STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
REPORT OF EXAMINATION
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
March 10, 2000	G2-29907		

NAME
North Beach Water (formerly Ocean Park Water Company, Inc.)

ADDRESS (STREET)	(CITY)	(STATE)	(ZIP CODE)
25902 Vernon Ave, Suite C	Ocean Park	Washington	98640

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
North Wellfield - Eight wells (Nos. 1 through 8)

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE FEET PER YEAR
	65*	80*

* Both Q_i and Q_a are additive quantities to the 4 existing certificates for the North Wellfield, totaling 600 gpm and 515 afy.

QUANTITY, TYPE OF USE, PERIOD OF USE

Multiple domestic, year around as needed.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION--WITHDRAWAL

Wells 1 and 2 – 830 feet east and 315 feet north of the center of Section 28;
Well 3 – 870 feet east and 335 feet north of the center of Section 28;
Well 4 – 454 feet east and 265 feet north of the center of Section 28;
Well 5 – 504 feet east and 265 feet north of the center of Section 28;
Well 6 – 305 feet east and 325 feet north of the center of Section 28;
Well 7 – 534 feet east and 295 feet north of the center of Section 28; and
Well 8 – 365 feet east and 325 feet north of the center of Section 28.

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
SW1/4, NE1/4	28	12	11 W	24	Pacific

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

The place of use (POU) of this water right is the service area described in the most recent Water System Plan/Small Water System Management Program approved by the Washington State Department of Health, so long as *name of water right holder* is and remains in compliance with the criteria in RCW 90.03.386(2). RCW 90.03.386 may have the effect of revising the place of use of this water right.

DESCRIPTION OF PROPOSED WORKS

North Beach Water (formerly Ocean Park Water Company, Inc.) has applied to appropriate groundwater from eight existing wells (Nos. 1 through 8) to use for multiple domestic supply. The eight wells are located on a 4.64 acre parcel termed the North Wellfield. The 6 to 8-inch cased wells were drilled between 1962 and 1996 and completed between 102 and 130 feet below ground surface with 10 to 20 foot well screens. The North Wellfield also contains three 179,000 gallon concrete reservoirs and treatment facilities. Water is pumped from the wells, through dedicated treatment trains and into the storage reservoirs prior to entering the distribution system. The distribution system is pressurized from the North Wellfield by eight booster pumps.

The North Beach Water system operates as a Group A public water system (PWS) and is identified by the Washington State Department of Health (DOH) by PWS ID 63000C. North Beach Water currently services 2,644 connections.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
Complete	Complete	July 1, 2026

REPORT

BACKGROUND

On March 10, 2000, Thomas J. Frare, consulting engineer for Ocean Park Water Company, Inc (now North Beach Water), filed an Application for Permit (G2-29907) with the Washington State Department of Ecology (Ecology) for a water right permit to appropriate public groundwater. The applicant requested authorization for an instantaneous withdrawal (Qi) of 65 gallons per minute (gpm) and an annual withdrawal volume (Qa) of 80 acre-feet per year (afy) for multiple domestic supply. The applicant proposes to use the water to meet the projected growth within the North Beach Water service area.

The project site is located on the northern half of the Long Beach Peninsula, within the state's Water Resource Inventory Area (WRIA) 24. Notice of the proposed appropriation was published in the *Chinook Observer* of Long Beach, Washington, on August 2 and 9, 2000. No protests or letters of concern were received by Ecology.

Based on the provisions of RCW 43.21A.690 and RCW 90.03.265, this application has been processed by Aspect Consulting, LLC (Aspect Consulting) under Ecology Cost-Reimbursement Project No. 9R50 (master contract No. C0500006).

INVESTIGATION

In consideration of this application, Aspect Consulting reviewed available documents pertaining to the applicant's site conditions, historical water use, projected water demand, and the potential effect on existing water right holders. This included the information submitted by the applicant and pertinent Ecology records including well logs, water rights records, and well construction reports. The review also included reports from multiple investigations detailing the hydrogeology and water quality of the Long Beach Peninsula. Most notably, a 1995 United States Geological Survey (USGS) report, Ground-Water Flow and Water Quality in the Sand Aquifer of Long Beach Peninsula, Washington (Thomas 1995), provided a comprehensive water balance and examined groundwater recharge, movement, and quality along the peninsula. An earlier estimate of the peninsula's water balance and an assessment of groundwater availability were described by Tracy (1978). The Trumpeter Swan Society also commissioned a study to specifically evaluate the water balance of the northern Long Beach Peninsula (Keta Waters 2006).

