WR File NR G2-30636
WR Doc ID 6090015

DEPARTMENT OF
ECOLOGY
State of Washington

State of Washington
Report of Examination for Water Right

PRIORITY DATE	WATER RIGHT NUMBER
February 7, 2014	G2-30626

MAILING ADDRESS	SITE ADDRESS (IF DIFFERENT)
Mance & Son Residential Developers, Inc. 5448 78th Ave NE Olympia, WA 98516	5748 56th Ave NE Olympia, WA 98516

Total Quantity Authorized for Withdrawal or Diversion

WITHDRAWAL OR DIVERSION RATE	UNITS	ANNUAL QUANTITY (AC-FT/YR)
150	GPM	22.50

Purpose

PURPOSE	WITHDRAWAL OR DIVERSION RATE			ANNUAL QUANTITY (AF/YR)		PERIOD OF USE (mm/dd)
	ADDITIVE	NON-ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	
Multiple domestic supply	150		GPM	22.50		01/01-12/31

IRRIGATED ACRES		PUBLIC WATER SYSTEM INFORMATION	
ADDITIVE	NON-ADDITIVE	WATER SYSTEM ID	CONNECTIONS
		TBD	TBD

Source Location

COUNTY	WATERBODY	TRIBUTARY TO	WATER RESOURCE INVENTORY AREA
Thurston	N/A	N/A	13

SOURCE	PARCEL	WELL TAG	TOWNSHIP	RANGE	SECTION	QQ Q	LATITUDE	LONGITUDE
Test Well 1	11927120000	BIG426	19N	1W	27	NW NE	47.11111	-122.78666
Well 2 (proposed)	11922340000	TBD	19N	1W	22	SE SW	TBD	TBD

Datum: NAD83/WGS84

Place of Use (See Attached Map)

PARCELS (NOT LISTED FOR SERVICE AREAS)
11927120000, 11922340000, and 11927200000

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE
PARCEL A: (TPN 11922340000) THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 22, TOWNSHIP 19 NORTH, RANGE 1 WEST, W.M.; EXCEPT THAT PORTION CONVEYED TO THURSTON COUNTY FOR ROAD PURPOSES AS RECORDED MARCH 23, 1955 UNDER AUDITOR'S FILE NO. 544455. SITUATE IN THURSTON COUNTY, WASHINGTON. PARCEL B: (TPN 11927200000) THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 19 NORTH, RANGE I WEST, W.M. SITUATE IN THURSTON COUNTY, WASHINGTON. PARCEL C: (TPN 11927120000) THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 27, TOWNSHIP 19 NORTH, RANGE 1 WEST, W.M.; EXCEPT THAT PORTION CONVEYED TO THURSTON COUNTY FOR ROAD PURPOSES AS RECORDED MARCH 23, 1955 UNDER AUDITOR'S FILE NO. 544455; AND EXCEPT THAT PORTION DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST CORNER OF PARCEL A OF BOUNDARY LINE ADJUSTMENT NO. BLA-1648 AS RECORDED MARCH 23, 1995 UNDER AUDITOR'S FILE NO. 9503230080, RECORDS OF THURSTON COUNTY, WASHINGTON; RUNNING THENCE NORTH 89°36'38" WEST ALONG THE WESTERLY EXTENSION OF THE SOUTH LINE OF SAID PARCEL A 48.20 FEET; THENCE NORTH 2°19'03" EAST 157.10 FEET; THENCE NORTH 12°17'29" EAST 56.52 FEET; THENCE NORTH 13°19'11" EAST 120.78 FEET TO A POINT ON THE WESTERLY EXTENSION OF THE NORTH LINE OF SAID PARCEL A; THENCE SOUTH 89°36'24" EAST ALONG SAID WESTERLY EXTENSION 0.40 FEET TO THE NORTHWEST CORNER OF SAID PARCEL A; AND THENCE SOUTH 0°16'31" EAST ALONG THE WEST LINE OF SAID PARCEL A 330.06 FEET TO THE POINT OF BEGINNING. (SAID PARCEL C AS DESCRIBED ABOVE IS PARCEL B OF SURVEY RECORDED MARCH 13, 2013 UNDER AUDITOR'S FILE NO. 4323439, RECORDS OF THURSTON COUNTY, WASHINGTON.) SITUATE IN THURSTON COUNTY, WASHINGTON.

