City of Bellevue

MEMORANDUM

DATE: September 26, 2012

TO: Chair Carlson and Members of the Planning Commission

FROM: Carol Helland, Land Use Director 452-2724
Shoreline Update Team
Development Services Department

RE: Planning Commission SMP Redraft

At the July 25th meeting, staff introduced the Planning Commission's redraft of Bellevue's previously released Draft SMP (referred to as the P.C. SMP Redraft throughout this memorandum). The redraft was publicly released on July 6, 2012, and contained changes made in response to review and further direction provided by the Commission on the May 2011 Draft SMP. This memorandum provides a status update on staff efforts made in response to direction received from the Planning Commission on July 25th, and describes a suggested schedule for upcoming SMP review.

I. Meetings with Washington Sensible Shorelines Association (WSSA)

In response to public comment from WSSA on July 25th, the Planning Commission directed staff to make a number of additional changes to the P.C. SMP Redraft. Staff is working on those amendments now. Additionally, the Planning Commission asked that WSSA's attorney meet with staff to walk through technical edits suggested by WSSA in order to focus future Planning Commission review on items that could not be resolved or were outside the scope of prior Planning Commission direction. Three meetings have occurred to-date with stakeholder groups. City staff met with WSSA representatives on August 23rd and September 14th, 2012. City staff also met with representatives from the Meydenbauer Bay Neighborhood Association (MBNA) on September 13th, 2012.

At these meetings, staff and the stakeholder representatives went through comments previously submitted on the May 2011 Draft SMP and the 2012 P.C. SMP Redraft. The agreed upon outcome of this review approach was to categorize comments into one of three categories: 1) Comment addressed in one of the prior draft releases; 2) Comment within the scope of prior Planning Commission direction and agreement in principle reached on necessary technical amendment language; or 3) Comment issue remaining. Of the more than 300 comments submitted by WSSA, the vast majority of technical edits have been agreed upon subject to WSSA review of the staff amendments. Of the 32 comments submitted by MBNA, virtually all are resolvable with modest clarifications to the Restoration Plan regarding removal of invasive plants in Lake Washington and

through inclusion of additional information about the restoration plans for Meydenbauer Bay Park.

The results of the meetings with WSSA and MBNA accomplished the outcome intended by the Commission when the meetings were suggested back in July. The list of remaining issues has been narrowed, and feedback on the path forward has been provided. The remaining issues for WSSA and MBNA are presented in Section II below together with stakeholder requests related to timing of issue resolution. The balance of this memorandum discusses feedback provided by the Environmental Services Commission (ESC) and the Parks and Community Services Board (Parks Board) in response to the Planning Commission requests for further comment, and the upcoming SMP review schedule.

II. Remaining Issues for WSSA and MBNA

While significant progress was made in meetings with representatives of WSSA and MBNA, outstanding issues do remain. These are summarized below together with the stakeholder timing requests for completion of each task to help focus future Planning Commission discussions and schedule.

Review of Staff Technical Amendments: Agreement in principle has been reached with stakeholders on technical amendments necessary to address comments on the Residential Development provisions (P.C. SMP Redraft 20.25E.065), the Residential Nonconforming provisions (P.C. SMP Redraft 20.25E.065.I), and Stabilization provisions (P.C. SMP Redraft 20.25E.080) of the Shoreline Overlay (Part 20.25E). These amendments were determined to be within the scope of prior Planning Commission direction, and staff is now working to prepare technical amendments to address concerns raised. WSSA and MBNA have requested time to review and comment on the technical amendments, and to provide additional feedback on whether the amendments are consistent with agreement reached in the stakeholder meetings.

- *Stakeholder Timing Request: This review should be accommodated prior to completion of the Planning Commission recommendation to the City Council.*

Review of Comprehensive Plan Policies: Policies will require consistency review following completion of technical amendments, and revisions will be necessary to ensure alignment between policies and implementing regulations contained in Shoreline Overlay Part of the Land Use Code (P.C. SMP Redraft 20.25E). The Planning Commission has noted that this is a necessary step for completion of the SMP Update process and preparation of the recommendation to the City Council.

- *Stakeholder Timing Request: Policy revisions should be completed and stakeholder groups provided an opportunity to review and comment prior to completion of the Planning Commission recommendation to the City Council.*

Review of Incorporations by Reference: There was agreement during the stakeholder meetings that additional clarity was necessary regarding cross-references to provisions located outside the Shoreline Overlay Part 20.25E (e.g. the impervious surface limitations). In response to clarity concerns raised by stakeholders, staff committed to

review every cross-reference in the P.C. SMP Redraft and to determine whether the referenced section was specifically intended to be incorporated by reference into the SMP Update and approved by the Department of Ecology, or whether the referenced section was intended only to be used for public information purposes. Staff will undertake this exercise and seek confirmation from the Planning Commission on whether referenced code provisions outside the scope of the Shoreline Overlay Part 20.25E were intended to be incorporated by reference and subjected to Ecology review.

- *Stakeholder Timing Request: Cross-reference revisions should be completed and stakeholder groups provided an opportunity to review and comment prior to completion of the Planning Commission recommendation to the City Council.*

Review of Restoration Plan: The Shoreline Restoration Plan (Restoration Plan) was developed to comply with WAC 173-26-201(2)(f) requiring that shoreline master programs include goals and policies that provide for restoration of impaired ecological functions. Staff identified a wide range of possible restoration projects, and elaborated on some projects to a greater level of conceptual detail to aid in quick project identification and development in the future. The Restoration Plan is non-regulatory in nature, and does not mandate funding. The non-regulatory nature of the document was clarified through amendments to the Restoration Plan after the Planning Commission provided staff direction following its review in December of 2011. The Plan is intended for use as an offset for cumulative impacts not otherwise mitigated to ensure no net loss of ecological functions over time.

In May of this year, WSSA provided more than 50 comments and project additions to the Restoration Plan. Comments on the Restoration Plan were not raised during WSSA stakeholder meetings. However, at the end of the second meeting with WSSA representatives, comments relating to the Restoration Plan were identified as a remaining issue in need of resolution.

The comments provided in May ranged from clarity and contextual edits, to substantive text changes and additions to projects. Where WSSA comments provide clarity or contextual information that does not create redundancy that the Planning Commission has been seeking to avoid, staff recommends inclusion to the extent that the comment does not conflict with other sections of the SMP. Staff will also augment the Restoration Plan to address MBNA issues identified in stakeholder meetings regarding invasive plant species control and inclusion of Meydenbauer Bay restoration elements. Where WSSA comments are regulatory in nature or, alternatively, recommend changes that included actions not targeted to support the goal of restoring shoreline ecological functions, staff recommends that the comments not be incorporated into the Restoration Plan. These comments would be more appropriately addressed in the Transmittal Memorandum to the City Council in support of other City programs and regulations.

A subset of the WSSA edits were also submitted by Brian Parks on behalf of the Phantom Lake Home Owners Association (PLHOA), and the Planning Commission subsequently forwarded these comments to the ESC and Parks Board for review. Commission and Board feedback is discussed in Section III and IV below.

Review of Conformance Amendments Necessary to the General Land Use Code: In addition to the Comprehensive Plan Policies and Overlay Code sections referenced above, conformance edits will be necessary to many general sections of the Land Use Code. For example, edits have been identified as necessary to the Critical Areas Overlay District provisions to remove references to the Shoreline Critical Area. Additional consistency edits will also be required to the Review and Appeal Procedures section contained in LUC Chapter 20.35, and some of the definitions contained in LUC Chapter 20.50.

- *Stakeholder Timing Request: Stakeholders understand staff will undertake this work after the Planning Commission has completed its recommendation to Council on the Policies and Shoreline Overlay. Once general agreement from the City Council is received on content of the Policies and Overlay, staff plans to draft conformance amendments for Planning Commission review and comment. Cumulative impact analysis must be completed on the full SMP Update package (including conformance amendments) prior to submittal of the SMP Update to Ecology for final approval.*

III. Environmental Services Commission Comment Letter

At a previous meeting, the Planning Commission sought additional review and comment from the ESC regarding proposed modifications to the Restoration Plan submitted by the Phantom Lake Homeowners Association (PLHOA). In response to this request, please find the attached letter from ESC Chair Brad Helland. The letter contains two key components: the first addresses comments on the P.C. SMP Redraft affecting Utility operations and other technical issues; the second and longer section is focused on the changes proposed by PLHOA to the Restoration Plan. This response includes recommended wording changes and a detailed rationale for each proposed change. Supporting this section is a number of attachments that summarize additional data referenced in the ESC rationale.

IV. Parks and Community Services Board Letter

In a letter dated July 11, 2012, Planning Commission Chair, John Carlson, requested that the Parks Board respond to a request from PLHOA to include a project in the Restoration Plan that would mitigate erosion and sedimentation impacts occurring in Phantom Creek. The attached letter from the Parks Board addresses this issue and encourages the City of Bellevue to work toward a comprehensive solution to the drainage issues occurring from Phantom Lake to Lake Sammamish, involving the PHLOA and all private property owners along this watercourse. Approximately one-third of Phantom Creek runs through Weowna Park. A significant restoration project was completed by the City in 1998 that included the full stream length within the park. Because this project is performing as designed without a need for additional public capital investment, the Parks Board recommends replacing the proposed SMP Restoration Plan project language with the following:

> *Continue to monitor the Phantom Creek stream and sediment collection system within Weowna Park, increasing capacity of sediment collection as necessary per the design and recommendation of the project engineer.*

V. Upcoming SMP Review Schedule

The Planning Commission reserved additional time in September and October to review P.C. SMP Redraft. Once Commission review of the P.C. SMP Redraft is complete, staff will work with the Planning Commission to craft its transmittal delivering the Recommended SMP Elements to the City Council.

October

- Review of staff Technical Amendments in response to stakeholder meetings
- Review of Incorporation by Reference work
- Review of Policies for consistency with technical changes

November

- Reach consensus on Recommended Shoreline Master Program Elements
- Finalize City Council Transmittal

Staff Contact Information

Questions or comments regarding the SMP Update may be directed to staff on the Shoreline Master Program Update Team via telephone or email as identified below. Comments may also be submitted electronically via the SMP Update email box at shorelines@bellevuewa.gov .

Carol Helland	425-452-2724	chelland@bellevuewa.gov
Michael Paine	425-452-2739	mpaine@bellevuewa.gov
Heidi Bedwell	425-452-4862	hbedwell@bellevuewa.gov
David Pyle	425-452-2973	dpyle@bellevuewa.gov
Catherine Drews	425-452-6134	cdrews@bellevuewa.gov

Attachments

A. ESC Comment Letter and supporting materials
B. Parks Board Letter

City of Bellevue

Post Office Box 90012, Bellevue WA 98009-9012

September 18, 2012

Planning Commission
City of Bellevue
P.O. Box 90012
Bellevue WA 98009-9012

Dear Chair Carlson:

The Environmental Services Commission (ESC) appreciates the Planning Commission request to review and comment on the Phantom Lake Homeowners Association proposed actions for the Shoreline Restoration Plan. The ESC submits comments on two elements of the Shoreline Master Program update: 1) elements of the regulatory document that affect Utilities Department operations and 2) proposed Restoration Plan actions submitted by the Phantom Lake Homeowners Association.

