State of Washington

DRAFT

REPORT OF EXAMINATION FOR WATER RIGHT APPLICATION

File No. G2-30649
WAC Doc ID: 6463357

PRIORITY DATE	APPLICATION NUMBER
January 29, 2015	G2-30649

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
Port of Vancouver 3103 NW Lower River Road Vancouver, WA 98660	

Quantity Authorized for Withdrawal or Diversion

DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
20,500	GPM	20,461

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (MM/DD)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Industrial (and related uses)	6,950	13,550	GPM	12,437	8,024	01/01-12/31

REMARKS: The final distribution of additive and non-additive quantities may be modified to reflect the Port's development of the former Boise Cascade water rights acquired from the City of Vancouver.

Source Location

WATERBODY	TRIBUTARY TO	COUNTY	WATER RESOURCE INVENTORY AREA
Groundwater	N/A	Clark	28

SOURCE FACILITY/DEVICE	PARCEL	WELL ID#	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
PROPOSED COLUMBIA GATEWAY WELLFIELD	153105000 OR 153310000		2	1W	12 OR 13	TBD	TBD	TBD
PROPOSED CENTENNIAL INDUSTRIAL PARK WELLFIELD	986028822		2	1E	17	SE	TBD	TBD
BERM IRRIGATION WELL	153310000		2	1W	12	SE	TBD	TBD
WELL 1	58927000	AFP650	2	1E	28	SW NE	45.630592	-122.689531
WELL 2	58918000	AFP649	2	1E	28	SW NE	45.630097	-122.690506
WELL 3	58919000	AFP648	2	1E	28	SW NE	45.629618	-122.690766
POV EW-1	59115019	BAM-410	2	1E	28	SW NE	45.639822	-122.695446

Datum: WGS84

Place of Use (See Map, Attachment 1)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

In Township 2 North, Range 1 West, W.M., that portion of Section 12 lying south of the Vancouver Lake Flushing Channel, and all of Section 13.

In Township 2 North, Range 1 East, W.M., the W ½ of SW of Section 7, the SW of SW of Section 16, the S ½ of Section 17, the SW of NE of Section 18, the W ½ of Section 18, the SE of Section 18, the N ½ of Section 19, all of Section 20, the NW of NW of Section 21, the S ½ of NW of Section 21, the SW of Section 21, the W ½ of SE of Section 21, the SW of Section 27, the N ½ of Section 28, the N ½ of SE of Section 28, and the NE of NE of Section 29.

Proposed Works

Up to 15 production wells will be constructed so as to tap the Pleistocene Alluvial Aquifer (PAA) at approximate depths of 150 to 250 feet. Casing sizes will vary, based on production needs. Existing wells will also be used.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Started	September 1, 2036	September 1, 2066

Measurement of Water Use

• How often must water use be measured?	Monthly
• How often must water use data be reported to Ecology?	Annually (Jan 31)
• What volume should be reported?	Total Annual Volume
• What rate should be reported?	Annual Peak Rate of Withdrawal (gpm)

Provisions

Progress Reports

The Port of Vancouver is required to provide Ecology progress reports every five (5) years beginning September 1, 2021. Progress reports will consist of describing efforts made on project in the previous five (5) year period and if the project is progressing on schedule. Any changes in point of contact for the POV must also be updated.

Wells, Well Logs and Well Construction Standards

All wells constructed in the state must meet the construction requirements of WAC 173-160 titled "Minimum Standards for the Construction and Maintenance of Wells" and RCW 18.104 titled "Water Well Construction". Any well which is unusable, abandoned, or whose use has been permanently discontinued, or which is in such disrepair that its continued use is impractical or is an environmental, safety or public health hazard must be decommissioned.

All wells must be tagged with a Department of Ecology unique well identification number. If you have an existing well and it does not have a tag, please contact the well-drilling coordinator at the regional Department of Ecology office issuing this decision. This tag must remain attached to the well. If you are required to submit water measuring reports, reference this tag number.

Installation and maintenance of an access port as described in WAC 173-160- 291(3) is required.

Selection of Potential Well Sites
The POV will evaluate each proposed well location to determine if pumping at that location would affect the migration of contaminated groundwater undergoing remediation. If it is determined that such migration may occur, then the Port shall modify the pumping regime and locations as appropriate to mitigate impacts to protect human health and the environment. The POV will use the most current information available as appropriate, which could include the regional groundwater model.

Measurements, Monitoring, Metering and Reporting
An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use," WAC 173-173, which describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition the Department of Ecology for modifications to some of the requirements.

Recorded water use data shall be submitted via the Internet. To set up an Internet reporting account, contact the Southwest Regional Office. If you do not have Internet access, you can still submit hard copies by contacting the Southwest Regional Office for forms to submit your water use data.

Water Use Efficiency
Use of water under this authorization shall be contingent upon the water right holder's maintenance of efficient water delivery systems and use of up-to-date water conservation practices consistent with established regulation requirements and facility capabilities.

Proof of Appropriation
The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the permit. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Schedule and Inspections
Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times to the project location, and to inspect at reasonable times records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Findings of Facts

Upon reviewing the investigator’s report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I concur with the investigator that water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. G2-30649, subject to existing rights and the provisions specified above.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive SE Lacey, WA 98503 **Pollution Control Hearings Board** 111 Israel RD SW STE 301 Tumwater, WA 98501	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608 **Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

Signed at Olympia, Washington, this _____ day of _____ 2016.

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Michael J. Gallagher, Section Manager
Water Resources Program/SWRO
Department of Ecology

INVESTIGATOR'S REPORT
Application for Water Right – Port of Vancouver
Water Right Control Number G2-30649
Jill Van Hulle, Pacific Groundwater Group for Department of Ecology

BACKGROUND

On January 29, 2015 the Port of Vancouver (POV) filed an *Application for Water Right Permit* (G2-30649) for additional water rights with the State Department of Ecology (Ecology). The POV requested a new permit in the instantaneous quantity (Qi) of 20,500 gallons per minute (gpm) and the annual quantity (Qa) of 22,050 acre-feet per year (ac-ft/yr), subject to existing rights. Water will be used for industrial and related supply of the Port of Vancouver's facilities. Industrial uses include the water needed for industrial needs such as manufacturing, and commercial processes. "Related uses" include the water needed for the activities that support the POV's operation, these include the irrigation of landscaping, domestic and potable demand, dust control, and environmental quality such as relates to clean-up activities, and establishment of plants for mitigation projects including the POV's wetland mitigation bank.

Subsequent to filing this application a portion of the place of use (Parcels 4 and 5) were transferred to another party and the POV requested that Ecology amend the filing to reflect the change in place of use and well locations. This report reflects the requested changes and the corresponding reduction in Qa demand.

