



State of Washington
DRAFT
 REPORT OF EXAMINATION
 FOR WATER RIGHT APPLICATION

File NR G2-29732
 WR Doc ID 2147448

PRIORITY DATE 5/22/1998	WATER RIGHT NUMBER G2-29732
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MAILING ADDRESS LEWIS CNTY PUD 1 P.O. BOX 330 CHEHALIS WA 98532	SITE ADDRESS (IF DIFFERENT)
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Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
60	GPM	14

Total withdrawals or diversions from all sources must not exceed the total quantity authorized for withdrawal or diversion listed above.

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Irrigation	60	0	GPM	13	0	01/01-12/31
Domestic general	0	60	GPM	1	0	01/01-12/31

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS
7	0	06195D	N/A

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
LEWIS	GROUNDWATER	N/A	26-COWLITZ

SOURCE FACILITY/DEVICE	PARCEL	WELL TAG	TWP	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
WELL 1	035145006001	AFT874	13N	09E	16	NW NE	46.62254	-121.68356

Datum: NAD83/WGS84

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)
 035145006001

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

That portion if the North 900.00 feet if the Northeast One Quarter of Section 16, Township 13 North,

Range 9 East, W.M., in Lewis County, Washington, lying westerly of the centerline of Cannon County Road and easterly of the centerline of Skate Creek County Road, containing 27.19 acres, as shown on that survey recorded June 9, 1994 under Auditor’s File No. 9409369, Lewis County Records.

Proposed Works

A six-inch diameter well drilled to a depth of 60 feet. Water is sent through a 2” PVC line to a hard line irrigation system equipped with pop-up sprinklers and to drinking fountains and public restrooms. Restroom facilities are connected to an on-site septic system. The irrigation system for the multipurpose field has yet to be installed.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
June 1, 2017	June 1, 2019	June 1, 2022

Measurement of Water Use

How often must water use be measured?	Monthly
How often must water use data be reported to Ecology?	Upon Request by Ecology
What volume should be reported?	Total Annual Volume
What rate should be reported?	Annual Peak Rate of Withdrawal (gpm)

Provisions

Wells, Well Logs and Well Construction Standards

All wells constructed in the state shall 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 shall be decommissioned.

All wells shall 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 shall 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.

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.

WAC 173-173 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.

Department of Health Requirements

Prior to any new construction or alterations of a public water supply system, the State Board of Health rules require public water supply owners to obtain written approval from the Office of Drinking Water of the Washington State Department of Health. Please contact the Office of Drinking Water at Southwest Drinking Water Operations, 243 Israel Road S.E., PO Box 47823, Tumwater, WA 98504-7823, (360) 236-3030.

Water Use Efficiency

The water right holder is required to maintain efficient water delivery systems and use of up-to-date water conservation practices consistent with RCW 90.03.005.

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. G2-29732, 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 Hearings 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	Department of Ecology Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel RD SW Ste 301 Tumwater, WA 98501	Pollution Control Hearings Board PO Box 40903 Olympia, WA 98504-0903

Signed at Olympia, Washington, this _____ day of _____ 2015.

Michael J. Gallagher, Section Manager

For additional information visit the Environmental Hearings Office Website: <http://www.eho.wa.gov>. To find laws and agency rules visit the Washington State Legislature Website: <http://www1.leg.wa.gov/CodeReviser>.

Application for Water Right -- Lewis County PUD No. 1

Water Right Control Number G2-29732

Matthew K. Rakow, Department of Ecology

BACKGROUND

This report serves as the written findings of fact concerning Water Right Application Number G2-29732.

