

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY

REUSE PERMIT

M-086-04 – Modification 1

Permittee Name: Kidd Island Bay Lots Sewer District

Effective Date of this Modification: November 19, 2018

Complete Description of Modification

The purpose of this Permit Modification is to include the monitoring and permit limits necessary to irrigate approximately 15.7 acres of additional natural forested land with Class C recycled water. There are also some minor changes to the reuse permit made for clarity. Modifications to the existing reuse permit are briefly described below. Pages to be replaced in the permit are provided as specified:

1. **Table of Contents, page 3-4** – Table of contents was updated to reflect this permit modification (Modification 1).
2. **Section 2. Facility Information, page 7**
 - a. Added the 15.7 acres of natural forested site to the “Method of treatment and reuse” description.
 - b. Added a beneficial use description in the “Ground water” information type for private domestic ground water wells that was mistakenly omitted from the original permit.
3. **Section 3. Compliance Schedule for Required Activities, CA-086-01, p. 8** – Updated the compliance activity requiring the permittee to prepare an updated plan of operation (PO).
 - a. The permittee will be required to submit a draft PO to DEQ incorporating this modification within six months of receiving Modification 1.
 - b. The permittee will be required to submit a final PO to DEQ no later than January 31, 2020.
4. **Section 3. Compliance Schedule for Required Activities, CA-086-07, p. 10** Compliance Activity CA-086-07 requiring the permittee to determine the number and location of new forested site piezometers will be required.
5. **Section 4.1. Hydraulic Management Unit Descriptions, page 11**
 - a. Added descriptions, irrigation type and efficiencies, and maximum allowed acreage in Table 4.1 for new forest management units MU-086-03 and MU-086-04.
 - b. Updated the total, maximum acres allowed in Table 4.1 from 19 acres to 34.7 acres.
6. **Section 4.2. Hydraulic Loading Limits, page 11** – Updated Table 4.2 to include new forest management units. The new management units will be irrigated “Substantially at or below the irrigation water requirement (IWR) for the Type 4 forest identified in the Silviculture plan” for compliance purposes.
7. **Section 4.3. Constituent Loading Limits, page 12** – Added a nitrogen loading limit of 44 lb/ac annually to Table 4.3 for the new forest management units. This value was based on the nitrogen requirement for the Type 4 forested site composition. There will be no additional constituent loading limits required at this time.

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8. **Section 4.4. Management Unit Buffer Zones, page 12** – Added the new forest management units to Table 4.4. Hand set lines will have the same buffer requirements currently in place for the cropped sites. Drip irrigation lines have reduced buffers for inhabited dwellings from 300 feet to 50 feet; reduced for surface waters from 100 feet to 50 feet; reduced for manmade channels from 50 feet to 25 feet; and reduced for areas accessible to the public from 50 feet to zero (0) feet.
 9. **Section 4.5. Other Permit Limits and Conditions, page 13-14**
 - a. Fencing category was updated to reflect *All management units...* shall be fenced. This is made for clarification purposes only.
 - b. Added “Timber Management” category. The permittee will need to discuss in the annual report submittals how the recommendations from the Silviculture Plan were implemented each growing season.
 10. **Section 5.1.1. Constituent Monitoring, page 15**
 - a. Replaced total nitrogen species (TKN plus nitrate/nitrite as N) with total nitrogen monitoring.
 - b. Removed the following language for sample tap WW-086-01: “Sample tap to be installed as part of CA-086-04” to reflect that compliance activity CA-086-04 was completed.
 - c. Updated Table 5.1.1 sample descriptions to include the new forest management units (MU-086-03 and MU-086-04) for constituent monitoring, chlorine residual and total coliforms.
 11. **Section 5.2.1. Ground Water Monitoring Point Descriptions, page 16** – Removed the former monitoring serial numbering from the previous reuse permits for clarity.
 12. **Section 5.3.1. Soil Monitoring Unit Descriptions, page 17** – Added soil monitoring unit SU-086-03 for the new forest management unit. The permittee will need to incorporate this monitoring requirement into their sampling schedule.
 13. **Section 5.3.2. Soil Monitoring, Sampling, and Analyses, page 17** – Added soil monitoring unit SU-086-03 to Table 5.3.2. The permittee will need to monitor annually in April for the constituents listed. Also, added pH monitoring to the listed constituents.
 14. **Section 6.2.1. Required Contents, page 21** – Added the new forest monitoring units to the annual reporting table.
 15. **Section 11.2. Facility Maps, page 33** – Facility map was updated to show the new forest management units.