Recommended modifications to the regulatory document are provided in Attachment 1.

The Shoreline Master Program edits are focused primarily on assuring technical feasibility and equitable costs for operating, repairing, and replacing Utilities infrastructure; promoting efficiencies in processes and permitting; and encouraging clarity for implementation.

Recommended modifications to the proposed Shoreline Restoration Plan actions are provided in Attachment 2.

The ESC reviewed the Phantom Lake Homeowners Association proposed actions with the desire to maintain the intent of their proposals, where possible. Should the Planning Commission choose to include these proposals in the Shoreline Restoration Plan, some of which are operational or policy oriented rather than actual restoration projects, the ESC recommends our modifications. We have provided background data and information to explain the reasons for the modifications.

Our intent is to continue working with the Phantom Lake Homeowners Association and other stakeholders in the community in an open and transparent process to obtain equitable solutions for all Utilities ratepayers and maintain compliance with all federal, state, and city requirements. We hope to reach a common understanding and make recommendations to Council that will address these on-going concerns.

We look forward to working together with you on these and other issues in the future.

Sincerely,

N. Otal for BH

Brad Helland, PE
Chair, Environmental Services Commission

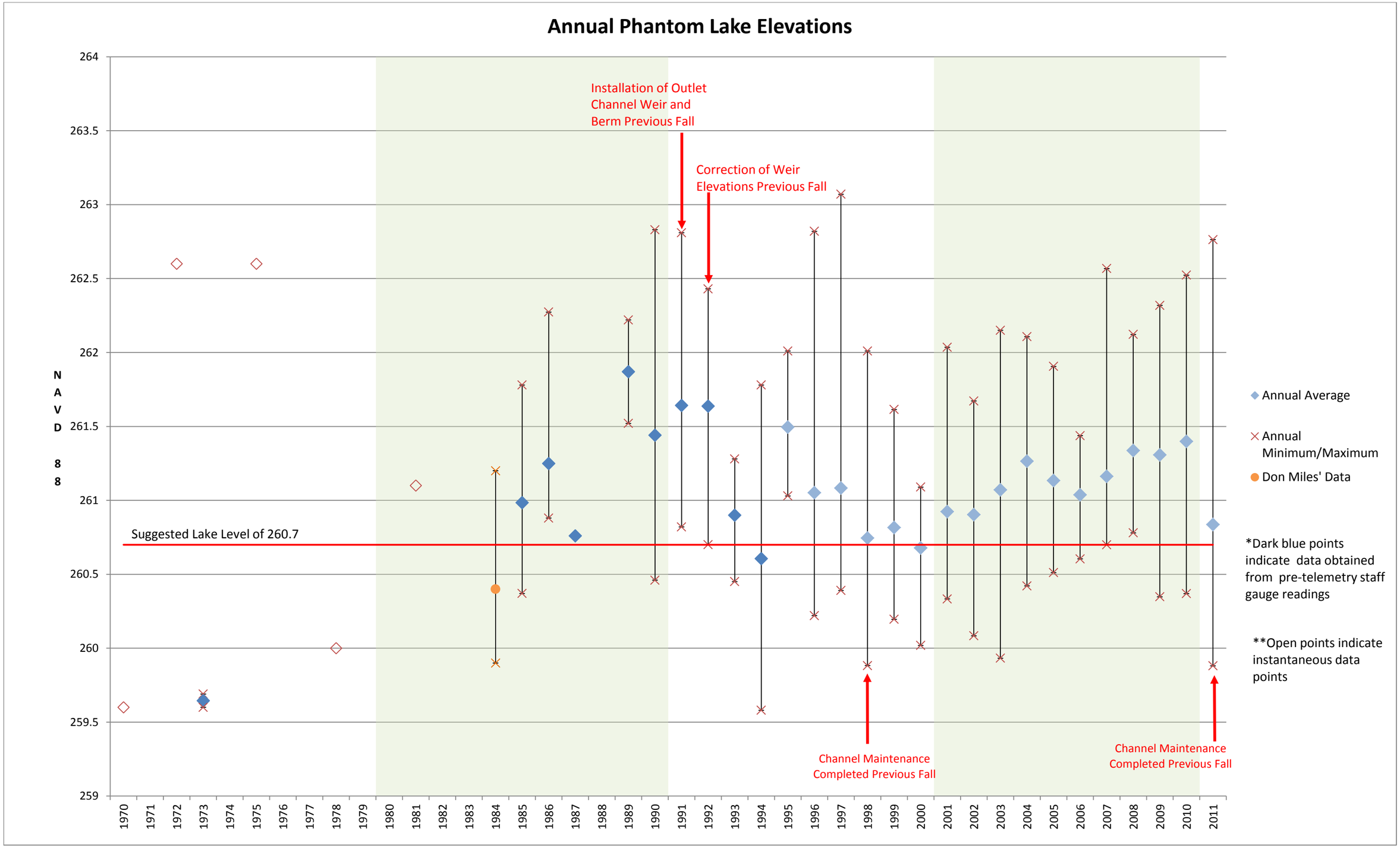
Cc: Jennifer Robertson, Deputy Mayor, Liaison to the Planning Commission
John Stokes, Councilmember, Liaison to the Environmental Services Commission
Kevin Wallace, Councilmember, Liaison to the Parks & Community Services Board
Lynn Robinson, Chair, Parks and Community Services Board

Attachment 1: Recommendations for Shoreline Master Program (Planning Commission Draft)

Regulations – July 5, 2012 PC DRAFT	**http://www.bellevuewa.gov/pdf/PCD/July_5_2012_Planning_Commission_SMP_Redraft_Strikedraft_Version.pdf**	**Comments**
20.25E.010		
	B.2.d Shoreline Restoration Element. This document ~~shall~~ does not ~~be considered to~~ contain regulations, ~~but shall~~ and should be used only as ~~a~~ one reference or guidance~~eline~~ document (in conjunction with other city documents) for capital improvement planning by the City and other entities undertaking ecological shoreline restoration activities within the shoreline overlay district in Bellevue.	The Restoration Plan may not have all potential projects identified. It is not intended as an exhaustive menu of projects. If required to use the Restoration Plan, then potential mitigation sites with greater ecological value may not be allowed.
	C. 2. Setting lake levels. Note: setting the Shoreline jurisdiction to specific lake levels will not change FEMA floodplain designations.	FEMA floodplain designations are federally determined, so will not be affected by local Shoreline Master Plan designations.
	C.2. Lake Washington OHW. The shoreline jurisdiction on Lake Washington shall be measured landward from elevation ~~25.10~~ 18.6' (NAVD 88) on a horizontal plane…..	It is unclear where the 25.1' (NAVD 88) lake level for Lake Washington was obtained. The US Army Corp of Engineers sets maximum lake elevation at 22' (COE datum), which would translate to 18.6' (NAVD 88). Therefore, the elevation identified for Shoreline jurisdiction seems high.
	d. Phantom Lake. On Phantom Lake, the shoreline jurisdiction shall be measured landward from elevation 260.7' (NAVD 88) on a horizontal plane and to a point that results in the required dimension, or from that point identified in a site-specific OHWM determination completed by a qualified professional. Note: elevation 260.7' (NAVD 88) is commonly exceeded and thus, is just a reference for the shoreline jurisdiction.	Available lake level data (attachment 1.1) show that lake levels frequently exceed 260.7 NAVD 88. Since 1972, for the years with lake elevation data, in 29 of the 29 years for which we have data, there have been higher levels than 260.7 NAVD 88 elevations. Therefore, the elevation should not be construed as a maximum high water level for Phantom Lake.
Dimensional Requirements 20.25E.050		
ESC comment from 8/2	Chart 20.25E.050.A *Shoreline Residential (SR) Shoreline Structure Setback ~~25~~' 50'*	Unless there is clear scientific justification, recommend maintaining current shoreline setbacks, rather than the proposed reduced setbacks. Reducing the structure setback from the shoreline will further constrain utilities services, essential for public health (drinking water, sewage, and stormwater), including lake line replacement and maintenance. The costs associated with these additional constraints could be substantial.
General Requirements 20.25E.060		

	3.c.ii off-site mitigation Off-site mitigation for public projects shall only be permitted through ~~a~~one Special Shoreline Report, providing sufficient detail for permit purposes.	There should be only one report required, either critical areas or shorelines, for off-site mitigation. In addition, implementing the off-site mitigation should not require additional reports beyond the initial project report, regular plan review should be sufficient at that point.
	I.2. Public Access. All proposals on public lands for new development, reconstruction, replacement, or expansion of public transportation, utilities and parks projects. with greater than 20% footprint expansion, that propose new uses or the reconstruction or replacement of structures supporting existing uses shall provide public access, or when appropriate, visual access in accordance with the public access requirements of the SMP, where feasible. I.3. When not required a. Applications for the following development or uses are not required to comply with paragraph I of this section i. Fully buried or submerged utility uses or utility projects constructed on private lands within public easements, or when acquisition of public easements is required.	The changes in this section are substantial without linking those requirements to land-use triggers, similar to other development regulations. It is not feasible to require new public access just because a pump was changed out in a pump station. Previous requirements were based on a 20% expansion of the facility. Also, many utilities projects are constructed on private lands through easement agreements. Seeking or modifying easements on private lands to include this public access requirement is not likely to be successful. Also, facilities located within the lake, such as the sewer lake lines, should not have public access requirements. The exception for "fully buried" may not completely address this concern.
Specific Use Requirements 20.25E.070	**http://www.bellevuewa.gov/pdf/PlanningCommission/_LUC%2020.25E.070_July_5_PC_SMP_Redraft.pdf**	
	3.b.vi. Where a location ordinary high water mark is required, outfall should discharge waterward of the littoral zone (shallow water area) or further to protect nearshore habitat;	This sentence may be challenging for non-technical people. Perhaps clarifying littoral with a parenthetical explanation, such as shown?
Definitions 20.25E.280		
	"Aquaculture "means the process of growing, farming, or cultivating private sector cultured aquatic products…" "Aquatic Farmer" is a private sector person who commercially farms and manages the cultivating of private sector cultured aquatic products…"	The definition seems to conflict with the allowed use language: "Permit aquaculture uses through the shoreline conditional use process when sponsored or cosponsored by a public agency or federally recognized tribe developed as part of a fish recovery or similar restoration program, and provided that operations are conducted in a manner that mitigates impacts to the shoreline aquatic environment." The definitions need to be reviewed to reflect the intent of the regulations.