Table 1. Summary of Application No. G2-30649

Attributes	Proposed
Applicant	**Port of Vancouver**
Application Received	January 29, 2015
Instantaneous Quantity	20,500 gpm
Source	4 existing wells, the Columbia Gateway Wellfield, Centennial Wellfield, and other sites to be determined within project area
Purpose of Use	Industrial, and related uses
Period of Use	Year-round as needed
Place of Use	The area served by the Port of Vancouver located within the following: <u>In Township 2 North, Range 1 West, W.M.</u> • That portion of Section 12, T2N, R1W, lying south of the Vancouver Lake Flushing Channel • Section 13, T2N, R1W <u>In Township 2 North, Range 1 East, W.M.</u> • W ½ of SW ¼ of Section 7, T2N, R1E • SW ¼ of SW ¼ of Section 16, T2N, R1E

	• S ½ of Section 17, T2N, R1E • SW ¼ of NE ¼ of Section 18, T2N, R1E • W ½ of Section 18, T2N, R1E • SE ¼ of Section 18, T2N, R1E • N ½ of Section 19, T2N, R1E • All of Section 20, T2N, R1E • NW ¼ of NW ¼ of Section 21, T2N, R1E • S ½ of NW ¼ of Section 21, T2N, R1E • SW ¼ of Section 21, T2N, R1E • W ½ of SE ¼ of Section 21, T2N, R1E • SW ¼ of Section 27, T2N, R1E • N ½ of Section 28, T2N, R1E • N ½ of SE ¼ of Section 28, T2N, R1E • NE ¼ of NE ¼ of Section 29, T2N, R1E

PGG attended a site visit and reviewed available documents pertaining to this and other related *Applications for Water Right*, including hydrogeologic and well construction reports, historical water use, stream flow conditions, and information related to existing rights. PGG also used a three dimensional groundwater flow model that was developed for the Vancouver Lake Lowland as part of previous environmental and water supply investigations (Parametrix et.al., 2008) to assess drawdown associated with full buildout of the POV's water rights.

Under the provisions of RCW 90.03.290 and 90.44, a water right permit shall be issued upon findings that water is available for appropriation for a beneficial use, and that the appropriation will not impair existing rights or be detrimental to the public welfare. In accordance with these provisions, I recommend issuance of Permit G2-30649.

LEGAL REQUIREMENTS FOR APPLICATION PROCESSING

The following requirements must be met prior to processing a water right application.

Water Right Application Public Notice
A public notice of the application must be published in accordance with RCW 90.03.280 in a newspaper of general circulation in the county in which the proposed appropriation will be made. The POV published the required notice in the Columbian on March 10th and 17th of 2016. The City of Vancouver filed a timely protest, which is addressed below.

State Environmental Policy Act (SEPA)
Application G2-30649 is subject to a SEPA threshold determination (i.e., an evaluation of whether there are likely to be significant adverse environmental impacts), because the Qi is greater than 2,250 gpm (WAC 197-11-310 and 197-11-800(4)).

The POV, acting as lead agency, reviewed the proposed project under SEPA and determined that the project will not have a probable significant adverse impact on the environment and therefore the POV is not required to prepare an environmental impact statement under RCW 43.21C.030(2)(c). Accordingly,

the POV issued a Mitigated Determination of Non-significance ("MDNS") for the project on November 6, 2015, and the SEPA public comment period concluded on November 20, 2015.[1]
Timely comments were filed by Ecology's Toxic Cleanup Program, Great Western Malting Company, Clark Public Utilities, City of Vancouver, IMS Electronics Recycling, Inc., and Columbia River Alliance for Nurturing the Environment. The POV responded to all comments that were timely submitted. Comments that are related to the standards for issuance of a water right permit (e.g. water availability and impairment concerns) are addressed in this *Report of Examination*. The MDNS was not appealed.

Water Resources Statutes and Case Law
Under the provisions of RCW 90.03.290 and 90.44.050, a water right shall be issued upon findings that water is available for appropriation for a beneficial use and that the appropriation, as proposed in the application, will not impair existing rights or be detrimental to the public welfare.

This application has been processed under Ecology's Cost Reimbursement Program, (RCW 43.21A.690 and RCW 90.03.265) as a Streamlined Cost Reimbursement Agreement (CRA) Project. Pacific Groundwater Group (PGG) prepared this Report of Examination under contract to the POV.

Priority Processing
RCW 90.03.265(2) provides that, in pursuing a cost-reimbursement project, Ecology must determine the source of water from which the water is proposed to be diverted or withdrawn, including the boundaries of the area that delimit the source. Ecology must determine if any other water-right applications are pending from the same source. A water source may include surface water only, groundwater only, or surface and groundwater together, if Ecology finds they are hydraulically connected. Ecology shall consider technical information submitted by the applicant in making its determinations under this subsection.

Senior Applicants Not Impacted
RCW 90.03.265(1)(b) provides that the requirement for an applicant to pay for the processing of senior applications does not apply in situations where the water allocated to the cost-reimbursement applicant will not diminish the water available to a senior applicant from the same source. PGG has identified no pending senior applicants whose available water would be diminished by the issuance of a permit to the POV, and recommends that this application be processed alone.

Water right certificates, permits, and new/pending applications in the Vancouver Lake Lowland were obtained from Ecology's water right database in November 2014 and are summarized in Table 2. Review of these water right files indicates that there are only three pending applications on file for new water rights in the area:

Table 2. Summary of Pending Water Right Applications

Application	Applicant	Rate	Purpose*	T/R-S** Location
G2-29930	Vancouver Port	80 gpm	En	2N/1E-18
S2-30173	Kadow Lloyd & Bev	0.2 cfs	FR	3N/1W-36
R2-30209	WDFW	n/a	RE	3N/1E-31

* EN – environmental, FR – Fire Protection, RE - Recreational
**Township/Range and Section

[1] Mitigation measures include requirements to ensure that habitat is not impacted during well construction.

Both surface water application S2-30173 and reservoir application R2-30209 were filed for projects located northwest of the POV's industrial area on the narrow strip of land between Vancouver Lake and the Columbia River. Application S2-30173 was filed for emergency fire protection for a small commercial marina located west of Vancouver Lake, and the source of supply is a slough on the Columbia River. Application R2-30209 was filed for a wetland restoration project that involves the retention of water within the former Shillipoo Lake basin. The POV's proposed water use does not conflict with either S2-30173 or R2-30209.

Groundwater application G2-29930 was filed by the POV for what was to be a short term wetland restoration project. Based on our discussions with the POV and Ecology, this application is no longer needed and any need for mitigation-related water can be accommodated under the POV's current water rights or under the proposed permit.

