

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

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Minor Municipal Permit No. **UT0020931**

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

CITY OF CORINNE

is hereby authorized to discharge from its wastewater treatment facility to receiving waters named **BEAR RIVER,**

and to distribute effluent for land disposal,

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

This permit shall become effective on June 1, 2021.

This permit expires at midnight on May 31, 2026.

Signed this 31st day of May, 2021.



Erica Brown Gaddis, PhD
Director

DWQ-2021-008311

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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 | Description of Discharge Point |
|----------------|---|
| 001 | Located at latitude 41°32'13.8" and longitude 112°06'40". The Corinne Wastewater Lagoon System is located approximately ½ mile south of the City of Corinne on the west side of the Bear River. The discharge is from a twelve-inch corrugated metal pipe discharging directly to the Bear River. |
| 001D | Located at latitude 41°32'15" and longitude 112°06'42". The discharge from this location flows into a retention ditch and then into holding pond on the adjacent farmers property for land disposal. |

- 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 and Outfall 001 D as defined in *Part VIII*, and determined by test procedures described in *Part VIII. A.* 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 in Tables 1, 2 and 3.

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| Table 1 | | | | | |
|--|----------------------------|---------------------------|----------------------|----------------------|-----------------------|
| Outfall 001 | | | | | |
| Effluent Limitations for Surface Water Discharge ^{a, b, c} | | | | | |
| Parameter | Maximum Monthly Avg | Maximum Weekly Avg | Daily Minimum | Daily Maximum | Yearly Maximum |
| Total Flow, mgd | 0.07 | -- | -- | -- | |
| BOD ₅ , mg/L ^b | 25 | 35 | -- | -- | |
| BOD ₅ Min. % Removal | 85 | -- | -- | -- | |
| TSS, mg/L | 25 | 35 | -- | -- | |
| TSS Min. % Removal | 85 | -- | -- | -- | |
| <i>E. coli</i> , No./100mL | 126 | 158 | -- | -- | |
| pH, Standard Units | -- | -- | 6.5 | 9 | |
| Dissolved Oxygen, mg/L | -- | -- | 4.0 | -- | |
| Total Phosphorus, lbs/year | -- | -- | -- | -- | 558 |

| Table 2 | | | |
|--|--|--------------------|--------------|
| Influent | | | |
| Self-Monitoring and Reporting Requirements ^{a, b, e} | | | |
| Parameter | Frequency | Sample Type | Units |
| BOD ₅ ^b | Monthly | Composite | mg/L |
| TSS ^b | Monthly | Composite | mg/L |
| TDS | Monthly | Composite | mg/L |
| Total Phosphorus (as P) ^h | Monthly | Composite | mg/L |
| Total Kjeldahl Nitrogen (as N) ^h | Monthly | Composite | mg/L |
| Metals ^{i, j, k} | Quarterly | Composite | mg/L |
| Organic Toxics | 2 nd and 4 th year | Grab | mg/L |

| Table 3 | | | |
|--|---------------------|--------------------|--------------|
| Outfall 001 | | | |
| Effluent Self-Monitoring and Reporting Requirements ^{a, b, 9i} | | | |
| Parameter | Frequency | Sample Type | Units |
| Total Flow ^{d, e} | Continuous | Recorder | MGD |
| BOD ₅ | Monthly | Composite | mg/L |
| TSS | Monthly | Composite | mg/L |
| TDS | Monthly | Composite | mg/L |
| <i>E. coli</i> | Monthly | Grab | No./100mL |
| pH | Monthly | Grab | SU |
| DO | Monthly | Grab | mg/L |
| Oil & Grease ^{f, g} | When Sheen Observed | Grab | mg/L |
| Orthophosphate (as P) ^h | Monthly | Composite | mg/L |
| Total Phosphorus (as P) ^h | Monthly | Composite | mg/L |
| Total Kjeldahl Nitrogen (as N) ^h | Monthly | Composite | mg/L |
| Nitrate, NO ₃ ^h | Monthly | Composite | mg/L |
| Nitrite, NO ₂ ^h | Monthly | Composite | mg/L |
| Metals ^{i, j, k} | Quarterly | Composite | mg/L |

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| | | | |
|----------------|--|------|------|
| Organic Toxics | 2 nd and 4 th year | Grab | mg/L |
|----------------|--|------|------|

Table 1, 2, 3 References

- a. See Definitions, *Part VIII*, for definition of terms.
- b. All parameters in this table will be reported on the monthly Discharge Monitoring Report.
- c. Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- d. If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- e. 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.
- f. There shall be no visible sheen or floating solids or visible foam in other than trace amounts.
- g. Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report 9 under “NODI” in NetDMR.
- h. Monitoring only for total phosphorus (TP), orthophosphate as P (OP), total ammonia, nitrate, nitrite, and total Kjeldahl nitrogen as N (TKN) have been included to comply with Utah Secondary Treatment Standards and the Technology-based Phosphorus Effluent limit rule in *UAC R317-1-3.3*
- i. Metals samples should be analyzed using a method that meets MDL requirements. If a test method is not available the permittee must submit documentation to the Director regarding the method that will be used. The sample type (composite or grab) should be performed according to the methods requirements.
- j. Metals are being sampled in support of the work being done for the Reasonable Potential Analysis. Metal parameters will be monitored and reported but will not have a limit associated with them, if Corinne decides to sample more frequently for these parameters, the additional data will be required as per Part V.E.
- k. Metals
 - Arsenic
 - Cadmium
 - Total Chromium
 - Copper
 - Cyanide
 - Lead
 - Mercury
 - Nickel
 - Selenium
 - Silver
 - Zinc

End Table References

- b. Effective immediately and lasting the duration of this permit, the permittee is authorized to land dispose from Outfall 001D. Such discharges shall be limited and monitored by the permittee as specified in Table 4, 5, and 6.

| Table 4 | | | | |
|---|----------------------------|--------------------------|----------------------|----------------------|
| Outfall 001D | | | | |
| Type II Land Disposal Effluent Limitations ^{a, b} | | | | |
| Parameter | Max Monthly Average | Max Weekly Median | Daily Minimum | Daily Maximum |
| BOD ₅ | 25 | 35 | -- | -- |
| TSS | 25 | 35 | - | -- |
| <i>E. coli</i> , No/100mL | -- | 158 | -- | 500 |
| pH, Standard Units | -- | -- | 6.5 | 9.0 |

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| Table 5 | | | |
|---|------------|-------------|-----------|
| Outfall 001D Self-Monitoring and Reporting Requirements ^{a, b, d} | | | |
| Parameter | Frequency | Sample Type | Units |
| Applied Flow ^c | Continuous | Recorder | MGD |
| Irrigated Acreage | Monthly | Estimated | mg/L |
| BOD ₅ | Monthly | Composite | mg/L |
| TSS | Monthly | Composite | mg/L |
| TDS | Monthly | Composite | mg/L |
| <i>E. coli</i> | Monthly | Grab | No./100mL |
| pH | Monthly | Grab | SU |
| Total Inorganic Nitrogen | Monthly | Grab | mg/L |
| Cell Depth | Monthly | Measure | Feet |
| Free Board | Monthly | Measure | Feet |

| Table 6 | |
|---|---|
| Land Application per Crop Type ^e | |
| Crop Type | List of crops grown on each site |
| Crop Harvest (tons/yr) | As measured based on harvest records |
| Land Application Area (acres) | Land treated process water effluent was applied based on application area |
| Number of Days per Season | Estimated (about 180 days/growing season) |

Table 4, 5, 6 References

- a. See Definitions, *Part VIII*, for definition of terms.
- b. All parameters in this table will be reported on the monthly Discharge Monitoring Report.
- c. Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- d. Effluent shall only be disposed of by methods allowed by R317-3-11.5.A.
- e. Land Application Reports shall be summarized per crop type and submitted annually, no later than January 28th of the month following the completed reporting period.