Proposed Works

TW-1: 6 inches in diameter and 280 feet deep. Screened from 264 to 276 feet below ground surface in the Qc Aquifer.
Proposed Well: 6 inches in diameter proposed depth 275 feet deep and screened in the Qc Aquifer.

Development Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Started	January 1, 2019	January 1, 2030

Measurement of Water Use

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

Provisions

Municipal water right status

This water right is being issued as multiple domestic supply for a proposed municipal water system. Once this system serves 15 or more connections, it will be considered a municipal water system as a

matter of law. When this occurs, the permit holder can request a superseding permit which reflects the system's municipal status.

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.

The well must be capped upon completion, and the Department of Ecology must be notified in order that a video scan of the completed well can be conducted. The Department of Ecology must be notified within one week of completion of the well and prior to the setting of a pump, in order to make necessary arrangements for video scanning.

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.

Measurements, Monitoring, Metering and Reporting
An approved measuring device must 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 Level Measurements
In order to maintain a sustainable supply of water, pumping must be managed so that static water levels do not progressively decline from year to year. Static water level is defined as the water level in a well when no pumping is occurring and the water level has fully recovered from previous pumping. Static water levels must be measured and recorded monthly, using a consistent methodology. Data for the previous year must be submitted by January 31 to the Department of Ecology.

Static water level data must be submitted in digital format and must include the following elements:

- Unique Well ID Number
- Measurement date and time
- Measurement method (air line, electric tape, pressure transducer, etc.)
- Measurement accuracy (to nearest foot, tenth of foot, etc.)
- Description of the measuring point (top of casing, sounding tube, etc.)
- Measuring point elevation above or below land surface to the nearest 0.1 foot

- Land surface elevation at the well head to the nearest foot.
- Static water level below measuring point to the nearest 0.1 foot.

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
Use of water under this authorization will 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 must 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 superseding 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, will 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 of use is beneficial; and that there will be no detriment to the public interest.

Therefore, I ORDER approval of Application No. G2-30636 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	**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 Lacey, Washington, this 2nd day of June, 2015.

Michael J. Gallagher

Michael J. Gallagher
Water Resources Program/Southwest Region
Department of Ecology

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.

INVESTIGATOR'S REPORT
Application for Water Right – Mance & Son Residential Developers, Inc.
Water Right Control Number G2-30636

BACKGROUND

This report serves as the written findings of fact concerning Water Right Application Number G2-30636. The applicant requested withdrawal of groundwater from two wells totaling up to 200 gallons per minute (gpm) and an unspecified annual quantity to provide municipal supply to a 56-lot residential development named Copper Mill on Johnson Point in Thurston County.

Cost Reimbursement

This application is being processed under a cost reimbursement agreement between the applicant the Department of Ecology. This report has been prepared by Robinson Noble, Inc. under Ecology cost reimbursement contract C1000191. The work assignment for this project was authorized by Ecology on October 20, 2014.

Table 1 Summary of Requested Water Right

Applicant Name:	**Mance & Son Residential Developers, Inc.**
Date of Application:	February 7, 2014
Place of Use	SE ¼ SW ¼ Section 22, NW ¼ and W ½ NE ¼ Section 27, in T19N R1WWM

County	Waterbody	Tributary To	WRIA
Thurston	N/A	N/A	13

Purpose	Rate	Unit	Ac-ft/yr	Begin Season	End Season
Multiple domestic Supply	Up to 200	GPM	unspecified	01/01	12/31

Source Name	Parcel	Well Tag	Twp	Rng	Sec	QQ Q	Latitude	Longitude
Test Well 1 (TW-1)	11927120000	BIG426	19N	1W	27	NW NE	47.111111	-122.786667
Proposed Well	11922340000	TBD	19N	1W	22	SE SW	TBD	TBD

Datum: NAD83/WGS84

CFS = Cubic Feet per Second; GPM = Gallons per Minute; Ac-ft/yr = Acre-feet per year; Sec. = Section; QQ Q = Quarter-quarter of a section; WRIA = Water Resource Inventory Area; E.W.M. = East of the Willamette Meridian [Delete any unused abbreviations]

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 Olympian on March 14, 2014 and March 21, 2014.