Steve Gregga submitted Water Right Application G2-29732 on behalf of the Lewis County Public Utility District No. 1 (PUD) on May 22, 1998. The intent of the application is to provide water to the Packwood Community Ball Park (ball park) that is part of the PUD's mitigation for its Cowlitz Falls hydroelectric project. The PUD's ball park is located in the northeast portion of the Cowlitz Water Resource Inventory Area (WRIA) 26. The original request by the PUD was for 90 gallons per minute (gpm) and 65 acre-ft per year (ac-ft/yr) for multiple domestic, irrigation (27 acres), commercial, and recreational uses. The proposed project consists of the irrigation of 7 acres for two sports fields and domestic water for public restrooms.

Table 1. Details of New Water Right Application G2-29732

Control Number	G2-29732
Name	Lewis County PUD No. 1
Priority Date	5/22/1998
WIRA	26 - Cowlitz
Source	Groundwater
Purpose of Use	Domestic Multiple, Irrigation, Commercial & Recreation
Instantaneous Rate	90 gpm
Annual Quantity	65 ac-ft/yr
Irrigate Acres	27
Period of Use	Year Round
Place of Use	That portion of the North 900.00 feet of the Northeast One Quarter of Section 16, Township 13 North, Range 9 East, W.M., in Lewis County, Washington, lying westerly of the centerline of Cannon County Road and easterly of the centerline of Skate Creek County Road, containing 27.19 acres, as shown on that survey recorded June 9, 1994 under Auditor's File No. 9409369, Lewis County Records.

gpm = gallons per minute; ac-ft/yr = acre-feet per year; WRIA = Water Resource Inventory Area
W.M. = Willamette Meridian.

Table 2 provides location details for the existing point of withdrawal for the PUD's domestic water system.

Table 2. Point of Withdrawal Location Information

Source Name	Parcel	Twp	Rng	Sec	QQ Q	Latitude	Longitude
Well 1	035145006001	13N	09E	16	NW NE	46.62254	-121.68356

Twp = Township; Rng = Range; Sec = Section; QQ Q = Quarter-quarter of a section; Datum: NAD83/WGS84.

Legal Requirements for Approval of Appropriation of Water

Public Notice

RCW 90.03.280 requires that notice of a water right application be published once a week, for two consecutive weeks, in a newspaper of general circulation in the county or counties where the water is to be stored, diverted and used. Notice of this application was published in the *Chronicle* on September 18th and 25th, 2014, the *East County Journal* on September 24th and October 1st, 2014, and in the *Town Crier* on September 24th and October 1st, 2014. No comments or protests were received upon publishing of these notices.

Consultation with the Department of Fish and Wildlife

The Department must give notice to the Department of Fish and Wildlife (DFW) of applications to divert, withdraw, or store water. In a letter dated March 4, 2015, Steve Boessow, habitat biologist with DFW, stated DFW does not oppose Ecology approving this application. Approving this application is consistent with the WRIA 26 watershed plan and the Cowlitz Falls Hydropower agreement.

State Environmental Policy Act (SEPA)

A water right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met.

- (a) It is a surface water right application for more than 1 cubic foot per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies;
- (b) It is a groundwater right application for more than 2,250 gallons per minute;
- (c) It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;
- (d) It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
- (e) It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

Because this application does not meet any of these conditions, it is categorically exempt from SEPA and a threshold determination is not required.

INVESTIGATION

The material reviewed in support of this application included the following:

- The State Ground Water Codes, administrative rules, and policies
- Department of Ecology's Water Right Tracking System (WRTS) database
- Department of Ecology's Well Log Image Database
- Department of Health's SENTRY system
- Department of Natural Resources Geologic Information Portal
- Topographic and local area maps
- Notes from a site visit on November 3, 2014

Project Location and Site Description

The PUD's ball park is located approximately one mile north of the town of Packwood in Lewis County off Silver Road. The project is situated at the western edge of the Cowlitz River valley at the base of the Tatoosh Range.

The ball park is an open space with a baseball field, a multi-purpose facility with restrooms, a parking lot, and small community garden. The community garden consists of three raised bed planter boxes. The surrounding area consists of rural domestic and forested land.

