Application #: S 88273 Applicant: J. & T. Rose

DEQ Water Right Review

Basin & Subbasin: Umpqua; North Umpqua

The purpose of OAR Chapter 690, Division 33 is to aid the Oregon Water Resources Department in determining whether a proposed use will impair or be detrimental to the public interest with regard to sensitive, threatened, or endangered fish species. In addition, OWRD must consider water quality impacts as part of a public interest review, OAR 690-310-0120. Refer to DEQ's Water Right Application Review Procedures document for additional information.

For Proposed Uses in the Columbia River Basin, reviews must determine whether a proposed use complies with existing state and federal water quality standards. Geographic scope: Columbia River Basin and any waterbody that ultimately drains into the Columbia River.

For Proposed Uses outside of the Columbia River Basin, reviews must determine whether a proposed use may affect sensitive, threatened or endangered fish species habitat. Geographic scope: all other areas outside the Columbia River Basin geographic scope where OWRD determines sensitive, threatened, or endangered fish species are present. Note: Water quality impacts and conditions unrelated to STE species should be noted as "Division 310" in the recommendations to OWRD.

1. What are the names of the surface water source and the nearest receiving waterbody? North Umpqua; same

   Requested water amount: 0.04 cfs. Requested time period: Year-around

   Consider the cumulative impact of consumptive withdrawals in the OWRD WAB.

   - Open OWRD's Water Availability Reporting System.
   - Search for the water availability basin of interest. Select 50% exceedance, this represents that the calculated mean monthly flow, "natural flow", will be available 50% of the time.
   - After the water availability report is generated, select the highest nesting order WAB that contains the POD.
   - Download to Excel and paste "natural stream flow" and "consumptive use and storage" values for the month of the proposed use, and add the consumptive portion or storage amount of the proposed use.
   - Divide the consumptive use by the natural stream flow for the month of interest, and multiply by 100.

Table 1. Percent of natural flow (all values in cfs)

Watershed ID	Exceedance Level	Month	Natural Stream Flow	Consumptive Use	Expected Stream Flow	Instream Requirement	Net Water Available	Consumptive Use for this Permit	Percent of Flow
71174	50	JAN	4,650.00	61.4	4,590.00	1,350.00	3,240.00	0.04	0.0009
71174	50	FEB	4,860.00	61.9	4,800.00	1,350.00	3,450.00	0.04	0.0008
71174	50	MAR	4,590.00	51.2	4,540.00	1,350.00	3,190.00	0.04	0.0009
71174	50	APR	4,460.00	53.6	4,410.00	1,350.00	3,060.00	0.04	0.0009
71174	50	MAY	3,590.00	57.8	3,530.00	1,350.00	2,180.00	0.04	0.0011
71174	50	JUN	2,150.00	63.1	2,090.00	1,350.00	737	0.04	0.0019
71174	50	JUL	1,290.00	68.1	1,220.00	1,290.00	-68.1	0.04	0.0033
71174	50	AUG	996	64.7	931	996	-64.7	0.04	0.0043

71174	50	SEP	982	59.7	922	982	-59.7	0.04	0.0043
71174	50	OCT	1,190.00	51.3	1,140.00	1,190.00	-51.3	0.04	0.0035
71174	50	NOV	2,340.00	55.8	2,280.00	1,350.00	934	0.04	0.0018
71174	50	DEC	4,710.00	61.5	4,650.00	1,350.00	3,300.00	0.04	0.0009
71174	50	ANN	2,160,000	42,900	2,110,000	921,000	1,210,000	0.48	0.0000

2. Is this surface water an **Outstanding Resource Water** or upstream from an **Outstanding Resource Water** *note if the ORW is designated to maintain critical habitat for ST&E species?

   Outstanding Resource Waters of Oregon, OAR 340-041-0004(8)(a):
   https://www.oregon.gov/deq/wq/Pages/WQ-Standards-ORWO.aspx

   ☐ Yes. [critical habitat for ST&E species] Go to Step 5. ☒ No. Go to Step 3.