Pacific County Department of Public Works provided a copy of the Surface Water Management Plan (Pool 1985) describing the peninsula's major drainages and methods of controlling and conveying storm water, surface water, and groundwater. Supplemental data on water quality and groundwater elevations over time were obtained from the Pacific County Department of Community Development.

A site visit was performed on June 10, 2008. Tyson Carlson of Aspect Consulting visited the wellfield and meet with representatives from North Beach Water and their water system engineer.

Using this information, Aspect Consulting evaluated water availability and potential effects of the proposed appropriation upon existing water rights. Each of the four requirements specified in RCW 90.03.290 were individually examined and are presented below.

Project Description

The Application for North Beach Water seeks authorization to withdraw groundwater from eight existing wells. The proposed purpose of use is for multiple domestic supply to meet the projected 20 year demand based on the most recent water system plan. The current Water System Plan is pending formal approval by DOH and Ecology.

Site Description

The existing points of withdrawal (Nos. 1 through 8) are located immediately adjacent to the town of Ocean Park, in the southwest quarter of the northeast quarter of Section 28 in Township 12 North, Range 11 West Willamette Meridian. All of the wells are all located within the same quarter-quarter section.

North Beach Water's North Wellfield is located on 272nd Street, just east of the intersection of U Street. The 6 to 8-inch cased wells were drilled between 1962 and 1996 and completed between 102 and 130 feet below ground surface with 10 to 20 foot well screens. The North Wellfield also contains three 179,000 gallon concrete reservoirs and wellhead treatment facilities. Water is pumped from the wells, through dedicated treatment trains and into the storage reservoirs prior to entering the distribution system. The distribution system is pressurized from the North Wellfield by eight booster pumps.

In October 2004, the Pacific County Commissioners – by Resolution No. 2004-073 – created Ordinance 1555, the Rules and Regulations, and the Charter for the creation of North Beach Public Development Authority (NBPDA). Pacific County Commissioners also appointed a five member Board of Directors to manage the NBPDA for the purpose of the community of Ocean Park to acquire their local water utilities, for the health, safety, and welfare of area residents (TJF and Associates 2007). In February 2006, NBPDA purchased Pacific Water Company and, in turn, a subsidiary company to NBPDA also purchased Ocean Park Water Company, Inc. The two water systems were then merged to form North Beach Water.

The South Wellfield was the original source for the Pacific Water Company prior to the merger. The South Wellfield consists of three wells at two different well sites and a 211,000 gallon reservoir. The two original water systems have been interconnected through an intertie.

The updated Water Service Area for North Beach Water has been documented in the most current Water System Plan (TJF and Associates 2007). This update formally recognizes the merger of the two water system and their service areas. The North Beach Water service area extends north from 281st Street in Ocean Park, south to Loomis Lake State Park – totaling nearly 7,000 acres. However, current service is only available to approximately 1,300 acres. The current Water System Plan is pending formal approval by DOH and Ecology.

North Beach Water has six water right certificates – four from the original Ocean Park Water Company and one from the Pacific Water Company. The five certificates authorize a total Qi of 1,035 gpm and a primary Qa of 616 afy from the two wellfields. Table 1 details North Beach Water's current water right certificates for both wellfields.

Water Right Number	Priority Date	Location	Source	Maximum Instantaneous Flow Rate (Qi) in gpm	Maximum Annual Volume (Qa) in afy	
					Additive	Non-Additive
G2-00759C	7/14/65	North Wellfield	Wells 1, 2, 7, and 8	200	320	
G2-21399C	8/23/73		Wells 3 and 6	100	128	32
G2-25737C	10/22/80		Well 4	130		140
G2-27073C	3/16/87		Well 5	105		252
Total for North Wellfield				**535**	**448**	
G2-00174C	12/15/69	South Wellfield	Wells 1, 2, and 4	500	168	
Total for South Wellfield				**500**	**168**	
Cumulative Additive Primary Water Right				**1,035**	**616**	

Table 1. North Beach Water's Current Water Right Status.