End Table References

c. Lagoon Best Management Practices:

- 1) The permittee shall take such parameters as are necessary to maintain and operate the facility in a manner that will minimize upsets and ensure stable operating conditions.
- 2) The permittee shall visually inspect, at least weekly, the pond(s) to determine if there is adequate freeboard to minimize the likelihood of an accidental discharge occurring. If it is determined that a discharge is occurring and/or there is not adequate freeboard, the appropriate corrective measures shall be taken immediately.
- 3) The permittee shall take precautions and have erosion control measures in place that, in the event of a bypass of treatment, the discharge will not cause erosion into the Waters of the State.

d. Management Practices for Land Application of Treated Effluent:

- (1) The application of treated effluent to frozen, ice-covered, or snow-covered land is prohibited.

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- (2) No person shall apply treated effluent where the slope of the site exceeds 6 percent.
- (3) The use should not result in a surface water runoff.
- (4) The use must not result in the creation of an unhealthy or nuisance condition, as determined by the local health department.
- (5) Any irrigation with treated effluent must be at least 300 feet from a potable well.
- (6) For Type I reuse, any irrigation must be at least 50 feet from any potable water well.
- (7) For Type II reuse, any irrigation must be at least 300 feet from any potable water well.
- (8) For Type II reuse, spray irrigation must be at least 100 feet from areas intended for public access. This distance may be reduced or increased by the Director.
- (9) Impoundments of treated effluent, if not sealed, must be at least 500 feet from any potable well.
- (10) Public access to effluent storage and irrigation or disposal sites shall be restricted by a stock-tight fence or other comparable means which shall be posted and controlled to exclude the public.

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 in 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.

2. Land Application Reports.

Land Application Reports from Table 6 shall be summarized per crop type and submitted annually, no later than January 28th of the month following the completed reporting period. Legible copies of these, and all other reports required herein, shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the requirements of Signatory Requirements (see Part VII.G), submitted to the Division of Water Quality via the Division of Water Quality – Water Quality Electronic Submissions portal at:

<https://deq.utah.gov/water-quality/water-quality-electronic-submissions>

With e-Delivery Submittal Purpose of Submission: Corinne Land Application Report UPDES Permit No. UT0020931.

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II. INDUSTRIAL PRETREATMENT PROGRAM

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

1. *Indirect Discharge* means the introduction of pollutants into a publicly-owned treatment works (POTW) from any non-domestic source regulated under section 307 (b), (c) or (d) of the CWA.
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 waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, 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).
5. *Publicly Owned Treatment Works* or *POTW* means a treatment works as defined by section 212 of the CWA, which is owned by a State or municipality (as defined by section 502(4) of the CWA). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the CWA, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.
6. *Significant industrial user (SIU)* is defined as an industrial user discharging to a 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

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

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

B. Pretreatment 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 **ninety (90) calendar days** of the effective date of this permit.
2. Monitoring will be required of the permittee for the pretreatment requirements at this time. If changes occur monitoring may be required for parameters not currently listed in the permit or current monitoring requirements may be required to be increased to determine the impact of an industrial user or to investigate sources of pollutant loading. This could include but is not limited to sampling of the influent and effluent of the wastewater treatment plant and within the collection system.
3. Influent and Effluent Monitoring and Reporting Requirements. The permittee shall sample and analyze both the influent and effluent, for the parameters listed in the Monitoring for Pretreatment Program Table.

| Monitoring for Pretreatment Program Table | | | |
|---|-------------|-----------|-------|
| Parameter | Sample Type | Frequency | Units |
| Total Arsenic | Composite | Quarterly | mg/L |
| Total Cadmium | | | |
| Total Chromium | | | |
| Total Copper | | | |
| Total Lead | | | |
| Total Molybdenum | | | |
| Total Nickel | | | |
| Total Selenium | | | |
| Total Silver | | | |
| Total Zinc | | | |
| Total Cyanide | | | |
| Total Mercury | | | |
| TTOs | | | |

4. The influent and effluent shall be analyzed by the permittee for total toxic pollutants (TTOs) 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.
5. If no discharge occurs the permittee must sample the influent per the requirements in the Monitoring for Pretreatment Program Table.
6. In accordance with the requirements of 40 CFR Part 403.5(c), the permittee shall determine if there is a need to develop or revise its local limits in order to implement the general and

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specific prohibitions of 40 CFR Part 403.5 (a) and Part 403.5 (b). A technical evaluation of the need to develop or revise local limits shall be submitted to the Division within 12 months of the effective date of this permit. This evaluation should be conducted in accordance with the latest revision of the EPA Local Limits Development Guidance. If a technical evaluation, reveals that development or revision of local limits is necessary, the permittee shall submit the proposed local limits revision to the Division of Water Quality for approval, and after approval implement the new local limits, within 12 months of the Division's determination that a revision is necessary.

7. The results of the analyses of metals, cyanide and toxic organics shall be submitted along with the Discharge Monitoring Report (DMR) at the end of the earliest possible reporting period. Also, the permittee must submit a copy of the toxic organics data to the Pretreatment Coordinator for the DWQ via email.
8. For local limit parameters it is recommended that the most sensitive method be used for analysis. This will determine if the parameter is present and provide removal efficiencies based on actual data rather than literature values. If a parameter load is greater than the allowable head works load, for any pollutant listed in Part II.B.3. or a pollutant of concern listed in the local limit development document, the permittee must report the exceedances to the DWQ's Pretreatment Coordinator. If the loading exceeds the allowable headworks load, increase sampling must occur based on the requirements given by the DWQ's Pretreatment Coordinator. If needed sampling may need to occur to find the source(s) of the increase. This may include sampling of the collection system. Notification regarding the exceedances of the allowable headworks loading can be provided via email.

C. Industrial Wastes.

1. The "Industrial Waste Survey" or "IWS" as required by *Part II.B.1.* consists of;
 - a. Identifying each industrial user (IU) and determining if the IU is a significant 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. 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)*.
4. 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. The permittee must ensure that no IU violates any of the general or specific standards. If an IU is found violating a general or specific standard the permittee must notify the Director within 24 hours of the event. The general prohibitions and the specific prohibitions apply to each User introducing pollutants into a POTW whether or not

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the User is subject to other Pretreatment Standards or any national, State or local Pretreatment Requirements.