3. Is this source **Water Quality Limited Water** or tributary to a **Water Quality Limited Water** (limit downstream review to 6th field HUC) for parameters that are commonly affected by flow (temperature, dissolved oxygen, pH, etc.)? To determine, select the effective Integrated Report at: http://www.oregon.gov/deq/wq/Pages/2012-Integrated-Report.aspx and under Listing Status, select "Water Quality Limited – All (Categories 3B, 4, and 5)".

Table 2: 303(d) listings (in segment from Glide to mouth)

Water Body (Stream/Lake)	River Miles	Parameter	Season	Criteria	Beneficial Uses	Status
North Umpqua River	0 to 52.3	Flow Modification	Undefined	The creation of tastes or odors or toxic or other conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish may not be allowed.	Salmonid fish rearing; Resident fish and aquatic life; Salmonid fish spawning	Cat 4C: Water quality limited, not a pollutant
North Umpqua River	0 to 32.8	Temperature	September 1 - May 15	Salmon and steelhead spawning: 13.0 degrees Celsius 7-day-average maximum	Salmon and steelhead spawning	Cat 5: Water quality limited, 303(d) list, TMDL needed
North Umpqua River	0 to 68.9	Temperature	Year Round (Non-spawning)	Core cold water habitat: 16.0 degrees Celsius 7-day-average maximum	Core cold water habitat	Cat 4A: Water quality limited, TMDL approved

☒ Yes. Go to Step 6. ☐ No. Go to Step 4.

4. Is this surface water an **Attaining Waterbody** or tributary to an **Attaining Waterbody** for parameters that are commonly affected by flow (temperature, dissolved oxygen, pH, etc.)? Water for which the only status shown

in the Integrated Report Database is Attaining - Category 2. To determine, go to the database at http://www.oregon.gov/deq/wq/Pages/2012-Integrated-Report.aspx

☐ Yes. Go to Step 6. ☒ No. Go to Step 2 (you must answer "yes" to either question 2, 3, or 4)

Note: There are three surface-water categories: Outstanding Resource Water (Step 2), Water Quality Limited Water (Step 3), or Attaining Waterbody (Step 4). If no data are available for the source stream, refer to the nearest downstream receiving waterbody for which data are available.

5. Will the proposed activity result in a permanent withdrawal directly from the **Outstanding Resource Water**?

☐ Yes, mitigate for proposed activity to maintain outstanding resource values, go to Step 12 and check the "Mitigation box", and state mitigation obligation then Go to Step 9.

☐ No. (Application is a LL) Go to Step 6.

6. DEQ's antidegradation policy (OAR 340-041-0004) is designed to protect water from further degradation from new or increased sources of pollution and protects, maintains, and enhances surface water quality to protect existing beneficial uses. Oregon's Antidegradation rule states that certain uses are allowed without a review.

Is the proposed activity a temporary use in response to an emergency, a restoration activity that the Department of Environmental Quality has determined provides a net ecological benefit, or a temporary use to protect human health and welfare (less than six months), for which the applicant has demonstrated that they will minimize adverse effects to threatened and endangered species?

☐ Yes. Go to Step 10.

☒ No. **Water Quality Limited Water** Go to Step 7.

Outstanding Resource Water or Attaining waterbody Go to Step 8.

7. Is a Total Maximum Daily Load established for parameters identified as being affected by hydromodification?

☒ Yes, North Umpqua temperature TMDL Mitigate for the proposed activity, go to Step 12 and check the "Mitigation box", then Go to Step 10. (Non-Columbia Basin reviews should note non-aquatic life listings as Division 310).

☐ No, Go to Step 8.

8. Is it likely that the cumulative withdrawals in the Water Availability Basins (WAB), including the proposed activity, will result in a lowering of water quality that will impair ST&E species? (May note non-aquatic life impairments as Division 310).

Consider the percent of natural flow left instream in each month (see right-most column in Table 1).

Based on best professional judgment, evaluate if the cumulative withdrawal is likely to cause impairment to aquatic life or water quality. Water quality standards are established to protect aquatic life. In scientific literature, researchers have identified ecological harm occurring when flows are reduced by 6-35% of daily flow[1]. Consider the seasonality of any listings and season of withdrawal to determine impact for each month of the year.