Hydrogeologic/Hydrologic Assessment

The Long Beach Peninsula is located in the southwest corner of Washington State, just north of the Columbia River delta. Approximately 27 miles long with an average width of 1.5 miles, the Long Beach Peninsula is surrounded by seawater on three sides. The surface topography is the result of a series of north-south trending sand dunes. Interior surface elevations are typically 25 feet above mean sea level (MSL), but can reach upward of 50 to 70 feet MSL on foredune features found in the northwestern part of the peninsula. The average annual precipitation is 80 inches/year over a 40-year record (1954 to 1992).

The geology of the Long Beach Peninsula is dominated by the depositional environment created by longshore currents transporting sediment, predominantly from the Columbia River, along the Washington coast. Over thousands of years, several hundred feet of unconsolidated sediment have accumulated to shape the peninsula. The thickness of these deposits increases from south to north, as the underlying basal bedrock dips away from its surface outcropping south of Seaview, eventually reaching thicknesses of 1,400 feet toward the northern end of the peninsula. Although the peninsula hosts a widely heterogeneous mixture of unconsolidated sediment (reflecting the ever-changing depositional environment), the upper 100 feet is dominated by sand, underlain by a series of discontinuous lenses of sand and silt/clay.

Groundwater on the Long Beach Peninsula primarily occurs as a lens of fresh water atop saline water from the flanking Pacific Ocean and Willapa Bay. The USGS refers to this fresh water lens as the "sand aquifer", which is a water table aquifer with depth to water typically less than 10 feet below ground surface (depending on surface elevation). Groundwater movement within the sand aquifer is typically perpendicular to the length of the Long Beach Peninsula, from the peninsula axis to the east and west. The actual location of the groundwater divide between eastward- and westward-flowing groundwater is slightly offset to the Pacific side (west), resulting in a greater volume of groundwater discharge to Willapa Bay than to the Pacific Ocean. The silt/clay lenses may locally act as confining units restricting vertical groundwater movement in some areas, but the USGS did not document any regionally continuous confining layer within the sand aquifer (Thomas 1995). A generalized cross section of the Long Beach Peninsula is presented in Figure 1, adapted from Thomas (1995).

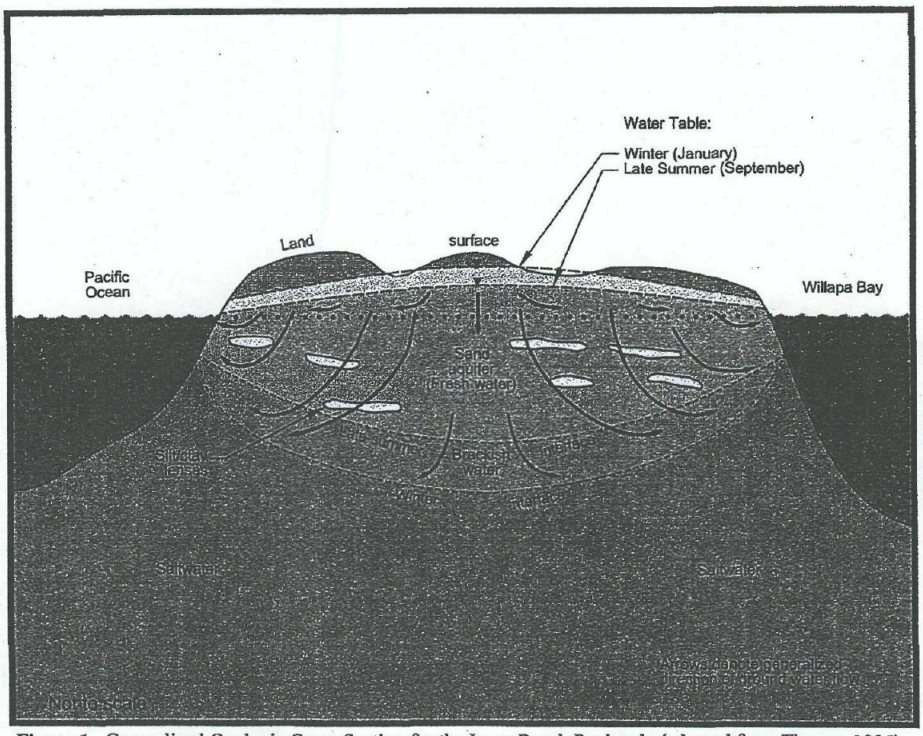

Figure 1. Generalized Geologic Cross-Section for the Long Beach Peninsula (adapted from Thomas 1995).

