DEQ DIVISION 33 APPLICATION REVIEW SHEET

Recommendations for Water Right Applications that may affect the
Habitat of Sensitive, Threatened or Endangered Fish Species, OAR 690-33-310 through 340.

Application #: G 18319 **Applicant's Name:** Ralph and Diana Nauman

The application proposed the appropriation of 0.004 cubic foot per second (CFS) of water from a well (BENT 53958/L100058) in an unnamed stream basin for year-round nursery use on 1.88 acres.

1) Is there a connection to a 303(d) listed water quality limited water body? ☐ NO ☒ YES

Explain: The unnamed stream is a tributary of the Willamette River. Water quality data is not available for the unnamed stream. The mainstem Willamette River is water quality limited and listed for temperature (year around, non-spawning). The Lower and Middle Willamette are listed for biological criteria (year around) and the Middle and Upper Willamette are listed for dissolved oxygen (October 15 – May 15). The mainstem Willamette River is listed for bacteria (fall/winter/spring). Several toxics are listed in the Lower and Middle Willamette River.

Mainstem Willamette pollutants addressed by a TMDL:
- Bacteria (Four subbasins and mainstem Willamette River; planning targets for four subbasins)
- Mercury (All 12 Willamette Subbasins)
- Temperature (Nine subbasins and mainstem Willamette River)
- Turbidity (Upper Willamette Subbasin)

2) What is the potential for this use to impact a water quality limited water body: ☐ HIGH ☐ MEDIUM ☒ LOW

Explain: The groundwater review indicates that although the well will be drawing from a confined aquifer, there is still hydraulic connection between the well and an unnamed tributary of the Willamette River. The critical period for temperature in the Willamette River extends from April through October.

The cumulative water withdrawals and water management in the Willamette River basin is likely impairing aquatic life due to hydromodification, the proposed withdrawal could further affect surface water quantity and quality. Literature suggests that ecological harm occurs when flows are modified by 6-35% of daily flow[1]. The Willamette Basin TMDL identifies USACE flow augmentation substantially modifies the Willamette River temperature regime by releasing large volumes of water that are often substantially cooler or warmer than natural water temperatures, an effect that can be detected in the mainstem river[2]. The instream requirement is regularly met.

Willamette Percent of Flow

Watershed ID	Exceedance Level	Month	Natural Stream Flow	Consumptive Use	Expected Stream Flow	Instream Requirement	Net Water Avail	Percent of flow (consumptive/ natural)	Mean of monthly Discharge (CFS): USGS 14174000 at Albany (1990-2016)*
183	50	JAN	32,500	2,240	30,300	1300	29000	7	27,000
183	50	FEB	31,500	7,420	24,100	1300	22800	**24**	18,500
183	50	MAR	28,600	7,210	21,400	1300	20100	**25**	16,300
183	50	APR	25,700	6,870	18,800	1300	17500	**27**	14,200
183	50	MAY	21,000	4,160	16,800	1300	15500	**20**	12,400
183	50	JUN	12,100	1,690	10,400	1300	9110	14	9,070
183	50	JUL	6,070	1,440	4,630	1300	3330	**24**	5,340
183	50	AUG	4,110	1,330	2,780	1300	1480	**32**	5,350
183	50	SEP	4,210	1,150	3,060	1300	1760	**27**	5,940
183	50	OCT	6,410	743	5,670	1300	4370	12	7,630
183	50	NOV	17,000	851	16,100	1300	14800	5	14,400

[1] Richter BD, Davis MM, Apse C, Konrad C. 2011 *Short Communication, A Presumptive Standard for Environmental Flow Protection.* River Research and Applications. Published online in Wiley Online Library (wileyonlinelibrary.com), DOI: 10.002/rra.1551
[2] http://www.deq.state.or.us/wq/tmdls/docs/willamettebasin/willamette/chpt4temp.pdf

183	50	DEC	34700	910	33800	1300	32500	3	25,000
183	50	ANN	13500000	2150000	11300000	942000	10400000		

*Green indicates higher observed flows than predicted natural stream flow. Red indicates lower observed flows than predicted natural stream flow.

Flow mitigation may not be suitable for this use due to the highly modified flow regime in the mainstem Willamette River.

Groundwater maintains a fairly constant temperature, so cool groundwater inflow helps to moderate surface water temperatures during warm months. While there may not be a noticeable difference in the amount of water in the adjacent gaining stream (which is a tributary to the Willamette), there may be a distinct and localized effect on stream temperature. However, the water quality impact of this water withdrawal is low due to the location of the well within the Willamette River Basin and the small volume requested.

3) If the answer to question (2) is HIGH or MEDIUM, will the proposed use still result in diminution of water quality for the habitat of sensitive, threatened, or endangered fish species? ☐ NO ☐ YES

If YES, how?

4) Can conditions be applied to mitigate the impact of the use?

☐ NO ☐ YES; recommend from Menu of Conditions and skip to question 7.

If the application is amended in a way that may affect water quality, DEQ shall be notified and given the opportunity to submit updated comments and conditions.

5) If conditions cannot be identified to offset impacts, would the proposed use affect the Habitat of Sensitive, Threatened, or Endangered Fish Species? ☐ NO ☐ YES

If YES, please explain:

6) If a permit is issued, are there any conditions you would like to see included in the permit?

Flow mitigation is unlikely to provide the same benefit groundwater provides to the gaining stream reach. Because this is an existing domestic well, the impact can be mitigated by limiting the total withdrawal to the requested amount and cancellation of the domestic use from the well.

Mitigation condition: The applicant must limit total ground water withdrawals to 0.004 CFS, no additional domestic uses are allowed beyond this rate.