All water withdrawals in a water availability basin should be considered in making an impact determination. Antidegradation rule applies, 340-041-0004: Withdrawals cannot cumulatively increase a waterbody's temperature by more than 0.5 degrees Fahrenheit or cause a 0.1 mg/l decrease in dissolved oxygen from the upstream end of a stream reach to the downstream end of the reach so long as it has no adverse effects on threatened and endangered species. See OAR 340-041-0004(3)-(5) for a description in rule of activities that do not result in lowering of water quality.

☐ No. Please provide basis for conclusion: Tab here to enter text. Go to Step 10.

☐ Additional data needed. Go to Step 12 and describe the additional data needed.

☐ Yes. Please provide basis for conclusion or select appropriate parameter box, if applicable: Include an explanation of why a certain percent of flow threshold was chosen; which flow-related parameters or beneficial uses will be impaired or which impairments will be exacerbated; and for which months is flow a limiting factor. Go to Step 9.

☐ Water quality data is unavailable for source or receiving waterbody: Based on cumulative withdrawals within the WAB, flow modification is likely a limiting factor in the waterbody at certain times of the year. Temperature and dissolved oxygen are parameters commonly affected by flow. When streamflow is reduced, heat capacity is reduced. As a waterbody heats up, dissolved oxygen concentrations decline. By reducing streamflow, this use is likely to exacerbate temperature and/or dissolved oxygen impairments. Increased temperature or reduced dissolved oxygen would impact sensitive, threatened, and endangered fish.

☐ Waterbody is known to be impaired for a flow related parameter: Based on cumulative withdrawals within the WAB, known impairments may be exacerbated or new impairments may occur as a result of this use in certain times of the year. The temperature and/or dissolved oxygen concentrations of this waterbody or receiving waterbody are already known to be insufficient for the essential habitat of sensitive, threatened, and endangered fish. Any additional heat or reduction in dissolved oxygen concentrations would further impact the habitat.

☐ Water quality impairment known: The assimilative capacity of a waterway is flow dependent. Reduced flows increase concentrations of bacteria, pesticides, nitrate and metals.

☐ Biocriteria: Waters of the State must be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities. Oregon's biological criteria narrative standard is based on EPA guidance recommending using biological community assessments as an indicator for

[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

aquatic life beneficial use support. Resident biological communities are the local food webs that support fish and other aquatic life. Reduced flows, habitat loss, and increased in pollutant loads or concentrations may degrade the biological community onsite or downstream, and therefore result in the diminution of habitat of sensitive, threatened, or endangered fish species.

9. Can water quality be protected by modifying the amount diverted, season of use, or by imposing permit condition(s)?

   ☒ Yes. Select appropriate condition from the "water quality conditions" list, then Go to Step 10.

   ☐ No. Provide basis for conclusion: Tab here to enter text. Recommend flow mitigation for the proposed activity, go to Step 12 and check the "Mitigation box", then Go to Step 10.

10. ORS 468B.025 prohibits pollution of waters of the state. Is there potential that the post diversion use (handling or water management) will degrade surface water or groundwater quality? (Example: release of thermally degraded stored water.)

    Or are there additional water-quality impairments that would result from this proposed use?

    ☐ Yes. Provide basis for conclusion and note if the impacts would impact fish habitat: Tab here to enter text. Go to Step 11.

    ☒ No. Proceed with application process to OWRD Interagency Coordination and public comment. Go to Step 12.

11. Can permit conditions be implemented to prevent water quality degradation?

    ☐ Yes. Select conditions from the "water quality conditions" list Proceed with application process to OWRD Interagency Coordination and public comment. Go to Step 12.

    ☐ No. Provide basis for conclusion: Tab here to enter text. Recommend additional information be obtained from the applicant to provide reasonable assurance water quality will be protected, or mitigate the proposed activity. May deny application if reasonable assurance analysis shows degradation of water quality (subject to OWRD Interagency Coordination and public comment). Go to Step 12.

THE ABOVE SECTION IS FOR DEQ INTERNAL USE ONLY

12. Based on the Review, the following is recommended. Only one recommendation should be checked.

    ☐ **ADDITIONAL INFORMATION IS NEEDED** to make a determination; request, in writing, information from applicant via OWRD.