Consultation with the Department of Fish and Wildlife

Steve Boessow, the State of Washington Department of Fish and Wildlife (WDFW) Biologist for the Habitat Program, conducted a site visit and issued a letter concerning the water right application on February 6, 2015. The letter states: "Based on impacts to fish and/or wildlife and the habitat they rely on, and pursuant to Chapter 77.57.020 RCW, WDFW does not oppose the issuance of this application."

Boessow reports surface waters near the Copper Mill well(s) are not fish bearing. Boessow also noted the locations of the test well (TW-1) and the proposed second well reduce the likelihood of impacting wetlands feeding fish bearing streams. WDFW did not place any restrictions on or ask for any mitigation for the planned withdrawal.

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:

- 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;
- It is a groundwater right application for more than 2,250 gallons per minute;
- It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;
- 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);
- 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 requests an instantaneous amount below the SEPA threshold a determination is not required.

INVESTIGATION

The proposed 280-acre Copper Mill residential development is located on Johnson Point northeast of the City of Olympia in Thurston County. The applicant's plans include creating a Group A water system utilizing two groundwater wells to supply 56 residential lots.

Robinson Noble conducted a site visit on January 6, 2015. The applicants, John and Garret Mance, and Jill Van Hulle of Pacific Groundwater Group (PGG) met with Robinson Noble hydrogeologist Doug Dow at the site of TW-1.

Hydrologic/Hydrogeologic Evaluation

The geology and hydrogeology of the area has been studied in numerous publications including Water Supply Bulletin No. 10, (Wallace and Molenaar, 1961 and Noble and Wallace, 1966) and the United States Geological Survey (USGS) Water Resources Investigations Report 99-4165 (Drost and others, 1999). The project site area has been included in other technical evaluations by the USGS and the City of Lacey in support of their water-right applications. Pacific Groundwater Group's Technical Memorandum for the Construction and Testing of Test Well 1 (PGG 2014a) and Phase 1 Report – Mance & Son Water Right Application G2-30636 (PGG, 2014b), summarized the hydrogeologic setting with the following description:

> The Quaternary Period geologic units in the area, from youngest to oldest, are Vashon recessional outwash (Qvr), Vashon till (Qvt), Vashon advance outwash (Qva), Fine-grained unit (Qf), and the sea-level aquifer (Qc). The Qva, Qc, and coarser horizons within the QTu unit

contain regionally extensive aquifers and serve as important domestic and municipal water sources. The Qvt and Qf are regional confining layers that restrict vertical movement of water within the system.

The drilling log indicates that the Mance Well (TW-1) is completed in the Qc aquifer, which is confined and is separated from the overlying Qva aquifer by the low permeability Qf unit that is over 80 feet thick near the project site. Water levels in the Qc aquifer are about 75 feet lower than in the overlying Qva aquifer, and the vertical gradient is about 0.94 ft/ft downward, together indicating that the two aquifer zones are highly decoupled in the project vicinity.

Groundwater movement in the Qva, Qc, and QTu aquifer is generally from south to north and radially outward from the center of the Hawks Prairie Peninsula to nearby discharge areas including McAllister Creek to the east, Henderson Inlet to the west, and Puget Sound to the north. A strong downward gradient occurs with the upland. Water levels in the Qvr may be locally perched on top of the Qvt unit and are commonly at least 50 feet higher than levels in the Qva.

Site Conditions

Well TW-1 was drilled and tested under a Preliminary Permit issued on March 5, 2013. This Preliminary Permit was requested as part of the Phase 1 report for the Cost Reimbursement contract with Ecology for processing G2-30636. The construction details of Well TW-1 are summarized in Table 2.

The following geologic units were encountered during drilling (PGG, 2014a):

Interval (ft)	Unit
0 – 53	Qvr
53 - 78	Qvt
78 – 127	Qva
127 – 214	Qf
214 – 280	Qc

Table 2. Construction details of Well TW-1.