Modification 1 is hereby approved. This modification to the permit is incorporated into, and constitutes a part of, Reuse Permit M-086-04. This permit modification must be attached to the permit. The permit is incomplete and unlawful under IDAPA 58.01.17, *Recycled Water Rules*, without this permit modification attached.

Signed,



Daniel Redline, Regional Administrator
Coeur d'Alene Regional Office
Department of Environmental Quality

Date

November 19, 2018

Appendix A. Reuse Permit M-086-04 Modification No. 1

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2. Facility Information

Information Type	Information Specific to This Permit
Type(s) of recycled water	Municipal, Class C facility
Method of treatment and reuse	Septic tank effluent pressure mains (Kidd Island Bay Lots community); Gravity collection system (Harbor View Estates community); Two (2) aerated, facultative lagoons; chlorine disinfection; seasonal slow rate irrigation of approximately 10 MG of recycled water annually on 19 acres of an alfalfa/canary reed grass crop and 15.7 acres of natural forest.
For public municipal systems, specify the collection and treatment system classification. See IDAPA 58.01.16.202.01.a	Wastewater collection system classification: Class I Wastewater treatment system classification: Class I Land Application
Facility location	Facility Address: S. Harbor View Drive, Coeur d'Alene, ID 83814 Geographic Location: (T50N, R4W, Section 35); and (T49N, R4W, Section 1)
Facility mailing address	P.O. Box 733, Coeur d'Alene, ID 83814
Facility responsible official and authorized representative	Responsible Official: Doug Kircher, Acting Chair P.O. Box 733 Coeur d'Alene, ID 83814 kiblsd@yahoo.com Notify DEQ within 30 days if there is a change in personnel for any of the above facility contacts. A minor permit modification will be issued by DEQ to confirm the change.
Ground water	Beneficial uses: Domestic Nearby Public Water Supply Wells: <ul style="list-style-type: none"> • Kidd Island Bay Lots Water Users PWS#1280104 • Private domestic ground water wells
Surface water	Coeur d'Alene Lake. Beneficial uses: Domestic water supply; Cold water communities aquatic life; Salmonid spawning; Primary contact recreation

3. Compliance Schedule for Required Activities

Compliance Activity (CA) Number and Completion Due Date	Compliance Activity Description
CA-086-01 As specified.	<p>Draft Plan of Operation (PO): The permittee shall submit a draft PO incorporating the requirements of this reuse permit and Modification 1 for the forested sites in conformance with the applicable requirements stated in IDAPA 58.01.17.300.05 and the site specific management plans:</p> <ol style="list-style-type: none"> 1. Buffer zone plan; 2. Irrigation management plan; 3. Runoff management plan; <p>This draft PO shall be submitted to DEQ for review within six months of Modification 1 issuance.</p> <p>Final Plan of Operation (PO): The permittee shall submit for review and approval a final Plan of Operation that reflects current operations and incorporates the requirements of this permit. The PO shall comply with the applicable requirements stated in IDAPA 58.01.17.300.05 and shall address applicable items as described in the Recycled Water Reuse Permit Application form.</p> <p>The PO shall include the following site management plans or the permittee may submit the site management plans individually:</p> <ol style="list-style-type: none"> 1. Buffer zone plan; 2. Updated Cropping plan; 3. Emergency operating plan; 4. Irrigation management plan; 5. Runoff management plan; 6. Grazing management plan (prior to grazing at the irrigation site); <p>The final PO shall be submitted to DEQ no later than January 31, 2020.</p> <p>The PO shall be updated as needed to reflect current operations. The permittee shall notify DEQ of material changes to the PO and copies shall be kept on site and made available to DEQ upon request.</p>

