STATE OF UTAH
DIVISION OF WATER QUALITY
DEPARTMENT OF ENVIRONMENTAL QUALITY
SALT LAKE CITY, UTAH

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Major Municipal Permit No. **UT0021814**
Biosolids Permit No. **UTL021814**
Storm Water Permit No. **UTR000000**

In compliance with provisions of the Utah *Water Quality Act, Title 19, Chapter 5, Utah Code Annotated ("UCA") 1953, as amended* (the *"Act"*),

PRICE RIVER WATER IMPROVEMENT DISTRICT

is hereby authorized to discharge from its wastewater treatment facility to receiving waters named

PRICE RIVER,

to dispose of biosolids,

and to discharge storm water,

in accordance with specific limitations, outfalls, and other conditions set forth herein.

This **modified** permit shall become effective on January 15, 2020

This permit expires at midnight on August 31, 2023.

Signed this 15th day of January, 2020.

Erica Brown Gaddis, PhD
Director

DWQ-2020-000258

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I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

A. Description of Discharge Points. The authorization to discharge wastewater provided under this part is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a UPDES permit are violations of the *Act* and may be subject to penalties under the *Act*. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge may be subject to criminal penalties as provided under the *Act*.

Outfall Number(s)	Location of Discharge Outfall(s)
001	Located at latitude 39° 32 ' 21" and longitude 110°42' 44". The discharge is through a 60" pipe on the east side of the facility, discharging into the Price River. It is approximately 1 ½ miles southwest of Wellington, on the west side of the Price Rive and the Denver and Rio Grande Western Railroad tracks, at 53282 Washer/Plant Road, Wellington, Carbon County, Utah.

B. Narrative Standard. It shall be unlawful, and a violation of this permit, for the permittee to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum, or other nuisances such as color, odor or taste, or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by a bioassay or other tests performed in accordance with standard procedures.

C. Specific Limitations and Self-Monitoring Requirements.

1. Effective immediately, and lasting through the life of this permit, there shall be no acute or chronic toxicity in Outfall 001 as defined in *Part VIII*, and determined by test procedures described in *Part I. C.3 a & b* of this permit.

2.

a. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter	Effluent Limitations *a					
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Yearly Maximum	Daily Minimum	Daily Maximum
Total Flow	2.2	--	--	--	--	--
BOD_5, mg/L	25	35	--	--	--	--
BOD_5 Min. % Removal	85	--	--	--	--	--
TSS, mg/L	25	35	--	--	--	--
TSS Min. % Removal	85	--	--	--	--	--
Dissolved Oxygen, mg/L	--	--	--	--	5.0	--

Parameter	Effluent Limitations *a					
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Yearly Maximum	Daily Minimum	Daily Maximum
Total Ammonia (as N), mg/L Summer (Jul-Sep) Fall (Oct-Dec) Winter (Jan-Mar) Spring (Apr-Jun)	 7.5 9.0 9.5 9.5	 -- -- -- --	 -- -- -- --	 -- -- -- --	 -- -- -- --	 16
TRC, mg/L	0.051	--	--	--	--	0.060
E. coli, No./100mL	126	157	--	--	--	--
WET, Chronic Biomonitoring	--	--	--	--	--	IC_{25}> 32% effluent
Oil & Grease, mg/L	--	--	--	--	--	10.0
pH, Standard Units	--	--	--	--	6.5	9.0
TDS	--	--	--	7304 tons	--	1700 mg/L
Interim Total Phosphorous, mg/L (Effective Jan 1, 2020 – Dec 31, 2022) *g	--	--	3.9	--	--	--
Final Total Phosphorous, mg/L (Effective Jan 1, 2023) *g	--	--	1.0	--	--	--

* Numbers reflect Yearly Average not Yearly Maximum

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD_5, Influent *d Effluent	2x Weekly 2x Weekly	Composite Composite	mg/L mg/L
TSS, Influent *d Effluent	2x Weekly 2x Weekly	Composite Composite	mg/L mg/L
E. coli	2x Weekly	Grab	No./100mL
pH	2x Weekly	Grab	SU
Total Ammonia (as N)	2x Weekly	Composite	mg/L
DO	2x Weekly	Grab	mg/L
WET – Biomonitoring *f Ceriodaphnia Fathead Minnows	Quarterly 1st & 3rd Quarter 2nd & 4th Quarter	 Composite Composite	 Pass/Fail Pass/Fail
TRC, mg/L	Daily	Grab	mg/L
Oil & Grease *e	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) Effluent	 Monthly	 Composite	 mg/L
Phosphorus, Total Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Total Kjeldahl Nitrogen, TKN (as N) Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Nitrate, NO3	Monthly	Composite	mg/L
Nitrite, NO2	Monthly	Composite	mg/L
TDS, mg/L	Monthly	Composite	mg/L
Metals, Influent Effluent	Quarterly Quarterly	Composite/Grab Composite/Grab	mg/L mg/L
Organic Toxics, Influent and Effluent	2^{nd} and 4^{th} year of permit	Grab/Composite	mg/L

*a See Definitions, *Part VIII*, for definition of terms.

*b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

*c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

*d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

*e Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.

*f Ceriodaphnia will be tested during the 1^{st} and 3^{rd} quarters and fathead minnows will be tested during the 2^{nd} and 4^{th} quarters.

*g These reflect changes required with the adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent Limits rule (TBPEL). On May 2, 2018, Price River Water Improvement District was granted a variance as to the compliance date to achieve TBPEL.

3. Chronic Whole Effluent Toxicity (WET) Testing.

a. *Whole Effluent Testing – Chronic Toxicity*.

Starting on September 1, 2018, the permittee shall quarterly, conduct chronic static renewal toxicity tests on a composite sample of the final effluent at Outfall 001. The sample shall be collected at the point of compliance before mixing with the receiving water.

Three samples are required and samples shall be collected on Monday, Wednesday and Friday of each sampling period or collected on a two day progression for each sampling period. This may be changed with Director approval.

The chronic toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, October 2002, EPA—821-R-02-013* as per *40 CFR 136.3(a) TABLE IA-LIST OF APPROVED BIOLOGICAL METHODS*. Test species shall consist of Ceriodaphnia dubia and Pimephales promelas (fathead minnow).

A multi dilution test consisting of at least five concentrations and a control is required at two dilutions below and two above the RWC, if possible. If test acceptability criteria are not met for control survival, growth, or reproduction, the test shall be considered invalid. A valid replacement test is required within the specified sampling period to remain in compliance with this permit. Chronic toxicity occurs when, during a chronic toxicity test, the 25% inhibition concentration (IC25) calculated on the basis of test organism survival and growth or survival and reproduction, is less than or equal to 32% effluent concentration (equivalent to the RWC). If a sample is found to be chronically toxic during a routine test, the monitoring frequency shall become biweekly (see Part I.C.3.b *Accelerated Testing*). (the Director may enter acceptable variations in the test procedure here as documented in the Fact Sheet Statement of Basis and based on the test acceptability criteria as contained in Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control January, 2017). If possible, dilution water should be obtained from the receiving stream.

If the permit contains a total residual chlorine limitation such that it may interfere with WET testing (>0.20 mg/L), the permittee may dechlorinate the sample in accordance with the standard method. If dechlorination is negatively affecting the test, the permittee may collect the sample just before chlorination with Director approval.

Quarterly test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the required reporting period (e.g., biomonitoring results for the calendar quarter ending March 31 shall be reported with the DMR due April 28, with the remaining biomonitoring reports submitted with DMRs due each July 28, October 28, and January 28). Monthly test results shall be reported along with the DMR submitted for that month. The format for the report shall be consistent with Appendix C of "Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity, Utah Division of Water Quality, February 2018.

If the results for ten consecutive tests indicate no chronic toxicity, the permittee may submit a request to the Director to allow a reduction in chronic toxicity testing by alternating species, or using only the most sensitive species. The permit issuing authority may approve or deny the request based on the results and other available information without public notice. If the request is approved, the test procedures are to be the same as specified above for the test species. Under no circumstances shall monitoring for WET at major facilities be reduced less than quarterly.

b. *Accelerated Testing.* When whole effluent toxicity is indicated during routine WET testing as specified in this permit, the permittee shall notify the Director in writing within 5 days after becoming aware of the test result. The permittee shall perform an accelerated schedule of WET testing to establish whether a pattern of toxicity exists unless the permittee notifies the Director and commences a PTI, TIE, or a TRE. Accelerated testing or the PTI, TIE, or TRE will begin within fourteen days after the permittee becomes aware of the test result. Accelerated testing shall be conducted as specified under Pattern of Toxicity. If the accelerated testing demonstrates no pattern of toxicity, routine monitoring shall be resumed.

c. *Pattern of Toxicity*. A pattern of toxicity is defined by the results of a series of up to five biomonitoring tests pursuant to the accelerated testing requirements using a full

set of dilutions for acute (five plus the control) and five effluent dilutions for chronic (five plus the control), on the species found to be more sensitive, once every week for up to five consecutive weeks for acute and once every two weeks up to ten consecutive weeks for chronic.

If two (2) consecutive tests (not including the scheduled test which triggered the search for a pattern of toxicity) do not result in an exceedance of the acute or chronic toxicity criteria, no further accelerated testing will be required and no pattern of toxicity will be found to exist. The permittee will provide written verification to the Director within 5 days of determining no pattern of toxicity exists, and resume routine monitoring.

A pattern of toxicity may or may not be established based on the following:

WET tests should be run at least weekly (acute) or every two weeks (chronic) (note that only one test should be run at a time), for up to 5 tests, until either:

(1) Two consecutive tests fail, or 3 out of 5 tests fail, at which point a pattern of toxicity will have been identified,

Or,

(2) Two consecutive tests pass, or 3 out of 5 tests pass, in which case no pattern of toxicity is identified.

d. *Preliminary Toxicity Investigation.*

(1) When a pattern of toxicity is detected the permittee will notify the Director in writing within 5 days and begin an evaluation of the possible causes of the toxicity. The permittee will have 15 working days from demonstration of the pattern of toxicity to complete an optional Preliminary Toxicity Investigation (PTI) and submit a written report of the results to the Director. The PTI may include, but is not limited to: additional chemical and biological monitoring, examination of pretreatment program records, examination of discharge monitoring reports, a thorough review of the testing protocol, evaluation of treatment processes and chemical use, inspection of material storage and transfer areas to determine if any spill may have occurred.

(2) If the PTI identifies a probable toxicant and/or a probable source of toxicity, the permittee shall submit, as part of its final results, written notification of that effect to the Director. Within thirty days of completing the PTI the permittee shall submit to the Director for approval a control program to control effluent toxicity and shall proceed to implement such plan in accordance with the Director's approval. The control program, as submitted to or revised by the Director, will be incorporated into the permit. After final implementation, the permittee must demonstrate successful removal of toxicity by passing a two species WET test as outlined in this permit. With adequate justification, the Director may extend these deadlines.

(3) If no probable explanation for toxicity is identified in the PTI, the permittee shall notify the Director as part of its final report, along with a schedule for conducting a Phase I Toxicity Reduction Evaluation (TRE) (See *Part I.C.4) (Toxicity Reduction Evaluation*).

(4) If toxicity spontaneously disappears during the PTI, the permittee shall submit written notification to that effect to the Director, with supporting testing evidence as part of the reporting requirements of paragraph a. of this section.

e. *Toxicity Reduction Evaluation (TRE).* If a pattern of toxicity is detected the permittee shall initiate a TIE/TRE within 7 days unless the Director has accepted the decision to complete a PTI. With adequate justification, the Director may extend the 7-day deadline. The purpose of the TIE portion of a TRE will be to establish the cause of the toxicity, locate the source(s) of the toxicity, and the TRE will control or provide treatment for the toxicity.

A TRE may include but is not limited to one, all, or a combination of the following:

(1) Phase I – Toxicity Characterization

(2) Phase II – Toxicity Identification Procedures

(3) Phase III – Toxicity Control Procedures

(4) Any other appropriate procedures for toxicity source elimination and control.

If the TRE establishes that the toxicity cannot be immediately eliminated the permittee shall submit a proposed compliance plan to the Director. The plan shall include the proposed approach to control toxicity and a proposed compliance schedule for achieving control. If the approach and schedule are acceptable to the Director, this permit may be reopened and modified.

If the TIE shows that the toxicity is caused by a toxicant(s) that may be controlled with specific numerical limitations, the permittee shall submit the following:

(a) An alternative control program for compliance with the numerical requirements.

(b) If necessary, as determined by the Director, provide a modified biomonitoring protocol which compensates for the pollutant(s) being controlled numerically.

This permit may be reopened and modified to incorporate any additional numerical limitations, a modified compliance schedule if judged necessary by the Director, and/or modified WET testing requirements without public notice.

Failure to conduct an adequate TIE/TRE plan or program as described above, or the submittal of a plan or program judged inadequate by the Director, shall be considered a violation of this permit. After implementation of TIE/TRE plan, the permittee must demonstrate successful removal of toxicity by passing a two species WET test as outlined in this permit.

D. Reporting of Monitoring Results.

1. Reporting of Wastewater Monitoring Results Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge

Monitoring Report Form (EPA No. 3320-1)* or by NetDMR, post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part VII.G*), and submitted by NetDMR, or to the Division of Water Quality at the following address:

Department of Environmental Quality
Division of Water Quality
PO Box 144870
Salt Lake City, Utah 84114-4870

* Starting January 1, 2017 monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception.

II. INDUSTRIAL PRETREATMENT PROGRAM

A. Definitions. For this section the following definitions shall apply:

1. Indirect Discharge means the introduction of pollutants into a POTW from any non-domestic source regulated under section 307 (b), (c) or (d) of the Act.

2. Interference means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

   a. Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

   b. Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

3. Local Limit is defined as a limit designed to prevent pass through and/or interference. And is developed in accordance with 40 CFR 403.5(c).

4. Pass Through means a discharge which exits the POTW into water of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a violation of any requirement of the POTW's UPDES permit (including an increase in the magnitude or duration of a violation).

5. Significant Industrial User (SIU) is defined as an industrial user discharging to a publicly-owned treatment works (POTW) that satisfies any of the following:

   a. Has a process wastewater flow of 25,000 gallons or more per average work day;

   b. Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;

   c. Is subject to Categorical Pretreatment Standards, or

   d. Has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

6. User or Industrial User (IU) means a source of Indirect Discharge.

B. Self-Monitoring and Reporting Requirements.

1. Because the design capacity of this municipal wastewater treatment facility is less than 5 MGD, the permittee will not be required to develop a State-approved industrial pretreatment program at this time. However, in order to determine if development of an industrial pretreatment program is warranted, the permittee shall conduct an **industrial**

waste survey, as described in *Part II.C.1*, and submit it to the Division of Water Quality within **sixty (60) calendar days** of the effective date of this permit and shall sample and analyze both the influent and effluent annually, for the following parameters.

Monitoring for Pretreatment Program				
Parameter	MDL a*	Sample Type	Frequency	Units
Total Arsenic	0.73	Composite	Yearly c*	mg/L
Total Cadmium	0.0029			
Total Chromium	0.035			
Total Copper	0.116			
Total Cyanide	0.011	Grab		
Total Lead	0.052	Composite		
Total Mercury	0.000028	Composite/Grab		
Total Molybdenum	NA	Composite		
Total Nickel	0.804			
Total Selenium	0.0015			
Total Silver	0.084			
Total Zinc	1.82			
TTOs, b*	NA	Composite/Grab	1st, 3rd and 5th Year of the Permit Cycle	

a* The minimum detection limit (MDL) of the test method used for analysis must be below this limit, if a test method is not available the permittee must submit documentation to the Director regarding the method that will be used.

b* In addition, the permittee shall analyze the treatment facility influent and effluent for the presence of the toxic pollutants listed in 40 CFR 122 Appendix D Table II (Organic Toxic Pollutants). The pesticides fraction of Appendix D, Table II is suspended unless pesticides are expected to be present.

c* Additional monitoring is required per the requirements of Part I, see Self-Monitoring and Reporting Requirements Table for the additional sampling requirements.