Attachment 1.1



Attachment 2: Recommended edits for Proposed Shoreline Restoration Plan Actions

The Environmental Services Commission (ESC) reviewed the proposed Shoreline Restoration Plan actions by the Phantom Lake Homeowners Association. The ESC submits the following modifications with supporting documents for the changes. ESC recommendations are shown in "track changes" format, so the original citizen recommendation is shown either as intact or strike-out, with new language shown in red and underlined.

The ESC recommendations are based on the following guidelines:

- Strive to maintain the intent of the citizen requests, where possible
- Work within existing Utilities Department policy
- Provide Utilities information, if citizen statements are inconsistent with Utilities' understanding

Restoration Plan - New Proposed Elements PL-4 through PL-11:

PL-4: ~~Prepare~~ Implement policies and regulations that require new and re-developing properties to meet adopted codes and standards (currently detention to forested pre-development standards and water quality treatment), reducing stormwater runoff and improving water quality of stormwater flowing to all lakes. Provide education and technical assistance for voluntary installation of additional detention, such as rain gardens where feasible, on existing properties. ~~and so direct staff and prospective developers that: No more waters will be directed to Phantom Lake (from new development) and that existing development will participate in mitigating high water and pollution occurring in Phantom Lake.~~

Rationale:
In 2009, the Bellevue City Council adopted the Western Washington Stormwater Manual (2005) that requires all new and redevelopment projects as of Jan 1, 2010, to achieve forested pre-development runoff conditions, in addition to water quality treatment. This development requirement will reduce the runoff from existing development and ameliorate runoff from new development.

There is no authority for the City to require property owners of existing development to retrofit their property for stormwater detention or water quality. Unless the property redevelops and triggers current development requirements, improvements must rely on voluntary actions which can be encouraged through technical assistance and outreach efforts.

PL-5 Phantom Creek in Weowna Park: ~~While maintaining existing ecological functions, identify and fund changes to this waterway that mitigate impacts to Lake Sammamish and to adjoining properties.~~ Continue to monitor the Phantom Creek stream and sediment collection system within Weowna Park, increasing capacity of sediment collection based on the design and recommendation of the project engineer.

Rationale:
This project is within the Parks Department purview. The ESC concurs with the Parks and Community Services Board recommendation to drop this recommendation and continue monitoring the existing project. Bellevue Parks conducted a stream stabilization project of Phantom creek through Weowna Park in 1998. This project was jointly funded between the City of Bellevue and King County for approximately $1 million to reduce erosion from the incised channel through bank stabilization, instream structures, and in the lower section above West Lake Sammamish Parkway establish a sediment accumulation area to reduce stream gradient.

Parks staff state that they conduct visual evaluation of bank erosion and structure stability after each major storm and annually. As part of ongoing monitoring of the project for success, Parks will continue to monitor the Phantom Creek stream and sediment collection system within Weowna Park, increasing capacity of sediment collection as necessary per the design and recommendation of the project engineer.

PL-6: Evaluate opportunities, where feasible, to ~~E~~expand detention volume and enhance water quality treatment provided by Pond-A.~~in Eastgate Land Use Plan and/or Airfield Park Plan collectively, as it was permitted to be undersized (by approx.. 50%) due to Phantom Lake having been used as secondary detention.~~ Goal of Pond A is to reduce ~~illicit~~ stormwater runoff and potential discharge of ~~sludge~~ pollutants ~~and heavy metals~~ into Phantom Lake. The city will enforce illicit discharge reports through the Bellevue Storm and Surface water code 24.06.125, including penalties identified in civil enforcement code BCC 1.18.075.

~~Re-engineer Detention Pond B and re-institute its use.~~

Rationale:

Pond A is a public stormwater facility developed in accordance with the codes and standards of the time (see Attachment 2.1: Pond A Detention Volume). The City accepted responsibility for the facility as part of a concomitant agreement and thus, can seek opportunities to improve its function for detention and water quality, as has been done in the past, and when resources are available.

Pond A is successfully providing surface water quality treatment. Surface water quality data for landfill leachate was collected by city staff in Pond A and Phantom Creek in 2011 (see Attachment 2.2 – Pond A water quality sampling results). The data provided ***no evidence*** that landfill contaminants are negatively impacting water quality in Phantom Lake through surface or groundwater. Pond A receives surface water from commercial properties and road runoff in the Eastgate area. Sediment sampling within Pond A and the outlet of Pond A indicate the pond is functioning as designed to trap pollutants, including heavy metals, before they can enter surface waters leading to Phantom Lake.

If the proposal by the Association is to insert language into the Eastgate Subarea Plan, Bellevue City Council has accepted the plan and modifications are not currently being considered. The Airfield Park master plan will be required to meet current stormwater detention to forested pre-development conditions and water quality standards. However, the Park development is not required to assess the potential for additional detention for areas outside the park to retrofit existing development beyond the parks boundaries. As part of the development process, the Parks Department has plans to provide meaningful opportunities for the community to review, comment, and participate in development plans.

The data from compliance monitoring and special studies has shown ***no evidence*** that leachate from the abandoned landfill is entering Pond A or the Phantom Creek inlet channel. Ecology has established compliance requirements and monitoring for the abandoned landfill. According to Ecology, groundwater sampled under these compliance requirements since 2000 provides ***no evidence*** of landfill leachate contamination affecting Phantom Creek or Phantom Lake. The groundwater reports are reviewed by Ecology for compliance and the City of Bellevue conducts reviews to assure that Bellevue surface waters are protected.

The supporting document for the citizen recommendations ("Weirgate") indicates that the "sludge" and heavy metals in pond A are coming from the landfill. There is ***no basis*** to support this claim, and all existing data indicate that this is not the case. Groundwater flow in the vicinity of the landfill is towards the east, not towards Phantom Lake, according to 2008 hydrologic studies conducted as part of compliance monitoring. As was noted in the rationale for PL-6a, additional sampling within the Pond A outlet and the Phantom Creek inlet channel by the city did not detect landfill contaminants. A few heavy metals, such as iron, were measured at native background levels, well below surface water quality standards. However, the wording about heavy metals was stricken not because of these findings, but because the term "pollutants" is more inclusive, covering metals, as well as all other hazardous substances.

The Bellevue Storm and Surface water code 24.06.125 prohibits illicit discharges of pollutants to the storm and surface water system. Regular inspections and responses to spills are conducted as required by the NPDES permit and illicit discharges are required to be mitigated. Property owners or responsible parties are required to improve best management practices to avoid further discharges. Polluters are subject to the civil enforcement code BCC 1.18.075: which can result in fines of $500 per day (E)(2)(3); up to $5,000 per day per violation (G)(2).

Pond B and Pond C are private facilities that were developed under the applicable regulations in place at the time of development. Pond B is part of a high security area maintained by Boeing. Unless there has been direct communication with Boeing of which we are unaware, it is unlikely that this private project would be implemented.

PL-7: ~~Operate seasonal weir gate at setting of no more than one timber (.3 ft. high, which is 3.5 inches), so as to not exceed regulatory OHWM established at 260.7 (0.5 ft. or 6 inches over weir threshold, with overflow).~~ The City agrees to participate in facilitated efforts with Phantom Lake property owners and other stakeholders to evaluate options for modifying weir operations
~~2) City shall acquire permanent access easements along entire outlet channel for maintenance purposes.~~

Rationale:
Utilities staff acknowledge the frustration and distrust expressed in the Phantom Lake Homeowners Association recommendations and documentation to the Planning Commission. The Utilities Department is very interested in seeking a resolution to the on-going issues with Phantom Lake property owners that meets multiple objectives of water quality protection and reasonable lake levels within legal constraints on the Utilities and equity to all rate payers. A facilitated process is recommended to come to agreement regarding citizen concerns about the operations of the Utilities Department and the Phase II Phantom-Larsen Lakes Restoration Project.

The recommendation to maintain lake levels at or below 260.7 was deleted because available lake level data indicates the maximum Phantom Lake levels have never been below this level either before or after the outlet weir was installed (see Attachment 2.3: Phantom Lake Elevations During Wet Season and Outlet Channel Hydraulic Analysis). This attachment includes all available lake elevation data that the Utilities Department has found to date, including citizen monitoring data and from development records. In addition, it provides information from a hydraulic analysis about the forces in the outlet channel that are influencing lake elevation.

Proposed changes in weir operations may impact the water quality of Phantom Lake. The outlet weir on the Phantom Lake outlet channel was established as part of a larger restoration project to reduce algae blooms and improve water quality of Phantom Lake. The Phantom Lake Management Committee was formed in 1985 of property owners and City staff, facilitated by an outside consultant, to investigate and develop a plan to improve water quality in Phantom and Larsen Lakes. This project, known as the Phase I Phantom-Larsen Lakes Restoration Grant Project, was funded through a grant from the Washington Department of Ecology. The Phase II Phantom-Larsen Lakes Restoration Grant Project was initiated in 1990 to implement the recommendations identified in Phase I. These projects included the outlet weir to maintain spring lake elevation into the summer, an earthen berm and groundwater barrier on the Larsen Lake side, aerators for both lakes, improved conveyance channels in the Larsen Lake Greenbelt, and alum treatments in the lakes (Attachment 2.4: Phantom Lake Graphic). The outlet channel weir was designed to maintain the existing channel elevation and not impede winter flows. However, in 1990 the weir was constructed incorrectly at approximately 8 inches higher than the design elevation. The Phantom Lake property owners alerted the City to the higher lake levels and the weir was replaced to the design elevation in 1991. The weir gate was replaced in April, 2004, with simple timber weirs, without changing the elevation of either the weir or stream channel.

In 1995, the Bellevue City Council adopted Resolution No. 5968 authorizing the City to participate in developing a plan for the creation of a Lake Management District for the Phantom Lake Watershed. Specifically, Resolution No. 5968 provides that future city funding for projects related to Phantom Lake are ***contingent on implementation of a Lake Management District***, in which the City would participate as a partner along with other stakeholders in the watershed. As of this writing, ***Resolution No. 5968 remains in effect and governs the City's level of participation in terms of lake management issues for Phantom Lake.***

The Phantom Lake Watershed Committee was established in 1995 at the direction of the City Council to implement a lake management district. The Committee, with consultant support, developed a lake management district proposal, water quality goals for Phantom Lake, and recommended turning off the aerator. Although the lake management district proposal was not finalized, the Utilities Department accepted the Watershed Committee recommendation to turn off the aerator and the establishment of water quality goals.