Surface Water

No surface water bodies exist on the project site. Skate Creek is the nearest stream, roughly 2,330 feet to the west. The Cowlitz River lies approximately 3,190 feet to the south. Skate Creek and the Cowlitz River respective elevations are 1,152 and 1,056 feet above mean sea level.

Water System Description

The water system that serves the ball park is a Group B transient non-community system (Department of Health Water System ID 06195D). The water system utilizes a six-inch well (Well 1) that pumps at 60 gallons per minute. The baseball field and a portion of the open field are irrigated with a permanent irrigation sprinkler system. The water is not required to be treated by Lewis County Health Department standards.

There is a source meter located just after the well head but the PUD does not regularly record or track water use.

Proposed Use and Basis of Water Demand

Lewis County PUD No. 1 originally proposed water use for multiple domestic, commercial, irrigation, and recreation purposes. Subsequent changes in the PUD's plans have changed the scope of the project to consist of a baseball field, a multipurpose sports field, open recreation area, public restrooms, and concession stand. The multipurpose sports field and associated irrigation lines are the only components of the project that have not been constructed.

The PUD requested 65 acre-ft/yr for their original project. Metering records for current water use are inconsistent and cannot be used to accurately account for current water use.

Current water uses consists of irrigation of the existing baseball field and grass area immediately surrounding the backstop. Water is also provided for public restrooms and a drinking fountain.

Irrigation

Steve Gregga from the PUD has indicated that a total of seven acres will be irrigated once the second ball field is constructed. The Washington Irrigation Guide, Appendix B, has crop irrigation requirements for the town of Packwood. The crop irrigation requirement for pasture/turf is 16.54 inches per year. This equates to an annual quantity of 12.88 acre-feet per year for irrigation. The recommended quantity for irrigation is being rounded to 13 acre-feet per year. The calculation for the total irrigation requirement is presented below in Table 3.

Table 3. Total Irrigation Requirement

Crop and Irrigation System	Total Irrigation Requirement
Crop: Turf System: Buried pipe and pop-up sprinklers Area: 7 acres E_a: 75%	$\frac{16.54 \text{ in}}{1 \text{ year}} \times \frac{1 \text{ foot}}{12 \text{ in}} = \frac{1.38 \text{ feet}}{\text{year}}$ $\frac{1.38 \text{ feet}}{\text{year}} \times 7 \text{ acres} = \frac{9.66 \text{ ac} \cdot \text{feet}}{\text{year}}$ $\frac{9.66 \text{ ac} \cdot \text{feet}}{\text{year}} \div 0.75 = \frac{12.88 \text{ ac} \cdot \text{feet}}{\text{year}}$
Total Irrigation Requirement	12.88 ac · feet/year

Domestic Use

The recreational facility has restrooms and drinking fountains. The Department of Health's Water System Design Manual (2009) recommends 10 gallons per visitor for this type of facility. One acre-foot should serve an estimated 32,585 visitors per year which is adequate for use at the facility.

Other Uses

The PUD has decided not to develop commercial properties and does not have a need for recreational uses of water under this water right application.

Other Rights Appurtenant to the Place of Use

There are no other water rights appurtenant to the place of use of water right application G2-29732.

Local Area Geology and Hydrogeology

Area Geology

The project site is situated the western flank of the Cowlitz River valley near the valley head. The valley head is the point of confluence for the Muddy Fork Cowlitz River and Clear Fork Cowlitz River that forms the main stem Cowlitz River. The surficial geology at the project site has been characterized as Fraser-age Evans Creek Glacial Outwash. Glacial outwash deposits generally consist of unconsolidated sand and gravels that form aquifers with moderate to high permeability. This geologic unit is a subunit of the Evans Creek Glacial Drift. Glacial drift is a catchall description for a variety of unconsolidated glacial materials including till, sand, gravel, silt, and clay. Evans Creek Glacial Drift is mapped on the other side of Silver Road opposite the ball park (Swanson 1997).