C. Industrial Waste Survey (IWS)

1. As required by *Part II.B.1*. the industrial waste survey consists of;

   a. Identifying each industrial user (IU) and determining if the IU is a signification industrial user (SIU),

   b. Determination of the qualitative and quantitative characteristics of each discharge, and

   c. Appropriate production data.

2. The IWS must be maintained and updated with IU information as necessary, to ensure that all IUs are properly permitted and/or controlled at all times. Updates must be submitted to the Director sixty (60) days following a change to the IWS.

3. Evaluate all significant industrial users at least once every two years to determine if they need to develop a slug prevention plan. If a slug prevention plan is required, the permittee shall notify the Director.

4. Notify all significant industrial users of their obligation to comply with applicable requirements under *Subtitles C and D* of the *Resource* Conservation and Recovery Act (RCRA).

5. The permittee must notify the Director of any new introductions by new or existing SIUs or any substantial change in pollutants from any major industrial source. Such notice must contain the information described in 1. above, and be forwarded no later than sixty (60) days following the introduction or change.

D. General and Specific Prohibitions

1. Developed pursuant to *Section 307* of *The Water Quality Act of 1987* require that under no circumstances shall the permittee allow introduction of the following pollutants into the waste treatment system from any source of non-domestic discharge:

   a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, waste streams with a closed cup flashpoint of less than 140˚F (60˚C);

   b. Pollutants, which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;

   c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;

   d. Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at such volume or strength as to cause interference in the POTW;

   e. Heat in amounts, which will inhibit biological activity in the POTW, resulting in interference, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104˚F (40˚C);

   f. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

   g. Pollutants which result in the presence of toxic gases, vapor, or fumes within the POTW in a quantity that may cause worker health or safety problems; or,

   h. Any trucked or hauled pollutants, except at discharge points designated by the POTW.

   i. Any pollutant that causes pass through or interference at the POTW.

2. In addition to the general and specific limitations expressed above, more specific pretreatment limitations have been and will be promulgated for specific industrial categories under *Section 307* of *the Water Quality Act of 1987 as amended (WQA). (See 40 CFR, Subchapter N, Parts 400* through *500*, for specific information).

E. Signification Industrial Users Discharging to the POTW. The permittee shall provide adequate notice to the Director and the Division of Water Quality Industrial Pretreatment Coordinator of;

1. Any new introduction of pollutants into the treatment works from an indirect discharger (i.e., industrial user) which would be subject to *Sections 301* or *306* of the *WQA* if it were directly discharging those pollutants;

2. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit; and

3. For the purposes of this section, adequate notice shall include information on:

   a. The quality and quantity of effluent to be introduced into such treatment works; and,

   b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from such publicly owned treatment works.

4. Any SIU that must comply with applicable requirements under *Subtitles C and D* of the *Resource* Conservation and Recovery Act (RCRA).

F. Change of Conditions. At such time as a specific pretreatment limitation becomes applicable to an industrial user of the permittee, the Director may, as appropriate, do the following:

1. Amend the permittee's UPDES discharge permit to specify the additional pollutant(s) and corresponding effluent limitation(s) consistent with the applicable national pretreatment limitation;

2. Require the permittee to specify, by ordinance, contract, or other enforceable means, the type of pollutant(s) and the maximum amount which may be discharged to the permittee's facility for treatment. Such requirement shall be imposed in a manner consistent with the POTW program development requirements of the *General Pretreatment Regulations* at *40 CFR 403;*

3. Require the permittee to monitor its discharge for any pollutant, which may likely be discharged from the permittee's facility, should the industrial user fail to properly pretreat its waste; and/or,

4. Require the permittee to develop an approved pretreatment program.

G. Legal Action. The Director retains, at all times, the right to take legal action against the industrial user and/or the treatment works, in those cases where a permit violation has occurred because of the failure of an industrial user to discharge at an acceptable level. If the permittee has failed to properly delineate maximum acceptable industrial contributor levels, the Director will look primarily to the permittee as the responsible party.

H. Local Limits. If local limits are developed per R317-8-8.5(4)(b) to protect the POTW from pass-through or interference, then the POTW must submit limits to DWQ for review, public notice and approval, as required by R317-8-8.5(4)(c).

III. BIOSOLIDS REQUIREMENTS

A. Biosolids Treatment and Disposal. The authorization to dispose of biosolids provided under this permit is limited to those biosolids produced from the treatment works owned and operated by the permittee. The treatment methods and disposal practices are designated below.

1. Treatment

Biosolids produced at PRWID are stabilized in the anaerobic digesters for at least 15 days at a temperature of at least 35˚ C (95˚ F). The biosolids are wasted from the digesters to one of the two aerated, facultative sludge basin (FSB) for further stabilization. When ready, the FSB is decanted as much as possible and the biosolids in the FSB sit for about a year and dry out over the summer. They then sample the biosolids and fields for land application. When the fields are ready they transfer the biosolids to fields for land application.

2. Description of Biosolids Disposal Method

a. Class A biosolids may be sold or given away to the public for lawn and garden use or land application.

b. Class B biosolids may be land applied for agriculture use or at reclamation sites at agronomic rates.

c. Biosolids may be disposed of in a landfill or transferred to another facility for treatment/disposal.

3. Changes in Treatment Systems and Disposal Practices.

a. Should the permittee change their disposal methods or the biosolids generation and handling processes of the plant, the permittee must notify the Director at least 30 days in advance if the process/method is specified in 40 CFR 503. This includes, but is not limited to, the permanent addition or removal of any biosolids treatment units (i.e., digesters, drying beds, belt presses, etc.) and/or any other change.

b. Should the permittee change their disposal methods or the biosolids generation and handling processes of the plant, the permittee must notify the Director at least 180 days in advance if the process/method is not specified in 40 CFR 503. This includes, but is not limited to, the permanent addition or removal of any biosolids treatment units (i.e., digesters, drying beds, belt presses, etc.) and/or any other change.

For any biosolids that are land filled, the requirements in *Section 2.12* of the latest version of the *EPA Region VIII Biosolids Management Handbook* must be followed

B. Specific Limitations and Monitoring Requirements. All biosolids generated by this facility to be sold or given away to the public shall meet the requirements of *Part III.B.1, 2, 3* and *4* listed below.

1. Metals Limitations. All biosolids sold or given away in a bag or similar container for application to lawns and home gardens must meet the metals limitations as described below. If these metals limitations are not met, the biosolids must be landfilled.

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits, (mg/kg)	CPLR†, (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR‡, (mg/ha-yr)
Total Arsenic	75	41	41	41
Total Cadmium	85	39	39	39
Total Copper	4300	1500	1500	1500
Total Lead	840	300	300	300
Total Mercury	57	17	17	17
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	420
Total Selenium	100	100	100	100
Total Zinc	7500	2800	2800	2800

2. Pathogen Limitations. All biosolids sold or given away in a bag or a similar container for application to lawns and home gardens must meet the pathogen limitations for Class A. Land applied biosolids must meet the pathogen limitations for Class B as described below. If the pathogen limitations are not met, the biosolids must be landfilled.

    a. Class A biosolids shall meet one of the pathogen measurement requirements in the following Pathogen Control Class table or shall meet the requirements for a Process to Further Reduce Pathogens as defined in *40 CFR Part 503.32(a) Sewage Sludge – Class A.*

    b. Class B biosolids shall meet the pathogen measurement requirements in the following Pathogen Control Class table or shall meet the requirements for a Process to Significantly Reduce Pathogens as defined in 40 CFR Part 503.32(b) *Sewage Sludge – Class B.* In addition, the permittee shall comply with all applicable site restrictions listed below *(40 CFR Part 503.32,(b),(5)):*

        (1) Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application.

        (2) Food crops with harvested parts below the land surface shall not be harvested for 20 months after application if the biosolids remains on the land surface for four months or more prior to incorporation into the soil.

        (3) Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil.

        (4) Food crops, feed crops, and fiber crops shall not be harvested from the land for 30 days after application.

        (5) Animals shall not be allowed to graze on the land for 30 days after application.

† CPLR -- Cumulative Pollutant Loading Rate
‡ APLR – Annual Pollutant Loading Rate

(6) Turf grown on land where biosolids is applied shall not be harvested for one year after application if the harvested turf is placed on either land with a high potential for public exposure or a lawn.

(7) Public access to land with a high potential for public exposure shall be restricted for one year after application.

(8) Public access to land with a low potential for public exposure shall be restricted for 30 days after application.

(9) The sludge or the application of the sludge shall not cause or contribute to the harm of a threatened or endangered species or result in the destruction or adverse modification of critical habitat of a threatened or endangered species after application.

Pathogen Control Class	
Class A	Class B
B Salmonella species –less than three (3) MPN[§] per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids)	Fecal Coliforms –less than 2,000,000 colony forming units per gram total solids
Enteric viruses –less than one (1) MPN (or plaque forming unit) per four (4) grams total solids	
Viable helminth ova –less than one (1) MPN per four (4) grams total solids	

3. Vector Attraction Reduction Requirements.

a. The permittee will meet vector attraction reduction through use of one of the methods listed in *40 CFR 503.33*. PRWID is meeting the requirements though the following methods.

(1) Under 40 CFR 503.33(b)(1), the solids need to be treated through anaerobic digestion for at least 15 days at a temperature of a least 35° C (95° F) with a 38% reduction of volatile solids".

If the permittee intends to use another one of the alternatives, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public comment.

4. Self-Monitoring Requirements.

a. At a minimum, upon the effective date of this permit, all chemical pollutants, pathogens and applicable vector attraction reduction requirements shall be monitored according to *40 CFR 503.16(1)(a)*.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290[**]	Once Per Year or Batch

[§] MPN –Most Probable Number

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times

b. Sample collection, preservation and analysis shall be performed in a manner consistent with the requirements of *40 CRF 503* and/or other criteria specific to this permit. A metals analysis is to be performed using *Method SW 846* with *Method 3050* used for digestion. For the digestion procedure, an amount of biosolids equivalent to a dry weight of one gram shall be used. The methods are also described in the latest version of the *Region VIII Biosolids Management Handbook.*

c. The Director may request additional monitoring for specific pollutants derived from biosolids if the data shows a potential for concern.

d. After two (2) years of monitoring at the frequency specified, the permittee may request that the Director reduce the sampling frequency for the heavy metals. The frequency cannot be reduced to less than once per year for biosolids that are sold or given away to the public for any parameter. The frequency also cannot be reduced for any of the pathogen or vector attraction reduction requirements listed in this permit.

C. Management Practices of Biosolids.

1. Biosolids Distribution Information

a. For biosolids that are sold or given away, an information sheet shall be provided to the person who receives the biosolids. The label or information sheet shall contain:

(1) The name and address of the person who prepared the biosolids for a sale or to be given away.

(2) A statement that prohibits the application of the biosolids to the land except in accordance with the instructions on the label or information sheet.

2. Biosolids Application Site Storage

a. For biosolids or material derived from biosolids that are stored in piles for one year or longer, measures shall be taken to ensure that erosion (whether by wind or water) does not occur. However, best management practices should also be used for piles used for biosolids treatment. If a treatment pile is considered to have caused a problem, best management practices could be added as a requirement in the next permit renewal

3. Land Application Practices

a. The permittee shall operate and maintain the land application site operations in accordance with the following requirements:

** Price River produced 231 Dry Metric Tons in 2016. Accordingly, they will sample at least one time per year.

(1) The permittee shall provide to the Director and the EPA within 90 days of the effective date of this permit a land application plan.

(2) Application of biosolids shall be conducted in a manner that will not contaminate the groundwater or impair the use classification for that water underlying the sites.

(3) Application of biosolids shall be conducted in a manner that will not cause a violation of any receiving water quality standard from discharges of surface runoff from the land application sites. Biosolids shall not be applied to land 10 meters or less from waters of the United States (as defined in 40 CFR 122.2).

(4) No person shall apply biosolids for beneficial use to frozen, ice-covered, or snow-covered land where the slope of such land is greater than three percent and is less than or equal to six percent unless one of the following requirements is met:

(a) there is 80 percent vegetative ground cover; or,

(b) approval has been obtained based upon a plan demonstrating adequate runoff containment measures.

(5) Application of biosolids is prohibited to frozen, ice-covered, or snow covered sites where the slope of the site exceeds six percent.

(6) Agronomic Rate

(a) Application of biosolids shall be conducted in a manner that does not exceed the agronomic rate for available nitrogen of the crops grown on the site. At a minimum, the permittee is required to follow the methods for calculating agronomic rate outlined in the latest version of the *Region VIII Biosolids Management Handbook* (other methods may be approved by the Director). The treatment plant shall provide written notification to the applier of the biosolids of the concentration of total nitrogen (as N on a dry weight basis) in the biosolids. Written permission from the Director is required to exceed the agronomic rate.

(b) The permittee may request the limits of *Part III, C, 6* be modified if different limits would be justified based on local conditions. The limits are required to be developed in cooperation with the local agricultural extension office or university.

(c) Deep soil monitoring for nitrate-nitrogen is required for all land application sites (does not apply to sites where biosolids are applied less than once every five years). A minimum of six samples for each 320 (or less) acre area is to be collected. These samples are to be collected down to either a 5 foot depth, or the confining layer, whichever is shallower (sample at 1 foot, 2 foot, 3 foot, 4 foot and 5 foot intervals). Each of these one-foot interval samples shall be analyzed for nitrate-nitrogen. In addition to the one-foot interval samples, a composite sample of the 5 foot intervals shall be taken, and analyzed for nitrate-nitrogen as well. Samples are required to be taken once every five years for non-irrigated sites that receive more than 18 inches of precipitation annually or for irrigated sites

(7) Biosolids shall not be applied to any site area with standing surface water. If the annual high groundwater level is known or suspected to be within five feet of the surface, additional deep soil monitoring for nitrate-nitrogen as described in *Part III.C.(6),(c).* is to be performed. At a minimum, this additional monitoring will involve a collection of more samples in the affected area and possibly more frequent sampling. The exact number of samples to be collected will be outlined in a deep soil monitoring plan to be submitted to the Director and the EPA within 90 days of the effective date of this permit. The plan is subject to approval by the Director.

(8) The specified cover crop shall be planted during the next available planting season. If this does not occur, the permittee shall notify the Director in writing. Additional restrictions may be placed on the application of the biosolids on that site on a case-by-case basis to control nitrate movement. Deep soil monitoring may be increased under the discretion of the Director.

(9) When weather and or soil conditions prevent adherence to the biosolids application procedure, biosolids shall not be applied on the site.

(10) For biosolids that are sold or given away, an information sheet shall be provided to the person who receives the biosolids. The label or information sheet shall contain:

(a) The name and address of the person who prepared the biosolids for sale or give away for application to the land.

(b) A statement that prohibits the application of the biosolids to the land except in accordance with the instructions on the label or information sheet.

(c) The annual whole biosolids application rate for the biosolids that do not cause the metals loading rates in Tables 1, 2, and 3 (*Part III.B.1.*) to be exceeded.