PL-8 The city will monitor and remove beavers/beaver dams on or within public easements at the Phantom Lake Outlet Channel in accordance with Standard Operating Procedure (Beaver Intervention) and as directed by the Emergency Response policy and Storm Code 24.06.040 definitions. ~~(known dam at City Park property), due to importance of maintaining (currently limited) outflow channel for entire basin at full capacity)~~

Rationale:
Bellevue Utilities Department has standard city-wide operating procedures for Beaver Intervention when there are culvert blockages, roadway or structural flooding, or a significant blockage to upstream habitat of chinook salmon (protected under the Endangered Species Act). The Storm and Surface Water Emergency Response policy also states that the Utilities Department responds to drainage-related emergencies and may undertake emergency protective measures or activities as needed in the event of an imminent threat to public health, safety, or public resources (such as infrastructure, endangered salmonids, and water quality), or an imminent threat of significant property damage. If beaver dams are

located on and affecting private property, the Utilities Department will share information and advice regarding potential management actions and obtaining permits.

PL-9 City ~~shall~~ will consider removing the abandoned aerator located in middle of lake as funding and permitting allow.

Rationale:
Estimated cost for removal and disposal of the abandoned aerator ranges between $50,000 and $65,000 because of the location, size, and weight of the aerator.

PL-10: ~~Establish policies and implement monitoring program of Phantom Lake waters for: 1) nutrients, phytoplankton and zooplankton, as indicator of lake's biotic balance, and 2) contaminants, including heavy metals (are believed to be coming from abandoned Eastgate landfill).~~

Rationale:
This proposal was stricken because any monitoring proposal should be based on community objectives developed through the facilitated process. The monitoring program should include agreed upon management actions, should monitoring indicate that objectives are not being met.

The City has monitored lake water quality since the Phantom/Larsen Lake Restoration project was completed in 1993. In 1996, a Phantom Lake watershed committee, with consultant support, agreed on water quality goals for Phantom Lake based on three industry standard indicators of lake health: water clarity, total phosphorus, and chlorophyll a. These three parameters provide an indication of lake productivity and health at a monitoring cost of approximately $12,000 annually. Below is a table with the lake water quality goals.

Parameter	Water Quality Goals*
Secchi Disc Visibility/ Water Clarity (indicator for algae abundance and general lake productivity)	**2 meters or greater depth** (6.5 feet or greater)
Total Phosphorus (indicator for nutrient supply essential for algae and other plant growth)	**24 micrograms/liter or less**
Chlorophyll a (indicator for amount of algae or phytoplankton)	**6.4 micrograms/liter or less**

*These goals are summer average values (June through September) for samples collected in the uppermost warm layer of the lake (epilimnion).

Attachment 2.5 (Water Quality Graphs) shows lake water quality monitoring results relative to the water quality goals between 1971 and 2010. Lake water quality year to year is naturally variable. Based on graph results, monitoring data indicates an improving trend in lake water clarity levels while chlorophyll a and phosphorus levels appear to be highly variable and trends are uncertain.

The City also collected and analyzed plankton data from 1997 to 2008. The data is highly variable and complex. Based on this data, consultant analysis concluded that lake plankton conditions have generally shown some improvement (Phantom Lake Phytoplankton/Zooplankton Community Composition 2008 Six Months Trends and Supporting Documents). The City does not support additional plankton monitoring because of its' limited application for management decisions and to contain costs.

As noted in PL-6, the City has ***no evidence*** of landfill contaminants entering Pond A or Phantom Lake.

PL-11 ~~**The Community, Its' Concerns and Considerations** The Phantom Lake neighborhood is centered on a 64 acre kettle lake sitting on a bluff about a mile west of the southern section of Lake Sammamish. Originally skirted partially by farmland, the neighborhood's focus shifted in the 1950's towards more suburban activity as the area that is now along I-90 area redeveloped this mostly gravel airfield to one of intense commercial/office uses. During this period factors impacting the lake occurred, when commercial development in the Eastgate/I-90 area redeveloped this mostly gravel airfield to one of intense commercial/office uses. During this period factors impacting the lake occurred, such as greatly increasing impervious surfaces, and creation of the first of three detention ponds and piping to the lake of landfill and partial Eastgate storm waters. Following studies were conducted in the mid-to-late-1980's to determine aggravated issues about the lake and their solutions, resulting in recommendation of an outlet weir and berm blocking natural NW surface flows, both to increase summer levels, an aerator to increase dissolved oxygen in depths, as well as alum treatment ot seal in contaminates. There has been a continuing concern from the residential community that impacts to the lake have been predominantly caused by these changes and external sources. Residents seek equitable resolution of lake issues, including factors key to shoreline management. The use of the lake as a secondary detention pond for landfill and as a receiving body (which it is not categorized as) for drainage is at issue, as are the implications downstream at Lake Sammamish where these waters are directed.~~
The city agrees to engage with Phantom Lake shoreline property owners in a facilitated conversation to develop recommendations to the City Council for mutually agreed upon modifications to operational procedures or for proposed policy changes.

Rationale:
It is inappropriate to include only one organization's opinion in a city-wide Shoreline Restoration Plan. Utilities staff recommends dropping the Community Statement. The city and Phantom Lake Homeowners Association have different understandings of some issues affecting Phantom Lake. A conversation to develop common understanding, based on facts and data, of such issues as those listed below, would be beneficial:

- Phase I and II Phantom-Larsen Lake Restoration Projects
- Phantom Lake water level and water quality data
- Operations of the water quality weir
- Maintenance of the outlet channel
- Monitoring
- Operations under NPDES of Pond A and other stormwater facilities
- Stormwater Utilities legal and fiscal constraints

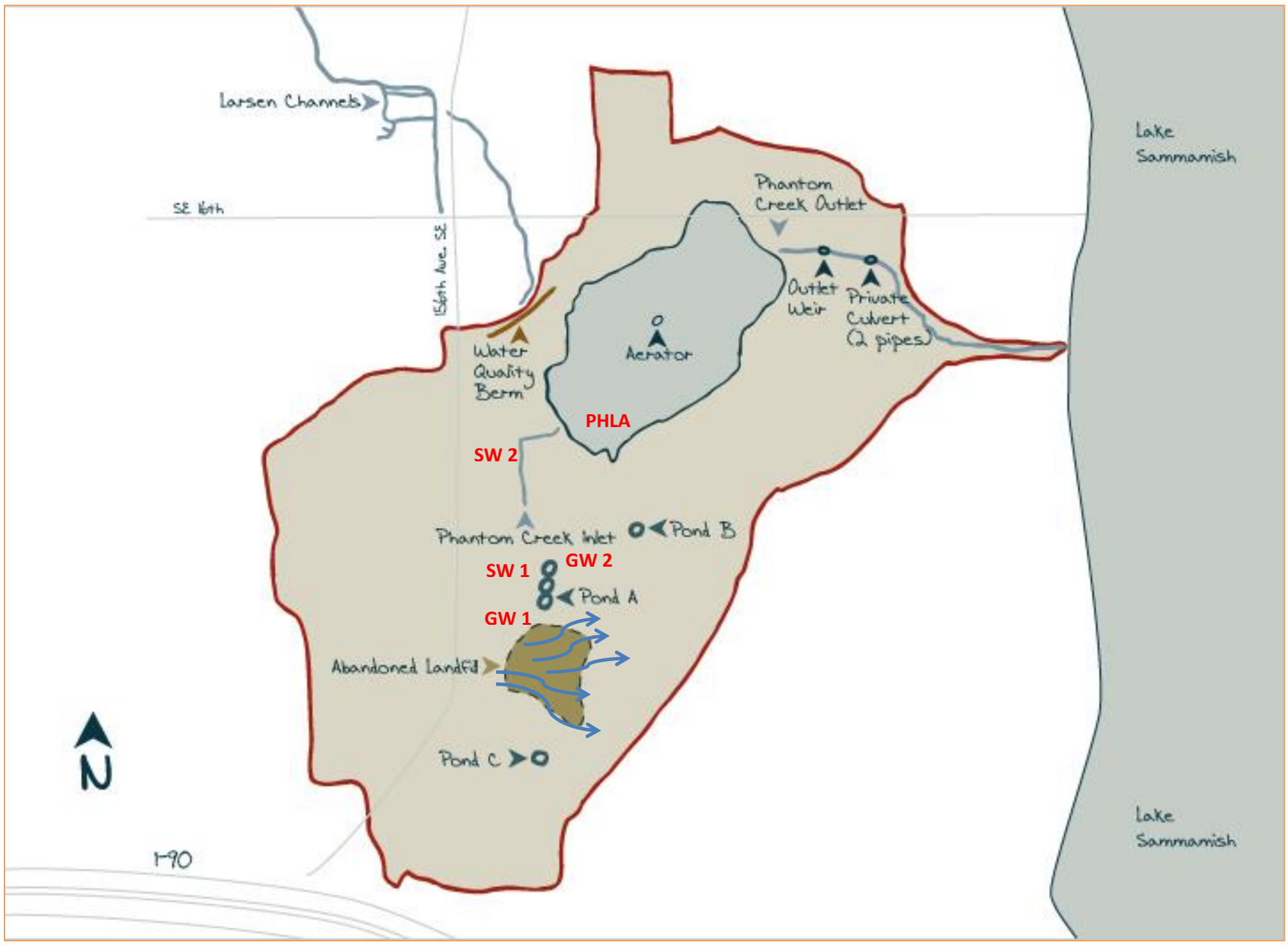
Attachment 2.1: Pond A Detention Volume

Pond A was developed under the detention standards in place at the time and was sized to meet the full requirements of the code.

The commercial development was required to address stormwater impacts for the total impervious area for their development, not just the increase in impervious from new development. The detention facilities were sized to address anticipated built-out conditions, estimated at the time to be developed with 62 acres commercial at 85% impervious and 32 acres of other development at 65% impervious. Pond A was, therefore, oversized for the initial development at 304,013 ft^3.

Even with later modifications to Pond A for water quality benefits in 1990, which reduced detention volume to 282,100 ft^3, the detention volume was still sufficient to address the impervious surfaces to the 1980s standards of 273,900 ft^3 detention (analysis of data from "Collins Engineers, Inc. Hydrologic Study of Pond A and Hydraulic Analysis of Outflow Channel to Phantom Lake, Nov. 1990"). Based on GIS analysis of 2007 impervious coverage, impervious surfaces draining to Pond A was 31%, still below original estimated built-out conditions.