1. General prohibition Standards. A User may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference.
 2. Specific Prohibited Standards. 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 User (*40 CFR 403.5*):
 - 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.
 - j. Any prohibited standard which the permittee has adopted in an ordinance or rule to control IU discharge to the POTW.
 3. 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. Significant 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;

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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 IU 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 and public notice, as required by R317-8-8.5(4)(c). Local limits should be developed in accordance with the latest revision of the EPA Local Limits Development Guidance and per R317-8-8.5.

III. BIOSOLIDS REQUIREMENTS

The State of Utah has adopted the 40 CFR 503 federal regulations for the disposal of sewage sludge (biosolids) by reference. However, since this facility is a lagoon, there is not any regular sludge production. Therefore 40 CFR 503 does not apply at this time. In the future, if the sludge needs to be removed from the lagoons and is disposed in some way, the Division of Water Quality must be contacted prior to the removal of the sludge to ensure that all applicable state and federal regulations are met.

PART IV
STORM WATER PERMIT

IV. STORM WATER REQUIREMENTS.

- A. Industrial Storm Water Permit. Based on the type of industrial activities occurring at the facility, the permittee is required to maintain separate coverage or an appropriate exclusion under the Multi-Sector General Permit (MSGP) for Storm Water Discharges Associated with Industrial Activities (UTR000000). If the facility is not already covered, the permittee has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation.

- B. Construction Storm Water Permit. Any construction at the facility that disturbs an acre or more of land, including less than an acre if it is part of a common plan of development or sale, is required to obtain coverage under the UPDES Construction General Storm Water Permit (UTRC00000). Permit coverage must be obtained prior to land disturbance. If the site qualifies, a Low Erosivity Waiver (LEW) Certification may be submitted instead of permit coverage.

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.

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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 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

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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:

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- (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 *Part 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 *Parts VI.G.2.a (1), (2) and (3)*.
3. Notice.
- a. *Anticipated bypass.* Except as provided above in *part VI.G.2* and below in *part 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 *part 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 V.H, Twenty-Four Hour Reporting*. The permittee shall also immediately notify the Director of the Department of Natural

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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

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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;

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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 areawide 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 or federal regulations.
- Q. Toxicity Limitation - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include WET testing, a WET limitation, a compliance schedule, a compliance date, additional or modified numerical limitations, or any other conditions related to the control of toxicants if toxicity is detected during the life of this 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 “LC₅₀”).
5. "Annual Loading Cap" is the highest allowable phosphorus loading discharged over a calendar year, calculated as the sum of all the monthly loading discharges measured during a calendar year divided by the number of monthly discharges measured during that year.
6. “Bypass,” means the diversion of waste streams from any portion of a treatment facility.
7. “Chronic toxicity” occurs when the IC₂₅< 0.1% effluent. The 0.1% effluent is the concentration of the effluent in the receiving water, at the end of the mixing zone expressed as per cent effluent.
8. "IC₂₅" 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.
9. “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;

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- 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.
10. “CWA” means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
11. “Daily Maximum” (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.
12. “EPA,” means the United States Environmental Protection Agency.
13. “Director,” means Director of the Division of Water Quality.
14. A “grab” sample, for monitoring requirements, is defined as a single “dip and take” sample collected at a representative point in the discharge stream.
15. An “instantaneous” measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
16. “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.
17. “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.

**FACT SHEET AND STATEMENT OF BASIS
CITY OF CORINNE
RENEWAL PERMIT: DISCHARGE & REUSE
UPDES PERMIT NUMBER: UT0020931
MINOR MUNICIPAL**

FACILITY CONTACTS

Person Name: Kelly Nichols
Position: Public Works
Phone Number:
Email:

Person Name: JL Nichols
Position: Public Works
Phone Number: 435.720.7961
Email: jl@corinnecity.com

Facility Name: City of Corinne
Mailing and Facility Address: 2420 North 4000 West
PO Box 118
Corinne, Utah 84307
Telephone: 435.744.5566
Actual Address: ½ mile south of Corinne in Box Elder County

DESCRIPTION OF FACILITY

The Corinne Wastewater Lagoon System (Corinne) was constructed in 1971 with seven cells. In 1981 it was expanded to eight cells. The facility serves Corinne City with a current population of 730 people (2020 UPDES permit application). The facility consists of a bar screen, 45° V-notch inlet weir, comminutor, sump and pump station, eight facultative lagoons operating in a series, a Steven discharge flow recorder and a gas chlorine system. The lagoon has a hydraulic detention time of 180 days.

The facility has two discharge Outfalls. Outfall 001 is a twelve-inch diameter concrete pipe that runs approximately 200 feet and discharges directly into the Bear River. Outfall 001D discharges into a retention ditch and then into holding ponds on the adjacent farmer's property which is used for irrigation during the growing season. The land application site is approximately 260 acres, south and southwest west of the wastewater lagoons. The facility discharges approximately 70,000 gpd.

Corinne is working on replacing or coating the wastewater collection system to help prevent infiltration into the collection system. This will also help with the loading at the lagoons.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Corinne has installed a gas chlorine system and finished the land application project since the last permit cycle.

Total Dissolved Solids (TDS) has been added to the permit to support the Total Maximum Daily Loads (TMDL) and impairment listing efforts.

TBPEL Rule

Water Quality adopted UAC R317-1-3.3, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule in 2014. No TBPEL will be instituted for discharging treatment lagoons. Instead, each discharging lagoon will be evaluated to determine the current annual average total phosphorus load measured in pounds per year based on monthly average flow rates and concentrations. Absent field data to determine these loads, and in case of intermittent discharging lagoons, the phosphorus load cap will be estimated by the Director. A cap

of 125% of the current annual total phosphorus load will be established and referred to as phosphorus loading cap. Once the lagoon's phosphorus loading cap has been reached, the owner of the facility will have five years to construct treatment processes or implement treatment alternatives to prevent the total phosphorus loading cap from being exceeded.

The TBPEL discharging treatment works are required to implement, at a minimum, monthly monitoring.

R317-1-3.3, E, 1, a. Influent for total phosphorus (as P) and total Kjeldahl nitrogen (as N) concentrations;

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

In R317-1-3.3, E, 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.

The phosphorus annual loading cap is defined as:

"Annual Loading Cap" is the highest allowable phosphorus loading discharged over a calendar year, calculated as the sum of all the monthly loading discharges measured during a calendar year divided by the number of monthly discharges measured during that year.