Well Tag	BIG426
Date Drilled	5/7/2014
Well elevation ***(ft above mean sea level, msl)***	170 ft above msl
Well diameter ***(inches, in)***	6 in
Completed depth ***(ft below ground surface, bgs)*** ***Approximate elevation, ft below msl***	280 ft bgs 110 ft below msl
Screened interval, ft bgs ***ft below msl***	0.030 slot 264- 274 bgs 0.000 slot from 274- 276 bgs
Static water level, ft bgs ***ft above msl*** ***Date measured***	134 ft bgs 36 ft above msl 5/7/2014

Pumping capacity (gpm)	100 gpm
Water bearing unit	Qc Aquifer

A step-rate pumping test was conducted on May 9, 2014 for a total of 105 minutes. The pumping rate was increased in three steps, at rates of 15, 47, and 102 gpm. A 24-hour constant-rate pumping test was conducted on May 12 and 13, 2014 at a discharge rate of 100 gpm. Analysis of the pumping test data revealed an estimated aquifer transmissivity of 786 ft2/day and a ratio of vertical to horizontal permeability of 0.026 (Kz/Kr). These aquifer parameters suggest that two wells pumping together should be able to produce 150 gpm which is sufficient to supply the needs of the development (PGG, 2014a).

The testing concluded the Qc aquifer behaves as a confined system with no significant leakage or other boundary influences. Tidal signatures at the TW-1 site indicate that the Qc aquifer is likely hydraulically connected with Puget Sound which lies about 4,000 feet to the north-northeast. The elevation of the Qc aquifer is 100 feet below sea level and has no direct connection to Dobbs Creek or any other stream drainage from Johnson Point.

Several wetland areas are found on the Copper Mill property. The wetlands mainly formed in kettles in the Qvr outwash or as depressions in the Qvt. They hold water from precipitation falling directly on the wetlands and infiltrating through the Qvr. This area provides some inflow to Dobbs Creek, which drains southwest to Henderson Inlet. The applicant reports that the wetlands dry up during the summer months.

Proposed Use and Basis of Water Demand

The applicant proposes to create a Group A water system, utilizing two water wells, storage tanks, and distribution mains to supply 56 residential lots. Plans call for ¾-acre lots, with a portion of each lot left with natural vegetation. The applicant expects about ½ acre of each lot will be developed.

Ecology recommends using a daily average of 350 gallons per day (gpd) per residence, which equates to roughly 0.40 ac-ft per year or 22.50 ac-ft for 56 lots. Ecology considers this amount adequate to allow outdoor watering.

Other Rights Appurtenant to the Place of Use

The applicant has no other water rights associated within the stated place of use.

FINDINGS

Under Washington State law, the following four criteria must be met for an application to be approved:

- There must be no impairment of existing rights
- Water must be available
- The water use must be beneficial
- The water use must not be detrimental to the public interest

Impairment Considerations

Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection. A water right application may not be approved if it would:

- Interrupt or interfere with the availability of water to an adequately constructed groundwater withdrawal facility of an existing right. An adequately constructed groundwater withdrawal facility is one that (a) is constructed in compliance with well construction requirements and (b) fully penetrates the saturated zone of an aquifer or withdraws water from a reasonable and feasible pumping lift.
- Interrupt or interfere with the availability of water at the authorized point of diversion of a surface water right. A surface water right conditioned with instream flows may be impaired if a proposed use or change would cause the flow of the stream to fall to or below the instream flow more frequently or for a longer duration than was previously the case.
- Interrupt or interfere with the flow of water allocated by rule, water rights, or court decree to instream flows.
- Degrade the water quality of the source to the point that the water is unsuitable for beneficial use by existing users (e.g., via sea water intrusion).

Testing of TW-1 found there was no interference observed in the Qc observation well at a distance of 1.3 miles during the 24-hour test of TW-1 (PGG, 2014a). A search of well logs drilled to the depth of the Qc aquifer found one well within one mile of the development. This well drilled by Don Hudson lies approximately 1700 feet north of the Mance well, but was not completed as a source well as the Qc aquifer was not sufficient for production. The estimated interference drawdown at this distance should about 1.5 feet, which would not impair the performance of a well completed in the Qc aquifer.