(11) Biosolids subject to the cumulative pollutant loading rates in Table 2 (*Part III.B.1.*) shall not be applied to agricultural land, forest, a public contact site, or a reclamation site if any of the cumulative pollutant loading rates in Table 2 have been reached.

(12) If the treatment plant applies the biosolids, it shall provide the owner or leaseholder of the land on which the biosolids are applied notice and necessary information to comply with the requirements in this permit.

(13) The permittee shall inspect the application of the biosolids to active sites to prevent malfunctions and deterioration, operator errors and discharges, which may cause or lead to the release of biosolids to the environment or a threat to human health. The permittee must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment. The permittee shall keep an inspection log or summary including at least the date and time of inspection, the printed name and the handwritten signature of the inspector, a notation of observations made and the date and nature of any repairs or corrective action.

D. Special Conditions on Biosolids Storage. Permanent storage of biosolids is prohibited. Biosolids shall not be temporarily stored for more than two (2) years. Written permission to store biosolids for more than two years must be obtained from the Director. Storage of biosolids for more than two years will be allowed only if it is determined that significant treatment is occurring.

E. Representative Sampling. Biosolids samples used to measure compliance with *Part III* of this Permit shall be collected at locations representative of the quality of biosolids generated at the treatment works and immediately prior to land application.

F. Reporting of Monitoring Results.

1. Biosolids. The permittee shall provide the results of all monitoring performed in accordance with *Part III.B*, and information on management practices, biosolids treatment, site restrictions and certifications shall be provided no later than February 19 of each year. Each report is for the previous calendar year. If no biosolids were sold or given away during the reporting period, "no biosolids were sold or given away" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the *Signatory Requirements (see Part VII.G)*, and submitted to the Utah Division of Water Quality by NetDMR[††] or at the following address:

Original to: Biosolids Coordinator
Utah Division of Water Quality
PO Box 144870
Salt Lake City Utah, 84114-4870

G. Additional Record Keeping Requirements Specific to Biosolids.

1. Unless otherwise required by the Director, **the permittee is not required to keep records** on compost products if the permittee prepared them from biosolids that meet the limits in Table 3 (*Part III.B.1*), the Class A pathogen requirements in *Part III.B.2* and the vector attraction reduction requirements in *Part III.B.3*. The Director may notify the permittee that additional record keeping is required if it is determined to be significant to protecting public health and the environment.

2. **The permittee is required** to keep the following information for at least 5 years:

a. Concentration of each heavy metal in Table 3 (*Part III.B.1*).

b. A description of how the pathogen reduction requirements in *Part III.B.2* were met.

c. A description of how the vector attraction reduction requirements in *Part III.B.3* were met.

d. A description of how the management practices in *Part III.C* were met (if necessary).

e. The following certification statement:

"I certify under the penalty of law, that the heavy metals requirements in *Part III.B.1*, the pathogen requirements in *Part III.B.2*, the vector attraction requirements in *Part*

†† Starting January 1, 2017 monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Annual Biosolids Reports should also be submitted through this system.

III.B.3, the management practices in *Part III.C*. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements, the vector attraction reduction requirements and the management practices have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment."

3. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit for the life of the permit. Data collected on site, copies of Biosolids Report forms, and a copy of this UPDES biosolids-only permit must be maintained on site during the duration of activity at the permitted location.

IV. STORM WATER REQUIREMENTS.

A. Coverage of This Section. The requirements listed under this section shall apply to storm water discharges. Storm water discharges from the following portions of the facility may be eligible for coverage under this permit: biosolids drying beds, haul or access roads on which transportation of biosolids may occur, grit screen cleaning areas, chemical loading, unloading and storage areas, salt or sand storage areas, vehicle or equipment storage and maintenance areas, or any other wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including lands dedicated to the disposal of sewage sludge that are located within the confines of the facility that may have a reasonable expectation to contribute to pollutants in a storm water discharge.

B. Prohibition of Non-Storm Water Discharges. Except for discharges identified in *Part I.*, and discharges described below in this paragraph, non-storm water discharges are prohibited. The following non-storm water discharges may be authorized under this permit provided the non-storm water component of the discharge is in compliance with this section; discharges from firefighting activities; fire hydrant flushing; potable water sources including waterline flushing; drinking fountain water; irrigation drainage and lawn watering; routine external building wash down water where detergents or other compounds have not been used in the process; pavement wash waters where spills or leaks of toxic or hazardous materials (including oils and fuels) have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; uncontaminated compressor condensate; uncontaminated springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.

C. Storm Water Pollution Prevention Plan Requirements. The permittee must have (on site) or develop and implement a storm water pollution prevention plan as a condition of this permit.

1. Contents of the Plan. The plan shall include, at a minimum, the following items:

a. *Pollution Prevention Team.* Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

b. *Description of Potential Pollutant Sources.* Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials, which may be reasonably expected to have the potential as a significant pollutant source. Each plan shall include, at a minimum:

(1) *Drainage*. A site map indicating drainage areas and storm water outfalls. For each area of the facility that generates storm water discharges associated with the waste water treatment related activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow and an identification of the types of pollutants that are likely to be present in storm water discharges associated with the activity. Factors to consider

include the toxicity of the pollutant; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified. The site map shall include but not be limited to:

(a) Drainage direction and discharge points from all wastewater associated activities including but not limited to grit screen cleaning, bio-solids drying beds and transport, chemical/material loading, unloading and storage areas, vehicle maintenance areas, salt or sand storage areas.

(b) Location of any erosion and sediment control structure or other control measures utilized for reducing pollutants in storm water runoff.

(c) Location of bio-solids drying beds where exposed to precipitation or where the transportation of bio-solids may be spilled onto internal roadways or tracked off site.

(d) Location where grit screen cleaning or other routinely performed industrial activities are located and are exposed to precipitation.

(e) Location of any handling, loading, unloading or storage of chemicals or potential pollutants such as caustics, hydraulic fluids, lubricants, solvents or other petroleum products, or hazardous wastes and where these may be exposed to precipitation.

(f) Locations where any major spills or leaks of toxic or hazardous materials have occurred.

(g) Location of any sand or salt piles.

(h) Location of fueling stations or vehicle and equipment maintenance and cleaning areas that are exposed to precipitation.

(i) Location of receiving streams or other surface water bodies.

(j) Locations of outfalls and the types of discharges contained in the drainage areas of the outfalls.

(2) *Inventory of Exposed Materials*. An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of 3 years prior to the effective date of this permit and the present; method and location of onsite storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of 3 years prior to the effective date of this permit and the present; the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

(3) *Spills and Leaks*. A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at areas that are exposed to precipitation or that otherwise drain to a storm water conveyance at the facility after the date of 3 years prior to the effective date of this permit. Such list shall be updated as appropriate during the term of the permit.

(4) *Sampling Data*. A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility, including a summary of sampling data collected during the term of this permit.

(5) *Summary of Potential Pollutant Sources and Risk Assessment*. A narrative description of the potential pollutant sources from the following activities associated with treatment works: access roads/rail lines; loading and unloading operations; outdoor storage activities; material handling sites; outdoor vehicle storage or maintenance sites; significant dust or particulate generating processes; and onsite waste disposal practices. Specific potential pollutants shall be identified where known.

(6) *Measures and Controls*. The permittee shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

(7) *Good Housekeeping*. All areas that may contribute pollutants to storm waters discharges shall be maintained in a clean, orderly manner. These are practices that would minimize the generation of pollutants at the source or before it would be necessary to employ sediment ponds or other control measures at the discharge outlets. Where applicable, such measures or other equivalent measures would include the following: sweepers and covered storage to minimize dust generation and storm runoff; conservation of vegetation where possible to minimize erosion; sweeping of haul roads, bio-solids access points, and exits to reduce or eliminate off site tracking; sweeping of sand or salt storage areas to minimize entrainment in storm water runoff; collection, removal, and proper disposal of waste oils and other fluids resulting from vehicle and equipment maintenance; other equivalent measures to address identified potential sources of pollution.

(8) *Preventive Maintenance*. A preventive maintenance program shall involve timely inspection and maintenance of storm water management devices (e.g., cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

(9) *Spill Prevention and Response Procedures*. Areas where potential spills that can contribute pollutants to storm water discharges can occur, and their accompanying drainage points, shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures and equipment for

cleaning up spills shall be identified in the plan and made available to the appropriate personnel.

(10) *Inspections.* In addition to the comprehensive site evaluation required under paragraph (*Part V.C.1.b.(16))* of this section, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility on a periodic basis. The following areas shall be included in all inspections: access roads/rail lines, equipment storage and maintenance areas (both indoor and outdoor areas); fueling; material handling areas, residual treatment, storage, and disposal areas; and wastewater treatment areas. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained. The use of a checklist developed by the facility is encouraged.

(11) *Employee Training*. Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify how often training will take place, but training should be held at least annually (once per calendar year). Employee training must, at a minimum, address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and control; fueling procedures; general good housekeeping practices; proper procedures for using fertilizers, herbicides and pesticides.

(12) *Record keeping and Internal Reporting Procedures*. A description of incidents (such as spills, or other discharges), along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

(13) *Non-storm Water Discharges*.

(a) *Certification.* The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the onsite drainage points that were directly observed during the test. Certifications shall be signed in accordance with *Part VII.G* of this permit.

(b) *Exceptions*. Except for flows from firefighting activities, sources of non-storm water listed in *Part V.B.* (Prohibition of Non-storm Water Discharges) of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

(c) *Failure to Certify*. Any facility that is unable to provide the certification required (testing for non-storm water discharges), must notify the *Director* within 180 days after the effective date of this permit. If the failure to certify is caused by the inability to perform adequate tests or evaluations, such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible. Non-storm water discharges to waters of the State, which are not, authorized by a *UPDES* permit are unlawful, and must be terminated.

(14) *Sediment and Erosion Control*. The plan shall identify areas, which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify structural, vegetative, and/or stabilization measures to be used to limit erosion.

(15) *Management of Runoff*. The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the generation or source(s) of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures that the permittee determines to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity *Part V.C.1.b* (Description of Potential Pollutant Sources) of this permit] shall be considered when determining reasonable and appropriate measures. Appropriate measures or other equivalent measures may include: vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, wet detention/retention devices and discharging storm water through the waste water facility for treatment.

(16) *Comprehensive Site Compliance Evaluation*. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but in no case less than once a year. Such evaluations shall provide:

(a) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with *Part V.C.1.b*

(Description of Potential Pollutant Sources) of this section and pollution prevention measures and controls identified in the plan in accordance with *Part V.C.1.b.(6)* (Measures and Controls) of this section shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

(c) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph *i.* (above) shall be made and retained as part of the storm water pollution prevention plan for at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with the storm water pollution prevention plan and this permit. The report shall be signed in accordance with *Part VII.G* (Signatory Requirements) of this permit.

(17) *Deadlines for Plan Preparation and Compliance*. The permittee shall prepare and implement a plan in compliance with the provisions of this section within 270 days of the effective date of this permit. If the permittee already has a plan, it shall be revised according to *Part V.C.1.b.(16)*, Comprehensive Site Evaluation.

(18) *Keeping Plans Current*. The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance, that has a significant effect on the potential for the discharge of pollutants to the waters of the state or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified by the plan, or in otherwise achieving the general objective of controlling pollutants in storm water discharges associated with the activities at the facility.

D. Monitoring and Reporting Requirements.

1. Quarterly Visual Examination of Storm Water Quality. Facilities shall perform and document a visual examination of a storm water discharge associated with industrial activity from each outfall, except discharges exempted below. The examination must be made at least once in each of the following designated periods during daylight hours unless there is insufficient rainfall or snow melt to produce a runoff event: January through March; April through June; July through September; and October through December.

a. *Sample and Data Collection*. Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well-lit area. No analytical tests are required to be performed on the samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater

than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

b. *Visual Storm Water Discharge Examination Reports*. Visual examination reports must be maintained onsite in the pollution prevention plan. The report shall include the examination date and time, examination personnel, the nature of the discharge (i.e., runoff or snow melt), visual quality of the storm water discharge (including observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution), and probable sources of any observed storm water contamination.

c. *Representative Discharge*. When the permittee has two or more outfalls that, based on a consideration of industrial activity, significant materials, and management practices and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may collect a sample of effluent of one of such outfalls and report that the observation data also applies to the substantially identical outfall(s) provided that the permittee includes in the storm water pollution prevention plan a description of the location of the outfalls and explains in detail why the outfalls are expected to discharge substantially identical effluents. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area [e.g., low (under 40 percent), medium (40 to 65 percent), or high (above 65 percent)] shall be provided in the plan.

d. *Adverse Conditions*. When a discharger is unable to collect samples over the course of the visual examination period as a result of adverse climatic conditions, the discharger must document the reason for not performing the visual examination and retain this documentation onsite with the results of the visual examination. Adverse weather conditions, which may prohibit the collection of samples, include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

e. *Inactive and Unstaffed Site*. When a discharger is unable to conduct visual storm water examinations at an inactive and unstaffed site, the operator of the facility may exercise a waiver of the monitoring requirement as long as the facility remains inactive and unstaffed. The facility must maintain a certification with the pollution prevention plan stating that the site is inactive and unstaffed so that performing visual examinations during a qualifying event is not feasible.

V. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS

A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under *Part I* shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge. Samples of biosolids shall be collected at a location representative of the quality of biosolids immediately prior to the use-disposal practice.

B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under *Utah Administrative Code ("UAC") R317-2-10 and 40CFR Part 503*, unless other test procedures have been specified in this permit.

C. Penalties for Tampering. The *Act* provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

D. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

E. Additional Monitoring by the Permittee. If the permittee monitors any parameter more frequently than required by this permit, using test procedures approved under *UAC R317-2-10* and *40 CFR 503* or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or the Biosolids Report Form. Such increased frequency shall also be indicated. Only those parameters required by the permit need to be reported.

F. Records Contents. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements:
2. The individual(s) who performed the sampling or measurements;
3. The date(s) and time(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical techniques or methods used; and,
6. The results of such analyses.

G. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location

H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The

report shall be made to the Division of Water Quality, (801) 536-4300, or 24-hour answering service (801) 536-4123.

2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4300 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:

   a. Any noncompliance which may endanger health or the environment;

   b. Any unanticipated bypass, which exceeds any effluent limitation in the permit (See *Part VI.G, Bypass of Treatment Facilities.)*;

   c. Any upset which exceeds any effluent limitation in the permit (See *Part VI.H, Upset Conditions*.);

   d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit; or,

   e. Violation of any of the Table 3 metals limits, the pathogen limits, the vector attraction reduction limits or the management practices for biosolids that have been sold or given away.

3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:

   a. A description of the noncompliance and its cause;

   b. The period of noncompliance, including exact dates and times;

   c. The estimated time noncompliance is expected to continue if it has not been corrected;

   d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and,

   e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.

4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 536-4300.

5. Reports shall be submitted to the addresses in *Part I.D, Reporting of Monitoring Results*.

I. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part I.D* are submitted. The reports shall contain the information listed in *Part V.H.3*

J. Inspection and Entry The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,

5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

VI. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

B. Penalties for Violations of Permit Conditions. The *Act* provides that any person who violates a permit condition implementing provisions of the *Act* is subject to a civil penalty not to exceed $10,000 per day of such violation. Any person who willfully or negligently violates permit conditions or the Act is subject to a fine not exceeding $25,000 per day of violation. Any person convicted under *UCA 19-5-115(2)* a second time shall be punished by a fine not exceeding $50,000 per day. Except as provided at *Part VI.G, Bypass of Treatment Facilities* and *Part VI.H, Upset Conditions*, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit, which has a reasonable likelihood of adversely affecting human health or the environment. The permittee shall also take all reasonable steps to minimize or prevent any land application in violation of this permit.