Compliance Activity (CA) Number and Completion Due Date	Compliance Activity Description
CA-086-04 Six (6) months after permit issuance	<p>Sample Tap: The permittee shall install a sample tap (Serial Number WW-086-01) in the recycled water line after disinfection and prior to irrigation. Plans and specifications must be submitted to DEQ prior to construction. The sample tap shall be the point of compliance for the irrigation water sampling and its location will be specified in the updated PO.</p>
CA-086-05 Twelve (12) months prior to permit expiration.	<p>Pre-Application Workshop: If the permittee intends to continue operating the reuse facility beyond the expiration date of this permit, the permittee shall contact DEQ and schedule a pre-application workshop to discuss the compliance status of the facility and the content required for the reuse permit application package.</p>
CA-086-06 180 days prior to permit expiration.	<p>Renewal Permit Application: The permittee shall submit to DEQ a complete permit renewal application package, which fulfills the requirements specified at the pre-application workshop identified in CA-086-05.</p>
CA-086-07 As specified.	<p>Forested site piezometer construction: The permittee shall determine the number and location of piezometers to be constructed at the forested sites. Plans and specifications shall be approved by DEQ prior to construction. Piezometers identified in the staff analysis dated July 10, 2018 will be used in the 2018 growing season. The piezometers must be constructed prior to irrigating the forested site in the 2019 growing season.</p> <p>The updated plan of operation shall identify the location of the piezometers using the same serial numbering convention specified in this permit.</p>

4. Permit Limits and Conditions

4.1 Hydraulic Management Unit Descriptions

Serial Number	Description	Irrigation System Type and Irrigation Efficiency	Maximum Acres ^a Allowed
MU-086-01	Upper Field	Hand set lines: (Ei = 0.70)	15
MU-086-02	Lower Field	Hand set lines: (Ei = 0.70)	4
MU-086-03 A	Upper Forest	Hand set lines: (Ei = 0.70)	3.5
MU-086-04 A	Lower Forest	Hand set lines: (Ei = 0.70)	5.0
MU-086-03 B	Upper Forest	Drip irrigation: (Ei = 0.90)	9.3
MU-086-04 B	Lower Forest	Drip irrigation: (Ei = 0.90)	6.4
Total acreage			27.5/34.7

- a. Maximum acres represent the total permitted acreage of the MU as provided by the permittee. If the permittee uses less acreage in any season or year, then loading rates shall be presented and compliance shall be determined based on the actual acreage utilized during each season or year.

4.2 Hydraulic Loading Limits

Serial Number	Growing Season Hydraulic Loading	Nongrowing Season Maximum Hydraulic Loading, inches ^a
MU-086-01	Substantially at or below the irrigation water requirement (IWR).	Not allowed
MU-086-02		
MU-086-03 A, B	Substantially at or below the irrigation water requirement (IWR) for the Type 4 forest identified in the Silviculture plan ^b	
MU-086-04 A, B		

- a. Record daily, as necessary, abnormal conditions as a result of nongrowing season application including ponding, excessive ice buildup, or runoff from the permitted site.
- b. For compliance purposes, the source of P_{def} data used to calculate the IWR shall be specified in the PO.

4.3 Constituent Loading Limits

Serial Number	Constituent Loading (from all sources)			
	Nitrogen (lb/acre)	Salt (NVDS) (lb/acre)	COD growing season (lb/acre-day) ^a	COD non-growing season (lb/acre-day) ^a
MU-086-01, MU-086-02	Canary Reed Grass - 150% of typical crop uptake ^a Alfalfa – 133% of typical crop uptake ^a	None	None	None
MU-086-03 MU-086-04	44	None	None	None

a. Typical crop uptake is the median constituent crop uptake from the 3 most recent years the crop has been grown. For crops having less than 3 years of on-site crop uptake data, other crop yield data or nutrient content values may only be used if approved in writing by DEQ in advance of use. If written approval is not provided by DEQ, compliance with the nitrogen loading limit shall be determined by comparing the current year nitrogen loading to the current year nitrogen uptake.

4.4 Management Unit Buffer Zones

Serial Number	Buffer Distances (in feet) from Hydraulic Management Units					
	Public Water Supplies	Private Water Supplies	Inhabited Dwellings	Permanent and Intermittent Surface Water	Irrigation Ditches and Canals	Areas Accessible to the Public
MU-086-01 MU-086-02 MU-086-03 A MU-086-04 A	1,000	500	300	100	50	50
MU-086-03 B MU-086-04 B	1,000	500	50	50	25	0

