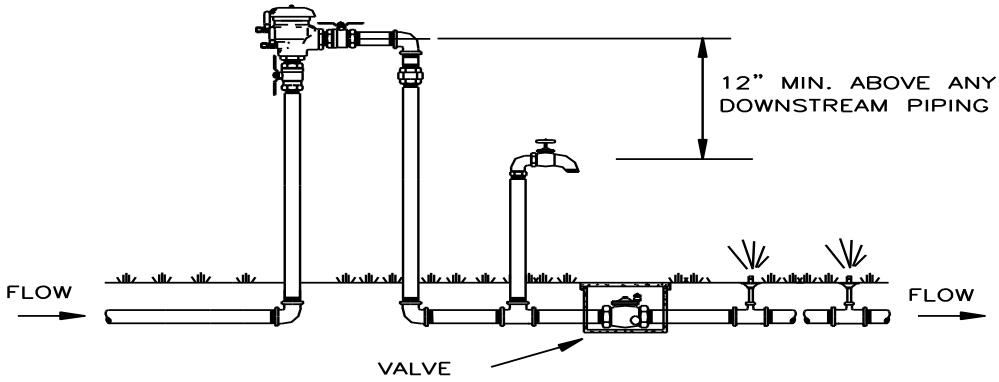
(f) Shall have adequate drainage provided except that the drain shall not be directly connected to a sanitary or storm water drain. Installers shall check with the water supplier and appropriate local administrative authority having jurisdiction for additional requirements;

(g) Shall be protected from freezing when necessary; and

(h) Be used to protect against non-health hazards under backsiphonage and backpressure conditions.

(9) A Pressure Vacuum Breaker Backsiphonage Prevention Assembly (PVB) or Spill-Resistant Pressure Vacuum Breaker Backsiphonage Prevention Assembly (SVB) shall :

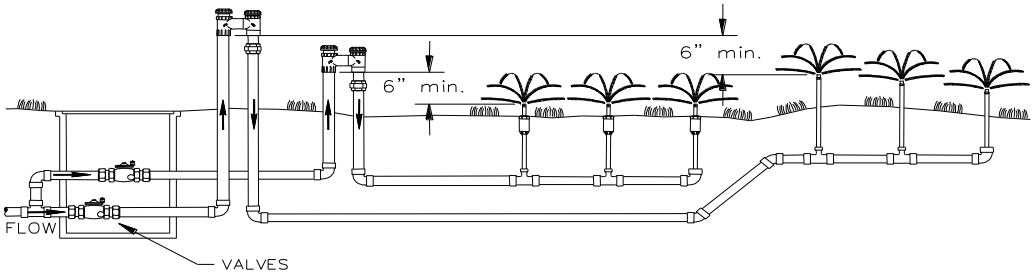
Figure 3



(a) Be installed where occasional water discharge from the assembly caused by pressure fluctuations will not be objectionable;
(b) Have adequate spacing available for maintenance and testing;
(c) Not be subject to flooding;
(d) Be installed a minimum of 12 inches above the highest downstream piping and outlets;
(e) Have absolutely no means of imposing backpressure by a pump or other means. The downstream side of the pressure vacuum breaker backsiphonage prevention assembly or spill-resistant pressure vacuum breaker backsiphonage prevention assembly may be maintained under pressure by a valve; and
(f) Be used to protect against backsiphonage only, not backpressure.

(10) An Atmospheric Vacuum Breaker (AVB) shall:

Figure 4



(a) Have absolutely no means of shut-off on the downstream or discharge side of the atmospheric vacuum breaker;
(b) Not be installed in dusty or corrosive atmospheres;
(c) Not be installed where subject to flooding;
(d) Be installed a minimum of six inches above the highest downstream piping and outlets;
(e) Be used intermittently;
(f) Have product and material approval under the Oregon Plumbing Specialty Code for non-testable devices.
(g) Not be pressurized for more than 12 hours in any 24-hour period; and
(h) Be used to protect against backsiphonage only, not backpressure.

Stat. Auth.: ORS 448.131
Stats. Implemented: ORS 431.110, 431.150, 448.131, 448.150, 448.268, 448.273 & 448.279

ORDINANCE No. 182457

Affirm management authority for certain City property in the vicinity of Mt Tabor, including the Mt Tabor Yard, Nursery and Long Block (Ordinance)

The City of Portland ordains:

Section 1. The Council finds:

1. Certain properties acquired by the City in the vicinity of Mt Tabor Park were acquired specifically for Park or Water Bureau purposes.

2. It is in the best interest of the City to clearly establish City management authorities at Mt Tabor Park, including, but not limited to City plans to redevelop the Mt Tabor Yard.

3. The map attached to this ordinance accurately reflects management authority agreed upon by the Water Bureau and Portland Parks and Recreation.

4. The Mt Tabor Yard, managed by Portland Parks and Recreation, includes a 1.8 acre parcel purchased for Water Bureau purposes. The Water Bureau agrees that Parks should continue to manage this property, but the property shall remain in trust for the Water Bureau until such time that an equitable exchange is identified.

NOW, THEREFORE, The Council Directs:

a. That the map attached to this ordinance as Exhibit A reflects management authorities at Mt Tabor Park, including the Mt Tabor Yard, Nursery, and Long Block.

b. That the portion of the Mt Tabor Yard purchased for Water Bureau purposes will continue to be managed by Parks, with the understanding that Parks and the Water Bureau will take reasonable and timely actions to resolve management responsibilities. Said actions may include transferring equal value property or property rights to the Water Bureau elsewhere in the City (not within Mt Tabor Park).

c. That the City Auditor's office request the County to revise its property records to reflect the intentions of this Ordinance

Passed by the Council: December 24, 2008
Commissioner Saltzman
Prepared by:: Eileen Argentina:kmg
December 4, 2008

GARY BLACKMER
Auditor of the City of Portland
By /s/ Emily Matasar
Deputy

BACKING SHEET INFORMATION

AGENDA NO. ~~1727~~, 1807-2008

ACTION TAKEN:
DEC 17 2008 PASSED TO SECOND READING DEC 24 2008 9:30 A.M.

ORDINANCE/RESOLUTION/COUNCIL DOCUMENT NO. 182457

COMMISSIONERS VOTED AS FOLLOWS:		
	YEAS	NAYS
ADAMS	X	
FISH	X	
LEONARD	X	
SALTZMAN	X	
POTTER	X	


LU 14-218444, PWB Response 12/23/14, Attachment D
Legend
Parks Management Authority
Water Bureau Management Authority
Designated Park Management Authority
Aerial Flight: July 2007
PORTLAND
PARKS & RECREATION
Healthy Parks, Healthy Portland
0 65 130 260 390 520
Feet
Mt. Tabor Park
Date: December 2nd, 2008
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