E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Removed Substances. Collected screening, grit, solids, sludge, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash shall not directly enter either the final effluent or waters of the state by any other direct route.

G. Bypass of Treatment Facilities.

1. Bypass Not Exceeding Limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to paragraph 2 and 3 of this section.

2. Prohibition of Bypass.

a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;

(2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and

(3) The permittee submitted notices as required under *section VI.G.3*.

b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in *sections VI.G.2.a (1), (2) and (3).*

3. Notice.

a. *Anticipated bypass*. Except as provided above in *section VI.G.2* and below in *section VI.G.3.b*, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:

(1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages:

(2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;

(3) Description of specific measures to be taken to minimize environmental and public health impacts;

(4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;

(5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and,

(6) Any additional information requested by the Director.

b. *Emergency Bypass*. Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in *section VI.G.3.a.(1) through (6)* to the extent practicable.

c. *Unanticipated bypass*. The permittee shall submit notice of an unanticipated bypass to the Director as required under *Part IV.H*, Twenty Four Hour Reporting. The permittee shall also immediately notify the Director of the Department of Natural Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2 of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.

2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the permittee can identify the cause(s) of the upset;

   b. The permitted facility was at the time being properly operated;

   c. The permittee submitted notice of the upset as required under *Part V.H, Twenty-four Hour Notice of Noncompliance Reporting*; and,

   d. The permittee complied with any remedial measures required under *Part VI.D, Duty to Mitigate*.

3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

VII. GENERAL REQUIREMENTS

A. Planned Changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of parameters discharged or pollutant sold or given away. This notification applies to pollutants, which are not subject to effluent limitations in the permit. In addition, if there are any planned substantial changes to the permittee's existing sludge facilities or their manner of operation or to current sludge management practices of storage and disposal, the permittee shall give notice to the Director of any planned changes at least 30 days prior to their implementation.

B. Anticipated Noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity, which may result in noncompliance with permit requirements.

C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.

E. Duty to Provide Information. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Director, it shall promptly submit such facts or information.

G. Signatory Requirements. All applications, reports or information submitted to the Director shall be signed and certified.

1. All permit applications shall be signed by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Director shall be signed by a person described above 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 a person described above and submitted to the Director, and,

b. The authorization specifies either an individual or a 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 or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

3. Changes to authorization. If an authorization under *paragraph VII.G.2* is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of *paragraph VII.G.2.* must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than $10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential.

J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the permittee of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under the *Act*.

K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers. This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;

2. The notice includes a written agreement between the existing and new permittee's containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,

3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph *2* above.

N. State or Federal Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117* and *Section 510* of the *Act* or any applicable Federal or State transportation regulations, such as but not limited to the Department of Transportation regulations.

O. Water Quality - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations and compliance schedule, if necessary, if one or more of the following events occurs:

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.

2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.

3. Revisions to the current CWA § 208 area wide treatment management plans or promulgations/revisions to TMDLs (40 CFR 130.7) approved by the EPA and adopted by DWQ which calls for different effluent limitations than contained in this permit.

P. Biosolids – Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate biosolids limitations (and compliance schedule, if necessary), management practices, other appropriate requirements to protect public health and the environment, or if there have been substantial changes (or such changes are planned) in biosolids use or disposal practices; applicable management practices or numerical limitations for pollutants in biosolids have been promulgated which are more stringent than the requirements in this permit; and/or it has been determined that the permittees biosolids use or land application practices do not comply with existing applicable state of federal regulations.

Q. Toxicity Limitation - Reopener Provision:

This permit may be reopened and modified, following proper administrative procedures, to include whole effluent toxicity (WET) limitations, a compliance schedule, a change in the whole effluent toxicity protocol, additional or modified numerical limitations, or any other conditions related to the control of toxicants if one or more of the following events occur;

1. Toxicity is detected, as per *Part I.C.4* of this permit, during the duration of this permit.

2. The TRE results indicate that the toxicant(s) represent pollutant(s) or pollutant parameter(s) that may be controlled with specific numerical limits, and the Director concludes that numerical controls are appropriate..

3. Following the implementation of numerical control(s) of toxicant(s), the Director concludes that a modified biomonitoring protocol is necessary to compensate for those toxicant(s) that are controlled numerically.

4. The TRE reveals other unique conditions or characteristics which the Director concludes justify the incorporation of unanticipated special conditions in the permit.

R. Storm Water-Reopener Provision. At any time during the duration (life) of this permit, this permit may be reopened and modified (following proper administrative procedures) as per *UAC R317.8*, to include, any applicable storm water provisions and requirements, a storm water pollution prevention plan, a compliance schedule, a compliance date, monitoring and/or reporting requirements, or any other conditions related to the control of storm water discharges to "waters-of-State".

VIII. DEFINITIONS

A. Wastewater.

1. The "7-day (and weekly) average", other than for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains Saturday.

2. The "30-day (and monthly) average," other than for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.

3. "Act," means the *Utah Water Quality Act*.

4. "Acute toxicity" occurs when 50 percent or more mortality is observed for either test species at any effluent concentration (lethal concentration or "LC_{50}").

5. "Bypass," means the diversion of waste streams from any portion of a treatment facility.

6. "Chronic toxicity" occurs when the IC_{25}< 32% effluent. The 32% effluent is the concentration of the effluent in the receiving water, at the end of the mixing zone expressed as per cent effluent.

7. "IC_{25}" is the concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female, or a 25% reduction in overall growth for the test population.

8. "Composite Samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

   a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;

b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;

c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,

d. Continuous sample volume, with sample collection rate proportional to flow rate.

9. "CWA," means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.

10. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.

11. "EPA," means the United States Environmental Protection Agency.

12. "Director," means Director of the Division of Water Quality.

13. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

14. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.

15. "Severe Property Damage," means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

16. "Upset," means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

B. Biosolids.

1. "Biosolids," means any material or material derived from sewage solids that have been biologically treated.

2. "Dry Weight-Basis," means 100 percent solids (i.e. zero percent moisture).

3. "Land Application" is the spraying or spreading of biosolids onto the land surface; the injection of biosolids below the land surface; or the incorporation of biosolids into the land so that the biosolids can either condition the soil or fertilize crops or vegetation

grown in the soil. Land application includes distribution and marketing (i.e. the selling or giving away of the biosolids).

4. "Pathogen," means an organism that is capable of producing an infection or disease in a susceptible host.

5. "Pollutant" for the purposes of this permit is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or pathogenic organisms that after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food-chain, could on the basis of information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms.

6. "Runoff" is rainwater, leachate, or other liquid that drains over any part of a land surface and runs off the land surface.

7. "Similar Container" is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less.

8. "Total Solids" are the materials in the biosolids that remain as a residue if the biosolids are dried at 103^{o} or 105^{o} Celsius.

9. "Treatment Works" are either Federally owned, publicly owned, or privately owned devices or systems used to treat (including recycling and reclamation) either domestic sewage or a combination of domestic sewage and industrial waste or liquid manure.

10. "Vector Attraction" is the characteristic of biosolids that attracts rodents, flies mosquitos or other organisms capable of transporting infectious agents.

11. "Animals" for the purpose of this permit are domestic livestock.

12. "Annual Whole Sludge Application Rate" is the amount of sewage sludge (dry-weight basis) that can be applied to a unit area of land during a cropping cycle.

13. "Agronomic Rate is the whole sludge application rate (dry-weight basis) designed to: (1) provide the amount of nitrogen needed by the crop or vegetation grown on the land; and (2) minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

14. "Annual Pollutant Loading Rate" is the maximum amount of a pollutant (dry-weight basis) that can be applied to a unit area of land during a 365-day period.

15. "Application Site or Land Application Site" means all contiguous areas of a users' property intended for sludge application.

16. "Cumulative Pollutant Loading Rate" is the maximum amount of an inorganic pollutant (dry-weight basis) that can be applied to a unit area of land.

17. "Grit and Screenings" are sand, gravel, cinders, other materials with a high specific gravity and relatively large materials such as rags generated during preliminary treatment of domestic sewage at a treatment works and shall be disposed of according to *40 CFR 258*.

18. "High Potential for Public Contact Site" is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

19. "Low Potential for Public Contact Site" is the land with a low potential for contact by the public. This includes, but is not limited to, farms, ranches, reclamation areas, and other lands which are private lands, restricted public lands, or lands which are not generally accessible to or used by the public.

20. "Monthly Average" is the arithmetic mean of all measurements taken during the month.

21. "Volatile Solids" is the amount of the total solids in sewage sludge lost when the sludge is combusted at 550 degrees Celsius for 15-20 minutes in the presence of excess air.

C. Storm Water

1. "Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

2. "Coal pile runoff" means the rainfall runoff from or through any coal storage pile.

3. "Co-located industrial activity" means when a facility has industrial activities being conducted onsite that are described under more than one of the coverage sections of *Appendix II* in the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity. Facilities with co-located industrial activities shall comply with all applicable monitoring and pollution prevention plan requirements of each section in which a co-located industrial activity is described.

4. "Commercial Treatment and Disposal Facilities" means facilities that receive, on a commercial basis, any produced hazardous waste (not their own) and treat or dispose of those wastes as a service to the generators. Such facilities treating and/or disposing exclusively residential hazardous wastes are not included in this definition.

5. "Landfill" means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile.

6. "Land application unit" means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

7. "Municipal separate storm sewer system" (large and/or medium) means all municipal separate storm sewers that are either:

   a. Located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (at the issuance date of this permit, Salt Lake City is the only city in Utah that falls in this category); or

   b. Located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties (at the issuance date of this permit Salt Lake County is the only county that falls in this category); or

   c. Owned or operated by a municipality other than those described in paragraph *a.* or *b.* (above) and that are designated by the *Director* as part of the large or medium municipal separate storm sewer system.

8. "NOI" means "notice of intent", it is an application form that is used to obtain coverage under the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity.

9. "NOT" means "notice of termination", it is a form used to terminate coverage under the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity.

10. "Point source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

11. "Section 313 water priority chemical" means a chemical or chemical categories that:

    a. Are listed at *40 CFR 372.65* pursuant to *Section 313* of the *Emergency Planning and Community Right-to-Know Act* (*EPCRA*) (also known as *Title III of the Superfund Amendments and Reauthorization Act* (*SARA*) of 1986);

    b. Are present at or above threshold levels at a facility subject to *EPCRA Section 313* reporting requirements; and

    c. Meet at least one of the following criteria:

       (1) Are listed in *Appendix D* of *40 CFR Part 122* on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances);

(2) Are listed as a hazardous substance pursuant to *Section 311(b)(2)(A)* of the *CWA* at *40 CFR 116.4*; or

(3) Are pollutants for which EPA has published acute or chronic water quality criteria. See *Appendix III* of this permit. This appendix was revised based on final rulemaking EPA published in the *Federal Register* November 30, 1994.

12. "Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under *Section 101(14)* of *CERCLA*; any chemical the facility is required to report pursuant to *EPCRA Section 313*; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

13. "Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under *Section 311 of the Clean Water Act* (see *40 CFR 110.10* and *CFR 117.21*) or *Section 102* of *CERCLA* (see *40 CFR 302.4*).

14. "Storm water" means storm water runoff, snowmelt runoff, and surface runoff and drainage.

15. "SWDMR" means "storm water discharge monitoring report", a report of the results of storm water monitoring required by the permit. The Division of Water Quality provides the storm water discharge monitoring report form.

16. "Storm water associated with industrial activity" (*UAC R317-8-3.8(6)(c) & (d)*) means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the *UPDES* program. For the categories of industries identified in paragraphs *(a)* through *(j)* of this definition, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined in *40 CFR Part 401*); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph *(k)* of this definition, the term includes only storm water discharges from all areas (except access roads and rail lines) listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such

as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs *(a)* to *(k)* of this definition) include those facilities designated under *UAC R317-8-3.8(1)(a)5*. The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

a. Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under *40 CFR Subchapter N* (except facilities with toxic pollutant effluent standards that are exempted under category (k) of this definition);

b. Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285), 29, 311, 32 (except 323), 33, 3441, 373;

c. Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under *40 CFR 434.11(l)* because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations that have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but that have an identifiable owner/operator;

d. Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

e. Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under *Subtitle D* of *RCRA*;

f. Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

g. Steam electric power generating facilities, including coal handling sites;

h. Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45 and 5171 that have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment

cleaning operations, airport deicing operations, or that are otherwise identified under paragraphs (a) to (g) or (I) to (k) of this subsection are associated with industrial activity;

i. Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under *40 CFR Part 403*. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and that are not physically located in the confines of the facility, or areas that are in compliance with *40 CFR Part 503*;

j. Construction activity including clearing, grading and excavation activities except: operations that result in the disturbance of less than 5 acres of total land area that are not part of a larger common plan of development or sale;

k. Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and that are not otherwise included within categories (a) to (j))

17. "Waste pile" means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

FACT SHEET STATEMENT OF BASIS
PRICE RIVER WATER IMPROVEMENT DISTRICT
PERMIT MODIFICATION
UPDES PERMIT NUMBER: UT0021814
MAJOR MUNICIPAL

FACILITY CONTACTS

Person Name:	Jeff Richins
Position:	District Manager
Phone Number:	(435) 637-6350
Facility Name:	Price River Water Improvement District (PRWID)
Mailing and Facility Address:	PO Box 903 Price, UT 84501
Telephone:	(435) 637-8547
Actual Address:	PO Box 903 Price, Utah 84501

DESCRIPTION OF PERMIT MODIFICATION

On December 16, 2014, the Utah Water Quality Board adopted *Utah Administrative Code (UAC) R317-1-3.3, Technology-Based Limits for Controlling Phosphorous Pollution*. The Technology-Based Phosphorous Effluent Limits (TBPEL) establishes new regulations for the discharge of phosphorus to surface waters and is self-implementing. The TBPEL rule includes the following requirements for non-lagoon wastewater treatment plants:

The TBPEL requires that all non-lagoon wastewater treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus. This TBPEL shall be achieved by January 1, 2020 unless a variance has been granted by DWQ. On May 2, 2018, DWQ approved the PRWID variance request not to extend beyond January 1, 2023 and with interim total phosphorous annual average limit of 3.9 mg/L. See table below for effective dates. This permit modification is incorporating the approved variance with the interim limits and dates that were previously public noticed in the local newspaper, in which no comments were received.

The permit effluent limits will incorporate the following changes:

Effluent Limitations Changes		
Parameter	**Current** Annual Average	**New** Annual Average
Interim Total Phosphorous, mg/L (Effective Jan 1, 2020 – Dec 31, 2022)	No Limit	3.9

Final Total Phosphorous, mg/L (Effective Jan 1, 2023)	No Limit	1.0

PERMIT DURATION

It is recommended that this permit modification be effective through the current permit expiration date, August 31, 2023.