Effects to wells completed in the overlying Qva aquifer are expected to be less. The Qc aquifer is confined and separated from the overlying Qva aquifer by the low permeability Qf unit, which is over 80 feet thick near the project site. Water levels in the Qc aquifer are about 75 feet lower than in the overlying Qva aquifer. Water levels in the Qvr may be locally perched on top of the Qvt unit and are commonly at least 50 feet higher than levels in the Qva. These differences in aquifer water levels indicate very little connection exists between the aquifers and surface water.

The Qva wells located in the area, some of which are listed below in Table 3, are completed in the Qva aquifer and are physically separated from the Qc aquifer as described previously. The potential minor impact predicted in a Qc aquifer well at distances over 1,000 feet would be much less, if any, in a Qva aquifer well. A properly constructed well should be able to operate efficiently with normal seasonal water table fluctuations and with possible minor impacts from other area wells. These minor impacts do not constitute impairment.

TW-1 is completed in the Qc aquifer over 100 feet below sea level. Aquifer water levels show a small tidal response. This relationship, and the unit elevations inferred from regional studies, indicate that the aquifer likely discharges to the saltwater. It also suggests that aquifer levels are sufficiently above sea level (about 50 feet MSL at TW-1 which is over 4,400 feet from the shoreline) that the risk of saltwater intrusion as a result of the proposed withdrawal is not significant (PGG, 2014a).

Impacts to Existing Water Users

The applicants well(s) will draw water from the Qc aquifer about 100 feet below sea level. We did not find any water users in the area with source wells completed in the Qc aquifer within one mile from the subject site.

There are 30 wells with claims or water rights within 0.5 mile of TW-1. The closest wells with water rights are listed in Table 3 and are all completed in the shallower Qva aquifer.

Table 3: Water Rights near the Proposed Development

File No.	Person	Qi	Qa	TRS	QQ/Q	Aquifer	Depth	Distance
G2-26894C	Mance & Son	100	19	19N 1W 27	NE/NE	Qva	118	950
G2-28648	Washington Water Service	98	50	19N 1W 27	SW/SW	Qva	148	5210
G2-26746	Washington Water Service	199	134	19N 1W 27	SW/SW	Qva	143	5225
G2-27707C	Mance & Son/H&R	65	20	19N 1W 21	SE/NE	Qva	157	1990
G2-28990	H&R Waterworks Inc.	250	70	19N 1W 27	NE/SE	Qva	170	3840
G2-00769C	Assoc. of Outdoor Rec. Clubs	80	14.5	19N 1W 28	NE	Qva	159	7725

There are two water right claims for use of water from springs located downhill from the proposed Copper Mill development to the west in Section 28. Additionally, there is a claim for spring water in Section 21 and two in Section 22. The source of these springs is likely discharge of the Qvr. There are three surface water certificates, also at a lower elevation to the west in Section 28, one from Dobbs Creek, one from an unnamed stream, and one from an unnamed spring.

Impacts to Surface Water

Johnson Point peninsula is within Water Resource Inventory Area 13. Minimum instream flows for WRIA 13 are established in Chapter 173-513 WAC. The wetlands found generally on the west side of the Copper Mill development provides some water to Dobbs Creek, which discharges into Henderson Inlet. Dobbs Creek is not listed as a closed stream in 173-513 WAC.

Since the applicant's source of water is from the Qc aquifer and will be withdrawn from below sea level, there will be no impact to these surface sources of water. The shallow Qvr system is a groundwater source for surface water flows from portions of the upland areas of the peninsula. The Qva may also provide some recharge to streams at elevations near sea level if they intersect Qva sediments. Based on physical elevations and reported water levels, the Qc and Qva aquifers do not appear to be hydraulically coupled since the Qva is perched above the Qc in the project area (Drost and others, 1998; PGG, 2014b).