The reported monthly loading is calculated as shown here;

$$\text{Monthly Mass Loading, } \frac{\text{lbs}}{\text{Month}} = (\text{Ave Flow}) * (\text{Ave Concentration}) * \left(8.34 \frac{\text{lbs}}{\text{gal}}\right) * \left(\frac{\text{Days Discharged}}{\text{Month}}\right)$$

The annual total phosphorus loading

$$\text{Annual Mass Loading, lbs} = \text{Sum} \left(\text{Monthyl Mass Loading, } \frac{\text{lbs}}{\text{Month}} \right)$$

DISCHARGE

DESCRIPTION OF DISCHARGE

Corinne has been reporting monthly self-monitoring results on NetDMR. Corinne has notified DWQ regarding Outfall 001D exceedances; six for BOD from December 2017 to September 2018, one TSS in October 2018 and one pH in February 2020. Four of the BOD exceedances resulted in a Notice of Violation and Settlement Agreement. The facility strives to find ways improve the process and eliminate exceedances.

| Outfall | Description of Discharge Point |
|----------------|---|
| 001 | Located at latitude 41°32'13.8" and longitude 112°06'40". The Corinne Wastewater Lagoon System is located approximately ½ mile south of the City of Corinne on the west side of the Bear River. The discharge is from a twelve-inch corrugated metal pipe discharging directly to the Bear River. |
| 001D | Located at latitude 41°32'15" and longitude 112°06'42". The discharge from this location flows into a retention ditch and then into holding pond on the adjacent farmers property for land disposal. |

RECEIVING WATERS AND STREAM CLASSIFICATION

If a discharge were to occur, it would be pumped into an irrigation ditch, which is a Class 2B, 3B, 3D and 4 according to *Utah Administrative Code (UAC) R317-2-13.3(a)*:

- 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 3B Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 3D Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
- Class 4 Protected for agricultural uses including irrigation of crops and stock watering.

SURFACE WATER DISCHARGE

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. The dissolved oxygen minimum is based on the wasteload analysis (WLA) and indicates these parameters should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. Ammonia and total residual chlorine (TRC) were evaluated; however, Corinne has no reasonable potential to exceed the maximum levels calculated in the WLA.

Attached is a Wasteload Analysis for this discharge into the Bear River. 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. The permit limitations in Table 1 with monitoring and reporting requirements in Table 2 and 3.

Parameters of Concern

The potential parameters of concerns identified for the discharge/receiving water were as determined are metals (as a function of hardness) due to a metal finisher in the area.

TMDL

Total Dissolved Solids (TDS) is a pollutant of concern for the Bear River watershed. Corinne will monitor TDS monthly during the times of discharge to the Outfall 001 and/or Outfall 001D to help support the TMDL efforts in the Bear River watershed. At any time during this permit cycle, if the analysis results indicate the TDS is over the projected TMDL of 1200 mg/L, DWQ will review the findings and the permit may be reopened to address those concerns.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. In order to complete a RP analysis, more than 10 data points per parameter are needed. Corinne did not discharge out of Outfall 001 and therefore metals data was not available. For this permit cycle, Corinne will be required to sample, at a minimum, annual metal sampling from Outfall 001 and 001D. If additional sampling is performed, it shall be reported to DWQ. Less than 10 data points may affect the RP outcomes which may require additional monitoring in the future.

| Table 1 | | | | | |
|--|----------------------------|---------------------------|----------------------|----------------------|-----------------------|
| Outfall 001 | | | | | |
| Effluent Limitations for Surface Water Discharge ^{a, b, c} | | | | | |
| Parameter | Maximum Monthly Avg | Maximum Weekly Avg | Daily Minimum | Daily Maximum | Yearly Maximum |
| Total Flow, mgd | 0.07 | -- | -- | -- | -- |
| BOD ₅ , mg/L ^b | 25 | 35 | -- | -- | -- |
| BOD ₅ Min. % Removal | 85 | -- | -- | -- | -- |
| TSS, mg/L | 25 | 35 | -- | -- | -- |
| TSS Min. % Removal | 85 | -- | -- | -- | -- |
| <i>E. coli</i> , No./100mL | 126 | 158 | -- | -- | -- |
| pH, Standard Units | -- | -- | 6.5 | 9 | -- |
| Dissolved Oxygen, mg/L | -- | -- | 4.0 | -- | -- |
| Total Phosphorus, lbs/year | -- | -- | -- | -- | 558 |

Surface Water Self-Monitoring and Reporting Requirements

The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) and submitted using NetDMR. DMRs are due by the 28th day of the following month. Lab sheets for metals and toxic organics must be attached to the DMRs.

| Table 2 | | | |
|--|--|--------------------|--------------|
| Influent | | | |
| Self-Monitoring and Reporting Requirements ^{a, b, e} | | | |
| Parameter | Frequency | Sample Type | Units |
| BOD ₅ ^b | Monthly | Composite | mg/L |
| TSS ^b | Monthly | Composite | mg/L |
| TDS | Monthly | Composite | mg/L |
| Total Phosphorus (as P) ^h | Monthly | Composite | mg/L |
| Total Kjeldahl Nitrogen (as N) ^h | Monthly | Composite | mg/L |
| Metals ^{i, j, k} | Quarterly | Composite | mg/L |
| Organic Toxics | 2 nd and 4 th year | Grab | mg/L |

| Table 3 | | | |
|--|--|--------------------|--------------|
| Outfall 001 | | | |
| Effluent Self-Monitoring and Reporting Requirements ^{a, b, 9i} | | | |
| Parameter | Frequency | Sample Type | Units |
| Total Flow ^{d, e} | Continuous | Recorder | MGD |
| BOD ₅ | Monthly | Composite | mg/L |
| TSS | Monthly | Composite | mg/L |
| TDS | Monthly | Composite | mg/L |
| <i>E. coli</i> | Monthly | Grab | No./100mL |
| pH | Monthly | Grab | SU |
| DO | Monthly | Grab | mg/L |
| Oil & Grease ^{f, g} | When Sheen Observed | Grab | mg/L |
| Orthophosphate (as P) ^h | Monthly | Composite | mg/L |
| Total Phosphorus (as P) ^h | Monthly | Composite | mg/L |
| Total Kjeldahl Nitrogen (as N) ^h | Monthly | Composite | mg/L |
| Nitrate, NO ₃ ^h | Monthly | Composite | mg/L |
| Nitrite, NO ₂ ^h | Monthly | Composite | mg/L |
| Metals ^{i, j, k} | Quarterly | Composite | mg/L |
| Organic Toxics | 2 nd and 4 th year | Grab | mg/L |

Table 1, 2, 3 References

- a. See Definitions, *Part VIII*, for definition of terms.
- b. All parameters in this table will be reported on the monthly Discharge Monitoring Report.
- c. Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- d. If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- e. 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.
- f. There shall be no visible sheen or floating solids or visible foam in other than trace amounts.
- g. Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report 9 under "NODI" in NetDMR.
- h. Monitoring only for total phosphorus (TP), orthophosphate as P (OP), total ammonia, nitrate, nitrite, and total Kjeldahl nitrogen as N (TKN) have been included to comply with Utah Secondary Treatment Standards and the Technology-based Phosphorus Effluent limit rule in *UAC R317-1-3.3*
- i. Metals samples should be analyzed using a method that meets MDL requirements. If a test method is not available the permittee must submit documentation to the Director regarding the method that will be used. The sample type (composite or grab) should be performed according to the methods requirements.
- j. Metals are being sampled in support of the work being done for the RP Analysis. The Metal parameters will be monitored and reported on an annual basis by the facility on Discharge Monitoring Report, but will not have a limit associated with them, if Corinne decides to sample more frequently for these parameters, the additional data will be required as per Part V.E
- k. Metals

| | | | |
|---------|----------|---------|----------|
| Arsenic | Chromium | Lead | Selenium |
| Cadmium | Copper | Mercury | Silver |
| Total | Cyanide | Nickel | Zinc |