4.5 Other Permit Limits and Conditions

Category	Permit Limits and Conditions
Growing season	April 1 through October 31 (212 days)
Non-growing season	November 1 through March 31 (153 days)
Reporting year for annual loading rates	November 1 through October 31
Operator certification and endorsement	The wastewater treatment facility and reuse system shall be operated by personnel certified and licensed in the State of Idaho wastewater operator training program at the operator class level specified in IDAPA 58.01.16.203 and properly trained to operate and maintain the system.
Disinfection limits in recycled water	Class C: The median number of total coliform organisms does not exceed 23 total coliform organisms/100 mL, as determined from the bacteriological results of the last 5 days for which analyses have been completed. No sample shall exceed 230 total coliform organisms/100 mL in any confirmed sample.
Crop or vegetation allowed	Restricted to crops not grown for direct human consumption (crops must be processed prior to human consumption).
Grazing	Prior to grazing, the permittee shall submit a grazing management plan and receive written approval from DEQ.
Posting	Signs shall read "Warning: Recycled Water—Do Not Enter," or equivalent signage both in English and Spanish. Signs to be posted every 500 feet and at each corner of the outer perimeter of the irrigated site. Signs are required where management unit border areas are accessible to the public.
Fencing	All management units: three-wire fencing
Construction plans	Pursuant to Idaho Code §39-118, IDAPA 58.01.16, and IDAPA 58.01.17, detailed plans and specifications shall be submitted to DEQ for review and approval prior to construction, modification, or expansion of any wastewater treatment, storage, conveyance structures, ground water monitoring wells, or reuse facility. Inspection requirements shall be satisfied and within 30 days of completion of construction, the permittee shall submit as-built plans or a letter from an Idaho Professional Engineer certifying the facilities or structures were constructed in substantial accordance with the approved plans and specifications.
Records retention requirements	Keep records generated to meet the requirements of this permit for the duration of permit, including administrative extensions, plus 2 years.

Category	Permit Limits and Conditions
Monthly data reporting when irrigating	By the 10 th of each month, submit to DEQ any data generated as required in Section 5, Monitoring Requirements, including lab sheets for the previous months' monitoring activities
Minimum depth to ground water prior to irrigation	The permittee must demonstrate the depth to groundwater is a minimum of 36-inches below the ground surface prior to irrigating. Monitoring frequency required to demonstrate compliance with this requirement is described as follows: Weekly when irrigating in April, May and June. Monthly when irrigating in July, August, September and October.
Timber management	Timber harvest and management shall be in accordance with the recommendations of the accepted Silvicultural Plan. Include with each annual report a description of how the recommendations from the Silvicultural Plan was implemented.

5. Monitoring Requirements

5.1 Recycled Water and Supplemental Irrigation Water Sampling and Analyses

5.1.1 Constituent Monitoring

Monitoring Point Serial Number and Location	Sample Description	Sample Type and Frequency	Constituents (Units in mg/L Unless Otherwise Specified)
WW-086-01	Recycled water to MU-086-01, MU-086-02, MU-086-03, and MU-086-04	Grab/monthly (during periods of use)	- Total nitrogen as N - Total phosphorus, as P
WW-086-01	Recycled water to MU-086-01, MU-086-02, MU-086-03, and MU-086-04	Grab/daily (during period of use)	- Chlorine residual
WW-086-01	Recycled water to MU-086-01, MU-086-02, MU-086-03, and MU-086-04	Grab/weekly (during periods of use)	- Total coliform bacteria (CFU/100mL)
WW-086-02	North west lagoon underdrain	Annually in July (when flowing)	- Total Dissolved Solids (TDS); - E.coli (CFU/100mL)
		Monthly (during the growing season)	- Flowrate, when flowing (gpm);
WW-086-03	South east lagoon underdrain	Annually in July (when flowing)	- Total Dissolved Solids (TDS); - E.coli (CFU/100mL)
		Monthly (during the growing season)	- Flowrate, when flowing (gpm);

5.1.2 Management Unit and Other Flow Monitoring

Management Unit or Flow Measurement Serial Number and Location	Sample Description	Sample Type and Frequency	Measured Parameters, each MU or FM
FM-086-01 (KIB), FM-086-02 (HVE) Pump hours from the KIB and HVE lift stations	Influent flow to LG-086-01 and LG-086-02	- Monthly compilation of data	- Volume (MG/month)
FM-086-03 Irrigation meter	Effluent flow from recycled water to hydraulic management units	- Daily meter reading - Monthly compilation of data	- Volume (MG/month) - Calculated hydraulic loading rate (inches/month)