INVESTIGATION

Evaluation of this application included, but was not limited to, research and/or review of the following:

- Port of Vancouver Water Right Application G2-30649 Phase 1 Report, Pacific Groundwater Group, March 24, 2015 (PGG 2015)
- Geology and Ground-Water Conditions of Clark County Washington, with a Description of a Major Alluvial Aquifer Along the Columbia River (Mundorff, 1964)
- Vancouver Lake Lowlands Groundwater Model Summary Report (Parametrix, S.S. Papadopulos & Associates, Pacific Groundwater Group, and Keta Waters, 2008)
- Supply Well PW-2, River Road Generator Plant, Letter report to Steve Prather, Clark Public Utility (PGG, 1997)
- Clark Public Utilities Wellhead Protection Plan (PGG, 2000)
- Clark Public Utilities Lakeshore Wellfield Exploration and Testing Program (PGG, 2001)
- Westside Groundwater Exploration & Testing Program, Draft Report (PGG, 2004)
- Technical Information in Support of Clark Public Utilities South Lake Wellfield, Water Right Application G2-30381 (PGG, 2008)
- Construction of Wells 8, 9, and 10 at Station 1 for the City of Vancouver (Robinson & Noble, 1982)
- Estimation of Ground-Water Recharge from Precipitation, Runoff Into Drywells and On-Site Waste-Disposal Systems in the Portland Basin, Oregon and Washington (Snyder, D.T., D.S. Morgan, and T.S. McGrath. 1994)
- A Description of Hydrogeologic Units in the Portland Basin, Oregon and Washington (Swanson and others, 1993)
- Washington State Department of Ecology records of surface and groundwater rights and claims in the vicinity of the subject production wells. https://fortress.wa.gov/ecy/waterresources/map/WaterResourcesExplorer.aspx

- Washington State Department of Ecology water well logs in the vicinity of the subject production well. https://fortress.wa.gov/ecy/waterresources/map/WCLSWebMap/default.aspx

Site Description
The POV is a deep-water port located in Vancouver, Washington along the Columbia River. The POV property is located on the Columbia River, west of the City of Vancouver's downtown core, and south of Vancouver Lake. The area is predominately industrial, with a few pockets of agricultural land to the north along Fruit Valley Road.

The POV currently manages approximately 1,600 acres of public property with the primary purpose of marine and industrial development. Over 800 acres are currently developed with operational industrial and marine facilities, and over 600 acres are available for future development.

The remaining acreage includes lands such as natural areas, environmental buffers, wetlands, tidelands, rights-of-way for utility lines, and roads, and other non-developable areas. In March 2016, POV transferred 541 acres known as Parcels 4 and 5 located north of the flushing channel to the Columbia Land Trust. The Land Trust, a Vancouver, Washington-based conservation organization, will manage the property in perpetuity as a vital feeding, foraging and resting site for endangered sandhill cranes and other migratory species. The POV has amended their application to reflect the conveyance, effectively reducing the areas where water may be applied under this application.

Intent of Application
The intent of this application is to provide the Port of Vancouver with rights amounting to 20,500 gpm and 20,461 acre-feet per year. The final distribution of additive and non-additive quantities may be modified to reflect other water rights still under development issued within the same place of use which are associated with specific projects not addressed in this application.

Project Description
The POV provides water to its tenants and properties for various uses. The POV will use water under this application for industrial and related supply of the POV's facilities.

Since the POV needs the flexibility to site wells as are needed according to the needs of prospective tenants, this water right application identifies multiple quarter sections as potential well sites. As many as 15 wells may be constructed under this authorization, and these wells will either be part of a centralized water distribution system, or provide tenants and properties with a dedicated source. The four wells currently operated by the POV under other authorizations have also been designated as points of withdrawal, as have the two large wellfields which will supply the more water intensive developments slated for the Gateway and Centennial sites. These two areas are expected to contain 3 or 4 wells each.

<u>Proposed Well Locations</u>
As previously stated, potential well locations have been designated as follows:

Section 12 – that portion lying South of the Vancouver Lake Flushing Channel,T. 2 N., R. 1 W.W.M.
Section 13 – the NW ¼, the NE ¼, the SW ¼ and the SE ¼ of T. 2 N., R. 1 W.W.M.
Section 7 – the SW ¼ of T. 2 N., R. 1 E.W.M.
Section 17 – the SW ¼ and the SE ¼ of T. 2 N. R. 1 E.W.M.
Section 18 –the NW ¼, the SW ¼ and the SE ¼ of T. 2 N. R. 1 E.W.M.

Section 19 – the NW ¼ and the NE ¼ of T. 2 N. R. 1 E.W.M.
Section 20 – the NW ¼, the NE ¼, the SW ¼ and the SE ¼ of T. 2 N. R. 1 E.W.M.
Section 21 – the NW ¼, the SW ¼ and the SE ¼ of T. 2 N. R. 1 E.W.M.
Section 27 – the SW ¼ of T. 2 N. R. 1 E.W.M.
Section 28 – the NW ¼, the NE ¼ and the SE ¼ of T. 2 N. R. 1 E.W.M.

By identifying multiple sites throughout the POV property, the POV retains the flexibility to site wells on an as-needed basis. It is expected however that the wells with unspecified locations will be used to serve more remote areas or specific irrigation-related projects such as the establishment of vegetation on the large berm that will separate Parcels 4 and 5 from the rest of the POV property.

Water Rights Appurtenant to the Place of Use
The POV operates a Group A Non-Transient, Non-Community (NTNC) water system (#688501) in a single pressure zone consisting of three wells, two reservoirs, and a distribution system. Wells 1 and 2 each have a capacity of 1,200 gallons per minute (gpm) and Well 3 has a capacity of 1,500 gpm. Well 3 is permanent backup source and provides fire flow protection to the POV's entire service area. The POV's Water System has one emergency intertie, with the City of Vancouver water system.

The POV wells are all located in the NE ¼ of Section 28, T. 2 N., R. 1 E.W.M.. Well 1 is reported to be approximately 80 feet deep, and Wells 2 and 3 are each 125 feet in depth. All three wells are completed in the PAA.

Water use by the POV's current system has ranged from a high of 920 acre-feet in 1992 to 120 acre-feet in 2009. In 2015 total water use was 228 acre-feet, however with the extension of service to NW Packing water use is expected to increase dramatically in 2016.

There are three types of water rights associated with the POV's current operations: 1) a pre-code statement of water right claim; 2) rights associated with specific industries (tenants); and 3) rights formerly held by Boise Cascade Corporation.

- Groundwater Claim 151264 was filed in 1974 during the general claim registration period in which the POV asserted that two of their three wells were installed prior to 1945. Since the claim has not been formally adjudicated, PGG has not assigned a tentative value to it. As with all statements of claim, this water use may be evaluated at a future date and an adjudicated certificate may be issued that reflects the extent of the pre-code water use. As with all non-municipal water rights, the extent of the claim is limited to the amount of water historically used, and is subject to relinquishment during periods when less water may have been beneficially used. The claimed place of use is a portion of Section 28 in Township 2 North, Range 1 East, W.M., and does not include large areas within the POV's current property boundaries.