End Table References

LAND DISPOSAL

Basis for Effluent Limitations for Land Disposal

The limitations for BOD, TSS, pH and *E.coli* are set in accordance with *UAC R317-3-11.5.C.5*. The permit limitations for Outfall 001D are in Tables 4 with monitoring and reporting requirements in Table 5 and 6.

| Table 4 | | | | |
|--|----------------------------|--------------------------|----------------------|----------------------|
| Outfall 001D | | | | |
| Type II Land Disposal Effluent Limitations^{a, b} | | | | |
| Parameter | Max Monthly Average | Max Weekly Median | Daily Minimum | Daily Maximum |
| BOD ₅ | 25 | 35 | -- | -- |
| TSS | 25 | 35 | - | -- |
| <i>E. coli</i> , No/100mL | -- | 158 | -- | 500 |
| pH, Standard Units | -- | -- | 6.5 | 9.0 |

Land Disposal Self-Monitoring and Reporting Requirements

The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) and submitted using NetDMR. DMRs are due by the 28th day of the following month. Lab sheets for metals and toxic organics must be attached to the DMRs.

| Table 5 | | | |
|---|------------------|--------------------|--------------|
| Outfall 001D | | | |
| Self-Monitoring and Reporting Requirements^{a, b, d} | | | |
| Parameter | Frequency | Sample Type | Units |
| Applied Flow ^c | Continuous | Recorder | MGD |
| Irrigated Acreage | Monthly | Estimated | mg/L |
| BOD ₅ | Monthly | Composite | mg/L |
| TSS | Monthly | Composite | mg/L |
| TDS | Monthly | Composite | mg/L |
| <i>E. coli</i> | Monthly | Grab | No./100mL |
| pH | Monthly | Grab | SU |
| Total Inorganic Nitrogen | Monthly | Grab | mg/L |
| Cell Depth | Monthly | Measure | Feet |
| Free Board | Monthly | Measure | Feet |

| Table 6 | |
|---|---|
| Land Application per Crop Type^e | |
| Crop Type | List of crops grown on each site |
| Crop Harvest (tons/yr) | As measured based on harvest records |
| Land Application Area (acres) | Land treated process water effluent was applied based on application area |
| Number of Days per Season | Estimated (about 180 days/growing season) |

Table 4, 5, 6 References

- a. See Definitions, *Part VIII*, for definition of terms.
- b. All parameters in this table will be reported on the monthly Discharge Monitoring Report.
- c. Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- d. Effluent shall only be disposed of by methods allowed by R317-3-11.5.A.
- e. Land Application Reports shall be summarized per crop type and submitted annually, no later than January 28th of the month following the completed reporting period.

End Table References

Lagoon Best Management Practices:

- 1) The permittee shall take such parameters as are necessary to maintain and operate the facility in a manner that will minimize upsets and ensure stable operating conditions.
- 2) The permittee shall visually inspect, at least weekly, the pond(s) to determine if there is adequate freeboard to minimize the likelihood of an accidental discharge occurring. If it is determined that a discharge is occurring and/or there is not adequate freeboard, the appropriate corrective measures shall be taken immediately.
- 3) The permittee shall take precautions and have erosion control measures in place that, in the event of a bypass of treatment, the discharge will not cause erosion into the Waters of the State.

Management Practices for Land Application of Treated Effluent:

- 1) The application of treated effluent to frozen, ice-covered, or snow-covered land is prohibited.
- 2) No person shall apply treated effluent where the slope of the site exceeds 6 percent.
- 3) The use should not result in a surface water runoff.
- 4) The use must not result in the creation of an unhealthy or nuisance condition, as determined by the local health department.
- 5) Any irrigation with treated effluent must be at least 300 feet from a potable well.
- 6) For Type I reuse, any irrigation must be at least 50 feet from any potable water well.
- 7) For Type II reuse, any irrigation must be at least 300 feet from any potable water well.
- 8) For Type II reuse, spray irrigation must be at least 100 feet from areas intended for public access. This distance may be reduced or increased by the Director.
- 9) Impoundments of treated effluent, if not sealed, must be at least 500 feet from any potable well.
- 10) Public access to effluent storage and irrigation or disposal sites shall be restricted by a stock-tight fence or other comparable means which shall be posted and controlled to exclude the public.

BIOSOLIDS

The State of Utah has adopted the 40 CFR 503 federal regulations for the disposal of sewage sludge (biosolids) by reference. However, since this facility is a lagoon, there is not any regular sludge production. Therefore 40 CFR 503 does not apply at this time. In the future, if the sludge needs to be removed from the lagoons and is disposed in some way, the Division of Water Quality must be contacted prior to the removal of the sludge to ensure that all applicable state and federal regulations are met

STORM WATER

Separate storm water permits may be required based on the types of activities occurring on site.

Permit coverage under the Multi Sector General Permit (MSGP) for Storm Water Discharges from Industrial Activities is required based on the Standard Industrial Classification (SIC) code for the facility and the types of industrial activities occurring. If the facility is not already covered, it has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation. Previously storm water discharge requirements and coverage were combined in this individual permit. These have been separated to provide consistency among permittees, electronic reporting for storm water discharge monitoring reports, and increase flexibility to changing site conditions.

Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the facility which disturb an acre or more, or is part of a common plan of development or sale that is an acre or greater. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction.

Information on storm water permit requirements can be found at <http://stormwater.utah.gov>

PRETREATMENT REQUIREMENTS

The permittee has not been designated to develop an approved pretreatment program. At this time, the Division of Water Quality (DWQ) is controlling significant industrial uses (SIUs) within the service area. Although the permittee does not have to develop an 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.

Although an approved pretreatment program is not required at this time, the permittee should to become knowledgeable of the pretreatment requirements that are required by the IUs discharging into the POTW. This can be done by attending trainings and webinars regarding pretreatment. Webinars are posted by EPA that can be viewed at any time. Continuing education units (CEUs) can be submitted to DWQ for attending trainings and webinars for certified wastewater and collection system operators. The following link is to the EPA Pretreatment Webinars

<https://www.epa.gov/npdes/national-pretreatment-program-training-and-webinars#pretreat101>

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 ninety (90) days after the issuance of the permit. If an Industrial User begins to discharge or an

existing IU 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.

Discharge from industrial users (IUs) is occurring within the service area. A list of the IUs discharging to the publicly owned treatment works (POTW) was submitted with the permit application for the permit renewal. SIUs that discharge to the POTW are currently controlled by DWQ. Based on the list of industrial uses discharging to the POTW metals and oil and grease must be sampled to ensure the narrative and water quality standards are met for the discharge. Also, DWQ will be assisting as the control authority to address issues with IUs within the service area. This assistance will include conducting inspections with the permittee within the first 90 days of the permit issuance.