Summary of surface water and ground water sample data: Pond A, Phantom Creek, Phantom Lake



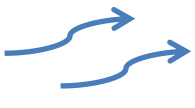
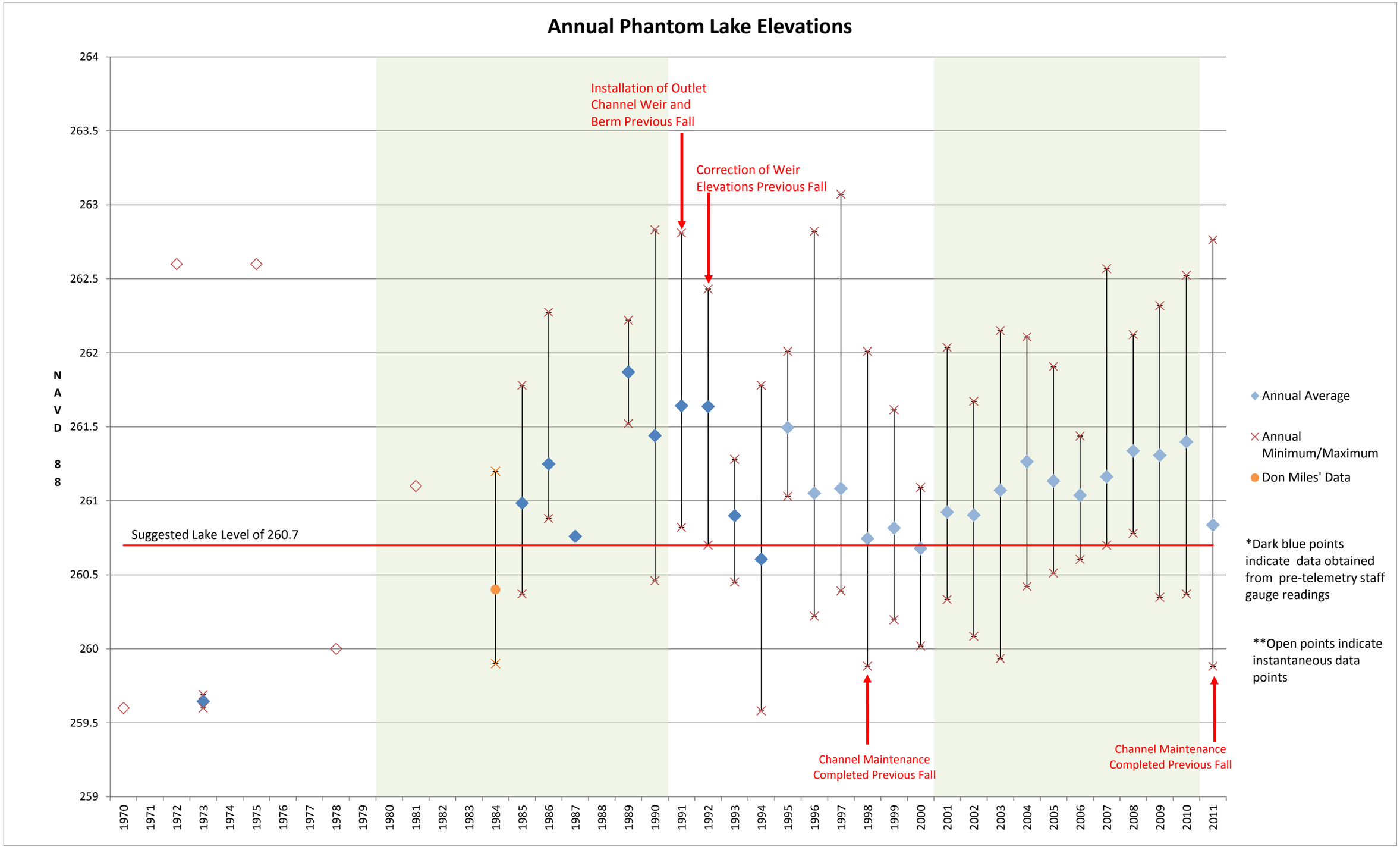
Key to Sample Locations			
Location	**Description**	**Use**	**Result**
GW 1	Ground Water Monitoring Well	Ongoing landfill monitoring program required by Ecology	No evidence of landfill constituents (reference source column on Table 1)
GW 2	Ground Water Monitoring Well	Ongoing landfill monitoring program required by Ecology	No evidence of landfill constituents (reference source column on Table 1)
SW 1	Surface Water samples Pond A outfall	2011 investigation into concern that landfill leaching into lake	No evidence of landfill or road runoff constituents (reference source column on Table 1)
SW 2	Surface Water samples Phantom Creek	2011 investigation into concern that landfill leaching into lake	No evidence of landfill or road runoff constituents (reference source column on Table 1)
PHLA	samples collected by consultant on behalf of PHLO	Included in "Weirgate"; taken 10 feet from creek outfall to lake. Used as evidence of landfill leaching into lake	No evidence of landfill constituents. Data representative of non-point source road runoff (reference source column on Table 1)
Other Descriptors		**Description**	
		Ground water flow as determined by hydrologic analysis in 2008 *(Annual Groundwater Monitoring Report Former Eastgate Landfill Bellevue WA, Landau Associates, October 24, 2011)*	
Associated Earth Sciences report, *Evaluation of Water Quality Data, Pond A, Bellevue WA,* 10-17-11 and 12 01 11 Ecology review letter available on request			

Table 1

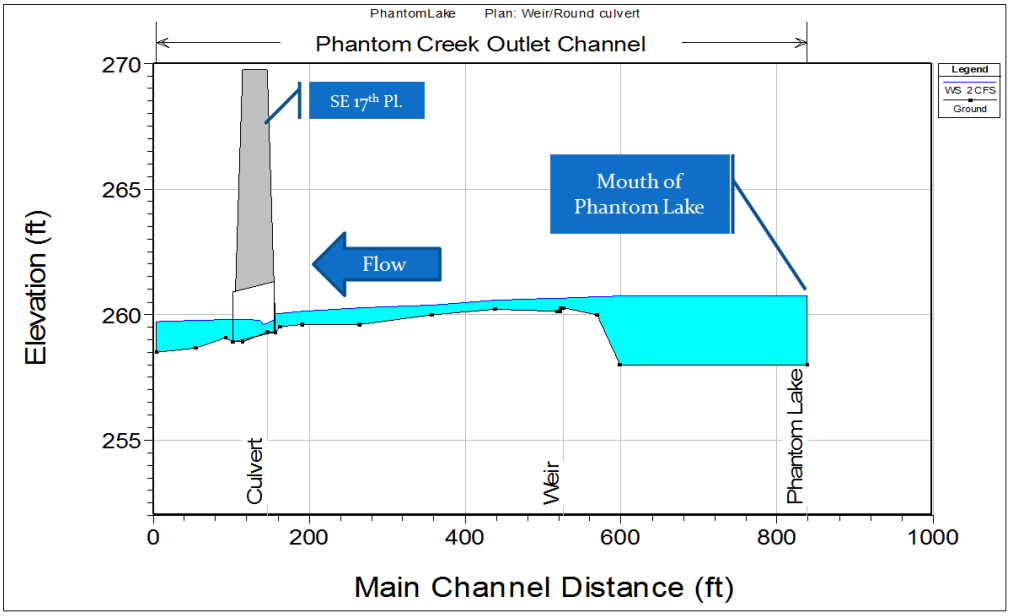
Summary Data: Pond A, Phantom Creek, Landfill monitoring wells, PLHO

PARAMETER	MAP LOCATION	GW 1	GW 2	SW 1	SW 2	PLHO	SOURCE
Volatiles (ug/L) Method SWB260BIC		EL-102	EL-103	Pond Outfall	Phantom Creek	water	
Vinyl Chloride		U	0.2 U	< 0.2	< 0.2		
Acetone		U	5.0 UJ	2.03	2.95		
cis-1,2-Dichloroethene		U	0.2 U	< 0.2	< 0.2		
Benzene		U	3.3	< 0.2	< 0.2		
Toluene		U	0.2	0.55	0.3		
Chlorobenzene		U	21	< 0.2	< 0.2		
m.p-Xylene		U	0.4 U	< 0.2	< 0.2		
o-Xylene		U	0.2 U	< 0.2	< 0.2		
1,2-Dichlorobenzene		U	1.3	< 0.2	< 0.2		
1,4-Dichlorobenzene		U	1.9	< 0.2	< 0.2		Landfill constitutents sampled per Ecology guidelines
Dissolved Metals							
Arsenic (7060AI200.B)		U	33.7	0.32	0.41		
Iron (601081200.B)		0.94	21,800	43	379		
Manganese (6010BI200.B)		0.077	2,950	122.4	4.6		
Conventionals							
Chloride (mg/L) (325.2)		6	23.3	4.2	1.8		
N-Ammonia (mg-N/L) (350.1 M)		0.042	82.6	4.83	0.117		
N-Nitrate (mg-N/L) (calc.)		NA	U	NA	NA		
N-Nitrite (mg-N/L) (353.2)		NA	0.049	NA	NA		
Nitrate + Nitrite (mg-N/L) (353.2)		0.38	0.032	0.34	0.74		
Sulfate (mg/L) (375.2)		13	8.6J	3.8	4.7		
Chemical Oxygen Demand (mg/L) (410.4)		33	54	15	< 10		
Total Organic Carbon (mg/L) (415.1)		3	18.7	16	5.2		
Minerals							
Chloride		NA	NA	4.2	1.8		
Sulfate		NA	NA	3.8	4.7		
Calcium		NA	NA	17	11		
Potassium		NA	NA	4.6	1.5		
Magnesium		NA	NA	3.0	2.4		
Sodium		NA	NA	4.8	4.5		
Dissolved ICP/MS Metals 200.8							
Dissolved Arsenic		NA	NA	0.32 ug/l	0.41 ug/l		
Dissolved Iron		NA	NA	0.043	0.379		
Dissolved Manganese		NA	NA	0.1224	0.0046		
Total Metals							
Silver		NA	NA	< 0.01	< 0.01	< 0.5	
Aluminum		NA	NA	0.03	0.10		
Arsenic		NA	NA	< 0.01	< 0.01	1.2j	
Boron		NA	NA	0.06	< 0.05		
Barium		NA	NA	0.0313	0.0135		
Beryllium		NA	NA	< 0.0005	< 0.0005	< 0.5	
Cadmium		NA	NA	< 0.0005	< 0.0005	< 0.2	
Cobalt		NA	NA	< 0.001	< 0.001		
Chromium		NA	NA	< 0.001	< 0.001	0.6 j	
Copper		NA	NA	0.002	0.003	2.5/4.6	
Iron		NA	NA	2.09	0.914		
Mercury		NA	NA	< 0.01	< 0.01	< 0.1	Other including metals and typical road-way runoff constituents
Lithium		NA	NA	< 0.005	< 0.005		
Manganese		NA	NA	0.147	0.0579		
Molybdenum		NA	NA	0.006	0.008		
Nickel		NA	NA	< 0.005	< 0.005	1.0 j	
Phosphorus		NA	NA	0.03	0.02		
Lead		NA	NA	< 0.01	< 0.01	< 0.5/2.1	
Sulfur		NA	NA	1.3	1.6		
Antimony		NA	NA	< 0.01	< 0.01	< 0.5	
Selenium		NA	NA	< 0.01	< 0.01	< 0.5	
Silicon		NA	NA	2.4	4.5		
Tin		NA	NA	< 0.005	< 0.005		
Strontium		NA	NA	0.124	0.0676		
Titanium		NA	NA	< 0.001	0.006		
Thallium		NA	NA	< 0.01	< 0.01	< 0.5	
Vanadium		NA	NA	< 0.005	< 0.005		
Yttrium		NA	NA	< 0.0005	< 0.0005		
Zinc		NA	NA	0.044	0.020	65	
NWTPH-Dx/NWTPH-Gx and BTEX							
Diesel		NA	NA	190 ug/l	84 ug/l		
Heavy Oil		NA	NA	260	190		
Gasoline in Water		NA	NA	< 100	< 100		
Benzene		NA	NA	< 1	< 1		
Toluene		NA	NA	< 1	< 1		
Ethyl Benzene		NA	NA	< 1	< 1		
Total Xylene		NA	NA	< 1	< 1		