- Of the industry-specific water rights, the largest amount is associated with Great Western Malting's (GWM) operations. GWM is a large producer of malt for use in the brewing and distilling industries. There are several water rights associated with their operations issued by Ecology to either GWM or POV. Since the water rights are currently designated for use at the GWM facility, and the wells designated by these water rights are for a separate wellfield that supplies only GWM, and GWM has a long-term lease (2028) and demand for the entire water rights, the POV has decided not to consider those water rights as part of its general water right portfolio for purposes of this application.

- The Boise Cascade rights include two Change Authorizations (3647-A(B) and G2-22784) resulting from previously filed *Applications for Change of Water Rights*. The Boise Cascade Corporation originally used the rights at its Vancouver Mill and then gave them to the City of Vancouver. The City, in turn, transferred the rights to the POV. These authorized changes will ultimately result in the issuance of superseding certificates 3647-A(B) for 4,250 gpm and 2,650 ac-ft/yr, and G2-22784 for 9,300 gpm and 5,374 ac-ft/yr (both for industrial uses on POV property). Under the Change Authorizations, the POV currently has Ecology's approval to construct and utilize up to 10 new wells. The change/transfer authorizations are subject to a development schedule, with Proof of Appropriation of the use due on September 1, 2017. The authorized place of use and well locations are limited to certain portions of the POV property, and the purpose of use is limited to industrial and manufacturing uses.

Table 3. Summary of Existing and Proposed Water Rights for POV

Water Rights	Qi (gpm)		Qa (ac-ft/yr)	
	Additive	Non-additive	Additive	Non-additive
3647-A(B)	4,250	0	2,650	0
G2-22784	9,300	0	5,374	0
Sub-total	*13,550*	*0*	*8,024*	*0*

Future Demand/Quantities for Permit

The POV serves as a regional industrial water purveyor, supplying water to a wide range of existing and proposed tenants. The POV is requesting the issuance of permanent, year-round water rights that allow for additional development beyond the extent of their current water rights.

Water will be used for industrial and related supply of the POV's facilities. These uses include industrial, manufacturing, and commercial purposes. Water is also used on site for related purposes such as domestic and potable demand, dust control, environmental quality, wildlife propagation, landscape irrigation and irrigation related to mitigation requirements.

In preparation of their water right permit application, the POV evaluated land use categories/zoning and predicted development patterns for the site, and estimated that they would need approximately 22,050 ac-ft/yr of water at full buildout. With the recent transfer of Parcels 4 and 5 to CRANE, the amount of water (Qa) needed by the POV will be reduced to 20,461 ac-ft/yr, largely to reflect lower irrigation requirements.

The demand estimates take into consideration both the service requests that the POV receives from the Columbia River Economic Council, and other sources[2] and industrial standards[3] based on land use categories. The POV's calculations assume the need to provide for a large water intensive manufacturing operation to be located at the Columbia Gateway site, and a second such facility to be located on Parcel 7, as well as the water needs of other tenants such as Northwest Packing, the Marine terminals and smaller industrial and commercial operations.

[2] The POV reports that potential tenants routinely require 5,000 gpm of water to be available before making site selections.

[3] Water distribution systems handbook, Larry Mays, October 1999, Arizona State University

The transferred water rights from Boise Cascade (via the City of Vancouver) to the POV that will result in issuance of superseding certificates 3647-A(B) and G2-22784[4]. This water is still being developed, so for the purposes of determining how much additional water the POV will need to supply future demand, PGG suggests that the quantification of the POV's existing rights include the stated values of the Boise Cascade rights – 13,550 gpm and 8,024 ac-ft/yr.

The new permit should be issued in the Qi amount of 20,500 gpm, of which 6,950 gpm is additive and 13,550 is non-additive, and Qa in the amount of 20,461 ac-ft/yr, of which 12,437 ac-ft/yr is additive and 8,024 ac-ft/yr is non-additive. The large quantity reflects the need for multiple large capacity wells to serve potential tenants.

Site Hydrogeological Setting and Aquifer Characterization

The POV properties are located within the Vancouver Lake Lowland and the Columbia River floodplain. The regional geology and hydrogeology in the Vancouver Lake Lowland have been extensively studied, and are described in detail in the Port of Vancouver Water Right Application G2-30649 Phase I Report (Phase I Report) (PGG, 2015). A summary is presented here.

The hydrostratigraphy of the Vancouver Lake Lowland can be divided into upper and lower sedimentary systems. The production zone for the POV's wells, the Pleistocene Alluvial Aquifer (PAA), is part of the upper sedimentary system. A basin wide aquitard referred to as Confining Unit 1 (CU1) divides the regionally extensive upper and lower sedimentary sequences and aquifer systems.

Upper Sedimentary System

The upper sedimentary subsystem includes the following hydrogeologic units:

- Recent Alluvial Aquifer (RAA)
- Pleistocene Alluvial Aquifer (PAA)
- Troutdale Gravel Aquifer (TGA)

The Recent alluvial deposits form the RAA, which is the uppermost aquifer throughout much of the Vancouver Lake Lowland. These deposits primarily consist of fine-grained silts and sands and are typically 80 to 100 feet thick, although they can be close to 200 feet near the Columbia River channel. The upper portion of the deposits is primarily silt and the lower portion is primarily fine sand. Both units extend over most of the Lowland, but may be absent in some areas. For example, the upper silt unit appears to be absent south of the Fruit Valley neighborhood and the lower sand pinches out east of Fruit Valley. Water levels in the RAA typically occur within 10 to 20 feet of ground surface. The RAA is in direct hydraulic continuity with surface water bodies such as the Columbia River, Vancouver Lake, the Flushing Channel, and Lake River. Because of it relatively low permeability, this aquifer is not used as a water supply source.

The Pleistocene alluvial deposits form the PAA, which is an important municipal supply source in the Vancouver area and an industrial supply source in the Vancouver Lake Lowland area. The Pleistocene alluvial deposits blanket the uplands that surround the modern Columbia River floodplain, and underlie the recent alluvial deposits.

[4] These rights were originally transferred to the City of Vancouver, prior to being conveyed to the POV.

The permeability of the Pleistocene alluvial deposits varies with depositional environment. The coarsest materials, deposited in high energy environments, occur along the Columbia River channel in the Vancouver Lake Lowland, and below the upland that extends from Orchards to Vancouver. Further north of Vancouver, fine-grained deposits consisting largely of silt and fine sand were deposited in lower energy, backwater environments.

The PAA underlies the RAA in the Vancouver Lake Lowland and is the uppermost aquifer system within the upland areas to the east. In the Lowland areas, the PAA and RAA are in direct contact with each other and are confined by the overlying silt. Within the Vancouver Lake Lowland, the thickness of the PAA appears to vary from about 150 feet near CPU's Carol Curtis Wellfield (formerly known as the South Lake Wellfield) to 50 feet along the west side of Vancouver Lake (PGG, 2008). In the uplands near Vancouver, its thickness ranges from about 100 to 300 feet.