Bedrock is exposed in few places and mainly exists under glacial deposits in the immediate vicinity of the well. The majority of bedrock in the area consists of bedded volcanoclastic sandstone and lava flows originating in the mountains to the east (Swanson 1997). A review of driller well logs within one half mile of the PUD's well indicate a depth to bedrock between four and 60 feet below ground surface.

Hydrogeology

The Department of Ecology's Well Log Image Database was searched for wells within a one-half mile radius from Well 1. A total of 37 driller well logs were found in this area. Fourteen well logs had a tax parcel or house number to use to locate the well. The remaining well logs only listed section quarter-quarter location.

Wells in the area derive water from permeable sand and gravel layers or bedrock fracture networks. A review of the non-bedrock wells reveals that the water bearing sand and gravel units are under both confined and unconfined conditions. This due to the presence or absence of clay or glacial till higher up in the depositional sequence. It is unclear if a continuous water table aquifer system given that the inconsistent bedrock topography causes discontinuities in the water bearing sand and gravel layers. The bedrock wells have relatively high potentiometric heads compared to the non-bedrock wells. This indicates the potential upward movement of water from the bedrock fractures into permeable materials at the bedrock-sediment interface.

There are no local or regional water availability studies or pumping tests for nearby wells available for review.

PUD Well Construction Information

Construction details of Well 1 are presented in Table 5.

Table 4. Construction details of Well 1

Dates Drilled	January 29-31, 1997
Depth of Completed Well <i>(feet below ground surface)</i>	58
Well Head Elevation <i>(feet above mean sea level)</i>	1110
Perforations/Screened Interval	N/A – open bottom well
Static Water Level <i>(feet below top of casing)</i>	39 (01/31/1997)
Casing Stick-up <i>(feet above ground surface)</i>	2
Water Bearing Interval <i>(feet below ground surface)</i>	40 – 60*
Aquifer Material Description	Gray gravel - coarse
Air Test <i>(gallons per minute)</i>	60 for 1 hour
Unique DOE Well Tag ID	AFT874

*The water bearing interval is inferred from the drillers log because a water bearing zone is not specifically identified on the log.

The static water level measured during the construction of the well indicates unconfined conditions in the aquifer. The PUD's well is completed five feet below the elevation of the Cowlitz River. It is conceivable that the PUD's well is completed in aquifer system that is in hydraulic continuity with the Cowlitz River.

Impairment Considerations

A search on the Ecology's Water Resource Explorer indicates that there are 18 claims (17 groundwater and one surface water for the Cowlitz River), one certificate, and one permit within one half mile of the PUD's well. Details of the certificate and permit are as follows:

- Certificate G2-00447, priority date March 13, 1971, authorizing 22 gpm, 19 ac-ft/yr for community domestic supply.
- Permit G2-25844, priority date March 20, 1981, authorizing 200 gpm, 54 ac-ft/yr for community domestic supply.

Both wells utilized under these water rights are considered to be up-gradient of the PUD's well and should not experience any negative effects from withdrawals associated with the PUD's well. Ecology has not received any complaints from these water right holders in regards to the PUD's well over the last 18 years.

Eight of the 18 water right claims list a date of first use for the water source after 1945 and do not represent valid claims in Ecology's opinion. The remaining claim forms do not list a date of first use and none of the claimant's names match any of the 37 well logs described above. Because of these facts, the validity and location of these claims is not known.

There are no downstream surface water diversions listed in Ecology's WRTS on Skate Creek.

Impacts to Surface Water

Skate Creek is the nearest surface water body to the PUD's well. The creek lies approximately 2,330 feet to the west at roughly 40 feet above the elevation of the PUD's well. This equates to nearly 80 feet in elevation difference from Skate Creek to the top of the water bearing zone that the PUD's well taps into. It would be difficult to quantify the amount of impact of the PUD's well on Skate Creek because of the difference in elevations and the depth to bedrock varies so greatly in the immediate area of the well. Well logs near Skate Creek suggest that bedrock is within 20 feet of land surface near the creek. An uneven bedrock topology that rises up close to ground surface means that shallow aquifer units have limited horizontal continuity and hydraulic connectivity to surface water. This would result in a dramatic reduction hydraulic continuity between the PUD's well and Skate Creek.