5.2 Ground Water Monitoring

5.2.1 Ground Water Monitoring Point Descriptions

Monitoring Point Serial Number	Common Designation	Well Type	Gradient Location
GW-086-01	MW-1, South Well	Monitoring well	Down gradient
GW-086-02	MW-2, Southeast Well	Monitoring well	Down gradient
GW-086-03	MW-3, North Well	Monitoring well	Up gradient
PZ-086-01	Piezometer #1	Piezometer	NA
PZ-086-02	Piezometer #2	Piezometer	NA
PZ-086-03	Piezometer #3	Piezometer	NA
PZ-086-04	Piezometer #4	Piezometer	NA
PZ-086-05	Piezometer #5	Piezometer	NA

5.2.2 Ground Water Monitoring, Sampling, and Analyses

Monitoring Point Serial Number	Sampling Point Description	Sample Type and Frequency	Constituents (Units in mg/L Unless Otherwise Specified)
GW-086-01 GW-086-02 GW-086-03	See "Facility Map" in Appendix A	Annually in April or May (prior to starting irrigation) and October.	- Nitrate as nitrogen; - Total dissolved solids (TDS); - Chloride

PZ-086-01 PZ-086-02 PZ-086-03 PZ-086-04 PZ-086-05	See "Facility Map" in Appendix A	Weekly when irrigating in April, May and June. Monthly when irrigating in July, August, September and October.	Depth to groundwater below the ground surface in feet (ft.) or inches (in.)
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5.3 Soil Monitoring

5.3.1 Soil Monitoring Unit Descriptions

Monitoring Point Serial Number	Description	Associated Hydraulic Management Unit
SU-086-01	Upper Field	MU-086-01
SU-086-02	Lower Field	MU-086-02
SU-086-03	Forested sites	MU-086-03 MU-086-04

5.3.2 Soil Monitoring, Sampling, and Analyses

Monitoring Point Serial Number	Sample Type	Sample Frequency	Constituents (Units in mg/kg Soil Unless Otherwise Specified)
SU-086-01 SU-086-02 SU-086-03	Composite soil sample ^a	Annually in April	- Nitrate, as nitrogen; - Ammonium, as nitrogen; - Plant available phosphorus; - Electrical conductivity, EC (uS/cm) and - pH (standard units)

- a. The number of sample locations specified in the PO or QAPP for each SU shall be sampled. At each location, samples shall be obtained from three depths: 0–12 inches; 12–24 inches; and 24–36 inches or refusal. The samples obtained from each depth shall be composited by depth to yield three composite samples for each soil monitoring unit; one composite sample for each depth.

Monitoring Point Serial Number	Parameter (Calculate for each MU)	Units
MU-086-01 MU-086-02 MU-086-03 MU-086-04	Recycled water loading rate	Million gallons/month Inches/month
	Irrigation water requirement (IWR) for each crop grown	Inches/month Inches/GS
	Recycled water total nitrogen and phosphorus loading rates	Pounds/acre-year
	Fertilizer nitrogen and phosphorus application rates, reported as elemental N and P	Pounds/acre-year
	Crop harvest and yield Report each harvest and the annual totals for each MU.	Crop types harvested Total harvested area (acres) Total 'wet' yield (lb/yr, lb/acre-yr) Total 'dry' yield (lb/yr, lb/acre-yr)
	Crop nitrogen and phosphorus removal rates (dry-basis) Report crop yield for each harvest and the total annual yield for each MU.	Pounds-N/acre-year Pounds-P/acre-year Typical crop yield units

6.1.3 Submittals

All applications, annual reports, or information submitted to DEQ as required by this permit shall be signed and certified as follows:

1. Permit applications shall be signed by the Responsible Official as follows:
 - a. For a corporation: by a responsible corporate officer;
 - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
 - c. For a municipality, state, federal, Indian tribe, or other public agency: by either the principal executive officer, ranking elected official, or a person of decision-making authority who can legally bind the permittee with respect to the permit.
2. Annual reports and other information required by this permit shall be signed by the Responsible Official or by a duly Authorized Representative of that person. A person is a duly Authorized Representative only if:
 - a. The authorization is made in writing by the responsible official;
 - b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual having overall responsibility for environmental matters for the company; and
 - c. The written authorization is submitted to DEQ.

11.2 Facility Map (not to scale)