Wetlands and small streams in the project vicinity are underlain directly by Qvr and Qvt deposits. The Qvt aquitard and thick Qf aquitard together significantly limit the hydraulic coupling between the surface waters and the underlying Qc aquifer that is the source for TW-1.

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 ground or surface water present in quantities and quality and on a sufficiently frequent basis to provide a reasonably reliable source for the requested beneficial use or uses. In addition, the following factors are considered:

- Volume of water represented by senior water rights, including federal or tribal reserved rights or claims;
- Water right claims registered under Chapter 90.14 RCW;
- Ground water uses established in accordance with Chapter 90.44 RCW, including those that are exempt from the requirement to obtain a permit; and

- Potential riparian water rights, including non-diversionary stock water.
- Lack of data indicating water usage can also be a consideration in determining water availability, if the department cannot ascertain the extent to which existing rights are consistently utilized and cannot affirmatively find that water is available for further appropriation.

The applicant's TW-1 was tested at a pumping rate of 100 gpm. The aquifer characteristics presented in PGG's Construction and Testing report of TW-1 indicate that the proposed second well should also be capable of supplying 100 gpm (PGG, 2014a). The two wells are expected to be capable of providing 150 gpm which will easily provide the needs of the development.

Legal Availability

To determine whether water to be legally available for appropriation, the following factors are considered:

- Regional water management plans – which may specifically close certain water bodies to further appropriation.
- Existing rights – which may already appropriate physically available water.
- Fisheries and other instream uses (e.g., recreation and navigation). Instream needs, including instream and base flows set by regulation. Water is not available for out of stream uses where further reducing the flow level of surface water would be detrimental to existing fishery resources.
- The Department may deny an application for a new appropriation in a drainage where adjudicated rights exceed the average low flow supply, even if the prior rights are not presently being exercised. Water would not become available for appropriation until existing rights are relinquished for non-use by state proceedings.

Chapter 173-513 WAC established regulatory instream flows for some streams and closes others to consumptive appropriations that adversely impact flows. This WAC closed the Woodland Creek subbasin but does not address Dobbs Creek which is in a separate subbasin.

The WDFW does not oppose approving this application and does not recommend restrictions or mitigation. The wetlands on the Mance property that form the headwaters of Dobbs Creek are not fish bearing.

Since groundwater in the area is discharging directly to the Nisqually Reach, groundwater withdrawals are not expected to affect other users in the area.

Beneficial Use

The proposed use of water is defined in statute as a beneficial use (RCW 90.54.020(1)).

Public Interest Considerations

RCW 90.03.290 requires that a proposed appropriation not be detrimental to the public interest.

RCW 90.54 (Water Resources Act of 1971) provides the most comprehensive list of legislative policies that guide the consolidation of public interest in the allocation of water. These policies generally require a balancing of the state's natural resources and values with the state's economic well-being. Specifically, the policies require allocation of water in a manner that preserves instream resources, protects the

quality of water, provides adequate and safe supplies of water to serve public need, and makes water available to support the economic well-being of the state and its citizens. This appropriation preserves instream resources in the Dobbs Creek drainage system, makes water available to serve the public, and supports the public's economic well-being. Therefore, this proposed appropriation is not detrimental to the public interest.

Consideration of Protests and Comments
In response to public notice of this application, the Department of Ecology did not receive any protests.

Conclusions

In accordance with Chapter 90.03 RCW, I conclude that:

- The water is physically and legally available for appropriation,
- The water will serve a beneficial use,
- The withdrawal will not cause impairment of existing rights, and
- The proposed use 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:

Q_i 150 gpm
Q_a 22.50 acre-feet per year
Multiple domestic supply

Point of Withdrawal
TW-1: NW¼, NE¼, Section 27,
Proposed well: SE ¼, SW ¼, Section 22

In Township 19 North, Range 1W. W.M.

Place of Use
SE ¼ SW ¼ Section 22, NW ¼ and W ½ NE ¼ Section 27, in Township 19 North, Range 1 W.W.M.