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 Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018. 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 permittee is a minor municipal facility that will be discharging an infrequent amount of effluent, in which toxicity is neither an existing concern, nor likely to be present. Also, the receiving irrigation ditch is regularly dry; therefore there is not any available data to conclude that the irrigation ditch is impaired. Based on these considerations, and the absence of receiving stream water quality monitoring data, there is no reasonable potential for toxicity in the permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the 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
Sarah Ward, Discharge & Land Disposal
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Carl Adams, Storm Water
Suzan Tahir, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: March 29, 2021

Ended: April 30, 2021

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

The Public Notice of the draft permit was published on the Division of Water Quality Public Notice website.

During the public comment period provided under R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in R317-8-6.12.

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.

RESPONSIVENESS SUMMARY

No comments received.

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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, bluing 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
PO 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. <input type="checkbox"/> Domestic wastes | (Restrooms, employee showers, etc.) |
| 2. <input type="checkbox"/> Cooling water, non-contact | 3. <input type="checkbox"/> Boiler/Tower blowdown |
| 4. <input type="checkbox"/> Cooling water, contact | 5. <input type="checkbox"/> Process |
| 6. <input type="checkbox"/> Equipment/Facility washdown | 7. <input type="checkbox"/> Air Pollution Control Unit |
| 8. <input type="checkbox"/> Storm water runoff to sewer | 9. <input type="checkbox"/> Other describe |

Wastes are discharged to (check all that apply):

- | | |
|--|--|
| <input type="checkbox"/> Sanitary sewer | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Surface water | <input type="checkbox"/> Ground water |
| <input type="checkbox"/> Waste haulers | <input type="checkbox"/> Evaporation |
| <input type="checkbox"/> 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:

- | | |
|---|--|
| <input type="checkbox"/> Adhesives | <input type="checkbox"/> Car Wash |
| <input type="checkbox"/> Aluminum Forming | <input type="checkbox"/> Carpet Cleaner |
| <input type="checkbox"/> Battery Manufacturing | <input type="checkbox"/> Dairy |
| <input type="checkbox"/> Copper Forming | <input type="checkbox"/> Food Processor |
| <input type="checkbox"/> Electric & Electronic Components | <input type="checkbox"/> Hospital |
| <input type="checkbox"/> Explosives Manufacturing | <input type="checkbox"/> Laundries |
| <input type="checkbox"/> Foundries | <input type="checkbox"/> Photo Lab |
| <input type="checkbox"/> Inorganic Chemicals Mfg. or Packaging | <input type="checkbox"/> Restaurant & Food Service |
| <input type="checkbox"/> Industrial Porcelain Ceramic Manufacturing | <input type="checkbox"/> Septage Hauler |
| <input type="checkbox"/> Iron & Steel | <input type="checkbox"/> Slaughter House |
| <input type="checkbox"/> Metal Finishing, Coating or Cleaning | |
| <input type="checkbox"/> Mining | |
| <input type="checkbox"/> Nonferrous Metals Manufacturing | |
| <input type="checkbox"/> Organic Chemicals Manufacturing or Packaging | |
| <input type="checkbox"/> Paint & Ink Manufacturing | |
| <input type="checkbox"/> Pesticides Formulating or Packaging | |
| <input type="checkbox"/> Petroleum Refining | |
| <input type="checkbox"/> Pharmaceuticals Manufacturing or Packaging | |
| <input type="checkbox"/> Plastics Manufacturing | |
| <input type="checkbox"/> Rubber Manufacturing | |
| <input type="checkbox"/> Soaps & Detergents Manufacturing | |
| <input type="checkbox"/> Steam Electric Generation | |
| <input type="checkbox"/> Tanning Animal Skins | |
| <input type="checkbox"/> Textile Mills | |

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
PO 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.

Corinne's monitoring data was reviewed from EPA's Enforcement and Compliance History Online at <https://echo.epa.gov/effluent-charts#UT0020931>. Outfall 001 did not have a discharge. Outfall 001D discharge was for land disposal.

ATTACHMENT 3

Wasteload Analysis

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

Date: February 25, 2021

Prepared by: Suzan Tahir
Standards and Technical Services

Facility: Corinne City Corp.
UPDES No. UT- 0020931

Receiving water: Bear River (2B, 3B, 3D, 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: Bear River

The mean monthly design discharge is 0.07 MGD (0.11 cfs) for the facility.

Receiving Water

The receiving water for Outfall 001 is the Bear River.

Per UAC R317-2-13.3(a), the designated beneficial uses for the Bear River and tributaries, from Great Salt Lake to Utah-Idaho border are 2B, 3B, 3D 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 3B - Protected for warm water species of game fish and other warm water aquatic life, including the necessary aquatic organisms in their food chain.*

Utah Division of Water Quality
Wasteload Analysis
Corinne City Corp.
UPDES No. UT0020931

- *Class 3D- Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.*
- *Class 4 - Protected for agricultural uses including irrigation of crops and stock watering.*

Flow

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). The 7Q10 flow was calculated using USGS data from station 10126000 (BEAR RIVER NEAR CORINNE, UT) for the period 2010-2020. The calculated critical low flow values for each season are listed in Table 1.

Table 1. Seasonal 7Q10 Flow Values

| Season | 7Q10 Flow (cfs) |
|---------|-----------------|
| Summer | 87.91 |
| Fall | 202.86 |
| Winter | 538.57 |
| Spring | 99.46 |
| | |
| Overall | 1271.01 |

The receiving water quality in the Bear River was characterized using DWQ monitoring site 4901100 (BEAR RIVER NEAR CORINNE AT U83 XING) for the period 2000-2020.

TMDL

According to the Utah’s 2016 303(d) Water Quality Assessment Report, the receiving water for the discharge, Bear River from Reeder Overflow diversion to Cutler Reservoir UT16010204-008_00 (Bear River-2) is impaired for Bioassessment and Temperature.

In 2002, a TMDL was completed for the Lower Bear River. However, there were insufficient data to accurately allocate nutrient loads. In 2018, an Implementation Plan was developed by the Utah Division of Water Quality that included loading allocations for the point sources in the basin. The Implementation Plan allocates 2.5 lb/d of total phosphorus for this facility whereas the Corinne Lagoons current load is 2.0 lb/d of total phosphorus. The TMDL instream total phosphorus endpoint remains the same as in 2002.

Moreover, the 2018/2020 Integrated Report, divided the existing assessment unit into two and the receiving water for the discharge Bear River from Reeder Overflow Diversion to the confluence with the Malad River (UT16010204-008_02 Bear River-2-2) is impaired for Macroinvertebrates, Minimum Dissolved Oxygen and Total Dissolved Solids (TDS) (<https://documents.deq.utah.gov/water-quality/monitoring-reporting/integrated-report/DWQ-2020-021402.pdf>).

Mixing Zone

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, per UAC R317-2-5. Water quality standards must be met at the end of the mixing zone.

The mixing zone analysis shows the discharge to be fully mixed by the end of the mixing zone. Acute limits were calculated using 50% of the seasonal critical low flow.

Parameters of Concern

The potential parameters of concerns identified for the discharge/receiving water were as determined in consultation with the UPDES Permit Writer are metals (as a function of hardness) due to the metal finisher in the area.

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 LC₅₀ (lethal concentration, 50%) percent effluent for acute toxicity and the IC₂₅ (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test (see Table 2), needs to be below the WET limits, as determined by the WLA. The WET limit for LC₅₀ is typically 100% effluent and does not need to be determined by the WLA.