Transmissivity estimates for the coarser materials in the PAA range between 2,000,000 and 13,500,000 gallons per day per foot (gpd/ft) (Mundorff, 1964; PGG, 1997; PGG, 2004; Parametrix et al, 2008; and Robinson & Noble, 1982). The highest transmissivity values are based on recent testing at CPU's Carol Curtis site (TW-8), where the aquifer was stressed for a period of 3 days at an average rate of 5,100 gpm (Parametrix et al, 2008). The Carol Curtis Wellfield testing indicated an early-time confined storage coefficient of 0.002 (dimensionless).

The Troutdale formation underlies the Pleistocene alluvial deposits and has been divided into different stratigraphic and hydrostratigraphic units (Mundorff, 1964; Swanson and others, 1993). In evaluating this application, the coarse grained upper Troutdale is was considered a separate unit from the finer grained lower units that underlie Confining Unit 1.

The upper Troutdale unit is the most extensive deposit in the Portland basin (PGG, 2008). Consisting of cobbly sand, gravel, and varying amounts of silt, this unit often contains considerable cementation, which reduces its capacity to transmit water. It is approximately 100 to over 300 feet thick within the project vicinity.

Water-bearing zones within the upper gravel unit form the Troutdale Gravel Aquifer (TGA). This aquifer underlies the PAA. In the Vancouver Lake Lowland vicinity, the TGA and PAA are highly coupled whereby heads in both aquifers are about equal (PGG, 2001).

The permeability of the TGA is moderate and its transmissivities are typically one to two orders of magnitude lower than those of the PAA. PGG estimated TGA transmissivities of 8,000 to 800,000 gpd/ft (PGG, 2000) at various well locations. Despite considerable thicknesses, the bulk of the transmitting capacity of the TGA is constrained to thinner zones which are on the order of 20 to 50 feet. The TGA is an important source of water supply throughout Clark County; well yields are typically less than 1,000 gpm and specific capacities usually do not exceed 20 gpm/ft.

Lower Sedimentary System

The Lower Sedimentary system is also referred to as the Sandy River Mudstone (PGG, 2008). The lower sedimentary subsystem includes the following hydrogeologic units:

- Confining Unit 1 (CU1)
- Underlying Units

CU1 is a regionally extensive sequence of silt and clay forming a major aquitard 50 to 300 feet thick. This unit isolates groundwater flow in the upper sedimentary subsystem from groundwater flow in the lower sedimentary system. In the Portland wellfield and Orchards vicinity, the USGS has identified three hydrostratigraphic units below CU1 including the Troutdale Sandstone Aquifer (TSA), Confining Unit 2 (CU2), and the Sand and Gravel Aquifer (SGA). In the Vancouver Lake Lowland, it is difficult to distinguish the occurrence of these units and the deposits below CU1 are collectively referred to as the SGA.

Groundwater/Surface Water Interactions

Areal recharge to the groundwater aquifers in the Vancouver Lake Lowland comes direct precipitation and groundwater flow from upland areas north of Burnt Bridge Creek and Lake River (PGG (2008). Estimated recharge rate, using U.S. Geological Survey (USGS) recharge estimates for the Portland Basin (Snyder et al. 1994) is approximately 6 inches per year (14-percent of average annual precipitation), with reduced recharge associated with paved areas. Rates of groundwater recharge from the upland north of Burnt Bridge Creek were assessed by PGG (2004) based on groundwater flow patterns, recharge, pumping, and baseflow statistics from the USGS Portland basin studies. Based on this information, PGG estimated that about 29 cubic feet per second (cfs) of recharge enters the Vancouver Lake Lowland as subflow from the adjacent uplands.

Water levels in the PAA and the adjacent RAA respond rapidly to changes in Columbia River stage (PGG, 2008) showing the river and groundwater in both aquifers are hydraulically connected. These stage changes are caused by tidal influences and up-stream dam releases. Seasonal variation of Columbia River stage (in excess of 7-10 feet) results in similar changes in groundwater levels. Tidal river stage variations (on the order of 2 feet) typically result in groundwater level variations of several tenths of feet.

Groundwater gradients in the upper sedimentary subsystem are relatively flat, particularly in the area west of the City of Vancouver. Because of high aquifer transmissivity, flat groundwater gradients, and the influence of river-stage on groundwater elevations, capture areas from pumping wells are difficult to infer empirically. However, capture zones can be roughly delineated with groundwater elevation snapshots taken close to pumping centers, and mapping of groundwater contaminant plumes using groundwater modeling (Parametrix et al, 2008).

Impacts to Surface Water

The predominant surface water feature is the Columbia River that forms the southern border of the POV's property. The Columbia River has an average flow at the mouth of about 265,000 cfs and is tidally influenced up to the base of the Bonneville Dam. Flows in the Vancouver area are in the order of 250,000 cfs. Water is considered to be legally available in the tidally influenced reaches of the Columbia River which include the Vancouver area.

Through Watershed Planning and rule development, Ecology has designated the lower Columbia River and groundwater in hydraulic continuity with the Columbia as sources to meet regional water supply needs for the future (WAC 173-528-090).

The other prominent water body in this area is Vancouver Lake which is a large lake located to the north of the POV property. The lake is shallow, with a maximum depth of 12 to 15 feet and a mean depth of less than 3 feet. Lake River flows from the north shore of Vancouver Lake to the Columbia River near Ridgefield. Due to seasonal variation in relative river and lake levels, Lake River experiences intermittent flow reversal and flows into Vancouver Lake for considerable periods of time.

The sources for Vancouver Lake's water are Columbia River and Burnt Bridge Creek. River water is supplied by a channel equipped with tidal gates to control flows near the southwest shoreline. Burnt Bridge Creek, on the eastern shoreline, winds about ten miles through many of the City of Vancouver's residential areas.

The POV's proposed withdrawals from the PAA aquifer are not anticipated to affect Vancouver Lake and associated wetlands because little drawdown associated with increased withdrawals is expected. In addition, the presence of low permeability overbank deposits (upper-silt subunit) beneath Vancouver Lake and wetland areas limit the hydraulic connection between surface water and the underlying PAA aquifer.

Impacts to Area Groundwater Users

To evaluate potential impact to area groundwater users, PGG used a calibrated groundwater model of the Vancouver Lake Lowland to estimate drawdown associated with the proposed POV water right (Parametrix et. al., 2008). The model employs the three-dimensional, finite difference code "MODFLOW" developed by the U.S. Geological Survey. The model area includes the Vancouver Lake Lowland and the City of Vancouver core area. This area is bounded by the Columbia River to the south and by Burnt Bridge Creek and Lake River to the north. The Lowland extends approximately to the mouth of Salmon Creek to the northwest and approximately to Columbia River Mile 110 on the east.