Surface water occurs in topographic lows, primarily in troughs between dune features. Typically an expression of shallow groundwater, surface water features generally follow a north-south drainage pattern except where altered by man-made canals, drainage ditches, or culverts. There are no instream flow or lake level minimums defined for surface water bodies on the peninsula or anywhere within WRIA 24.

Hydraulic continuity between surface waters and the shallow sand aquifer across the Long Beach Peninsula is well documented. Thomas (1995) compared groundwater and surface water elevations near eight major drainage channels along the peninsula. In 75 percent of the measurements, groundwater elevations were higher than the adjacent surface water body – indicating groundwater discharge to surface water. For the period of one month (January 1992), an estimated 7,700 acre-feet of groundwater discharged to surface waters across the peninsula. The same analysis suggests that from June through September, when groundwater elevations are at their lowest, there is no net groundwater discharge to surface water – indicating a net losing surface water condition. Thomas (1995) states that many of the lakes and marshes have thick deposits of low permeability organic sediment along their bottoms, but hydraulic continuity with surrounding groundwater is maintained through the lakes' upper margins where less of the low permeability material has accumulated.

Pacific County's Surface Water Management Plan (Pool 1985) illustrates the major drainages of the peninsula and describes methods for controlling stormwater, surface water, and groundwater. Historically, the peninsula has been plagued with numerous flooding problems associated with the transmission of surface water runoff to the receiving water bodies. These problems are typically associated with seasonal flooding and insufficient retention and conveyance capacity. Solutions to these problems have included construction of primary drainage courses, periodic maintenance to reopen clogged drainage courses, and improvement/installation of control structures, outfalls, and tide gates (Pool 1985).

The Applicant's points of withdrawal are located in the Nahcotta subbasin. The Nahcotta subbasin is bounded by Willapa Bay (east), U Street (west), Joe Johns Road (north), and 270th Street (south). The subbasin collects water from approximately 254 acres before draining east directly to Willapa Bay through a small drainage channel.

Long Beach Peninsula Water Balance

The Long Beach Peninsula exhibits a classic maritime climate – temperate year-around temperatures with 75 percent of the annual rainfall occurring between October and March. The high infiltration capacity of the surface soils affords an estimated 58 inches of recharge annually, equating to an estimated 111,000 acre-feet/year across the entire peninsula (Thomas 1995). Specific to the northern Long Beach Peninsula, Keta Waters (2006) estimated that 13 inches of the available annual recharge infiltrates to groundwater and 45 inches discharges as surface water.

The thickness of the groundwater lens in the sand aquifer fluctuates seasonally with precipitation. Precipitation is the sole source of aquifer recharge, with peak groundwater elevations of approximately 15 feet above MSL and the seasonal low of approximately 10 feet MSL (Thomas 1995). The Ghyben-Herzberg principle (Freeze 1979) states that a 1-foot change in fresh water elevation above sea level results in a 40-foot change (opposite direction) in the elevation of the fresh water/saline water interface below sea level. Application of this principle implies that the freshwater lens can approach 400 to 600 feet thick near the center line of the peninsula. The thickness of the freshwater lens will decrease (at a theoretical ratio of 40:1) with distance east and west from the groundwater divide in the peninsula center as the aquifer head decreases toward sea level.

As of 1992, groundwater withdrawals on the peninsula were classified into five categories (Thomas 1995): public supply, domestic supply, irrigation, livestock, and cranberry processing. Approximately 90 percent of the potable water supply on the peninsula comes from large water purveyors, with the remaining 10 percent originating from shallow privately owned wells. In 1992, the total annual volume of groundwater withdrawn for public and domestic supply was approximately 775 acre-feet. Comparatively, groundwater withdrawals for irrigation, livestock, and cranberry processing were relatively minor at 7.7, 0.6, and about 1.0 acre-feet, respectively. Cumulatively, the total annual groundwater withdrawals for 1992 accounted for approximately 782 acre-feet.

Demands for freshwater on the Long Beach Peninsula are highly seasonal. In 1992, the flux of summer tourists nearly doubled the population of the peninsula, increasing the average monthly water usage from 55 acre-feet per month to over 100 acre-feet per month (Thomas 1995). Similarly, the irrigation season for pastures and cranberry bogs primarily occurs during the summer months, immediately followed by the acute water requirements for cranberry harvest and processing in early Fall.