Reported by: Douglas C Dow 4/28/15
Report Writer Date

Reported by: Douglas C Dow 4/28/15
Hydrogeologist Date

State of Washington Hydrogeologist 258 Licensed Geologist
DOUGLAS C. DOW

Reviewed by: Tammy Hall 6/2/2015
Tammy Hall, Water Resources Program Date

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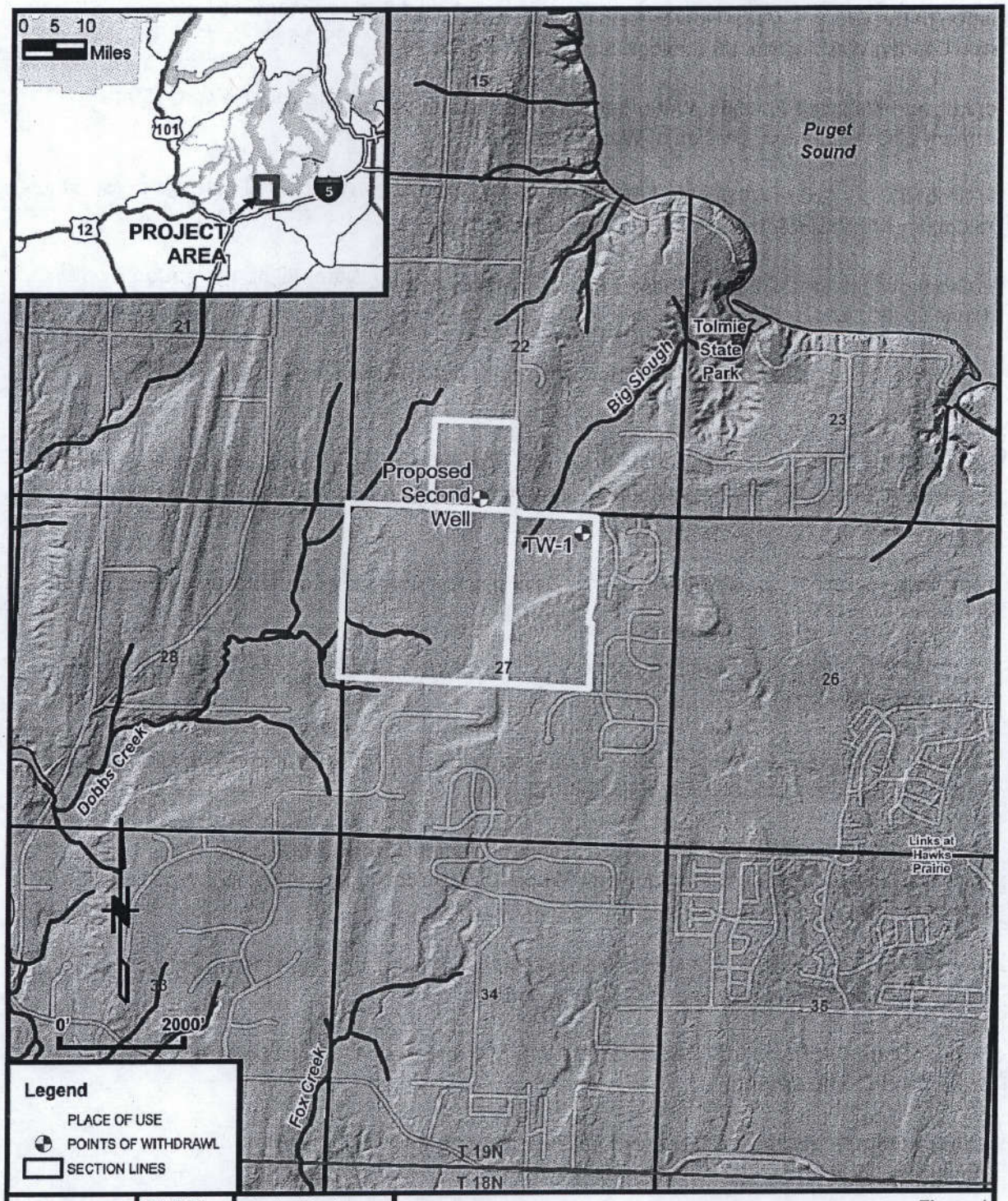

Figure 1
Well Location Map
Washington Department of Ecology: Mance and Son Phase II CRA