Drafted by
Danielle Lenz, Environmental Scientist
Utah Division of Water Quality
Permit Modification Drafted January 6, 2020

DWQ-2020-000248

FACT SHEET AND STATEMENT OF BASIS
PRICE RIVER WATER IMPROVEMENT DISTRIC (PRWID)
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORM WATER
UPDES PERMIT NUMBER: UT0021814
UPDES BIOSOLIDS PERMIT NUMBER: UTL-021814
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT NUMBER: UTR000000
MAJOR MUNICIPAL

FACILITY CONTACTS

Person Name:	Jeffery R. Richins	Person Name:	Blaine Shipley
Position:	District Manager	Position:	Treatment Plant Operator
Phone Number:	(435) 637-6350	Phone Number:	(435) 636-9411

Facility Name:	Price River Water Improvement District
Facility Address:	5382 East Washer Plant Road Wellington, Utah 84542
Mailing Address:	PO Box 903 Price, Utah 84501
Telephone:	(435) 637-8547

DESCRIPTION OF FACILITY

Price River Water Improvement District (PRWID) owns and operates a wastewater treatment facility which serves the communities of Helper, Price, Wellington and the majority of residents within the Price River Valley.

PRWID Wastewater Treatment Plant has an average flow of 1.7 MGD over the last 5 years. The treatment consists of screens, aerated grit chamber, pista-grit removal system, 2 rectangular primary clarifiers, 2 rock media trickling filters, 2 solids contact floc formation basins, 2 activated sludge aeration basins, 2 circular clarifiers, chlorine contact chamber followed by dechlorination with SO2.

PRWID applies Class B biosolids on its on-farm operation where feed for non-dairy cattle and horses is grown. These biosolids are prepared as follows:

Anaerobic Digestion:	1 primary digester 1 secondary digester
Pathogen Reduction Step:	2 aerated deep facultative sludge basins sun dried biosolids, land application

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

PRWID previously had year round chronic and acute ammonia limits of 10mg/L and 16 mg/L respectively. Based on updated Price River flow rates in the revised waste load analysis (WLA), this permit renewal includes more stringent seasonal chronic limits but retains the 16mg/L year round acute ammonia limit. These limits are noted in Part I.C of the permit document.

Additionally, the previous UPDES permit for PRWID required acute WET testing on a twice yearly basis. Newly developed WET guidance for DWQ requires that all major municipal dischargers conduct WET testing no less than quarterly. As a result of this new guidance, this permit renewal includes quarterly chronic WET testing; alternating between the two species and test identified in Part I.C of the permit document.

The yearly metals testing requirement has been retained in this permit renewal, with the caveat that monthly monitoring will be required for the first 8 months of this permit cycle. This will enable DWQ to conduct a more accurate reasonable potential analysis for metal limits.

Total Residual Chlorine Acute and Chronic limits have been reduced to 0.051 mg/L and 0.060 mg/L respectively. This is based on updated Price River flow rates utilized in the revised WLA.

Water Quality adopted UAC R317-1-3.3, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule in 2014. The TBPEL rule as it relates to "non-lagoon" wastewater treatment plants establishes new regulations for the discharge of phosphorus to surface waters and is self-implementing. The TBPEL rule includes the following requirements for non-lagoon wastewater treatment plants:

The TBPEL requires that all non-lagoon wastewater treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus. This TBPEL shall be achieved by January 1, 2020.

The TBPEL discharging treatment works are required to implement, at a minimum, monthly monitoring of the following beginning July 1, 2015:

R317-1-3.3, D, 1	Influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N) concentrations;
R317-1-3.3, D, 2.	Effluent for total phosphorus and orthophosphate (as P), ammonia, nitrate-nitrite and total Kjeldahl nitrogen (an N);

In R317-1-3.3, D, 3 the rule states that all monitoring shall be based on 24-hour composite samples by use of an automatic sampler or a minimum of four grab samples collected a minimum of two hours apart.

To date, PRWID has complied with the monthly monitoring requirement of this TBPEL, but as currently designed the PRWID treatment facility will not be able to meet the adopted limit. PRWID has completed the development of planning documents for an upgrade to the treatment facilities in order to comply with UAC R317-1-3.3. These efforts have resulted in DWQ granting a temporary variance from the TBPEL implementation date as a result of their due diligence as allowed in UAC R317-1-3.3. An interim limit of 3.9 mg/l (annual average) Total Phosphorus has been included in this permit renewal which will self-implement on January 01, 2020 and will not extend past January 01, 2023. After which, PRWID will be required to meet the TPBEL.

DISCHARGE

DESCRIPTION OF DISCHARGE

PRWID has reported self-monitoring results on Discharge Monitoring Reports on a monthly basis and has a good compliance history. A summary of the last 5 years of data is included as an addendum to this document.

Outfall	Description of Discharge Point
001	Located at latitude 39° 32' 21" and longitude 110° 42' 44" the discharge is through a 60" pipe on the east side of the facility discharging into the Price River. It is approximately 1 ½ miles southwest of Wellington, on the west side of the Price River and the Denver and Rio Grande Western Railroad tracks, at 5382 Washer\Plant Road, Wellington, Carbon County, Utah.

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge flows into the stretch of the Price River. According to the Utah Administrative Code R317-2-13, this segment of the Price River is classified as the following:

Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.

Class 3C -- Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.

Class 4 -- Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD5), E. coli, pH and percent removal for BOD5 and TSS are based on current Utah Secondary Treatment Standards (UAC R317-1-3.2). Oil and grease is based on best professional judgment (BPJ).

Ammonia, total residual chlorine (TRC), and dissolved oxygen (DO), are based on Utah water quality standards, and calculated in the current WLA. The concentration limit for total dissolved solids (TDS) is based directly on the Utah water quality site specific standard for TDS for the stretch of the Price River identified as, "Price River and tributaries from the confluence with Coal Creek to Carbon Canal Diversion" (see footnote (4) under UAC R317-2-14). The load limit for TDS is based on the Price River, San Rafael River, and Muddy Creek TMDLs for Total Dissolved Solids West Colorado Watershed Management Unit, Utah, which as a site specific criterion is an appropriate TDS loading limit in lieu of the Colorado River Basin Salinity Control Forum Policy requirement as authorized in UAC R317-2-4. It has been determined that this discharge will not cause a violation of water quality standards. An Antidegradation Level II review is not required since the Level I review shows that water quality impacts are minimal. The permittee is expected to be able to comply with these limitations.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. Data submitted for this permit renewal contained only four data points for metals. While it is possible to perform the RP analysis on only 4 data points, it is more appropriate to collect 8 more data points and conduct a more robust analysis on at least 12 data points. Therefore, RP for metals will be conducted after PRWID collects 8 additional data points. At that point, a RP analysis will be conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance), and the permit modified to include additional effluent limits if necessary.

The permit limitations are:

Parameter	Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Maximum	Daily Minimum	Daily Maximum
Total Flow	2.2	--	--	--	--
BOD_5, mg/L	25	35	--	--	--
BOD_5 Min. % Removal	85	--	--	--	--
TSS, mg/L	25	35	--	--	--
TSS Min. % Removal	85	--	--	--	--
Dissolved Oxygen, mg/L	--	--	--	5.0	--
Total Ammonia (as N), mg/L					
Summer (Jul-Sep)	7.5	--	--	--	16
Fall (Oct-Dec)	9.0	--	--	--	
Winter (Jan-Mar)	9.5	--	--	--	
Spring (Apr-Jun)	9.5	--	--	--	
TRC, mg/L	0.051	--	--	--	0.060
E. coli, No./100mL	126	157	--	--	--
WET, Chronic Biomonitoring	--	--	--	--	IC_{25}> 32% effluent
Oil & Grease, mg/L	--	--	--	--	10.0
pH, Standard Units	--	--	--	6.5	9
TDS	--	--	7304 tons	--	1700 mg/L

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous permit, other than an increase in WET testing frequency, and temporarily accelerated metals testing to facilitate RP analysis. The permit will require reports to be submitted monthly and annually, as applicable, on NetDMR. Submittals are due 28 days after the end of the monitoring period. Lab sheets for biomonitoring must be attached to the biomonitoring submittal on NetDMR. Lab sheets for metals and toxic organics must be attached to the DMRs.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD_5, Influent *d	2 x Weekly	Composite	mg/L
Effluent	2 x Weekly	Composite	mg/L
TSS, Influent *d	2 x Weekly	Composite	mg/L
Effluent	2 x Weekly	Composite	mg/L
E. coli	2 x Weekly	Grab	No./100mL
pH	2 x Weekly	Grab	SU
Total Ammonia (as N)	2 x Weekly	Composite	mg/L
DO	2 x Weekly	Grab	mg/L
WET – Biomonitoring *f	Quarterly		
Ceriodaphnia	1st & 3rd Quarter	Composite	Pass/Fail
Fathead Minnows	2nd & 4th Quarter	Composite	Pass/Fail
TRC, mg/L,	Daily	Grab	mg/L
Oil & Grease *e	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P)			
Effluent	Monthly	Composite	mg/L
Phosphorus, Total			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N)			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO3	Monthly	Composite	mg/L
Nitrite, NO2	Monthly	Composite	mg/L
TDS, mg/L	Monthly	Composite	mg/L
Metals,	Quarterly	Composite/Grab	
Influent and Effluent	Quarterly	Composite/Grab	mg/L
Organic Toxics,			
Influent and Effluent	2nd and 4th year of permit	Composite/Grab	mg/L

*a See Definitions, *Part VIII*, for definition of terms.

*b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

*c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.

*d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

*e Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.

*f Ceriodaphnia will be tested during the 1st and 3rd quarters and fathead minnows will be tested during the 2nd and 4th quarters.

BIOSOLIDS

For clarification purposes, sewage sludge is considered solids, until treatment or testing shows that the solids are safe, and meet beneficial use standards. After the solids are tested or treated, the solids are then known as biosolids. Class A biosolids, may be used for high public contact sites, such as home lawns and gardens, parks, or playing fields, etc. Class B biosolids may be used for low public contact sites, such as farms, rangeland, or reclamation sites, etc.

SUBSTANTIAL BIOSOLIDS TREATMENT CHANGES
None

DESCRIPTION OF TREATMENT AND DISPOSAL

Wastewater effluent is clarified in the final clarifiers which waste sludge to the primary clarifiers. Sludge from the primary clarifiers is wasted to the digesters which are operated in series. Both digesters have mixers and can be heated. The digester operating as the primary is usually heated; the secondary is usually not heated. The digesters are interchangeable.

The biosolids are wasted from the digesters to one of the two aerated, facultative sludge basin (FSB) for further stabilization. An FSB is similar to a deep, aerated sewage lagoon where the wasted solids are further stabilized for a year. When ready, the wasted biosolids are turned into the other FSB and the first FSB is decanted as much as possible. The biosolids in the first FSB then sit for about a year and dry out over the summer. They then sample the biosolids and fields for land application. When the fields are ready they transfer the biosolids to field for land application.

The 2016 annual biosolids report was received on February 14, 2017. In 2016 the PRWID disposed of 231 DMT of Class B biosolids to County owned property near the Carbon County Fairgrounds. The ground was then sodded and allowed to sit over winter. During the next spring (2017) the land was started to be used as a soccer field for the community. In previous years the biosolids were land applied on agricultural land.

The last inspection conducted at PRWID was conducted on September 25, 2017. The inspection showed that PRWID was in compliance with all aspects of the biosolids management program.

SELF-MONITORING REQUIREMENTS
Under *40 CFR 503.16(a)(1),* the self-monitoring requirements are based upon the amount of biosolids disposed per year and shall be monitored according to the chart below.

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times

In 2016, PRWID disposed of 231 DMT of biosolids, therefore they need to sample at least one time a year.

Landfill Monitoring
Under *40 CFR 258*, the landfill monitoring requirements include a paint filter test. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill *(40 CFR 258.28(c)(1).*
No biosolids were landfilled in 2016

BIOSOLIDS LIMITATIONS

Heavy Metals

Class B Requirements for Agriculture and Reclamation Sites
The intent of the heavy metals regulations of Tables 1, 2 and 3, of *40 CFR 503.13* is to ensure that heavy metals do not build up in the soil at farms, forest land, and land reclamation sites to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C*. of the permit) to be handed out to all people who are receiving and land applying Class B biosolids to farms, ranches, and land reclamation sites (if biosolids are only applied to land owned by the permittee, the information sheet requirements are waived). If the biosolids are land applied according to the regulations of *40 CFR 503.13*, to any reasonable degree, the Class B biosolids will be able to be land applied year after year, to the same farms, ranches, and land reclamation sites without any deleterious effects to the environment.

Class B Requirements With Regards to Heavy Metals
If the biosolids are to be land applied to agricultural land, forest land, a public contact site or a reclamation site it must meet at all times:

The maximum heavy metals listed in *40 CFR Part 503.13(b) Table 1* and the heavy metals loading rates in *40 CFR Part 503.13(b) Table 2*; or

The maximum heavy metals in *40 CFR Part 503.13(b) Table 1* and the monthly heavy metals concentrations in *40 CFR Part 503.13(b) Table 3*.

Tables 1, 2, and 3 of Heavy Metal Limitations

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits, (mg/kg)	CPLR[1], (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR[2], (mg/ha-yr)
Total Arsenic	75	41	41	41
Total Cadmium	85	39	39	39
Total Copper	4300	1500	1500	1500
Total Lead	840	300	300	300
Total Mercury	57	17	17	17
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	420
Total Selenium	100	100	100	100
Total Zinc	7500	2800	2800	2800

Any violation of these limitations shall be reported in accordance with the requirements of Part III.F.1. of the permit. If the biosolids do not meet these requirements they cannot be land applied.

Pathogens

One of the Pathogen Control class listed in the table below must be met;

Pathogen Control Class	
Class A	Class B
B Salmonella species –less than three (3) MPN[3] per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids)	Fecal Coliforms –less than 2,000,000 colony forming units per gram total solids
Enteric viruses –less than one (1) MPN (or plaque forming unit) per four (4) grams total solids	
Viable helminth ova –less than one (1) MPN per four (4) grams total solids	

Class A Requirements for Home Lawn and Garden Use

If biosolids are land applied to home lawns and gardens, the biosolids need to be treated by a specific process to further reduce pathogens (PFRP), and meet a microbiological limit of less than less than 3 most probable number (MPN) of *Salmonella* per 4 grams of total solids (or less than 1,000 most probable number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids.

PRWID does not intend to give away biosolids for land application on home lawns or gardens, and will therefore not be required to meet PFRP. If the permittee changes their intentions in the future, they will need to meet a specific PFRP, the Director and the EPA must be informed at least thirty (30) days prior to

[1] CPLR -- Cumulative Pollutant Loading Rate
[2] APLR – Annual Pollutant Loading Rate
[3] MPN –Most Probable Number

its use. This change may be made without additional public notice.

The practice of sale or giveaway to the public is an acceptable use of biosolids of this quality as long as the biosolids continue to meet Class A standards with respect to pathogens. If the biosolids do not meet Class A pathogen standards the biosolids cannot be sold or given away to the public, and the permittee will need find another method of beneficial use or disposal.

Pathogens Class B

If biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP).

PRWID does not intend to land apply the biosolids and will therefore not be required to meet PSRP. If the permittee intends to land apply in the future, they will need to meet a specific PSRP, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice

Vector Attraction Reduction (VAR)

If the biosolids are land applied Price River will be required to meet VAR through the use of a method of listed under 40 CFR 503.33. PRWID intends to meet the vector attraction reduction requirements through one of the methods listed below.

1. Under *40 CFR 503.33(b)(1),* the solids need to be treated through anaerobic digestion for at least 15 days at a temperature of a least 35° C (95° F) with a 38% reduction of volatile solids.

If the biosolids do not meet a method of VAR, the biosolids cannot be land applied.

If PRWID intends to use another one of the listed alternatives in *40 CFR 503.33*, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice.

