



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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C.L. "Butch" Otter, Governor
John H. Tippetts, Director

June 20, 2018

Ms. Susan Poulson
US Environmental Protection Agency, Region 10
1200 6th Avenue, OW-130
Seattle, WA 98101

RE: Final §401 Water Quality Certification for the Final NPDES Permit No. ID-0021229 for
the Kootenai Ponderay Wastewater Treatment Plant

Dear Ms. Poulson:

The State of Idaho Department of Environmental Quality (DEQ) received a request for final certification on June 8, 2018 for the Kootenai Ponderay Wastewater Treatment Plant to discharge from their existing facility. After review of the proposed final permit, DEQ submits the enclosed final §401 water quality certification.

Please direct any questions to June Bergquist at 208.666.4605 or june.bergquist@deq.idaho.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Daniel Redline".

Daniel Redline
Regional Administrator
Coeur d'Alene Regional Office

Enclosure

C: Loren Moore, DEQ Boise
Brian Nickel, EPA Region 10, Seattle
Kootenai Ponderay Sewer District



Idaho Department of Environmental Quality Final §401 Water Quality Certification

June 20, 2018

NPDES Permit Number(s): ID-0021229; Kootenai-Ponderay Wastewater Treatment Plant

Receiving Water Body: Unnamed tributary to Boyer Slough

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended; 33 U.S.C. Section 1341(a)(1); and Idaho Code §§ 39-101 et seq. and 39-3601 et seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollutant Discharge Elimination System (NPDES) permits and issue water quality certification decisions.

Based upon our review of the above-referenced revised permit and associated fact sheet, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02), and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations, or permits.

Antidegradation Review

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- Tier 1 Protection. The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier 1 review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier 2 Protection. The second level of protection applies to those water bodies considered high quality and ensures that no lowering of water quality will be allowed unless deemed necessary to accommodate important economic or social development (IDAPA 58.01.02.051.02; 58.01.02.052.08).
- Tier 3 Protection. The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier 1 protection for that use, unless specific circumstances warranting Tier 2 protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

Pollutants of Concern

The Kootenai-Ponderay Sewer District Wastewater Treatment Plant (KPSD) discharges the following pollutants of concern: BOD, TSS, *E. coli*, chlorine, nitrate + nitrite, ammonia, total nitrogen and phosphorus. Effluent limits have been developed for all pollutants of concern. There is no proposed increase in design flow for this facility.

Receiving Water Body Level of Protection

The KPSD discharges to an unnamed tributary of Boyer Slough within the Pend Oreille Lake Subbasin assessment unit (AU) 17010214PN018_02b (Boyer Slough). The unnamed tributary of Boyer Slough, as well as Boyer Slough itself, is designated for cold water aquatic life, salmonid spawning, primary contact recreation and domestic water supply. Boyer Slough and its tributaries have these designated uses because they are part of the Pend Oreille Lake waterbody unit P-18 (IDAPA 58.01.02.010.110 and 58.01.02.110.05). In addition to these uses, all waters of the state are protected for agricultural and industrial water supply, wildlife habitat, and aesthetics (IDAPA 58.01.02.100).

According to DEQ's 2014 Integrated Report, this AU is not fully supporting its cold water aquatic life, salmonid spawning, and primary contact recreation uses. Causes of impairment are nitrogen and phosphorus. As such, DEQ will provide Tier 1 protection (IDAPA 58.01.02.051.01) for the aquatic life and contact recreation beneficial uses.

Protection and Maintenance of Existing Uses (Tier 1 Protection)

As noted above, a Tier 1 review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. In order to protect and maintain designated and existing beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS such as Section 055, which addresses water quality limited waters. The numeric and narrative criteria in the WQS are set at levels that ensure protection of designated beneficial uses. The effluent limitations and associated requirements contained in the KPSD permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS.

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish wasteload allocations for point source discharges, which are set at levels designed to help restore the water body to a condition

that supports existing and designated beneficial uses. Discharge permits must contain limitations that are consistent with wasteload allocations in the approved TMDL.

A TMDL has not yet been developed for Boyer Slough and its tributaries; however this effort is currently underway. Prior to the development of the TMDL, the WQS require the application of the antidegradation policy and implementation provisions to maintain and protect uses (IDAPA 58.01.02.055.04) (see Table 1).

In summary, the effluent limitations and associated requirements contained in the KPSD permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS. Therefore, DEQ has determined the permit will protect and maintain existing beneficial uses in the unnamed tributary of Boyer Slough in compliance with the Tier 1 provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

Table 1. Comparison of current and proposed permit limits for pollutants of concern.