Notes: NA-Not Ananlyzed, U-Undetectable,
J - Value shown is approximate (less than method reporting limit but greater than method detection limit)
UJ - Analyte detected by instument but at a concentration too low to quantify/estimate
Complete Report, data, and Ecology review of finding available on request


Annual Phantom Lake Elevations
264
263.5
263
262.5
262
261.5
261
260.5
260
259.5
259
NAVD 88
Installation of Outlet Channel Weir and Berm Previous Fall
Correction of Weir Elevations Previous Fall
Suggested Lake Level of 260.7
Channel Maintenance Completed Previous Fall
Channel Maintenance Completed Previous Fall
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Annual Average
Annual Minimum/Maximum
Don Miles' Data
*Dark blue points indicate data obtained from pre-telemetry staff gauge readings
**Open points indicate instantaneous data points

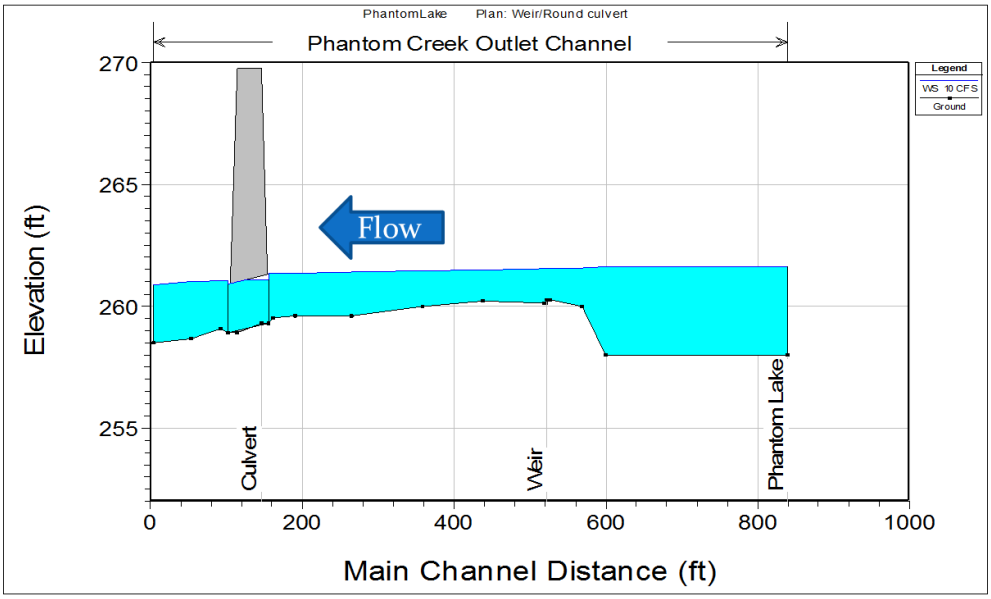
Water Surface Profile
260.7 Lake Level (2 CFS)



- Water surface profile when Phantom Lake elevation is 260.7, the proposed lake level submitted by PLHOA.
- Hydraulic control is defined by the conditions of the existing outlet channel, its slope, width, and the frictional forces exerted by streambank vegetation and channel substrate.

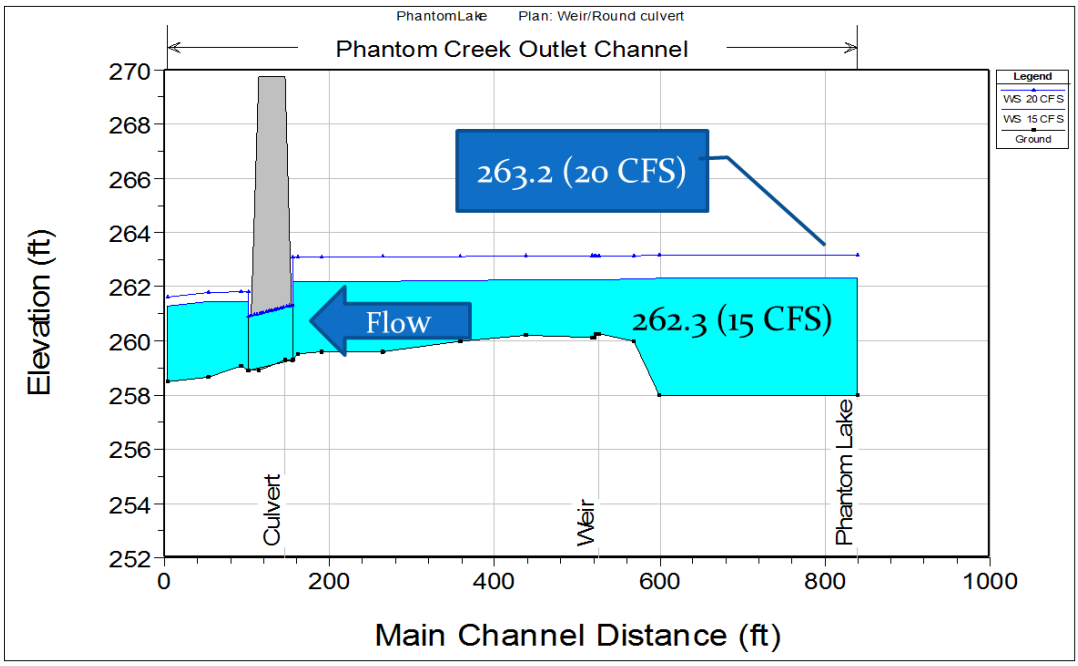
Water Surface Profile

Full Culvert Flow (10 CFS); 261.6 Lake Level



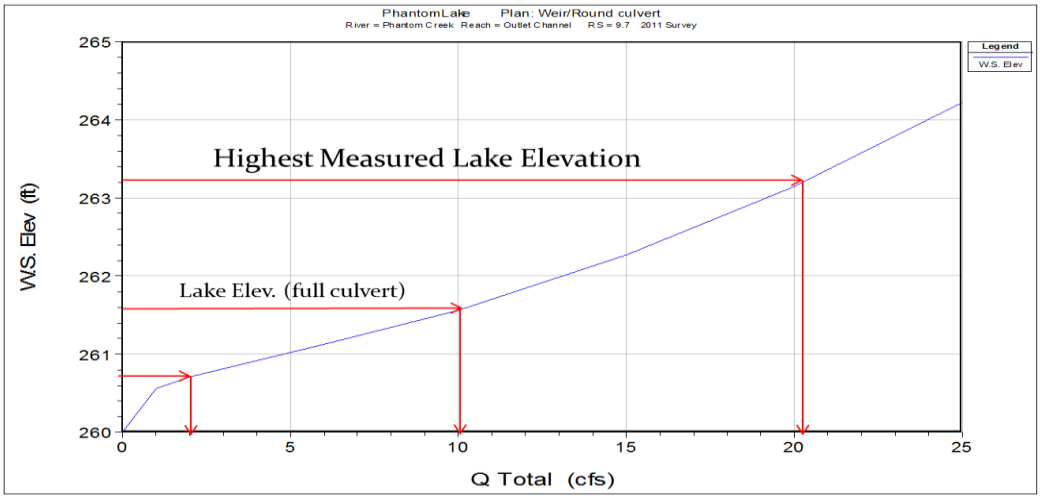
- Water surface profile when Phantom Lake elevation is 261.6. The resultant outflow is 10-cfs which is the flow when the culvert is full.
- The hydraulic control at this lake elevation is a combination of the culvert capacity and the channel shape, slope and frictional forces.

Water Surface Profiles



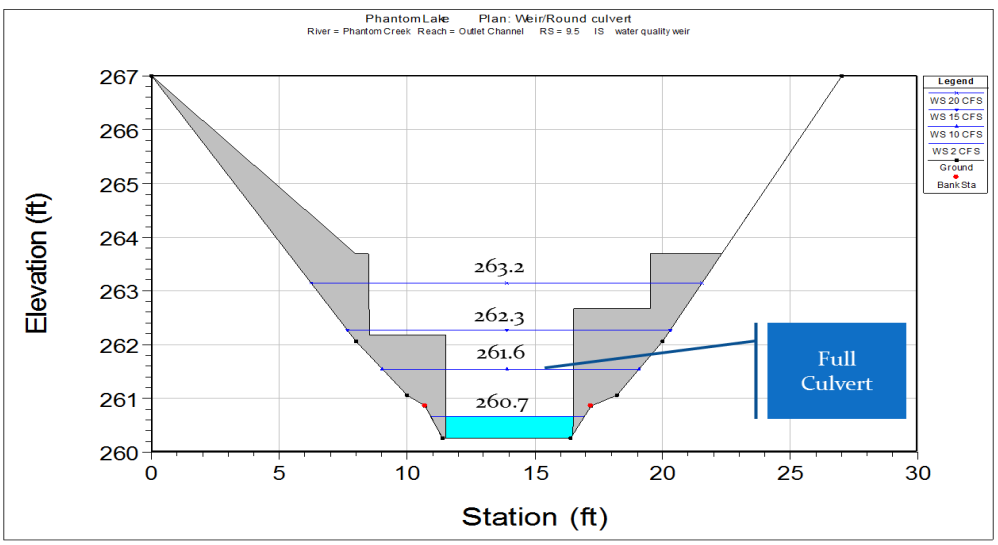
- Water surface profiles for two lake levels. Hydraulic control of the outlet channel is restricted by the culvert at these two lake elevations.
- The culvert/road prism impounds the water.
- Elevation 263.2 is the highest lake level recorded by the City telemetry data system.

Phantom Lake
Stage-Discharge Rating Curve



- Stage-discharge rating curve shows the corresponding discharge of the lake level. It's a summary of the previous slides.