Landfill Monitoring

Under *40 CFR 258,* the landfill monitoring requirements include a paint filter test to determine if the biosolids exhibit free liquid. If the biosolids do not pass a paint filter test, the biosolids cannot be disposed in the sanitary landfill *(40 CFR 258.28(c)(1).*

Record Keeping

The record keeping requirements from *40 CFR 503.17* are included under *Part III.G*. of the permit. The amount of time the records must be maintained are dependent on the quality of the biosolids in regards to the metals concentrations. If the biosolids continue to meet the metals limits of *Table 3* of *40 CFR 503.13*, and are sold or given away the records must be retained for a minimum of five years. If the biosolids are disposed in a landfill the records must retained for a minimum of five years.

Reporting

PRWID must report annually as required in *40 CFR 503.18*. This report is to include the results of all monitoring performed in accordance with *Part III.B* of the permit, information on management practices, biosolids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

MONITORING DATA

METALS MONITORING DATA
PRWID was required to sample for metals at least once in 2016. PRWID sampled the Class B biosolids one times. All biosolids land applied in 2016 met *Table 3* of *40 CFR 503.13*, therefore the PRWID biosolids qualify as EQ with regards to metals. The monitoring data is below.

PRWID Metals Monitoring Data 2016

PRWID Metals Monitoring Data, 2016			
Parameter	Table 3, mg/kg (Exceptional Quality)	Average, mg/kg	Maximum, mg/kg
Arsenic	41.0	5.30	5.30
Cadmium	39.0	0.976	0.976
Copper	1,500.0	183	183
Lead	300.0	26.9	26.9
Mercury	17.0	1.23	1.23
Molybdenum	75.0	3.23	3.23
Nickel	400.0	19.4	19.4
Selenium	36.0	5.93	5.93
Zinc	2,800.0	451	451

PATHOGEN MONITORING DATA
PRWID was required to monitor the biosolids for pathogens at least one time in 2016. PRWID chose *fecal* coliform. All biosolids given away in 2016 met the Class B pathogen standards for land application. The monitoring data is below.

Geometric Mean, Most Probable Number Per Gram (2016)	Maximum, Most Probable Number Per Gram (2016)
2400	2400

STORM WATER

STORMWATER REQUIREMENTS
Storm water provisions are included in this combined UPDES permit.

The storm water requirements are based on the UPDES Multi-Sector General Permit for Storm Water Discharges for Industrial Activity, General Permit No. UTR000000 (MSGP). All sections of the MSGP that pertain to discharges from wastewater treatment plants have been included and sections which are redundant or do not pertain have been deleted.

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the plant. Elements of this plan are required to include:

1. The development of a pollution prevention team:
2. Development of drainage maps and materials stockpiles:
3. An inventory of exposed materials:

4. Spill reporting and response procedures:
5. A preventative maintenance program:
6. Employee training:
7. Certification that storm water discharges are not mixed with non-storm water discharges:
8. Compliance site evaluations and potential pollutant source identification, and:
9. Visual examinations of storm water discharges.

PRWID is currently covered under the UPDES Multi Sector General Permit for Industrial Activities.

PRETREATMENT REQUIREMENTS

The permittee has not been designated for pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than five (5) MGD, there are no categorical industries discharging to the treatment facility, industrial discharges comprise less than 1 percent of the flow through the treatment facility, and there is no indication of pass through or interference with the operation of the treatment facility including any upsets or violations of the POTW's UPDES permit limits.

Although the permittee does not have to develop a State-approved pretreatment program, any wastewater discharges to the sanitary sewer are subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in 40 CFR 403 and the State Pretreatment Requirements found in UAC R317-8-8.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is required that the permittee submit for review any local limits that are developed to the Division of Water Quality for review. If local limits are developed it is required that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions *40 CFR, Part 403.5(a)* and *Part 403.5(b)*. This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed.

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring). Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

The *Permit and Enforcement Guidance Document for Whole Effluent Toxicity* DWQ, February 2018, states that Whole Effluent Toxicity testing is required in UPDES permits where there is reasonable potential to discharge toxics. Per 40 CFR 122.21(j)(5), publicly-owned treatment works (POTWs) with a pretreatment program or a design flow greater than 1 MGD, must submit WET testing results as part of

their application and are therefore presumed to have reasonable potential to discharge toxics. Since PRWID has a design flow of 3.0 MGD, WET testing is required. Per the procedures outlined in the guidance and enforcement document, quarterly chronic WET testing with alternating species will be required by the permit.

During the previous permit cycle, PRWID did not have any WET failures, and did not have to undertake any TIE/TRE studies. As such, there will be no numerical WET limitations in this permit. But it is noted that no chronic WET testing has been performed in the past. This permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by
Nate Nichols, Discharge, Reasonable Potential Analysis
Daniel Griffin, Discharge, Biosolids
Jennifer Robinson, Pretreatment
Michael George, Storm Water
Nick von Stackelberg, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: July 20, 2018
Ended: August 23, 2018

Comments will be received at: 195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit was published in the Sun Advocate.

No comments were received during the public comment period. Therefore, the permit and FSSOB are the same as the draft documents that were public noticed.

ADDENDUM TO FSSOB

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

September 1, 2018

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ATTACHMENT 1

Industrial Waste Survey

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Industrial Pretreatment Wastewater Survey

Do you periodically experience any of the following treatment works problems:

foam, floaties or unusual colors
plugged collection lines caused by grease, sand, flour, etc.
discharging excessive suspended solids, even in the winter
smells unusually bad
waste treatment facility doesn't seem to be treating the waste right

Perhaps the solution to a problem like one of these may lie in investigating the types and amounts of wastewater entering the sewer system from industrial users.

An industrial user (IU) is defined as a non-domestic user discharging to the waste treatment facility which meets any of the following criteria:

1. **has a lot of process wastewater (5% of the flow at the waste treatment facility or more than 25,000 gallons per work day.)**

   Examples: Food processor, dairy, slaughterhouse, industrial laundry.

2. **is subject to Federal Categorical Pretreatment Standards**;

   Examples: metal plating, cleaning or coating of metals, blueing of metals, aluminum extruding, circuit board manufacturing, tanning animal skins, pesticide formulating or packaging, and pharmaceutical manufacturing or packaging,

3. **is a concern to the POTW.**

   Examples: septage hauler, restaurant and food service, car wash, hospital, photo lab, carpet cleaner, commercial laundry.

All users of the water treatment facility are **prohibited** from making the following types of discharges:

1. A discharge which creates a fire or explosion hazard in the collection system.

2. A discharge which creates toxic gases, vapor or fumes in the collection system.

3. A discharge of solids or thick liquids which creates flow obstructions in the collection system.

4. An acidic discharge (low pH) which causes corrosive damage to the collection system.

5. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause problems in the collection system or at the waste treatment facility.

6. Waste haulers are prohibited from discharging without permission. (No midnight dumping!)

When the solution to a sewer system problem may be found by investigating the types and amounts of wastewater entering the sewer system discharged from IUs, it's appropriate to conduct an Industrial Waste Survey.

An Industrial Waste Survey consists of:

Step 1: Identify Industrial Users

Make a list of all the commercial and industrial sewer connections.

Sources for the list:

business license, building permits, water and wastewater billing, Chamber of Commerce, newspaper, telephone book, yellow pages.

Split the list into two groups:

domestic wastewater only--no further information needed
everyone else (IUs)

Step 2: Preliminary Inspection

Go visit each IU identified on the "everybody else" list.

Fill out the **Preliminary Inspection Form** during the site visit.

Step 3: Informing the State

Please fax or send a copy of the Preliminary inspection form (both sides) to:

Jennifer Robinson

Division of Water Quality
288 North 1460 West
P.O. Box 144870
Salt Lake City, UT 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-mail: jenrobinson@utah.gov

PRELIMINARY INSPECTION FORM

INSPECTION DATE ___ / ____ /

Name of Business **Person Contacted** _____
Address _____ **Phone Number** _____

_____

Description of Business _____

Principal product or service: _____

Raw Materials used: _____

_____

Production process is: [ ] Batch [ ] Continuous [ ] Both

Is production subject to seasonal variation? [ ] yes [ ] no
If yes, briefly describe seasonal production cycle.

_____

This facility generates the following types of wastes (check all that apply):

1. [ ] Domestic wastes (Restrooms, employee showers, etc.)
2. [ ] Cooling water, non-contact
3. [ ] Boiler/Tower blowdown
4. [ ] Cooling water, contact
5. [ ] Process
6. [ ] Equipment/Facility washdown
7. [ ] Air Pollution Control Unit
8. [ ] Storm water runoff to sewer
9. [ ] Other describe

Wastes are discharged to (check all that apply):

[ ] Sanitary sewer **[ ] Storm sewer**
[ ] Surface water **[ ] Ground water**
[ ] Waste haulers **[ ] Evaporation**
[ ] Other (describe)
Name of waste hauler(s), if used

_____

Is a grease trap installed? Yes No
Is it operational? Yes No

Does the business discharge a lot of process wastewater?

- **More than 5% of the flow to the waste treatment facility? Yes No**
- **More than 25,000 gallons per work day? Yes No**

Does the business do any of the following:

[ ] Adhesives
[ ] Aluminum Forming
[ ] Battery Manufacturing
[ ] Copper Forming
[ ] Electric & Electronic Components
[ ] Explosives Manufacturing
[ ] Foundries
[ ] Inorganic Chemicals Mfg. or Packaging
[ ] Industrial Porcelain Ceramic Manufacturing
[ ] Iron & Steel
[ ] Metal Finishing, Coating or Cleaning
[ ] Mining
[ ] Nonferrous Metals Manufacturing
[ ] Organic Chemicals Manufacturing or Packaging
[ ] Paint & Ink Manufacturing
[ ] Pesticides Formulating or Packaging
[ ] Petroleum Refining
[ ] Pharmaceuticals Manufacturing or Packaging
[ ] Plastics Manufacturing
[ ] Rubber Manufacturing
[ ] Soaps & Detergents Manufacturing
[ ] Steam Electric Generation
[ ] Tanning Animal Skins
[ ] Textile Mills

[ ] Car Wash
[ ] Carpet Cleaner
[ ] Dairy
[ ] Food Processor
[ ] Hospital
[ ] Laundries
[ ] Photo Lab
[ ] Restaurant & Food Service
[ ] Septage Hauler
[ ] Slaughter House

Are any process changes or expansions planned during the next three years? Yes No
If yes, attach a separate sheet to this form describing the nature of planned changes or expansions.

_____
Inspector

_____
Waste Treatment Facility

Please send a copy of the preliminary inspection form (both sides) to:

Jennifer Robinson
Division of Water Quality
P. O. Box 144870
Salt Lake City, Utah 84114-4870

Phone: (801) 536-4383
Fax: (801) 536-4301
E-Mail: jenrobinson@utah.gov

	Industrial User	Jurisdiction	SIC Codes	Categorical Standard Number	Total Average Process Flow (gpd)	Total Average Facility Flow (gpd)	Facility Description
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

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ATTACHMENT 2

Effluent Monitoring Data

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Effluent Monitoring Data.

	Flow		pH		O & G	TRC	*E. coli*		BOD5		TSS	
Month	Ave	Max	Min	Max	Max	Max	Acute	Chronic	Ave	Max	Ave	Max
11/14	1.53	1.7	6.7	7.4	N/A	0.04	18.44	8.12	19.6	24.5	29.2	40.75
12/14	1.52	2.6	6.7	7.3	N/A	0.3	14.59	4.53	7.6	10	14.3	19.5
1/15	1.53	2.3	6.6	7.2	N/A	0.07	111.62	39.01	5.3	6.5	11.6	17.5
2/15	1.46	1.6	6.6	7.2	N/A	0.02	28.00	19.60	6.6	8.5	9.12	12
3/15	1.47	1.7	6.6	7.1	N/A	0.04	27.93	14.61	9.5	11	6.8	8
4/15	1.52	1.7	6.6	7.0	N/A	0.05	29.17	13.54	7.5	11	7.5	12
5/15	1.51	2.0	6.6	7.1	N/A	0.05	155.50	36.55	7.1	10	9	18
6/15	1.51	1.9	6.6	7.1	N/A	0.04	38.73	3.71	5	8.9	13.5	9
7/15	1.45	1.7	6.5	6.5	N/A	0.04	6.71	2.72	6.6	9.5	13	9.5
8/15	1.48	2.0	7.2	7.5	N/A	0.03	1.19	2.00	5	5	5.8	7.5
9/15	1.51	2.5	6.6	7.5	N/A	0.04	57.45	22.44	5	5	4.9	5
10/15	1.6	2.2	6.6	7.5	N/A	0.05	44.41	23.81	6.9	9.5	6.7	10
11/15	1.53	1.9	6.5	7.0	N/A	0.05	7.48	2.42	5	5	9.3	20.5
12/15	1.52	1.8	6.7	7.2	N/A	0.06	53.39	53.39	7.8	12	8	9.5
1/16	1.47	1.8	6.8	7.2	N/A	0.05	151.99	44.09	7.5	9.5	5.9	7
2/16	1.45	1.7	6.7	7.0	N/A	0.04	7.21	3.44	6.8	7.5	7.6	10
3/16	1.45	1.7	6.5	7.0	N/A	0.05	32.62	7.30	5	5	6.6	12.5
4/16	1.49	1.9	6.7	7.0	N/A	0.05	14.83	8.10	6.4	7.5	8.7	11
5/16	1.3	2.1	6.6	7.1	N/A	0.04	68.92	4.92	5	5	5.8	7.5
6/16	1.46	2.1	6.8	7.1	N/A	0.04	60.33	20.40	6.5	11.5	8.3	12
7/16	1.54	2.1	6.6	7.2	N/A	0.04	391.15	61.50	7.9	15	6	7.5
8/16	1.44	1.8	6.7	7.0	N/A	0.02	6.25	4.05	5.4	6.5	9.4	12
9/16	1.69	6.4	6.7	7.3	N/A	0.03	38.73	13.34	5.8	8	7.4	10.5
10/16	1.6	3.3	6.7	7.5	N/A	0.04	300.80	4.95	6.1	9.5	96.5	259
11/16	1.48	1.7	6.7	7.2	N/A	0.03	35.21	13.56	6.5	8	9	12
12/16	1.46	2.3	6.7	7.1	N/A	0.02	134.10	41.87	9.5	11.5	9	13.5
1/17	1.6	2.2	6.7	7.0	N/A	0.04	18.33	5.92	5.3	6	5.8	8.5
2/17	1.7	2.5	6.6	7.0	N/A	0.03	14.42	4.99	6.3	8.5	5.8	8.5
3/17	1.55	2.4	6.7	7.0	N/A	0.03	21.21	7.04	7.8	10	6	8
4/17	1.59	2.4	6.7	7.1	N/A	0.06	27.71	5.07	10.2	13	5.8	8.5
5/17	1.7	2.5	6.7	7.2	N/A	0.04	15.10	5.18	16	16.1	7.1	8.5
6/17	1.57	2.3	6.7	7.1	N/A	0.06	7.48	3.36	11.6	15.5	5.5	7
7/17	1.56	2.2	6.8	7.2	N/A	0.05	10.95	4.53	6.4	8.5	8.3	12.5
8/17	1.55	2.7	6.6	7.4	N/A	0.05	17.32	3.64	5.4	6.5	11.9	23.5
9/17	1.58	2.6	6.7	7.2	N/A	0.04	19.75	4.87	6.1	16	8.4	15.5
10/17	1.55	2.2	6.7	7.2	N/A	0.03	47.12	6.30	7.1	7.5	12.6	17.5

WET Results

Month	WET Test	Pass / Fail
9/14	48Hr Acute Ceriodaphnia	Pass
9/14	96Hr Acute Pimephales Promelas	Pass
3/15	48Hr Acute Ceriodaphnia	Pass
3/15	96Hr Acute Pimephales Promelas	Pass
9/15	48Hr Acute Ceriodaphnia	Pass
9/15	96Hr Acute Pimephales Promelas	Pass
3/16	48Hr Acute Ceriodaphnia	Pass
3/16	96Hr Acute Pimephales Promelas	Pass
9/16	48Hr Acute Ceriodaphnia	Pass
9/16	96Hr Acute Pimephales Promelas	Pass
3/17	48Hr Acute Ceriodaphnia	Pass
3/17	96Hr Acute Pimephales Promelas	Pass

ATTACHMENT 3

Wasteload Analysis

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ATTACHMENT 4

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

Water Quality has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available at water Quality. There are four outcomes for the RP Analysis[4]. They are;

Outcome A: A new effluent limitation will be placed in the permit.
Outcome B: No new effluent limitation. Routine monitoring requirements will be placed or increased from what they are in the permit,
Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit,
Outcome D: No limitation or routine monitoring requirements are in the permit.