Pollutant	Units	Current Permit			Proposed Permit			Change ^{ab}
		Average Monthly Limit	Average Weekly Limit	Max. Daily Limit	Average Monthly Limit	Average Weekly Limit	Max. Daily Limit	
Pollutants with limits in both the current and proposed permit								
Five-Day BOD ₅	mg/L	30	45	—	30	45	—	NC
	lb/day	86	129	—	86	129	—	
	% removal	85%	—	—	85%	—	—	
TSS	mg/L	30	45	—	30	45	—	NC
	lb/day	101	152	—	100	150	—	
	% removal	85%	—	—	85%	—	—	
pH	standard units	6.5–9.0 all times			6.5–9.0 all times			NC
<i>E. coli</i>	no./100 mL	126	—	406	126	—	406	NC
Total Residual Chlorine (final)	µg/L	11	—	19	7.3	—	18.3	D
	lb/day	—	—	—	0.024	—	0.061	
Pollutants with new limits in the proposed permit								
Nitrate + Nitrite (October –May)	mg/L	—	—	—	10	20.1	—	D
	lb/day	—	—	—	33.4	67.1	—	D
Total Ammonia (October – May)	mg/L	—	—	—	1.77	—	4.63	D
	lb/day	—	—	—	5.90	—	15.4	D
Total Ammonia (June – Sept)	mg/L	—	—	—	1.56	—	4.07	D
	lb/day	—	—	—	5.20	—	13.6	D
Total Nitrogen (June-Sept)	µg/L	—	—	—	200	401	—	D
	lb/day	—	—	—	0.667	1.34	—	D
Total Phosphorus (June – Sept)	µg/L	—	—	—	9.0	18.0	—	D
	lb/day	—	—	—	0.030	0.060	—	D

^a NC = no change, I = increase, D = decrease.

^b Table 1 is for comparative purposes only.

Conditions Necessary to Ensure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

Compliance Schedule

Pursuant to IDAPA 58.01.02.400.03, DEQ may authorize compliance schedules for water quality-based effluent limits issued in a permit for the first time. KPSD cannot immediately

achieve compliance with the effluent limits for ammonia, nitrate + nitrite, total nitrogen (TN) and phosphorus (TP) due to the following factors:

- Historical effluent concentrations and loads of ammonia, nitrate + nitrite, TN and TP exceed the proposed effluent limits for those parameters.
- The KPSD WWTP is not designed to remove nitrogen or phosphorus.
- Although KPSD can use their storage and re-use (land application) capacity to reduce their surface water discharges of phosphorus and nitrogen during the growing season, KPSD's current storage and re-use capacity is not adequate to allow them to eliminate their discharge to surface water (and thereby comply with new water quality-based effluent limits) under critical conditions.

Therefore, DEQ authorizes a compliance schedule and interim requirements as set forth below. This compliance schedule provides the permittee a reasonable amount of time to achieve the final effluent limits as specified in the permit. At the same time, the schedule ensures that compliance with the final effluent limits is accomplished as soon as possible. At the request of KPSD, this schedule allows time for a facility planning effort and to implement the preferred option to achieving their new effluent limits. Options include but are not limited to an expansion of their reuse site; construction of a mechanical treatment plant; significant upgrades to the existing lagoon system; completing a lake study in the nearshore area of Pend Oreille Lake to determine if a lake outfall can be authorized; some combination of the above, or regionalization with the City of Sandpoint.

Each of these options requires considerable amounts of time to plan, fund and construct (May 20, 2016 email and May 26, 2015 letter from KPSD). Regionalization would require close coordination with the City of Sandpoint and their new NPDES permit compliance schedule. To facilitate a coordinated effort between Sandpoint and KPSD to allow for regionalization to occur, their compliance schedules are closely aligned.

The District also wants time to determine if the nearshore area of Pend Oreille Lake has sufficient assimilative capacity to allow their effluent to be discharged into the lake without harm to Idaho's designated beneficial uses and can meet WQS. To determine the answer, a study will have to be conducted by the District with oversight from DEQ and EPA. This study will require a minimum three years of data collection. The compliance schedule Option A has been written to provide time for this study. The District also wants the option to choose an alternative path other than the lake study. Option B is the alternative path with a nine (9) year compliance schedule to allow KPSD to develop an alternate effort to achieve permit effluent limits.

DEQ authorizes interim effluent limits in Table 3 for a period of ten (10) years six (6) months from the effective date of the final permit for Option A and for a period of nine (9) years for Option B. The permittee must comply with all other effluent limitations beginning on the effective date of the permit. After the selected compliance schedule ends, final limits for ammonia, nitrate + nitrite, total nitrogen and phosphorus shall be met. Table 2 contains an overview of how Option A and B compliance schedules are organized. Each milestone in these compliance schedules are further described in numbered paragraphs below Table 2.