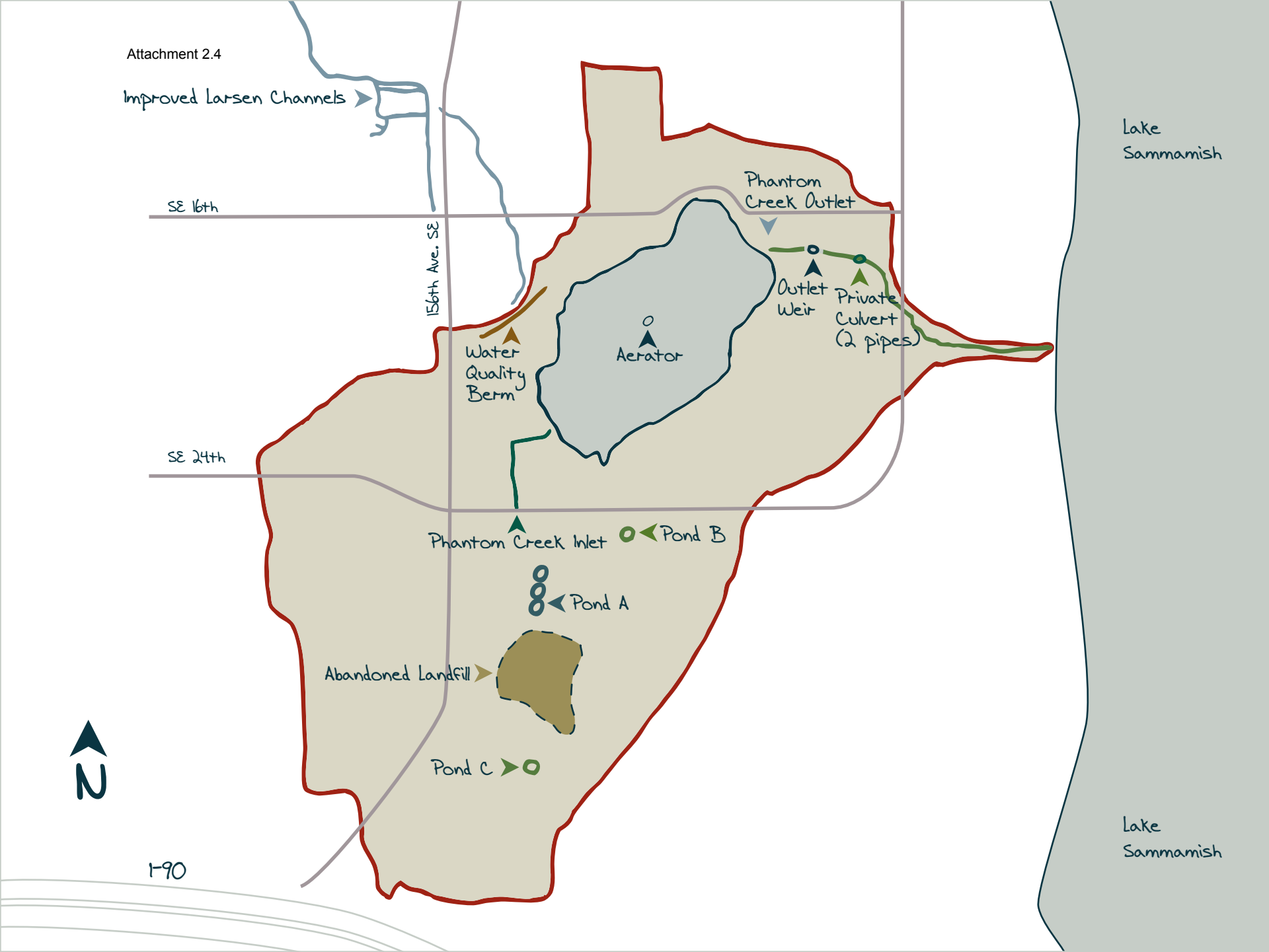
Phantom Creek Water Quality Weir

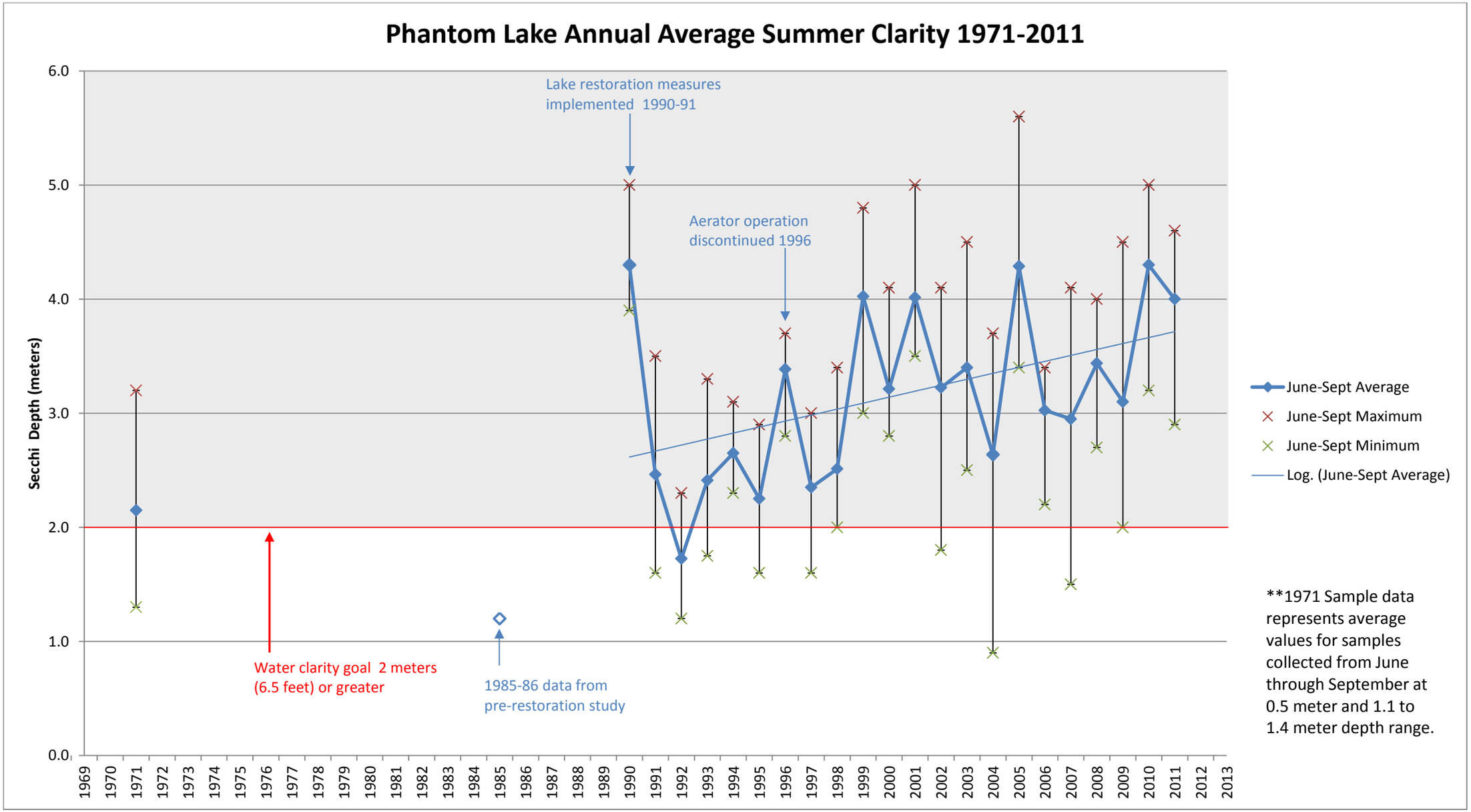


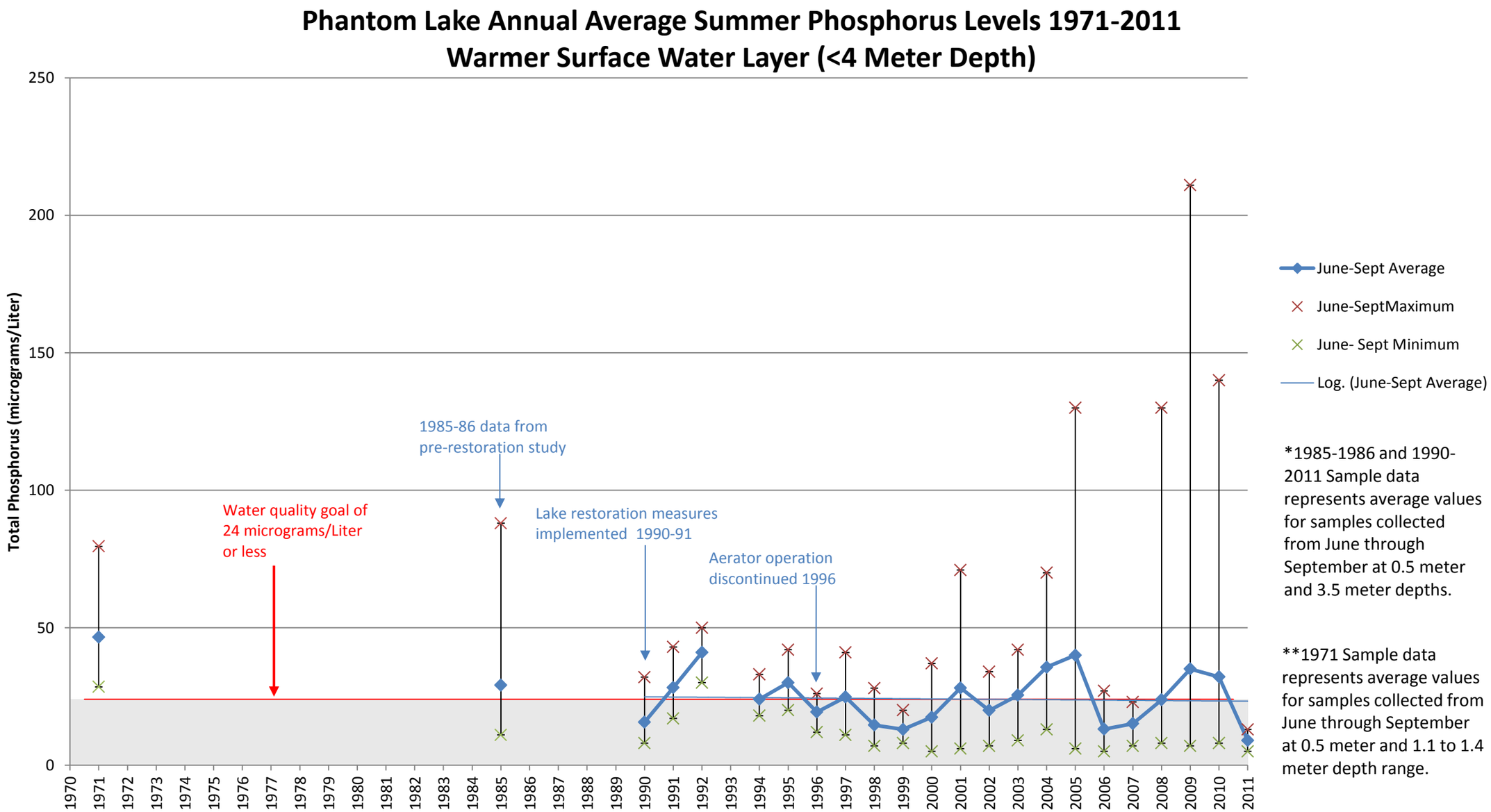
- Shows water surface elevations through the weir at various lake elevations.
- Take home message:
  - The weir's influence on lake levels is limited to lake levels below 261.6.
  - It's effect on the rate of discharge is minimal compared to the other hydraulic factors controlling flow rate between 0 and 10 cfs.