(REASONABLE POTENTIAL LANGUAGE)

The last 5 years of metals data from PRWID was reviewed, but only contained 4 data points for those years. Although it is possible to conduct RP analysis on 4 data points, but with the understanding that statistical determinations using small data sets can produce more unreliable outputs. Current draft RP guidance recommends a minimum of 12 data points to produce reliable results . Due to this, PRWID will sample for metals on a monthly basis, until we have a total of 12 data points. At that point DWQ will conduct the RP analysis per current guidance, and PRWID will revert back to a yearly metals testing schedule.

[4] See Reasonable Potential Analysis Guidance for definitions of terms

Utah Division of Water Quality
Statement of Basis
ADDENDUM
Wasteload Analysis and Antidegradation Level I Review

Date: **January 9, 2018**

Facility: **Price River Water Improvement District Wastewater Treatment Plant**
Wellington, UT
UPDES No. UT0021814

Receiving Water: **Price River (2B, 3C, 4)**

This addendum summarizes the wasteload analysis that was performed to determine water quality based effluent limits (WQBEL) for this discharge. Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses (UAC R317-2-8). Projected concentrations are compared to numeric water quality standards to determine acceptability. The numeric criteria in this wasteload analysis may be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

Discharge
Outfall 001: Price River

The maximum daily discharge projected to occur during the next 5 years is 3.0 MGD and the maximum mean monthly discharge is 2.2 MGD, as provided by the facility.

Receiving Water
The receiving water for Outfall 001 is the Price River, which is tributary to the Green River, and then the Colorado River.

Per UAC R317-2-13.1.b, the designated beneficial uses for the Price River from the confluence with the Green River to the Carbon Canal Diversion at Price City Golf Course are 2B, 3C, and 4.

- *Class 2B - Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing.*
- *Class 3C - Protected for nongame fish and other aquatic life, including the necessary aquatic organisms in their food chain.*
- *Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.*

Typically, the critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). Due to a lack of flow records for the Price River downstream of the irrigation diversions, the 20th percentile of flow measurements from water quality monitoring conducted above the facility outfall was calculated

to estimate the annual critical flow in the receiving water. Insufficient flow data was available to estimate seasonal low flow. The annual critical low flow was estimated to be 13.25 cfs.

TMDL

A TMDL for total dissolved solids (TDS) was completed for this segment of the Price River (*Price River, San Rafael River, and Muddy Creek TMDLs for Total Dissolved Solids, West Colorado Watershed Management Unit, Utah;* EPA Approval Date August 4, 2004). A site specific standard was recommended for TDS. Per UAC R317-2-14 Table 2.14.1, a site specific standard of 1,700 mg/L applies to the Price River and tributaries from Soldier Creek to Carbon Canal Diversion.

According to the 303(d) list in the *2016 Utah Integrated Report*, the assessment unit Price River and tributaries (excluding Gordon Creek and Pinnacle Wash) from Coal Creek confluence to Carbon Canal Diversion was listed as impaired for total boron, dissolved selenium and total ammonia. However, the monitoring site immediately above the wastewater treatment plant, 4932390 Price River above Price WWTP at Wellington Bridge, was found to be meeting the criteria for total boron, dissolved selenium and total ammonia. Therefore, standard procedures were used to determine the WQBELs for these constituents.

Mixing Zone

Per UAC R317-2-5, the maximum allowable mixing zone is 15 minutes of travel time for acute conditions, not to exceed 50% of stream width, and 2,500 feet for chronic conditions. Water quality standards must be met at the end of the mixing zone.

Based on field observations of specific conductivity across the cross-section during the data collection for the synoptic survey, the discharge was fully mixed approximately 250 feet downstream of the discharge point. Therefore, the allowable mixing zone is 250 feet. The critical low flow was used for chronic conditions and 50% of the critical low flow was simulated for acute conditions.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were total suspended solids (TSS), total dissolved solids (TDS), dissolved oxygen (DO), BOD_5, total phosphorus (TP), total nitrogen (TN), total ammonia (NH3), E. coli, pH, and total residual chlorine (TRC), as determined in consultation with the UPDES Permit Writer.

Water Quality Modeling

A QUAL2Kw model of the receiving water was built and calibrated under contract by Utah State University (USU). The model was calibrated to synoptic survey data collected in the summer of 2010 (8/30 to 9/1/2010) by USU and DWQ (Neilson et al., 2012). The model extends from immediately above the plant discharge to the crossing at Ridge Road (approximately 0.8 km). For the purposes of the WLA, the model was extended to the dam along Farnham Road (approximately 1.85 km).

Receiving water quality data was obtained from monitoring site 4992390 Price River above Price WWTP at Wellington Bridge. The average seasonal value was calculated for each constituent with available data in the receiving water. Data from 4932180 Soldier Creek at US50-6 Crossing and 4932200 Coal Creek at US50-6 Crossing were used to characterize the tributaries. Effluent nutrient data was obtained from the Discharge Monthly Reports.

The QUAL2Kw model was used for determining the WQBELs for parameters related to eutrophication and in-stream DO criteria, as well as ammonia toxicity. Effluent concentrations were adjusted so that water quality standards were not exceeded in the receiving water. Where WQBELs exceeded secondary standards or technology based effluent limits (TBEL), the concentration in the model was set at the secondary standard or TBEL.

The QUAL2Kw model was also used to determine the limits for ammonia. The water quality standard for chronic ammonia toxicity is dependent on temperature and pH, and the water quality standard for acute ammonia toxicity is dependent on pH. QUAL2Kw rates, input and output for DO and eutrophication related constituents are summarized in Appendix A.

A mass balance mixing analysis was conducted for conservative constituents such as dissolved metals. The WQBELs for conservative constituents are summarized in Appendix B.

The limits for total residual chlorine were determined assuming a decay rate of 20 /day (at 20 ºC) and a travel time of 10 minutes in the outlet ditch prior to discharge to the Price River. The analysis for TRC is summarized in Appendix C.

The calibration and wasteload models are available for review by request.

WET Limits

The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits. The LC_{50} (lethal concentration, 50%) percent effluent for acute toxicity and the IC_{25} (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. The WET limit for LC_{50} is typically 100% effluent and does not need to be determined by the WLA.

Table 1: WET Limits for IC_{25}

Season	Percent Effluent
Annual	32%

Effluent Limits

The effect of the effluent on the DO in the receiving water was evaluated using the QUAL2Kw model. A DO sag downstream in the Price River resulting from the plant discharge was observed and predicted by the model due to decay of BOD in the effluent and benthic algal growth and decomposition resulting from nutrients in the effluent. However, the DO sag was not predicted

to exceed water quality criteria and recovery occurs within the model extents. The benthic algae growth appeared to be limited by light as a result of high turbidity due to suspended solids. Therefore, limits beyond secondary standards are not required for DO and BOD_5 (Table 2).

The acute limit for ammonia from the previous permit was verified to meet water quality criteria in the receiving water, but was not raised due to antidegradation considerations.

The complete list of WQBELs is listed in Appendices A, B, and C.

Table 2: Selected WQBELs

Effluent Constituent	Acute			Chronic		
	Standard	Limit	Averaging Period	Standard	Limit	Averaging Period
Flow (MGD)	N/A	3.0	1 day	N/A	2.2	30 days
Ammonia (mg/L)[1]						
Summer (Jul-Sep)					7.5	
Fall (Oct-Dec)	Varies[2]	16.0	1 hour	Varies[3]	9.0	30 days
Winter (Jan-Mar)					9.5	
Spring (Apr-Jun)					9.5	
Total Residual Chlorine (mg/L)	0.019	0.051	1 hour	0.011	0.060	4 days
Dissolved Oxygen Min. (mg/L)	3.0	5.0	Instantaneous	5.0	5.0	30 days
BOD_5 (mg/L)	N/A	35	7 days	N/A	25	30 days

1: Ammonia limit due to toxicity requirements.
2: Standard varies with pH.
3: Standard varies with pH and temperature.

Antidegradation Level I Review

The objective of the Level I ADR is to ensure the protection of existing uses, defined as the beneficial uses attained in the receiving water on or after November 28, 1975. No evidence is known that the existing uses deviate from the designated beneficial uses for the receiving water. Therefore, the beneficial uses will be protected if the discharge remains below the WQBELs presented in this wasteload.

A Level II Antidegradation Review (ADR) is not required for this discharge, as pollutant concentration and load are not proposed to increase under this permit renewal.

Prepared by:
Nicholas von Stackelberg, P.E.
Standards and Technical Services Section

Documents

- WLA Document: *price_potw_wla_projected_flow_2018-01-09.docx*
- QUAL2Kw Calibration Model: *Qual2kw Price Calibration 1.1.xls*
- QUAL2Kw Wasteload Model: *price_potw_wla_2017.xlsm*

References:

- *Using QUAL2K Modeling to Support Nutrient Criteria Development and Wasteload Analyses in Utah*. 2012. Neilson, B.T., A.J. Hobson, N. von Stackelberg, M. Shupryt, and J.D. Ostermiller.
- *Price River, San Rafael River, and Muddy Creek TMDLs for Total Dissolved Solids, West Colorado Watershed Management Unit, Utah.* 2004. Utah Division of Water Quality
- *Field Data Collection for QUAL2Kw Model Build and Calibration Standard Operating Procedures Version 1.0*. 2012. Utah Division of Water Quality.
- *Utah Wasteload Analysis Procedures Version 1.0*. 2012. Utah Division of Water Quality.
- *2016 Utah Integrated Report*. 2016. Utah Division of Water Quality.

WASTELOAD ANALYSIS [WLA] Date: 1/9/2018
Appendix A: QUAL2Kw Analysis Results

DiscRarging Facility:	Price Water Improvement District WWTP		
UPDES No:	UT-0021814		
Permit Flow [MGD]:	3.00	Maximum Daily Flow	
	2.20	Maximum Monthly Flow	
Receiving Water:	Price River		
Stream Classification:	2B, 3C, 4		
Stream Flows [cfs]:	13.25	Summer (July-Sept)	Critical Low Flow
	13.25	Fall (Oct-Dec)	
	13.25	Winter (Jan-Mar)	
	13.25	Spring (Apr-June)	
Acute River Width:	50%		
Chronic River Width:	100%		

Modeling Information

A QUAL2Kw model was used to determine these effluent limits.

Model Inputs

The following is upstream and discharge information that was utilized as inputs for the analysis.

Headwater/Upstream Information	**Summer**	**Fall**	**Winter**	**Spring**
Flow (cfs)	13.3	13.3	13.3	13.3
Temperature (deg C)	16.4	4.5	6.7	14.3
Specific Conductance (µmhos)	1546	2071	1365	1470
Inorganic Suspended Solids (mg/L)	170.2	86.1	301.2	284.9
Dissolved Oxygen (mg/L)	7.7	11.6	9.7	9.1
$CBOD_5$ (mg/L)	3.7	3.7	3.7	3.7
Organic Nitrogen (mg/L)	0.510	0.420	0.216	0.235
NH4-Nitrogen (mg/L)	0.150	0.025	0.050	0.050
NO3-Nitrogen (mg/L)	1.200	0.825	0.561	0.320
Organic Phosphorus (mg/L)	0.300	0.601	0.522	0.428
Inorganic Ortho-Phosphorus (mg/L)	0.136	0.064	0.031	0.029
Phytoplankton (µg/L)	7.000	7.000	7.000	7.000
Detritus [POM] (mg/L)	9.0	4.5	15.9	15.0
Alkalinity (mg/L)	197	348	272	271
pH	8.3	8.3	8.3	8.3

Tributary Information - Coal Creek	**Summer**	**Fall**	**Winter**	**Spring**
Flow (cfs)	2.2	2.2	2.2	2.2
Temperature (deg C)	12.9	4.4	3.5	14.3
Specific Conductance (µmhos)	3934	3934	3934	3934
Inorganic Suspended Solids (mg/L)	896.4	896.4	896.4	896.4
Dissolved Oxygen (mg/L)	8.8	8.8	8.8	8.8
$CBOD_5$ (mg/L)	2.0	2.0	2.0	2.0
Organic Nitrogen (mg/L)	0.505	0.505	0.505	0.505
NH4-Nitrogen (mg/L)	0.068	0.068	0.068	0.068
NO3-Nitrogen (mg/L)	0.833	0.833	0.833	0.833
Organic Phosphorus (mg/L)	0.095	0.095	0.095	0.095
Inorganic Ortho-Phosphorus (mg/L)	0.100	0.100	0.100	0.100
Phytoplankton (µg/L)	0.000	0.000	0.000	0.000
Detritus [POM] (mg/L)	47.2	47.2	47.2	47.2
Alkalinity (mg/L)	200	200	200	200
pH	8.2	8.2	8.2	8.2

Tributary Information - Soldier Creek	Summer	Fall	Winter	Spring
Flow (cfs)	0.8	0.8	0.8	0.8
Temperature (deg C)	19.4	10.7	4.3	13.4
Specific Conductance (µmhos)	3003	3003	3003	3003
Inorganic Suspended Solids (mg/L)	629.1	629.1	629.1	629.1
Dissolved Oxygen (mg/L)	9.1	9.1	9.1	9.1
$CBOD_5$ (mg/L)	2.0	2.0	2.0	2.0
Organic Nitrogen (mg/L)	0.410	0.410	0.410	0.410
NH4-Nitrogen (mg/L)	0.076	0.076	0.076	0.076
NO3-Nitrogen (mg/L)	0.446	0.446	0.446	0.446
Organic Phosphorus (mg/L)	0.096	0.096	0.096	0.096
Inorganic Ortho-Phosphorus (mg/L)	0.100	0.100	0.100	0.100
Phytoplankton (µg/L)	0.000	0.000	0.000	0.000
Detritus [POM] (mg/L)	33.1	33.1	33.1	33.1
Alkalinity (mg/L)	200	200	200	200
pH	7.9	7.9	7.9	7.9

Discharge Information - Chronic	Summer	Fall	Winter	Spring
Flow (mgd)	2.2	2.2	2.2	2.2
Temperature (deg C)	20.9	15.3	10.3	14.9
Specific Conductance (µmhos)	1778	1762	1716	1916
Inorganic Suspended Solids (mg/L)	4.4	4.1	2.3	4.2
Dissolved Oxygen (mg/L)	5.0	5.0	5.0	5.0
$CBOD_5$ (mg/L)	25.0	25.0	25.0	25.0
Organic Nitrogen (mg/L)	1.850	1.850	1.850	1.850
NH4-Nitrogen (mg/L)	7.500	9.000	9.500	9.500
NO3-Nitrogen (mg/L)	14.540	14.540	14.540	14.540
Organic Phosphorus (mg/L)	0.340	0.340	0.340	0.340
Inorganic Ortho-Phosphorus (mg/L)	2.880	2.880	2.880	2.880
Phytoplankton (µg/L)	11.000	11.000	11.000	11.000
Detritus [POM] (mg/L)	0.0	0.0	0.0	0.0
Alkalinity (mg/L)	208	208	208	208
pH	7.4	7.4	7.4	7.4

Discharge Information - Acute	Summer	Fall	Winter	Spring
Flow (mgd)	3.0	3.0	3.0	3.0
Temperature (deg C)	22.0	17.5	12.0	17.4
Specific Conductance (µmhos)	1778	1762	1716	1916
Inorganic Suspended Solids (mg/L)	4.4	4.1	2.3	4.2
Dissolved Oxygen (mg/L)	5.0	5.0	5.0	5.0
$CBOD_5$ (mg/L)	35.0	35.0	35.0	35.0
Organic Nitrogen (mg/L)	1.850	1.850	1.850	1.850
NH4-Nitrogen (mg/L)	16.000	16.000	16.000	16.000
NO3-Nitrogen (mg/L)	14.540	14.540	14.540	14.540
Organic Phosphorus (mg/L)	0.340	0.340	0.340	0.340
Inorganic Ortho-Phosphorus (mg/L)	2.880	2.880	2.880	2.880
Phytoplankton (µg/L)	11.000	11.000	11.000	11.000
Detritus [POM] (mg/L)	0.0	0.0	0.0	0.0
Alkalinity (mg/L)	208	208	208	208
pH	7.4	7.4	7.4	7.4

All model numerical inputs, intermediate calculations, outputs and graphs are available for discussion, inspection and copy at the Division of Water Quality.