Table 2. Compliance Schedule Options A&B Timeline and Tasks

Timeframe (from effective date of the final permit)	Lake Study ¹ Option A	Other Alternative Option B	Required for both Options A and B
3 months	Study strategy paper		
3 months	draft FSP, QAPP		
6 months	final FSP, QAPP		
1.0 year			Facility planning Progress Report w/ investigation of alternatives
1.5 years	-one year data per FSP/QAPP -data analysis and Interim Report -Quality Assurance Report -revised FSP/QAPP if necessary		
2.0 years		facility plan with preferred alternative OR	
2.5 years	-two years data per FSP/QAPP -data analysis and Interim Report -Quality Assurance Report	facility plan with preferred alternative (if moving from Option A to Option B)	Decision to pursue Option A or B
3.0 years		funding approval	
3.5 years	-3 years of data per FSP/QAPP -data analysis and Final Report -Quality Assurance Report		
4.0 years		completed design	
4.5 years	final facility plan		
5.0 years		bids awarded	
5.5 years	funding approval		
6.0 years	completed design	construction update	
7.0 years	bids awarded	construction update	
8.0 years	construction update	construction completed	
9.0 years	construction update	optimization completed	
10.0 years	construction completed		
10.5 years	optimization completed		

¹IDEQ to complete review and approval within 60 days

FSP = Field Sampling Plan

QAPP = Quality Assurance Project Plan

Interim Requirements for Option A Compliance Schedule

1. By three (3) months after the effective date of the final permit, a Lake Study strategy paper shall be submitted to DEQ for review and approval that describes how assimilative capacity of Pend Oreille Lake (Lake Study) in the proximity of the proposed lake outfall will be determined and how water quality would be affected by the placement of the outfall. The Lake Study strategy paper must include one year of flow direction and velocity monitoring in the proposed affected area and two years of water quality monitoring. The Lake Study strategy paper and subsequent Lake Study shall be developed and managed by limnologists experienced in developing and finalizing similar lake studies.
2. By three (3) months after the effective date of the final permit, a draft Field Sampling Plan (FSP) shall be submitted to DEQ for review and approval that describes in detail how the monitoring will be executed. The FSP shall also be accompanied by a Quality Assurance Project Plan (QAPP). The QAPP shall be written to the standard required by EPA for projects that involve surface water monitoring and the collection and analysis of water samples. Information can be found here: <https://www.epa.gov/quality/quality-assurance-project-plan-development-tool>
3. By six (6) months after the effective date of the final permit, a final FSP and QAPP shall be submitted to DEQ for review and approval.

Interim Requirement for Option A and B Compliance Schedules

4. By one (1) year after the effective date of the final permit, a Progress Report shall be submitted to EPA and DEQ indicating that facility planning is underway and is on schedule to comply with these interim requirements. The Progress Report shall include preliminary investigation of alternatives to meet final effluent limits.

Interim Requirements for Option A Compliance Schedule

5. By one (1) year six (6) months after the effective date of the final permit, one (1) year of monitoring shall be completed per FSP and QAPP. Permittee shall submit to DEQ for review and approval monitoring data, data analysis and interim report, quality assurance report and if necessary, a revised FSP/QAPP.
6. By two (2) years six (6) months after the effective date of the final permit, two (2) years of monitoring shall be completed per FSP and QAPP. Permittee shall submit to DEQ for review and approval monitoring data, data analysis and interim report, and quality assurance report.

Interim Requirement for Option A and B Compliance Schedules

7. By two (2) years six (6) months after the effective date of the final permit, the permittee must notify EPA and DEQ in writing that a preferred compliance schedule option has been selected (Option A or B). If Option B is selected at this time, a facility plan shall be submitted to EPA and DEQ for review and approval that identifies a preferred alternative that will meet final effluent limits along with project phasing, financing strategy and implementation timeline.

Interim Requirements for Option A Compliance Schedule

8. By three (3) years six (6) months after the effective date of the final permit, three years of monitoring shall be completed per FSP and QAPP. Permittee shall submit to DEQ for review and approval monitoring data, data analysis and Final Report, and quality assurance report.
9. By four (4) years six (6) months after the effective date of the final permit, a Final Facility Plan including project phasing, financing strategy and implementation timeline shall have been approved by DEQ.
10. By five (5) years six (6) months after the effective date of the final permit, the permittee shall provide EPA and DEQ with a progress report on funding for their preferred alternative in the form of a notice of bond approval or notice of judicial confirmation.
11. By six (6) years six (6) months after the effective date of the final permit, the permittee must provide EPA and DEQ with written notice that design has been completed and approved by DEQ.
12. By seven (7) years after the effective date of the final permit, the permittee must provide EPA and DEQ with a notice that bids for construction have been awarded to achieve final effluent limitations.
13. By eight (8) and nine (9) years after the effective date of the final permit, the permittee must provide EPA and DEQ with brief progress reports of construction as they relate to meeting the compliance schedule timeline and final effluent limits.
14. By ten (10) years after the effective date of the final permit, the permittee must provide EPA and DEQ with written notice that construction has been substantively completed on the facilities to achieve final effluent limitations.
15. By ten (10) years and six (6) months after the effective date of the final permit, the permittee must provide EPA and DEQ with a written report providing details of a completed start up and optimization phase of the new treatment system (if applicable) and must achieve compliance with the final effluent limitations of Part I.B.