Water Demand

Exhibit 2-3 and 4-2 of the current Water System Plan (TJF and Associates 2007) documents the current and predicted future water demand and water right status of the North Beach Water system. The North Beach Water's annual demand is currently (in 2008) 477 afy. For the twenty year planning period, demand is expect to grow to 3,929 connections, correlating to an increase in demand of 206 afy and a total system demand of 683 afy. Current certificated water rights are projected to be fully developed by 2017.

Long-Term Trends in Water Levels and Water Quality

Thomas (1995) determined that elevated dissolved iron in the sand aquifer is the primary drinking water quality issue on the peninsula. Groundwater quality did not appear to have been adversely impacted from agricultural activities, but some above-background nitrate concentrations attributed to septic systems were observed in areas of higher population density.

Thomas (1995) also found that there has been no substantive change in groundwater quantity or quality in the sand aquifer between the early 1970s and 1992. Groundwater levels were stable between 1974 and 1992; chloride concentrations and specific conductance values (indicators of saline water intrusion) were also stable between 1968 and 1992. In general, groundwater quality of the Long Beach Peninsula is good, although localized elevated concentrations of iron have been reported (approximately 30 percent of water samples exceed the 0.3 mg/L state secondary maximum contaminant level (MCL) based on aesthetics). However, no significant problems due to groundwater withdrawals, agricultural activities, or septic were identified.

Since the USGS study was published in 1995, Pacific County Department of Community Development has been collecting groundwater quality data from a 24 monitoring well network along the entire Long Beach Peninsula. Pacific County's more recent data from the immediate area of the subject application do not indicate water quality impacts, based on measured chloride or nitrate levels, or a discernable change in groundwater elevations. In the 24 well network, reported chloride concentrations ranged from 0.3 mg/L to 99.2 mg/L (excluding one anomalous well, No. 98, which had only one reported reading equal to 290 mg/L) and a average chloride concentration of 16 mg/L.

North Beach Water also has water level and water quality data available from the North Wellfield. Water quality of the North Wellfield have traditionally been good, except for iron and manganese concentrations above the secondary MCL, which has resulted in fouling of the well screens and reduced efficiencies. As a result, several of the wells have been rehabilitated and wellhead treatment systems have been installed. The treatment system consists of oxidation by ozone and filtration. The North Wellfield currently has four treatment trains capable of treating 576 gpm, with room to expand to 6 treatment trains. Several exceedances of the 10 µg/L MCL for arsenic have also been reported for water quality samples collected from wells in the North Wellfield.

APPLICATION EVALUATION

This Report of Examination (ROE) evaluates the application based on the conceptual model 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:

(1) The proposed appropriation would be put to a beneficial use;
(2) Water is available for appropriation;
(3) The proposed appropriation would not impair existing water rights; and
(4) The proposed appropriation would not be detrimental to the public welfare.

This ROE addresses these subjects in the above referenced order. Fulfillment of the four requirements determines the decision of Ecology.

Source of Water Proposed for Appropriation

The applicant seeks to withdraw groundwater from eight wellheads located in the southwest quarter of the northeast quarter of Section 28 in Township 12 North, Range 11 West Willamette Meridian. The hydrogeologic regime of the Long Beach Peninsula is analogous to that of an island, with precipitation infiltrating on the uplands, recharging the sand aquifer, and flowing laterally within the aquifer to discharge to seawater at the marine boundaries. No regionally extensive confining unit has been identified to indicate distinct aquifer zones within the sand aquifer, i.e., the sand aquifer is considered a single continuous aquifer system beneath the entire peninsula and to the maximum depth of fresh water occurrence. Surface water bodies on the peninsula are typically an expression of the water table in the sand aquifer; however, surface water features may become perched as groundwater elevations seasonally decline.

In view of the hydraulic continuity linking surface water and groundwater and by virtue of their shared source of recharge, we consider that the source of water proposed for appropriation in this application comprises the entire hydrologic system described above (the sand aquifer, which expresses itself as surface water features in low lying areas). Consequently, all of the senior water right applications (based on priority date) are competing for the same source of water - inclusive of surface water and groundwater across the entire length of the Long Beach peninsula.