    ☐ **Reasonable Assurance**: Applicant must provide reasonable assurance that water quality standards will not be violated due to the water withdrawal (OAR 340-041). Reasonable assurances regarding water quality must be provided addressing the proposed construction, operation, and/or maintenance of the system. Tab here to enter data needs (ex: existing conditions, modeling, parameters of interest, etc.).

    ☐ **Monitoring**: Prior to initiating water diversion from waterbody name, the applicant shall install parameter(s) of interest data loggers that meet Oregon Department of Environmental Quality (DEQ) specifications at locations define location (ex: upstream and downstream) of the point of diversion. The monitor-

ing must be conducted during the period from define period (ex: June 1 to October 15 of each year for five years). The applicant must record data at a minimum of define frequency (ex: 30 minute intervals) and provide the collected data to DEQ define data submittal requirements (ex: at the end of each month).

Applicant shall provide a sampling and analysis plan (SAP) that identifies project-management responsibilities, monitoring locations, schedule, quality assurance and data-management activities. The applicant must submit the SAP to DEQ for review and written approval prior to initiating the monitoring. Data loggers must be operated and maintained in conformance with the SAP.

☐ **Sediment:** Permittee shall develop a sediment-management plan that describes how accumulated sediment in the pond or reservoir will be removed. Plan must be reviewed and approved by DEQ prior to permit issuance.

☐ **Reservoir Design – Water Quality**: Applicant must provide reasonable assurance that water-quality standards will not be violated due to the impoundment of water (OAR 340-041-0061(11)). Prior to the proposed Final Order, the applicant must demonstrate that the design of the reservoir and appurtenant structures allow for the maintenance of water quality, and must provide the following information: Tab here to enter data needs, please refer to monitoring condition for example language (existing conditions, modeling, etc.).

☐ **Reservoir Storage:** Applicant must develop a sampling and analysis plan (SAP) to ensure reservoirs or managed lakes are in compliance with water-quality criteria for temperature, pH, and dissolved oxygen per OAR 340-041-0061(11). The SAP shall identify project-management responsibilities, monitoring locations, schedule, quality assurance and data-management activities. The applicant must submit the SAP to the DEQ for review and written approval prior to the initiation of monitoring. Data loggers must be operated and maintained in conformance with the SAP. Tab here to enter data needs.

☒ **PROCEED WITH APPLICATION**, check water-quality conditions that apply; return signed form to OWRD to proceed with Interagency Coordination.

List conditions (*note conditions that are not related to aquatic life beneficial uses): **Because there is a legal agreement among the State and County to allow a specific volumetric rate of water withdrawal from this waterbody, no mitigation for individual domestic users is being sought at this time to meet water quality standards. However, households should be encouraged to implement voluntary water conservation measures to the maximum extent practicable during the months of July, August, September and October). Applicant should develop a written water conservation plan and provide to OWRD within 60 days of Final Order.**

☐ **PROCEED WITH APPLICATION ON THE CONDITION THAT THE APPLICANT PROVIDES SUITABLE MITIGATION WATER.** Require applicant to secure replacement water for flow mitigation; check water quality conditions that apply and return to OWRD. The mitigation obligation (MO) is equivalent to the volume or rate of the proposed use for the season of use, within the geographic area of the use. Provide justification on how you chose to shape the MO or refine the geographic area of the MO, as needed.

Mitigation obligation: CFS or AF. State the mitigation obligation for each month of the season of use. Recommend a geographic area in which the mitigation obligation should occur.

List conditions (*note conditions that are not related to aquatic life beneficial uses):

☐ **DENY APPLICATION**

Review prepared by: R. David Waltz Date Prepared: 08/03/2017

Water Quality Conditions applicable to G, S, R, and LL

☒ **Compliant Flow Restrictor**

☐ **Reduced Withdrawal**: Water withdrawal is limited to Enter CFS or AF for the defined period, or a month by month rate or volume.

☐ **Period of Use**: Water withdrawal is limited to the period: start date through end date.

☐ **Limit Withdrawal**: No water shall be diverted under this right unless the flow in the waterbody name is at or above CFS cubic foot per second, as determined at Gaging Station ID

☐ **Water Quality Monitoring**: Permittee must follow the approved sampling and analysis plan (SAP) Enter Document #. Data loggers must be operated and maintained in conformance with the SAP.