There are no closures or surface water source limitations on this reach of Skate Creek.

The Cowlitz River lies approximately 3,190 feet to the southeast of the PUD's well at an elevation of 1,060 feet above mean sea level. As with Skate Creek, there are no closures or surface water source limitations on this reach of the Cowlitz.

Water Availability

For water to be available for appropriation, it must be both physically and legally available.

Physical Availability

For water to be physically available for appropriation there must be groundwater present in quantities and quality and on a sufficiently frequent basis to provide a reasonably reliable source for the requested

beneficial use or uses. For over 18 years, water has continuously been available from the PUD's well in the quantities requested.

Legal Availability

The PUD's ball field is located within Watershed Resource Inventory Area (WRIA) 26. The WRIA 25/26 Watershed Plan was adopted in 2006 and it recommended the closure of the entire watershed. Instream rule making was initiated for these two WRIs but was subsequently halted in 2010. Rule making was halted due to public concern over the extent of areas closed to issuing new water rights, recommended instream flows, and implementation of reservations. The 2006 plan was amended in 2013 to remove restrictions on new water rights in the eastern two-thirds of WRIA 26.

The proposed use and quantities of water under this application comply with the provisions and recommendations of the 2006 watershed plan and the 2013 amendment.

There are no Surface Water Source Limitations (SWSL) in effect for Skate Creek or any of its tributaries.

Beneficial Use

The proposed use of water for irrigation and domestic uses defined in statute as a beneficial use (RCW 90.54.020(1)).

Public Interest Considerations

Approval of this application will not be detrimental to the public interest.

Consideration of Protests and Comments

No protests were filed against the approval of this application.

Conclusions

This application requests water for irrigation of seven acres and domestic supply. Based on my evaluation, I find that:

- The use of water for irrigation and domestic supply purposes is defined in statute as a beneficial use (RCW 90.54.020(1)).
- Water is available in sufficient quantities to provide a reliable source.
- The issuance of this water right will not impair any senior water right holders.
- Approving this appropriation is not detrimental to the public interest.

RECOMMENDATIONS

Based on the above investigation and conclusions, I recommend that this request for a water right be approved in the amounts and within the limitations listed below and subject to the provisions listed above.

Purpose of Use and Authorized Quantities

The amount of water recommended is a maximum limit and the water user may only use that amount of water within the specified limit that is reasonable and beneficial:

Maximum instantaneous rate: 60 gpm

Purposes: Irrigation of seven acres and domestic supply

Annual quantity: 14 acre-feet per year (1 ac-ft domestic supply, 13 ac-ft irrigation)

Point of Withdrawal: NW $\frac{1}{4}$, NE $\frac{1}{4}$, Section 16, Township 13 North, Range 09 E.W.M.

Place of Use: That portion of the North 900.00 feet of the Northeast One Quarter of Section 16, Township 13 North, Range 9 East, W.M., in Lewis County, Washington, lying westerly of the centerline of Cannon County Road and easterly of the centerline of Skate Creek County Road, containing 27.19 acres, as shown on that survey recorded June 9, 1994 under Auditor's File No. 9409369, Lewis County Records.

Matthew K. Rakow

Date

If you need this publication in an alternate format, please call Water Resources Program at (360) 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

Selected References

Swanson, D. A., Moore, R. B., and Banks, N. G., 1997. Geologic map of the Packwood quadrangle, southern Cascade Range, Washington, U.S. Geological Survey Open-File Report 97-157.

Office of Drinking Water, Division of Environmental Health, 2009. *Water System Design Manual* (DOH 331-123), Washington State Department of Health.