Beneficial Use

In accordance with RCW 90.54.020(1), the proposed appropriation for multiple domestic use represents a beneficial use of water. As detailed in the Application and in the updated Water System Plan, the points of withdrawal are currently supported by the necessary infrastructure to deliver water to 2,644 connections within the water service area. Additional connections will be made as demand increases.

North Beach Water has also employed conservation measures as mandated by the Water Use Efficiency Rule. Specific conservation measures – including metering, public outreach, and leak detection – is present in Section 4.1 of the pending Water System Plan (TJF & Associates).

Availability

No administrative or regulatory closures are identified that affect the availability of water requested under this application. The shallow sand aquifer is the most widely used source for groundwater on the Long Beach Peninsula and it is relatively well understood with respect to its water balance. Based on 1992 data, the USGS estimated that groundwater withdrawal from the sand aquifer across the peninsula is approximately 780 acre-feet/year, or 0.7 percent of the aquifer's annual recharge (111,000 acre-feet/year; Thomas 1995). Although highly sensitive to precipitation and seasonality, long-term water level trends in the aquifer have been evaluated in a number of detailed investigations. Thomas (1995) concluded there are no discernable trends to water levels or water quality indicators of saltwater intrusion over the 20 to 25 years preceding 1992. Tracy (1978) estimated that approximately 12 inches of water was available for appropriation, roughly equivalent to 600 gpm or 960 afy per mile of peninsula length.

Keta Waters (2006) concluded that the water budget specific to the northern Long Beach Peninsula is dominated by surface water discharge. Surface water of the Long Beach Peninsula represents a significant source of storage, helping to attenuate peak storm water volumes and retention of water for seasonal groundwater recharge (Pool 1985).

Only one new groundwater right and one new surface water right have been issued by Ecology on the northern Long Beach Peninsula (within 4 miles of the North Wellfield) since the time of the USGS' assessment; therefore, we expect little change to the hydrologic situation they documented. This is substantiated by more recent data collected by the Pacific County Department of Community Development and North Beach Water and is consistent with the limited pumping stress on the sand aquifer relative to the annual recharge. Specifically, available static water levels (1992 to 2007) collected from pumping wells located in the North Wellfield indicate that the groundwater levels remain seasonally stable – ranging from approximately 5 feet bgs in the spring, to approximately 12 feet bgs in the late summer.

Therefore, based on the collective information, we conclude that the quantity of water requested for use in this application is available for appropriation.

Potential for Impairment

RCW 90.03.290 requires a determination that a new appropriation will not impair existing rights. Based on the results of the distance-drawdown analysis presented below, consideration of permits, certificates, and claims within a 0.5-mile radius of the points of withdrawal were considered conservatively inclusive of all potentially affected senior rights. Excluding permits held by North Beach Water (formally Ocean Park Water Company) for the North Wellfield, only one water right certificate and zero permits lie within 0.5 mile of the subject application's proposed points of withdrawal. The existing water right certificate (G2-24001) is for domestic supply at 10 gpm and 1 afy. The point of withdrawal is located over 2,500 feet to the south and has a priority date of October 15, 1975.

In addition, a total of 380 claims to vested water rights were identified in an area of 0.5-mile radius (Section 28) from the points of withdrawal.

The points of withdrawal for North Beach Water's North Wellfield are located near the approximate centerline of the peninsula, 3,000 to 4,000 feet away from Willapa Bay and the Pacific Ocean, respectively, and are located to the east of the groundwater divide running along the north-south axis of the peninsula (Thomas 1995). The winter groundwater elevation at the groundwater divide is approximately 15 feet MSL, while the groundwater elevation at the points of withdrawal is estimated at 13 feet MSL. Due to the great thickness of the fresh water lens near the divide, withdrawal of groundwater from the sand aquifer is not likely to significantly impact the cumulative thickness of the fresh water lens. Any additional change in groundwater elevation caused by the increase in the rate of withdrawal is not likely to be discernable relative to the seasonal groundwater fluctuations. If seawater intrusion were a concern, it would most likely manifest itself as upconing – a phenomena occurring when the thickness of the fresh water lens is not adequate to support the pumping stress from a pumped well, thus causing deep saline water to migrate upward into the fresh water lens. Deeper wells are at greater risk of impairment by saline upconing than shallower wells. Review of the Ecology well log database indicates that the deepest well within a 0.5 mile radius of the points of withdrawal is completed to 35 feet below ground surface. Even during the late summer - when groundwater levels are at their lowest – we estimate that more than 270 feet of fresh groundwater would still remain. This thickness should be adequate to prevent saline water upconing from impairing neighboring senior wells.