PGG ran the model in steady-state mode, where average recharge rates, pumping rates, and stage elevations for surface-water features are applied and the model predicts resultant drawdown relative to a base case condition where no pumping is assumed. Model simulations included maximum withdrawals by existing water-right holders plus the POV water right application, taking into consideration the water rights associated with the City of Vancouver, GWM and CPU, which all hold extensive water rights in the Vancouver Lake Lowlands. (PGG, 2015).

In PGG's model runs, the requested pumping rate was distributed based on the premise that larger pumping centers would be established at the Gateway and Centennial sites. The potential impacts associated with the relative distribution of the POV's known well sites is described in the Phase 1 CRA Report (PGG, 2015, see Table 5 for pumping rates). Relative to water-levels predicted at full use of previously issued regional water rights, interference drawdowns associated with the requested POV water right are predicted to be less than 0.25 feet at the associated points of withdrawal. This impact is negligible relative to the effects of Columbia River stage variation (over 7-10 feet variation on a seasonal basis), and will not impair the ability of existing water-right holders to obtain their allocated withdrawals. The extremely high transmissivity of the PAA along with its hydraulic connection to the Columbia River tends to minimize and stabilize drawdown associated with pumping withdrawals. These factors combine to allow industrial and municipal water users in the lowland to develop very large quantities of groundwater from the PAA.

Impacts to Contaminated Sites

Known and suspected contaminated sites in the vicinity of the POV's property were inventoried and summarized in the Phase I Report (PGG, 2015), including a review of the most recent, available groundwater quality data. The largest site with known groundwater contamination in the vicinity is the Swan Manufacturing Company (SMC)/Cadet/Nustar facility where a dissolved phase chlorinated solvent plume is being remediated with a pump and treat system. The POV is managing this treatment system which involves pumping at extraction well POV-EW-1, which has been operating at 2,500 gpm since 2009. The POV can double the current extraction rate from this well if needed to maintain control and

remediate the plume. The treatment system has reduced the lateral extent of the contaminant plume in the Shallow Aquifer from about 105 acres in 2009 to about 25 acres in 2015. Further reductions in the plume extent are anticipated as cleanup actions continue.

NuStar is also actively addressing groundwater contamination associated specifically with their facility. Most of the remaining contaminated sites identified in the Phase I Report (PGG, 2015) have undergone significant cleanup and are now in long-term monitoring; many are managed by the POV.

Future groundwater withdrawals are predicted to impose small changes to groundwater gradients in the project vicinity as other water users and the POV develop their fully allocated water rights. In order to predict how future pumping under the proposed application might alter the flow system where active remediation is occurring, PGG used a groundwater model of the Vancouver Lake Lowland (Parametrix et. al., 2008).

Under currently authorized withdrawals, which includes pumping by CPU, the City of Vancouver, the POV's Boise Cascade water rights, and GWM, the predicted interference drawdown at POV EW-1 (center of the plume), is about 0.19 feet. With the addition of the POV's proposed water rights, the predicted incremental interference drawdown at EW-1 increases only slightly by about 0.15 feet for a total of 0.34 feet of interference which is very minor considering the size of the site. As noted above, the pump and treat system that was installed in 2009 has effectively reduced the footprint of the plume by a factor of four under the current pumping regime and is expected to further reduce the size of the plume and residual concentrations of contaminants with its continued operation. In addition, the EW-1 treatment system is currently only operating at one-half its total capacity and could be operated at significantly higher rates should additional containment ever be needed. Therefore the system should be able to continue to contain and remediate the contamination as water rights issued under this application are incrementally exercised.

When selecting all well sites in the futures, the POV will use the Vancouver Lake lowland groundwater model and the most current understanding of environmental conditions to evaluate if any new proposed pumping actions might impact cleanup efforts. Each new well location will be evaluated on a case-by-case basis.

Consideration of SEPA Comments

Ecology's Toxics Cleanup Program, the City of Vancouver (City), Great Western Malting Company (GWM), Clark Public Utilities (CPU) and Columbia River Alliance for Nurturing the Environment (CRANE) each filed comments relating to water availability, impairment and/or public interest considerations.

The following discussion addresses SEPA comments related to issuance of a water right permit and, where relevant, summarizes the POV's previous responses.

<u>Ecology's Toxics Cleanup Program</u>

Ecology's Toxics Cleanup Program commented that the proposed groundwater withdrawal is in an area where known groundwater contamination is present and care must be taken to ensure additional groundwater pumping does not cause contamination to migrate beyond site compliance points.

In its response to the Toxics Cleanup Program, the POV confirmed that all new proposed pumping locations would be evaluated using the most current information available as appropriate to determine if pumping would affect the migration of groundwater contamination, which could include the regional

groundwater model. If it is determined that such migration may occur, then the Port shall modify the pumping regime and locations as appropriate to mitigate impacts to protect human health and the environment.

City of Vancouver

The City expressed concerns regarding the POV's need for additional water rights, given they are not fully utilizing their existing water rights. Further, if additional water is needed to meet POV's long-term water supply needs, it can be purchased from the City. The POV is located within the City's service area and the City has historically provided water to many different Port tenants.

As addressed in this ROE however, we find that the POV's demand estimates are reasonable given the following considerations.

- Groundwater claim 151264 has a small place of use and only authorizes withdrawals from two wells. The right is documented as a pre-code claim and may not be found vested in the volume needed by the POV for future supply.
- The water rights associated with the GWM facility are currently unavailable for use by the POV and cannot be relied upon as a source of water for future industrial development. And while the former Boise Cascade water rights provide a significant source of water for future needs, they also suffer from limitations related to purpose of use, place of use, and points of withdrawal.
- The POV's current application accounts for full development of the Boise Cascade water rights by requesting that the new permit be considered non-additive to the extent that the Boise Cascade water rights are developed. The POV's application also anticipates future demands in excess of the Boise Cascade water rights and addresses the gaps in coverage under the POV's existing water rights portfolio.

The City also expressed concerns about water availability in the Pleistocene Alluvial Aquifer and potential impairment to other groundwater users. Technical evaluation supports that water is available in the quantities requested and will not impair existing water right holders.

Great Western Malting

GWM requested that the POV "conduct additional study(s) to evaluate the effect on existing water users' water quality by increasing the Port's zone of well field influence on the local aquifer which in turn can pull in additional pollutants into existing well fields, including Great Western Malting's." GWM's comments are addressed in this ROE, and it is noted that this approval requires the POV to evaluate new proposed pumping locations using the most current information available including the regional groundwater model to determine if pumping would affect the migration of groundwater contamination.

Clark Public Utilities

CPU encouraged the POV "to consider the proximity and orientation of the proposed industrial supply wells to the contaminant plume in an effort to protect long-term water quality in the aquifer." POV has agreed to site new wells on a case-by-case basis so that pumping will not result in contaminant plume migration or interfere with on-going cleanup actions.