Table 2. WET Limits for IC₂₅

| Outfall | Percent Effluent |
|-------------|------------------|
| Outfall 001 | 0.1% |

Wasteload Allocation Methods

Effluent limits were determined for conservative constituents using a simple mass balance mixing analysis (UDWQ 2012). The mass balance analysis is summarized in the Wasteload Addendum.

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. The AMMTOX Model developed by University of Colorado and adapted by Utah DWQ and EPA Region VIII was used to determine ammonia effluent limits (Lewis et al. 2002). The analysis is summarized in the Wasteload Addendum.

Models and supporting documentation are available for review upon request.

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

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Wasteload Analysis
Corinne City Corp.
UPDES No. UT0020931**

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 facility.

Documents:

WLA Document: *Corinne_WLA_2-25-2021.docx*

Wasteload Analysis and Addendum: *Corinne_WLA_2-25-2021.xlsm*

References:

Utah Division of Water Quality. 2012. *Utah Wasteload Analysis Procedures Version 1.0*.

Lewis, B., J. Saunders, and M. Murphy. 2002. *Ammonia Toxicity Model (AMMTOX, Version2): A Tool for Determining Effluent Ammonia Limits*. University of Colorado, Center for Limnology.

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WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis

25-Feb-21
4:00 PM

Facilities: Corinne Lagoons
Discharging to: Bear River

UPDES No: UT-0020931

I. Introduction

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 [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated in terms of total ammonia), and dissolved oxygen.

Mathematical water quality modeling is employed to determine stream quality response to point source discharges. Models aid in the effort of anticipating stream quality at future effluent flows at critical environmental conditions (e.g., low stream flow, high temperature, high pH, etc).

The numeric criteria in this wasteload analysis may always be modified by narrative criteria and other conditions determined by staff of the Division of Water Quality.

II. Receiving Water and Stream Classification

| | |
|-------------------------|---|
| Bear River: | 2B, 3B, 3D, 4 |
| Antidegradation Review: | Antidegradation Level 2 not required. Simple renewal, no increase in permitted flow or concentration. |

III. Numeric Stream Standards for Protection of Aquatic Wildlife

| | |
|---------------------------------------|---|
| Total Ammonia (TNH3) | Varies as a function of Temperature and pH Rebound. See Water Quality Standards |
| Chronic Total Residual Chlorine (TRC) | 0.011 mg/l (4 Day Average) 0.019 mg/l (1 Hour Average) |
| Chronic Dissolved Oxygen (DO) | 5.50 mg/l (30 Day Average) 4.00 mg/l (7Day Average) 3.00 mg/l (1 Day Average) |
| Maximum Total Dissolved Solids | 1200.0 mg/l |

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Acute and Chronic Heavy Metals (Dissolved)

| Parameter | 4 Day Average (Chronic) Standard | | 1 Hour Average (Acute) Standard | | |
|--------------|----------------------------------|---------------|---------------------------------|------|---------------|
| | Concentration | Load* | Concentration | | Load* |
| Aluminum | 87.00 ug/l** | 0.051 lbs/day | 750.00 | ug/l | 0.438 lbs/day |
| Arsenic | 190.00 ug/l | 0.111 lbs/day | 340.00 | ug/l | 0.198 lbs/day |
| Cadmium | 0.64 ug/l | 0.000 lbs/day | 6.96 | ug/l | 0.004 lbs/day |
| Chromium III | 223.33 ug/l | 0.130 lbs/day | 4672.43 | ug/l | 2.727 lbs/day |
| ChromiumVI | 11.00 ug/l | 0.006 lbs/day | 16.00 | ug/l | 0.009 lbs/day |
| Copper | 25.19 ug/l | 0.015 lbs/day | 41.86 | ug/l | 0.024 lbs/day |
| Iron | | | 1000.00 | ug/l | 0.584 lbs/day |
| Lead | 13.98 ug/l | 0.008 lbs/day | 358.68 | ug/l | 0.209 lbs/day |
| Mercury | 0.0120 ug/l | 0.000 lbs/day | 2.40 | ug/l | 0.001 lbs/day |
| Nickel | 139.49 ug/l | 0.081 lbs/day | 1254.59 | ug/l | 0.732 lbs/day |
| Selenium | 4.60 ug/l | 0.003 lbs/day | 20.00 | ug/l | 0.012 lbs/day |
| Silver | N/A ug/l | N/A lbs/day | 27.96 | ug/l | 0.016 lbs/day |
| Zinc | 320.88 ug/l | 0.187 lbs/day | 320.88 | ug/l | 0.187 lbs/day |

* Allowed below discharge

**Chronic Aluminum standard applies only to waters with a pH < 7.0 and a Hardness < 50 mg/l as CaCO3

Metals Standards Based upon a Hardness of 319.84 mg/l as CaCO3

Organics [Pesticides]

| Parameter | 4 Day Average (Chronic) Standard | | 1 Hour Average (Acute) Standard | | |
|-------------------|----------------------------------|------------------|---------------------------------|------|---------------|
| | Concentration | Load* | Concentration | | Load* |
| Aldrin | | | 1.500 | ug/l | 0.001 lbs/day |
| Chlordane | 0.004 ug/l | 2.040 lbs/day | 1.200 | ug/l | 0.001 lbs/day |
| DDT, DDE | 0.001 ug/l | 0.474 lbs/day | 0.550 | ug/l | 0.000 lbs/day |
| Dieldrin | 0.002 ug/l | 0.901 lbs/day | 1.250 | ug/l | 0.001 lbs/day |
| Endosulfan | 0.056 ug/l | 26.567 lbs/day | 0.110 | ug/l | 0.000 lbs/day |
| Endrin | 0.002 ug/l | 1.091 lbs/day | 0.090 | ug/l | 0.000 lbs/day |
| Guthion | | | 0.010 | ug/l | 0.000 lbs/day |
| Heptachlor | 0.004 ug/l | 1.803 lbs/day | 0.260 | ug/l | 0.000 lbs/day |
| Lindane | 0.080 ug/l | 37.953 lbs/day | 1.000 | ug/l | 0.001 lbs/day |
| Methoxychlor | | | 0.030 | ug/l | 0.000 lbs/day |
| Mirex | | | 0.010 | ug/l | 0.000 lbs/day |
| Parathion | | | 0.040 | ug/l | 0.000 lbs/day |
| PCB's | 0.014 ug/l | 6.642 lbs/day | 2.000 | ug/l | 0.001 lbs/day |
| Pentachlorophenol | 13.00 ug/l | 6167.442 lbs/day | 20.000 | ug/l | 0.012 lbs/day |
| Toxephene | 0.0002 ug/l | 0.095 lbs/day | 0.7300 | ug/l | 0.000 lbs/day |