In addition to certificated, permitted, and claims to water rights, there are a number of exempt wells in a 0.5-mile radius from the points of withdrawal. As indicated above, the Ecology database was queried for well logs within a 0.5-mile radius of the subject application, resulting in 60 possible exempt water supply wells. A review of the well logs for these wells indicated that, except the wells located at the North Wellfield, all wells are completed at a depth less than 35 feet. Impairment of these potential exempt wells due to upconing of saline water is not expected to occur.

Considering the close proximity of the eight wells located at the North Wellfield, the points of withdrawal can be theoretically considered equivalent to a single well pumping from the sand aquifer. Therefore, based on governing Theis assumptions (Theis 1935) and correction for water table conditions, no discernable (greater than 0.01 foot) additional drawdown (due to an increase of the Qi) is calculated to occur further than a 250 foot radius from the points of withdrawal after twenty four hours of continuous pumping at 300 gpm. The calculation assumes average hydraulic parameters presented in Thomas (1995).

Based on the collective information, impairment of existing rights is not anticipated with full use of the requested quantity.

Public Welfare

No protests to the application were received. The proposed appropriation will support the greater community of Ocean Park, and no detriment to the public welfare was identified.

CONCLUSIONS

The conclusions based on the above investigation are as follow:

1. The proposed appropriation for multiple domestic supply is a beneficial use of water.
2. The quantity of water requested for use in this application is available for appropriation.
3. The proposed appropriation will not impair senior water rights.
4. The proposed appropriation will not be detrimental to the public interest.

RECOMMENDATION

I recommend an approval of application G2-29907 and issuance of a permit to allow appropriation of groundwater at an instantaneous withdrawal rate of 65 gpm and total annual withdrawal of 80 acre-feet per year for multiple domestic supply, year around. These quantities are both additive to the existing certificates for the North Wellfield, for a total authorized instantaneous rate (Qi) of 600 and a total primary withdrawal (Qa) of 528 afy from wells Nos. 1 through 8.

The amount of water granted is a maximum limit that shall not be exceeded and the water user shall be entitled only to that amount of water within the specified limit that is beneficially used and required.

The permit shall be subject to existing rights and the following provisions:

1. The applicant is advised that the quantity of water allocated by this permit may be reduced at the time of final certification to reflect system capacity and actual usage.

   A certificate of water right will not be issued until a final investigation is made.

2. An approved measuring device shall be installed and maintained for each diversion/withdrawal of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use," Chapter 173-173 WAC.

   Water use data shall be recorded weekly. The maximum monthly rate of diversion/withdrawal and the monthly total volume shall be submitted to Ecology by January 31st of each calendar year. Ecology is requiring submittal of monthly meter readings to collect seasonal information for water resource planning, management and compliance.

   Reported water use data shall be submitted via the Internet or by using the enclosed forms. To set up an internet account, access Https://fortress.wa.gov/ecy/wrx/Meteringx/. If you have questions or need additional forms, contact the Southwest Regional office.

   Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions, and to inspect at reasonable times any measuring device used to meet the above conditions.

   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. Installation, operation and maintenance requirements are enclosed as a document titled "Water Measurement Device Installation and Operation Requirements". http://www.ecy.wa.gov/programs/wr/measuring/measuringhome.html

REPORT BY: _____ Date: _____
Tyson D. Carlson

REVIEWED BY: Phil Crane Date: 10/20/08
Phil Crane

FINDINGS OF FACT AND DECISION

Upon reviewing the above report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find water is available for appropriation and the appropriation as recommended is a beneficial use and will not be detrimental to existing rights or the public welfare.

Therefore, I ORDER a permit be issued under Ground Water Application Number G2-29907, subject to existing rights and indicated provisions, to allow appropriation of public groundwater for the amount and uses specified in the foregoing report.

Signed at Olympia, Washington, this 20 day of October, 2008.

Thomas Loranger

Thomas Loranger
Water Resources Supervisor
Southwest Regional Office

CITATIONS

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Linsley, R.K. and Franzini, J.B. 1979. Water Resources and Environmental Engineering. McGraw-Hill, San Francisco.

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Western Regional Climate Center 2007. http://www.wrcc.dri.edu/.