- Channel slope, shape and vegetation exert a significant effect on flows in the channel.

Attachment 2.4

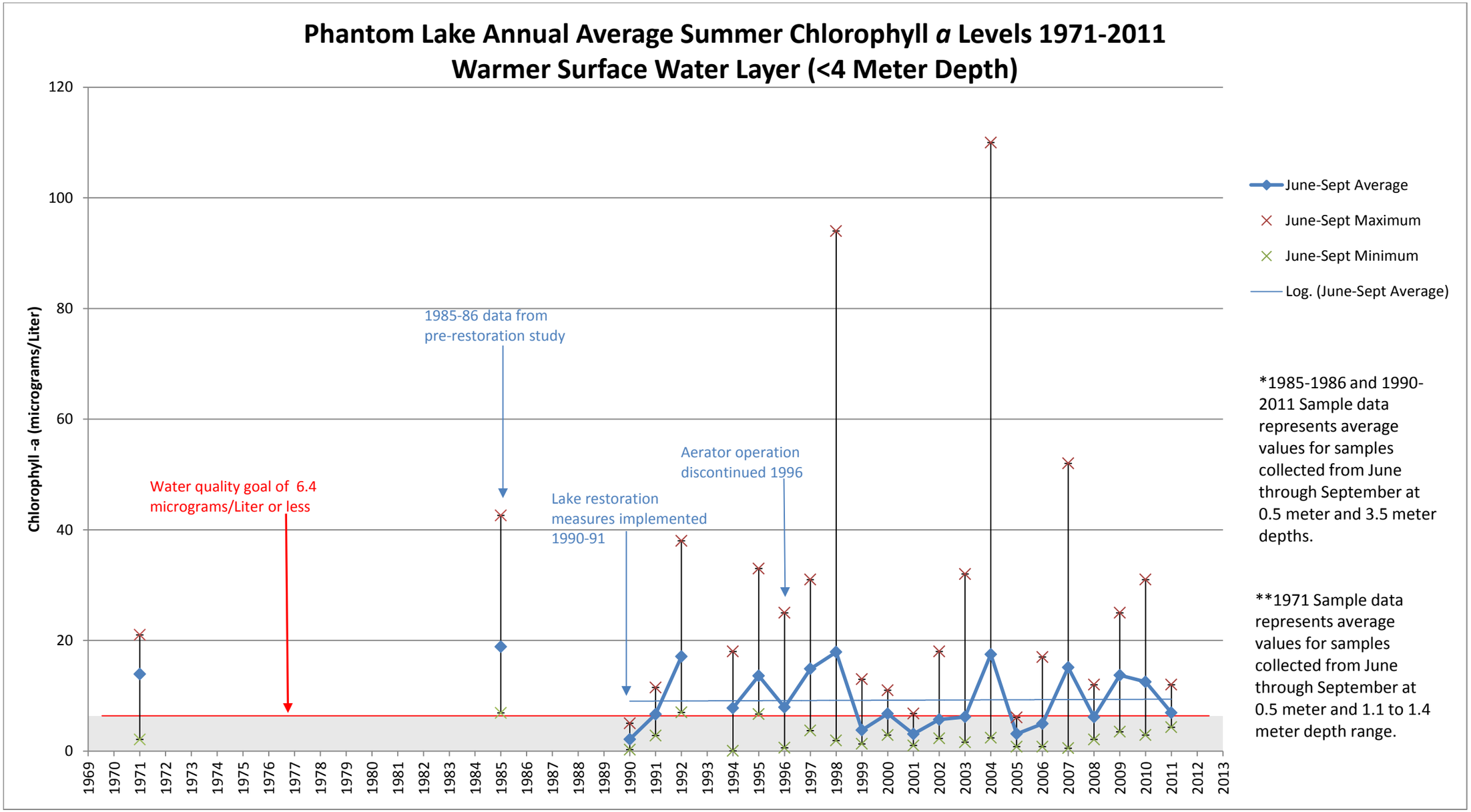



Phantom Lake Annual Average Summer Clarity 1971-2011
Secchi Depth (meters)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Lake restoration measures implemented 1990-91
Aerator operation discontinued 1996
Water clarity goal 2 meters (6.5 feet) or greater
1985-86 data from pre-restoration study
1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013
June-Sept Average
June-Sept Maximum
June-Sept Minimum
Log. (June-Sept Average)
**1971 Sample data represents average values for samples collected from June through September at 0.5 meter and 1.1 to 1.4 meter depth range.



*1985-1986 and 1990-2011 Sample data represents average values for samples collected from June through September at 0.5 meter and 3.5 meter depths.

**1971 Sample data represents average values for samples collected from June through September at 0.5 meter and 1.1 to 1.4 meter depth range.


Phantom Lake Annual Average Summer Chlorophyll *a* Levels 1971-2011
Warmer Surface Water Layer (<4 Meter Depth)
Chlorophyll -a (micrograms/Liter)
120
100
80
60
40
20
0
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
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1994
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1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
1985-86 data from pre-restoration study
Water quality goal of 6.4 micrograms/Liter or less
Lake restoration measures implemented 1990-91
Aerator operation discontinued 1996
June-Sept Average
June-Sept Maximum
June-Sept Minimum
Log. (June-Sept Average)
*1985-1986 and 1990-2011 Sample data represents average values for samples collected from June through September at 0.5 meter and 3.5 meter depths.
**1971 Sample data represents average values for samples collected from June through September at 0.5 meter and 1.1 to 1.4 meter depth range.

City of Bellevue

Post Office Box 90012 • Bellevue, Washington • 98009-9012

September 19, 2012

John Carlson, Chairman
Planning Commission
City of Bellevue
PO Box 90012
Bellevue, WA 98009-9012

Chairman Carlson:

In a letter dated July 11, 2012, the Planning Commission asked the Parks & Community Services Board to review and provide guidance on one recommended project submitted by the Phantom Lake Homeowners Association for inclusion in the Shoreline Master Program Restoration Plan. The proposed project refers to Phantom Creek within Weowna Park and states:

> *While maintaining existing ecological function, identify and fund changes to this water way that mitigate impacts to Lake Sammamish and to adjoining properties.*

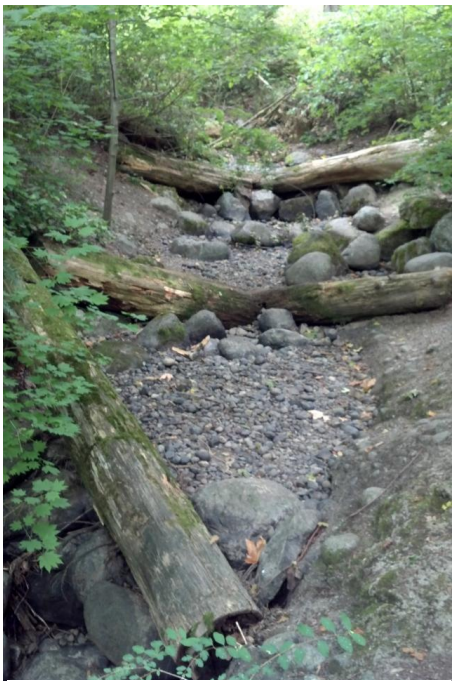
The Parks & Community Services Board reviewed and discussed the issue at the Board's meeting on September 11, 2012. Overall, it was apparent that issues of erosion and stream sediment have been and continue to be significant along the full extent of Phantom Creek. The Board encourages the City of Bellevue to work toward a comprehensive solution to the drainage issues occurring from Phantom Lake to Lake Sammamish, involving the Phantom Lake Homeowners Association and all private property owners along this watercourse.

Approximately one-third of Phantom Creek runs through Weowna Park. A significant restoration project was completed by the City in 1998 that included the full stream length within the park. That project, including the sediment collection pond at the base of the park is performing as designed without a need for additional public capital investment. As such, the Board recommends replacing the proposed SMP Restoration Plan project language with the following:

> *Continue to monitor the Phantom Creek stream and sediment collection system within Weowna Park, increasing capacity of sediment collection as necessary per the design and recommendation of the project engineer.*

Parks & Community Services will perform this action regardless of whether it is included in the SMP Restoration Plan. However, including it provides an opportunity to highlight the significant work that has occurred to date to decrease sediment entering Lake Sammamish and reflect the ongoing commitment of the City to maintain the performance of the stream stabilization project.

For your information, background on the completed restoration and stabilization project follows.



Phantom Creek engineered stream bed (photo: August 2012)

Weowna Park Stream Stabilization

The watercourse commonly referred to as Phantom Creek is an old agricultural drainage channel connecting Phantom Lake with Lake Sammamish. Soil erosion in the park caused by the channel was a significant issue until a major stabilization project was completed in 1998. The City and King County invested $1 million in an engineered solution using a natural system approach. Installation of natural looking concrete walls and the introduction of large boulders, logs and other natural debris work to slow water flow, create pools and encourage sediment settlement before water leaves the park on its way to Lake Sammamish. The project received an Outstanding Civil Engineering Achievement Award in 2000 from the American Society of Civil Engineers. The water channel within the park is monitored and is performing as designed.

One area of ongoing monitoring and maintenance is the sediment pond at the base of the park, just west of Lake Sammamish Parkway. Over the past 10 years, it has filled to the rim of the overflow standpipe. There remains ample room within the overall pond to capture additional sediment with minor modifications to the pond's infrastructure. This was completed recently (see photos) by raising the height of the overflow standpipe, which effectively increases the capacity of the pond to capture additional sediment and slow water flow rates.

Before: pond at sediment capacity

After: pond with increased sediment capacity

If you have any questions about Weowna Park, please contact Dan Dewald at (425) 452-6048 or ddewald@bellevuewa.gov or Camron Parker at (425) 452-2032 or cparker@bellevuewa.gov.

Thank you for inviting the Parks & Community Services Board to provide information and guidance on this portion of the SMP Restoration Plan. The Board will be interested to see how this and the other opinions we have provided in the past on SMP policy and regulatory provisions are addressed in the final document.

Sincerely,

Lynne M. Robinson
Chair, Parks & Community Services Board

cc: Kevin Wallace, Councilmember, Liaison to the Parks & Community Services Board
Patrick Foran, Parks & Community Services Director