WQ

B57 – with meter that effectively measures flow rate.

Prohibited Activities: Permittee may not cause pollution of any waters of the state, or place or cause to be placed any wastes in a location where such wastes are likely to escape or be carried into the waters of the state by any means.

If the application is amended in a way that may affect water quality, DEQ shall be notified and given the opportunity to submit updated comments and conditions.

7) Your recommendation under OAR 690-033-0330 (2): ☒ Approval with conditions
☐ Approval without conditions
☐ Denial, unless flow mitigation condition is met

DEQ representative signature: Heather Tugaw Date: December 15, 2016

WRD Contact: **Caseworker**: Barbara Poage Water Rights Division, 503-986-0900 / Fax 503-986-0901

MENU OF CONDITIONS FOR WRD, ODFW, DEQ AND AG

The following condition will be included in any permit issued unless ODFW explicitly requests that it be omitted:
The permittee shall not construct, operate or maintain any dam or artificial obstruction to fish passage in the channel of the subject stream without providing a fishway to ensure adequate upstream and downstream passage for fish, unless the permittee has requested and been granted a fish passage waiver or exemption through the Oregon Department of Fish and Wildlife. The permittee is hereby directed to contact an Oregon Department of Fish and Wildlife Fish Passage Coordinator before beginning construction of any in-channel obstruction.

fishself The permittee shall install, maintain, and operate fish screening and by-pass devices consistent with current Oregon Department of Fish and Wildlife (ODFW) standards. Fish screening is to prevent fish from entering the proposed diversion while by-pass devices provide adequate upstream and downstream passage for fish. The required screen and by-pass devices are to be in place and functional prior to diversion of any water. Permittee shall obtain written approval from ODFW that the installation of the required screen and by-pass devices meets the state's criteria or the permittee shall submit documentation that ODFW has determined screens and/or by-pass devices are not necessary.

fishapprove The permittee shall install, maintain, and operate fish screening and by-pass devices consistent with current Oregon Department of Fish and Wildlife (ODFW) standards. Fish screening is to prevent fish from entering the proposed diversion while by-pass devices provide adequate upstream and downstream passage for fish. The required screen and by-pass devices are to be in place and functional, and approved in writing by ODFW prior to diversion of any water. The permittee may submit evidence in writing that ODFW has determined screens and/or by-pass devices are not necessary.

fishdiv33 If the riparian area is disturbed in the process of developing a point of diversion, the permittee shall be responsible for restoration and enhancement of such riparian area in accordance with ODFW's Fish and Wildlife Habitat Mitigation Policy OAR 635-415. For purposes of mitigation, the ODFW Fish and Wildlife Habitat Mitigation Goals and Standards, OAR 635-415, shall be followed**.**

The use may be restricted if the quality of the source stream or downstream waters decrease to the point that those waters no longer meet existing state or federal water quality standards due to reduced flows.

The permittee shall install, maintain, and operate fish screening and by-pass devices consistent with current Oregon Department of Fish and Wildlife (ODFW) standards. Fish screening is to prevent fish from entering the proposed diversion while by-pass devices provide adequate upstream and downstream passage for fish. The required screen and by-pass devices are to be in place and functional, and approved in writing by ODFW prior to diversion of any water. The permittee may submit evidence in writing that ODFW has determined screens and/or by-pass devices are not necessary.

fishmay Not withstanding that ODFW has made a determination that fish screens and/or by-pass devices are not necessary at the time of permit issuance, the permittee may be required in the future to install, maintain, and operate fish screening and by-pass devices to prevent fish from entering the proposed diversion and to provide adequate upstream and downstream passage for fish.

b52 Water may be diverted only when Department of Environmental Quality sediment standards are being met.

b5 The water user shall install and maintain adequate treatment facilities meeting current DEQ requirements to remove sediment before returning the water to the stream.

b51a The period of use has been limited to _____ through _____.

b57 Before water use may begin under this permit, a totalizing flow meter must be installed at each diversion point.

b58 Before water use may begin under this permit, a staff gage that measures the entire range and stage between full reservoir level dead pool storage must be installed in the reservoir. The staff gage shall be United States Geological Survey style porcelain enamel iron staff gage style A, C, E or I. Additionally, before water use may begin under this permit, if the reservoir is located in channel then weirs or other suitable measuring devices must be installed upstream and downstream of the reservoir, and, a gated valve outlet must be installed. A written waiver may be obtained from the local Watermaster if in his judgment the installation of the weir(s) will provide no public benefit.

futile call The use of water allowed herein may be made only at times when waters from the (NAME OF SURFACE WATER) would not otherwise flow into a tributary of the_____ River or sufficient water is available to satisfy all prior rights, including rights for maintaining instream flows.

riparian If the riparian area is disturbed in the process of developing a point of diversion, the permittee shall be responsible for restoration and enhancement of such riparian area in accordance with ODFW's Fish and Wildlife Habitat Mitigation Policy OAR 635-415. For purposes of mitigation, the ODFW Fish and Wildlife Habitat Mitigation Goals and Standards, OAR 635-415, shall be followed**.**

wq The use may be restricted if the quality of the source stream or downstream waters decrease to the point that those waters no longer meet existing state or federal water quality standards due to reduced flows.

fence The stream and its adjacent riparian area shall be fenced to exclude livestock.

blv Water must be diverted to a trough or tank through an enclosed water delivery system. The delivery system must be equipped with an automatic shutoff or limiting flow control mechanism or include a means for returning water to the stream source through an enclosed delivery system. The use of water shall not exceed 0.10 cubic feet per second per 1000 head of livestock.