Effluent Limitations

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort reflect the environmental conditions expected at low stream flows.

Effluent Limitations based upon Water Quality Standards for DO and Ammonia Toxicity

In-stream criteria of downstream segments for Dissolved Oxygen and Ammonia will be met with an effluent limitation as follows:

Chronic	**Standard**	**Summer**	**Fall**	**Winter**	**Spring**
Flow (MGD)	N/A	2.2	2.2	2.2	2.2
NH4-Nitrogen (mg/L)	Varies	7.5	9.0	9.5	9.5
$CBOD_5$ (mg/L)	N/A	25.0	25.0	25.0	25.0
Dissolved Oxygen [30-day Ave] (mg/L)	5.0	5.0	5.0	5.0	5.0

Acute	**Standard**	**Summer**	**Fall**	**Winter**	**Spring**
Flow (cfs)	N/A	3.0	3.0	3.0	3.0
NH4-Nitrogen (mg/L)	Varies	16.0	16.0	16.0	16.0
$CBOD_5$ (mg/L)	N/A	35.0	35.0	35.0	35.0
Dissolved Oxygen [Minimum] (mg/L)	3.0	5.0	5.0	5.0	5.0

Summary Comments

The mathematical modeling and best professional judgement indicate that violations of receiving water beneficial uses with their associated water quality standards, including important down-stream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

Coefficients and Other Model Information

Parameter	*Value*	*Units*
Stoichiometry:		
Carbon	40	gC
Nitrogen	7.2	gN
Phosphorus	1	gP
Dry weight	100	gD
Chlorophyll	1	gA
Inorganic suspended solids:		
Settling velocity	0.2	m/d
Oxygen:		
Reaeration model	USGS(pool-riffle)	
Temp correction	1.024	
Reaeration wind effect	None	
O2 for carbon oxidation	2.69	gO2/gC
O2 for NH4 nitrification	4.57	gO2/gN
Oxygen inhib model CBOD oxidation	Exponential	
Oxygen inhib parameter CBOD oxidation	0.60	L/mgO2
Oxygen inhib model nitrification	Exponential	
Oxygen inhib parameter nitrification	0.60	L/mgO2
Oxygen enhance model denitrification	Exponential	
Oxygen enhance parameter denitrification	0.60	L/mgO2
Oxygen inhib model phyto resp	Exponential	
Oxygen inhib parameter phyto resp	0.60	L/mgO2
Oxygen enhance model bot alg resp	Exponential	
Oxygen enhance parameter bot alg resp	0.60	L/mgO2
Slow CBOD:		
Hydrolysis rate	0	/d
Temp correction	1.047	
Oxidation rate	0.103	/d
Temp correction	1.047	
Fast CBOD:		
Oxidation rate	10	/d
Temp correction	1.047	
Organic N:		
Hydrolysis	0.2532525	/d
Temp correction	1.07	
Settling velocity	0.186698	m/d
Ammonium:		
Nitrification	0.052449	/d
Temp correction	1.07	
Nitrate:		
Denitrification	0.3067175	/d
Temp correction	1.07	
Sed denitrification transfer coeff	0.74405	m/d
Temp correction	1.07	
Organic P:		
Hydrolysis	0.1347925	/d
Temp correction	1.07	
Settling velocity	0.132374	m/d
Inorganic P:		
Settling velocity	1.9476	m/d
Sed P oxygen attenuation half sat constant	0.10486	mgO2/L

Phytoplankton:		
Max Growth rate	2.424195	/d
Temp correction	1.07	
Respiration rate	0.2453945	/d
Temp correction	1.07	
Death rate	0.07159	/d
Temp correction	1	
Nitrogen half sat constant	15	ugN/L
Phosphorus half sat constant	2	ugP/L
Inorganic carbon half sat constant	1.30E-05	moles/L
Phytoplankton use HCO3- as substrate	Yes	
Light model	Smith	
Light constant	57.6	langleys/d
Ammonia preference	16.82115	ugN/L
Settling velocity	0.098591	m/d
Bottom Plants:		
Growth model	Zero-order	
Max Growth rate	15.75627	gD/m2/d or /d
Temp correction	1.07	
First-order model carrying capacity	100	gD/m2
Basal respiration rate	0.0691094	/d
Photo-respiration rate parameter	0.01	unitless
Temp correction	1.07	
Excretion rate	0.3327	/d
Temp correction	1.07	
Death rate	1.66875	/d
Temp correction	1.07	
External nitrogen half sat constant	350.448	ugN/L
External phosphorus half sat constant	67.2535	ugP/L
Inorganic carbon half sat constant	7.41E-05	moles/L
Bottom algae use HCO3- as substrate	Yes	
Light model	Smith	
Light constant	68.6698	mgO^2/L
Ammonia preference	17.5728	ugN/L
Subsistence quota for nitrogen	0.8808192	mgN/gD
Subsistence quota for phosphorus	0.0874835	mgP/gD
Maximum uptake rate for nitrogen	743.668	mgN/gD/d
Maximum uptake rate for phosphorus	144.8225	mgP/gD/d
Internal nitrogen half sat ratio	1.597312	
Internal phosphorus half sat ratio	4.9713625	
Nitrogen uptake water column fraction	1	
Phosphorus uptake water column fraction	1	
Detritus (POM):		
Dissolution rate	0.279779	/d
Temp correction	1.07	
Settling velocity	0.0739985	m/d
pH:		
Partial pressure of carbon dioxide	370	ppm

Atmospheric Inputs:	Summer	Fall	Winter	Spring
Max. Air Temperature, F	88.2	51.8	42.9	72.4
Min. Air Temperature, F	50.5	17.7	14.1	36.2
Dew Point, Temp., F	54.5	29.9	26.0	44.3
Wind, ft./sec. @ 21 ft.	6.6	5.8	5.8	8.4
Cloud Cover, %	0.1	0.1	0.1	0.1

Other Inputs:	
Bottom Algae Coverage	100.0%
Bottom SOD Coverage	100.0%
Prescribed SOD (mg O_2/m^2/day)	0.1

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Appendix B: Mass Balance Mixing Analysis Results

Discharging Facility:	Price Water Improvement District WWTP	
UPDES No:	UT-0021814	
Permit Flow [MGD]:	3.00	Maximum Daily Flow
	2.20	Maximum Monthly Flow
Receiving Water:	Price River	
Stream Classification:	2B, 3C, 4	
Stream Flows [cfs]:	13.25	Annual Critical Low Flow
Acute River Width:	50%	
Acute Combined Flow [cfs]	11.27	
Chronic River Width:	100%	
Chronic Combined Flow [cfs]	16.65	

Modeling Information

A simple mixing analysis was used to determine these effluent limits.

All model numerical inputs, intermediate calculations, outputs and graphs are available for discussion, inspection and copy at the Division of Water Quality.

Effluent Limitations

Current State water quality standards are required to be met under a variety of conditions including in-stream flows targeted to the 7-day, 10-year low flow (R317-2-9).

Other conditions used in the modeling effort reflect the environmental conditions expected at low stream flows.

Effluent Limitations for Protection of Recreation (Class 2B Waters)

Parameter	Limit	
pH		
Minimum	6.5	
Maximum	9.0	
Bacteriological		
E. coli (30 Day Geometric Mean)	206	(#/100 mL)
E. coli (Maximum)	668	(#/100 mL)

Effluent Limitations for Protection of Aquatic Wildlife (Class 3C Waters)

Parameter	Limit	
Temperature (deg C)		
Maximum	27.0	
Maximum Change	4.0	
pH		
Minimum	6.5	
Maximum	9.0	

Inorganics	Chronic Standard (4 Day Average)			Acute Standard (1 Hour Average)		
	Standard	Limit	Unit	Standard	Limit	Unit
Phenol				0.010	0.015	mg/L
Hydrogen Sulfide (Undissociated)				0.002	0.003	mg/L

Dissolved Metals [µg/L]

	Chronic Standard (4 Day Average)			Acute Standard (1 Hour Average)		
Parameter	**Standard[1]**	**Background**	**Limit**	**Standard**	**Background**	**Limit**
Aluminum	NA[3]	NA	NONE	750	13.0	1,802
Arsenic	150	1.1	730	340	1.1	824
Cadmium	0.6	0.06	2.9	7.7	0.06	18.7
Chromium VI	11.0	2.7	43.3	16.0	2.7	35.0
Chromium III	231	2.7	1118	1,773	2.7	4,301
Copper	29.3	3.0	131.7	49.6	3.0	116.2
Cyanide[2]	5.2	3.5	11.9	22.0	3.5	48.5
Iron				1,000	28.65	2,387
Lead	10.9	0.19	52.8	281	0.19	681
Mercury[2]	0.012	0.008	0.028	2.4	0.008	5.8
Nickel	168	4.7	804	1,513	4.7	3,666
Selenium	4.6	2.0	14.7	18.4	2.0	41.8
Silver				34.9	0.25	84.4
Tributylin[2]	0.072	0.048	0.165	0.46	0.048	1.05
Zinc	382	14.1	1,816	379	14.1	901

1: Based upon a Hardness of 400 mg/l as CaCO3

2: Ambient concentration assumed 2/3 of water quality standard

3: Where the pH is equal to or greater than 7.0 and the hardness is equal to or greater than 50 ppm as $CaC0_3$ in the receiving water after mixing, the 87 ug/L chronic criterion (expressed as total recoverable) will not apply, and aluminum will be regulated based on compliance with the 750 ug/L acute aluminum criterion (expressed as total recoverable).

Organics [Pesticides] [µg/L]

	Chronic Standard (4 Day Average)			Acute Standard (1 Hour Average)		
Parameter	**Standard**	**Background[1]**	**Limit**	**Standard**	**Background**	**Limit**
Aldrin				1.5	1.0	2.2
Chlordane	0.0043	0.0029	0.0099	1.2	0.0029	2.9
DDT, DDE	0.001	0.0007	0.0023	0.55	0.0007	1.33
Diazinon	0.17	0.11	0.39	0.17	0.11	0.25
Dieldrin	0.0056	0.0037	0.0129	0.24	0.0037	0.58
Endosulfan, a & b	0.056	0.037	0.129	0.11	0.037	0.21
Endrin	0.036	0.024	0.083	0.086	0.024	0.175
Heptachlor & H. epoxide	0.0038	0.0025	0.0087	0.26	0.0025	0.63
Lindane	0.08	0.05	0.18	1.0	0.05	2.4
Methoxychlor				0.03	0.02	0.04
Mirex				0.001	0.0007	0.001
Nonylphenol	6.6	4.4	15.2	28.0	4.4	61.7
Parathion	0.013	0.009	0.030	0.066	0.009	0.148
PCB's	0.014	0.009	0.032			
Pentachlorophenol	15.0	10.0	34.5	19.0	10.0	31.8
Toxephene	0.0002	0.0001	0.0005	0.73	0.0001	1.77

1: Ambient concentration assumed 2/3 of water quality standard

Radiological

Parameter	**Maximum Concentration**
Gross Alpha	15 pCi/L

Effluent Limitation for Protection of Agriculture (Class 4 Waters)

Parameter	**Maximum Concentration**			
	Standard	**Background**	**Limit**	
Total Dissolved Solids (mg/L)	1,700		1,700	Site specific standard
Arsenic (µg/L)	100	1.1	485	
Boron (µg/L)	750	201	2,889	
Cadmium (µg/L)	10	0.06	49	
Chromium (µg/L)	100	2.7	479	
Copper (µg/L)	200	3.0	967	
Lead (µg/L)	100	0.19	489	
Selenium (µg/L)	50	2.0	237	
Gross Alpha (pCi/L)	15		15	

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Appendix C: Total Residual Chlorine

Discharging Facility: Price Water Improvement District WWTP
UPDES No: UT-0021814

CHRONIC

	Season	Receiving Water	Standard	Total Effluent	Mixing Zone Boundary	Effluent Limit Without Decay	Temperature (°C)	Decay Rate (/day) @ 20 deg C	Decay Rate (/day) @ T deg C	Travel Time (min)	Decay Coefficient	Effluent Limit
Discharge (cfs)	Summer	13.3		3.4	16.7							
	Fall	13.3		3.4	16.7							
	Winter	13.3		3.4	16.7							
	Spring	13.3		3.4	16.7							
TRC (mg/L)	Summer	0.000	0.011			0.054	20.9	20	20.8	10	0.8652	0.062
	Fall	0.000	0.011			0.054	15.3	20	16.1	10	0.8943	0.060
	Winter	0.000	0.011			0.054	10.3	20	12.8	10	0.9147	0.059
	Spring	0.000	0.011			0.054	14.9	20	15.8	10	0.8961	0.060

ACUTE

	Season	Receiving Water	Standard	Total Effluent	Mixing Zone Boundary	Effluent Limit Without Decay	Temperature (°C)	Decay Rate (/day) @ 20 °C	Decay Rate (/day) @ T °C	Travel Time (min)	Decay Coefficient	Effluent Limit
Discharge (cfs)	Summer	6.6		4.6	11.3							
	Fall	6.6		4.6	11.3							
	Winter	6.6		4.6	11.3							
	Spring	6.6		4.6	11.3							
TRC (mg/L)	Summer	0.000	0.019			0.046	22.0	20	22.0	10	0.8586	0.054
	Fall	0.000	0.019			0.046	17.5	20	17.8	10	0.8837	0.052
	Winter	0.000	0.019			0.046	12.0	20	13.9	10	0.9083	0.051
	Spring	0.000	0.019			0.046	17.4	20	17.7	10	0.8842	0.052