Interim Requirements for Option B Compliance Schedule

1. By two (2) years after the effective date of the final permit, a facility plan shall be submitted to EPA and DEQ for review and approval. The facility plan shall identify a preferred alternative that will meet final effluent limits along with project phasing, financing strategy and implementation timeline.
2. By three (3) years after the effective date of the final permit, the permittee must provide EPA and DEQ with a progress report on funding for the preferred alternative in the form of a notice of bond approval or notice of judicial confirmation.
3. By four (4) years after the effective date of the final permit, the permittee must provide EPA and DEQ with written notice that design has been completed and approved by DEQ.

4. By five (5) years after the effective date of the final permit, the permittee must provide EPA and DEQ with a notice that bids for construction have been awarded to achieve final effluent limitations.
5. By six (6) and seven (7) years after the effective date of the final permit, the permittee must provide EPA and DEQ with brief progress reports of construction as they relate to meeting the compliance schedule timeline and final effluent limits.
6. By eight (8) years after the effective date of the final permit, the permittee must provide EPA and DEQ with written notice that construction has been substantively completed on the facilities to achieve final effluent limitations.
7. By nine (9) years after the effective date of the final permit, the permittee must provide EPA and DEQ with a written report providing details of a completed start up and optimization phase of the new treatment system (if applicable) and must achieve compliance with the final effluent limitations of Part I.B.

Month	Interim Total Nitrogen Limit (lb/month)	Interim Total Phosphorus Limit (lb/month)
June	2,091	468
July	249	56
August	380	85
September	482	108

Mixing Zones

The KPSD outfall discharges to a small tributary of Boyer Slough. The Boyer Slough watershed encompasses approximately 5,400 acres, the majority of which is sparsely populated farm land. Boyer Slough joins Pend Oreille Lake approximately 0.68 miles from the wastewater treatment plant outfall pipe. During the summer months, Pend Oreille Lake is held at an elevation of 2062' to 2062.5' for recreational use which creates a backwater effect in Boyer Slough that extends upstream almost to the outfall. During the rest of the year, Boyer Slough is a small shallow stream. Pursuant to IDAPA 58.01.02.060, DEQ authorizes the mixing zones summarized in Table 4. The mixing zone provisions in IDAPA 58.01.02.060 adopted in 2015 have not yet been approved by EPA. However, there are several reasons why it is appropriate to reference these provisions. First, DEQ is not limited to relying upon WQS when it considers certification under section 401 of the Clean Water Act (CWA). It is also allowed to include conditions necessary to ensure compliance with "any other appropriate requirement of state law" (CWA section 401(d)). The mixing zone provisions are an appropriate requirement of state law.

Second, like the new provisions, the prior mixing zone provisions that were approved by EPA prohibit mixing zones that cause an unreasonable interference with, or danger to beneficial uses. While not yet effective for CWA purposes, the new provisions assist in DEQ's interpretation and application of the mixing zone provisions that have been approved by EPA. As long as this mixing zone does not cause unreasonable interference with, or danger to, beneficial uses it can be used.

Table 4. Mixing Zone for Final Permit Limit

Pollutant	Mixing Zone (% of critical flow volumes of Tributary to Boyer Slough)
chlorine	25

Other Conditions

This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities—including without limitation, any modifications of the permit to reflect new or modified TMDLs, wasteload allocations, site-specific criteria, variances, or other new information—shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to Section 401.

Pollutant Trading

Pursuant to IDAPA 58.01.02.055.06, DEQ authorizes pollutant trading for phosphorus and nitrogen. Trading must be conducted in a manner that is consistent with the most recent version of DEQ's *Water Quality Pollutant Trading Guidance*, available at:

http://www.deq.idaho.gov/media/488798-water_quality_pollutant_trading_guidance_0710.pdf.

Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the "Rules of Administrative Procedure before the Board of Environmental Quality" (IDAPA 58.01.23), within 35 days of the date of the final certification.

Questions or comments regarding the actions taken in this certification should be directed to June Bergquist, Coeur d'Alene Regional Office at 208.666.4605 or via email at june.bergquist@deq.idaho.gov.



Daniel Redline

Regional Administrator

Coeur d'Alene Regional Office