☐ **Chemical Containment**: Permittee shall install any diesel or gasoline-powered pumps and their generators so that hazardous wastes and chemicals are contained and do not enter the water or soil.

☒ **1200-C**: A 1200-C Stormwater Discharge Permit may be required for this proposed use if construction projects that disturb an acre or more of land. Permittee must contact DEQ prior to project construction.

☐ **401 Certification**: A 401 Removal and Fill Certification may be required, which may result in additional water quality conditions. Permittee must contact DEQ prior to project construction.

☐ **2300-A**: When pesticide application is within three feet of water, the permittee is responsible for ensuring that pesticide application laws are met, and that their use is in compliance with the 2300-A Pesticide General Permit from the DEQ. Polluted return flows are not allowed to enter waters of the state per ORS 468B.025(1).

☒ **Site-Specific Condition: Applicant should develop a written water conservation plan and provide to OWRD within 60 days of Final Order.**

Water Quality Conditions Applicable to Reservoirs and Ponds (consult with ODA, as needed)

☐ **Pond releases**: Permittee shall not release polluted off-channel stored water into waters of the state, unless under emergency situations. For routine maintenance, the Permittee shall land apply stored water or provide treatment prior to releasing it include dates when releases are allowed. Permittee shall comply with OAR 340-041 and ensure that water-quality standards are not violated by releases from storage.

☐ **Pond construction**: Permittee must construct pond off channel, identify waterbody and set back to prevent stream capture and justification for distance selected.

☐ **Flow Releases:** To prevent pollution downstream the permittee shall not discharge water from the reservoir when the flow at Gaging Station ID (gage name) is below Mean Daily Discharge of CFS (discharge which was equaled or exceeded for 90% percent of the time) except when release is directed by the State Engineer to prevent dam failure.

☐ **Nutrient, Sediment, Bacteria, Algae Control**: Permittee must not release substances into waters of the state above natural background levels in amounts that exceed criteria in OAR 340-041. Permittee shall monitor water for list related parameters at a point at or above POD and at number points of maximum impact below the POU/reservoir. Monitoring at these locations must occur frequency from monitoring season. Before certification, the applicant must submit to the Department of Environmental Quality and OWRD monitoring data that describes the locations of the monitoring points and how the points below the reservoir represent the points of maximum impact. The monitoring report must show that concentrations of monitored parameters at points of maximum impact did not exceed levels measured at or above the POD for number consecutive years. Report must be prepared by a qualified professional and certified lab.

☐ **Lining**: Permittee must line the pond with include material or allowable infiltration rate to minimize seepage and protect groundwater quality per OAR 340-040. The liner is to be in place and inspected and approved in writing by the DEQ prior to storage of water.* If the liner fails, it must be replaced within one calendar year.

Fence: The stream and its adjacent riparian area, within the defined legal parcel, must be fenced to exclude livestock prior to diversion of water. Water shall be diverted to a trough or tank through an enclosed water delivery system. The fencing shall be in place and functional prior to diversion of water.

Automatic Conditions: these conditions will be included in permits issued unless the agency explicitly requests that it be omitted.

Riparian: If the riparian area is disturbed in the process of developing a point of diversion, the permittee must restore and enhance such riparian area in accordance with ODFW's Fish and Wildlife Habitat Mitigation Policy OAR 635-415.

Water Quality: The use may be restricted if the quality of the source stream or downstream waters decreases to the point that those waters no longer meet existing state or federal water-quality standards due to reduced flow.

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, per ORS 468B.025(1). If the Department of Environmental Quality determines that pollution of waters of the state is occurring, the permit holder is not in compliance with ORS 468B.025(1), DEQ shall notify OWRD of the violation.

Agricultural Water Quality Management Area Rules: Permittee must comply with basin-specific Agricultural Water Quality Management Area Rules in OAR 603-095. Livestock management and cropping must protect riparian areas on the property, allowing site capable vegetation along streams to establish and grow to provide the following functions: shade (on perennial and some intermittent streams), bank stability, and infiltration or filtration of overland runoff.

Live Flow: Once the allocated volume has been stored, all live flow must be passed downstream at a rate equal to that of the inflow.

* OAR 690-410-0010(2)(a), OAR 690-310-0120, OAR 690-310-0140