CRANE

CRANE noted that speculation in water rights is prohibited by the Water Code and asserted that the POV's proposed 50-year development schedule is unreasonable and contrary to the public interest and public welfare. The Water Code states: "The department, in fixing the time for the commencement of the work, or for the completion thereof and the application of water to the beneficial use prescribed in the permit, shall take into consideration the cost and magnitude of the project and the engineering and physical features to be encountered, and shall allow such time as shall be reasonable and just under the conditions then existing, having due regard to the good faith of the applicant and the public interests affected." RCW 90.03.320.

The POV's proposed development schedule anticipates short and long-term demands, which are based on needs of current and potential water users. While it is difficult to predict the exact timing and location of water uses within the POV's service area, demand estimates were prepared using long-range development plans and site-specific zoning (PGG, 2015). These projects appear reasonable given the scope of future build out. It is further noted that the POV is proposing to use water from a designated regional supply area, which is recognized in the WRIA 27/28 Watershed Plan and supported by the public interest as a preferred location for developing future water supplies. Given the above considerations, the POV's proposed development schedule is reasonable.

CRANE commented that the POV did not adequately evaluate how increased groundwater withdrawals could affect the movement of groundwater contamination. Based on the Phase 1 investigation and groundwater modeling, PGG does not expect the relatively small change in drawdown t to affect groundwater containment or remediation.

Consideration of Protests

On March 10 and 17, 2016, the POV published a Notice of Application to Appropriate Public Waters for Application G2-30649. The City of Vancouver filed a timely protest, raising many of the same issues the City had raised in its comments on the SEPA MDNS. This section responds to the City's protest using the headings found in the protest:

A. Detrimental to the public interest

The City asserts that the POV's proposed appropriation "is potentially detrimental to the public interest" because: (1) a need has not been demonstrated; and (2) the POV's use of additional quantities from the Pleistocene Alluvial Aquifer could jeopardize the City's future water supply, which would be contrary to the maximum net benefit for the people of the State of Washington.

1. Need

The POV's needs are two-fold: (1) to fill in place of use gaps in existing water rights coverage; and (2) to meet anticipated future demand that cannot be met by existing water rights because those rights are dedicated to specific users. The City questions the demand for the POV's tenant, NW Packing. Based on information provided by the applicant we find that the quantity attributed to NW Packing is not excessive, because it is based on a water service agreement between the POV and NW Packing.

The City also notes, as it did in its SEPA comments, that the POV is located within the City's water service area. However, the POV has historically provided water to its own properties and tenants and is authorized to do so under RCW 53.08.040.

2. Maximum net benefit.

"Allocation of waters among potential uses and users shall be based generally on the securing of the maximum net benefits for the people of the state." RCW 90.54.020(2). The City asserts that the POV's proposed water use would not secure maximum net benefits, because the POV's use of water from the Pleistocene Alluvial Aquifer in the Vancouver Lake Area could jeopardize the City's and Clark Public Utilities' ability to provide water to the community. "Maximum net benefits" are defined as "total benefits less costs including opportunities lost." RCW 90.54.020(2). The City did not address this formula in its protest, but merely stated that the POV's water use "may be detrimental to the public interest if it means that the City of Vancouver and Clark Public Utilities do not have adequate water to support future community needs." The POV has shown that its proposed use will not impair existing water rights and that the proposed wells will withdraw groundwater from a designated regional supply area. The City's protest has not established that the proposed use would not secure maximum net benefits for the people of the state.

B. Water Rights Application

The City's protest requests removal of the acronym "TBD" from Section 2 of the POV's water right application. This Report of Examination has removed the acronym. The City's protest also suggests that the POV's application (Application G2-30649) proposes to change the purpose of use of the POV's Boise Cascade water rights from "industrial" to industrial and other related uses. The City is mistaken. The POV's application does not (and cannot) propose to change the purpose of use of the POV's Boise Cascade water rights. Such a change could only be accomplished through an application for change/transfer, and the POV is not pursuing any such change.

C. Phase 1 Report

This section of the City's protest comments on certain sections of the POV's Phase 1 Report. The City wants to be acknowledged as a supplier of industrial water. This Report of Examination acknowledges that City is an industrial water supplier with service boundaries that overlap the POV's water service area. The City also questioned the POV's use of other ports' water demands to justify the POV's future demand projections.

D. Conclusion

In the Conclusion of its protest, the City asserts that the POV's "existing rights and/or claims should be adjudicated before any pending water rights actions in the (PAA)." The POV's pre-code claim is the only water right subject to future adjudication, and the POV is not required to wait until its pre-code claim has been adjudicated before obtaining new water rights. Ecology routinely issues new water rights to water users who hold pre-code claims.

For all of the above reasons, the City's protest fails to demonstrate that the POV's proposed appropriation would be detrimental to the public welfare or the public interest. The protest therefore does not support denial of the POV's application.

Regulatory Framework

The POV's project site is located in WRIA 28, subject to the Instream Flow Protection Plan established under the provisions of WAC 173-528, and to recommendations of the WRIA 27/28 Watershed Planning Group. The WRIA 27/28 Plan recommends water supplies for future development can best be made available and establishes guidelines for instream mitigation in other areas. It identifies large water resources that can support regional water supply development without harming fish habitat, such as the Vancouver Lake Lowland. Regional supply areas are places where Ecology finds water to be available for

future groundwater withdrawal on a year-round basis. Such regional supply areas are recognized in the watershed plan and supported by the public interest as preferred locations for developing future water supply. The POV's proposed points of withdrawal under Application G2-30649 lie within an identified regional supply area known as the Vancouver Lake Lowlands Area, defined as all lands located west of the Burlington Northern Santa Fe Railroad right of way that are within Water Resource Inventory Area 28. (WAC 173-528-090(2)(a)).

The Planning Unit views the Columbia River and groundwater in hydraulic continuity with the Columbia River as a major water resource to meet water supply needs. As new water supplies are needed, it is preferable they be withdrawn from the Columbia River, adjacent lowland reaches of tributaries subject to tidal effects, and/or associated groundwater, rather than from flow-limited reaches of streams tributary to the Columbia. This approach can meet regional supply needs, while protecting important aquatic habitat in the region. Based on the findings of fact in this report, Application G2-30649 satisfies the four requirements as follows

Four Statutory Tests

This Report of Examination (ROE) evaluates the application based on the information presented above. To approve the application, Ecology must issue written findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied. Based on the findings of fact in this report, Application G2-30649 satisfies the four requirements as follows:

1. Water is physically and legally available in the requested quantities. The completion aquifer for existing and future POV wells is a productive aquifer with a high transmissivity and capable of supporting the additional withdrawals requested. Water is legally available in a manner consistent with the recommendations of WAC 173-528, which provides for the issuance of water right permits without the need for streamflow mitigation within the Vancouver Lake Lowland.

2. No impairment to other right holders or instream flows will occur. A groundwater model used to estimate impacts from the proposed application predicted Interference drawdown to be negligible relative to the Columbia River stage variation, and will not impair the ability of existing water-right holders to obtain their allocated withdrawals. The extremely high transmissivity of the PAA along with its hydraulic connection to the Columbia River tends to minimize and stabilize drawdown associated with pumping withdrawals.

3. Beneficial use. Use of the water by the POV for industrial supply and other proposed uses are considered beneficial uses, (RCW 90.14.031).

4. Public interest. The proposed appropriation will not be detrimental to the public interest and is consistent with RCW 90.54 It is also consistent with the Salmon-Washougal and Lewis Watershed Management Plan (Plan) and WAC 173-528, which Ecology uses to make water rights decisions and relies on to evaluate public interest considerations. (WAC 173-528-010). Ecology recognizes the Vancouver Lake Lowlands Area is supported by the public interest for developing future water supply and is an area where groundwater withdrawals are unlikely to affect closed surface waters and protect instream flow values. (WAC 173-528-090).

CONCLUSIONS

The conclusions based on the above investigation are as follow:

1. The proposed appropriation for industrial and related uses as further described in this report, is a beneficial use of water,
2. The projected demand of 20,500 gpm (66,950 additive, 13,550 non-additive) and 20,461 af/yr (12,437 additive, 8,024 non-additive) is available for appropriation,
3. The appropriation will not impair senior water rights, and
4. The appropriation will not be detrimental to the public interest.

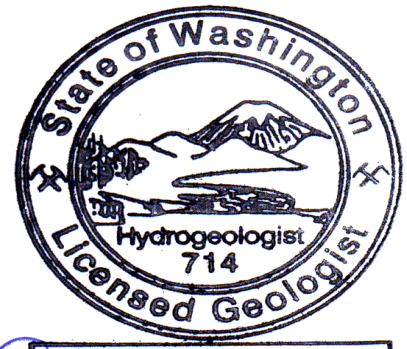
RECOMMENDATION

Based on the information presented above, the author recommends that the appropriation of 20,500 gpm (6,950 additive and 13,550 non-additive, subject to future adjustment) and 20,461 af/yr (12,437additive,8,024 non-additive) be approved, limited, and provisioned as described on pages 1 through 3 of this report.

The purpose of use is Industrial and related uses. Related uses include, but are not limited to: industrial needs, manufacturing, commercial processes, domestic and potable demand, dust control, fire suppression, environmental quality, wildlife propagation, irrigation incidental to industrial and other uses, and mitigation.

Reported by: _____

Jill Van Hulle, Pacific Groundwater Group Date



Reported by: _____

Dan Matlock, Pacific Groundwater Group Date

Reviewed by: _____

Tammy Hall, Water Resources Program Date

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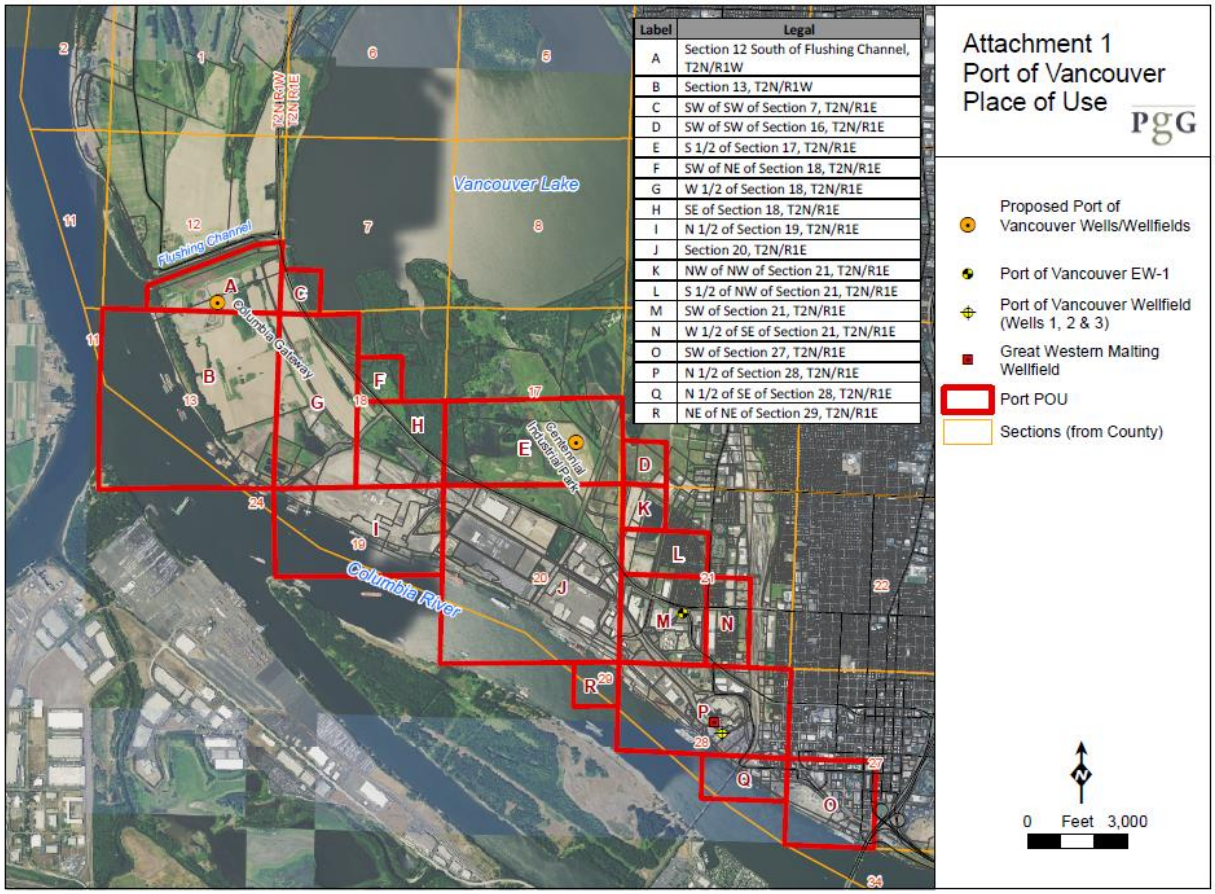
Label
Legal
A
Section 12 South of Flushing Channel, T2N/R1W
B
Section 13, T2N/R1W
C
SW of SW of Section 7, T2N/R1E
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R
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Vancouver Lake
Flushing Channel
Columbia Gateway
Columbia River
Centennial Interstate Park
T2N R3W
T2N R1E
Attachment 1
Port of Vancouver
Place of Use
PgG
Proposed Port of Vancouver Wells/Wellfields
Port of Vancouver EW-1
Port of Vancouver Wellfield (Wells 1, 2 & 3)
Great Western Malting Wellfield
Port POU
Sections (from County)
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