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IV. Numeric Stream Standards for Protection of Agriculture

| | 4 Day Average (Chronic) Standard | | 1 Hour Average (Acute) Standard | |
|-------------|----------------------------------|-------|---------------------------------|---------------|
| | Concentration | Load* | Concentration | Load* |
| Arsenic | | | 100.0 ug/l | lbs/day |
| Boron | | | 750.0 ug/l | lbs/day |
| Cadmium | | | 10.0 ug/l | 0.00 lbs/day |
| Chromium | | | 100.0 ug/l | lbs/day |
| Copper | | | 200.0 ug/l | lbs/day |
| Lead | | | 100.0 ug/l | lbs/day |
| Selenium | | | 50.0 ug/l | lbs/day |
| TDS, Summer | | | 1200.0 mg/l | 0.35 tons/day |

V. Numeric Stream Standards for Protection of Human Health (Class 1C Waters)

| Metals | 4 Day Average (Chronic) Standard | | 1 Hour Average (Acute) Standard | |
|---------------|----------------------------------|-------|---------------------------------|---------|
| | Concentration | Load* | Concentration | Load* |
| Arsenic | | | ug/l | lbs/day |
| Barium | | | ug/l | lbs/day |
| Cadmium | | | ug/l | lbs/day |
| Chromium | | | ug/l | lbs/day |
| Lead | | | ug/l | lbs/day |
| Mercury | | | ug/l | lbs/day |
| Selenium | | | ug/l | lbs/day |
| Silver | | | ug/l | lbs/day |
| Fluoride (3) | | | ug/l | lbs/day |
| to | | | ug/l | lbs/day |
| Nitrates as N | | | ug/l | lbs/day |

Chlorophenoxy Herbicides

| | | |
|-----------------------|------|---------|
| 2,4-D | ug/l | lbs/day |
| 2,4,5-TP | ug/l | lbs/day |
| Endrin | ug/l | lbs/day |
| cyclohexane (Lindane) | ug/l | lbs/day |
| Methoxychlor | ug/l | lbs/day |
| Toxaphene | ug/l | lbs/day |

VI. Numeric Stream Standards the Protection of Human Health from Water & Fish Consumption [Toxics]

Maximum Conc., ug/l - Acute Standards

| Toxic Organics | Class 1C [2 Liters/Day for 70 Kg Person over 70 Yr.] | | Class 3A, 3B [6.5 g for 70 Kg Person over 70 Yr.] | |
|---------------------------|---|---------|--|-----------------|
| | ug/l | lbs/day | ug/l | lbs/day |
| Acenaphthene | ug/l | lbs/day | 2700.0 ug/l | 1280.93 lbs/day |
| Acrolein | ug/l | lbs/day | 780.0 ug/l | 370.05 lbs/day |
| Acrylonitrile | ug/l | lbs/day | 0.7 ug/l | 0.31 lbs/day |
| Benzene | ug/l | lbs/day | 71.0 ug/l | 33.68 lbs/day |
| Benzidine | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| Carbon tetrachloride | ug/l | lbs/day | 4.4 ug/l | 2.09 lbs/day |
| Chlorobenzene | ug/l | lbs/day | 21000.0 ug/l | 9962.79 lbs/day |
| 1,2,4-Trichlorobenzene | | | | |
| Hexachlorobenzene | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| 1,2-Dichloroethane | ug/l | lbs/day | 99.0 ug/l | 46.97 lbs/day |
| 1,1,1-Trichloroethane | | | | |
| Hexachloroethane | ug/l | lbs/day | 8.9 ug/l | 4.22 lbs/day |
| 1,1-Dichloroethane | | | | |
| 1,1,2-Trichloroethane | ug/l | lbs/day | 42.0 ug/l | 19.93 lbs/day |
| 1,1,2,2-Tetrachloroethane | ug/l | lbs/day | 11.0 ug/l | 5.22 lbs/day |
| Chloroethane | | | 0.0 ug/l | 0.00 lbs/day |
| Bis(2-chloroethyl) ether | ug/l | lbs/day | 1.4 ug/l | 0.66 lbs/day |
| 2-Chloroethyl vinyl ethe | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| 2-Chloronaphthalene | ug/l | lbs/day | 4300.0 ug/l | 2040.00 lbs/day |
| 2,4,6-Trichlorophenol | ug/l | lbs/day | 6.5 ug/l | 3.08 lbs/day |
| p-Chloro-m-cresol | | | 0.0 ug/l | 0.00 lbs/day |

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| | | | | |
|------------------------------|------|---------|---------------|------------------|
| Chloroform (HM) | ug/l | lbs/day | 470.0 ug/l | 222.98 lbs/day |
| 2-Chlorophenol | ug/l | lbs/day | 400.0 ug/l | 189.77 lbs/day |
| 1,2-Dichlorobenzene | ug/l | lbs/day | 17000.0 ug/l | 8065.12 lbs/day |
| 1,3-Dichlorobenzene | ug/l | lbs/day | 2600.0 ug/l | 1233.49 lbs/day |
| 1,4-Dichlorobenzene | ug/l | lbs/day | 2600.0 ug/l | 1233.49 lbs/day |
| 3,3'-Dichlorobenzidine | ug/l | lbs/day | 0.1 ug/l | 0.04 lbs/day |
| 1,1-Dichloroethylene | ug/l | lbs/day | 3.2 ug/l | 1.52 lbs/day |
| 1,2-trans-Dichloroethylene | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| 2,4-Dichlorophenol | ug/l | lbs/day | 790.0 ug/l | 374.79 lbs/day |
| 1,2-Dichloropropane | ug/l | lbs/day | 39.0 ug/l | 18.50 lbs/day |
| 1,3-Dichloropropylene | ug/l | lbs/day | 1700.0 ug/l | 806.51 lbs/day |
| 2,4-Dimethylphenol | ug/l | lbs/day | 2300.0 ug/l | 1091.16 lbs/day |
| 2,4-Dinitrotoluene | ug/l | lbs/day | 9.1 ug/l | 4.32 lbs/day |
| 2,6-Dinitrotoluene | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| 1,2-Diphenylhydrazine | ug/l | lbs/day | 0.5 ug/l | 0.26 lbs/day |
| Ethylbenzene | ug/l | lbs/day | 29000.0 ug/l | 13758.14 lbs/day |
| Fluoranthene | ug/l | lbs/day | 370.0 ug/l | 175.53 lbs/day |
| 4-Chlorophenyl phenyl ether | | | | |
| 4-Bromophenyl phenyl ether | | | | |
| Bis(2-chloroisopropyl) ether | ug/l | lbs/day | 170000.0 ug/l | 80651.16 lbs/day |
| Bis(2-chloroethoxy) methane | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| Methylene chloride (HM) | ug/l | lbs/day | 1600.0 ug/l | 759.07 lbs/day |
| Methyl chloride (HM) | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| Methyl bromide (HM) | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| Bromoform (HM) | ug/l | lbs/day | 360.0 ug/l | 170.79 lbs/day |
| Dichlorobromomethane | ug/l | lbs/day | 22.0 ug/l | 10.44 lbs/day |
| Chlorodibromomethane | ug/l | lbs/day | 34.0 ug/l | 16.13 lbs/day |
| Hexachlorobutadiene(c) | ug/l | lbs/day | 50.0 ug/l | 23.72 lbs/day |
| Hexachlorocyclopentadiene | ug/l | lbs/day | 17000.0 ug/l | 8065.12 lbs/day |
| Isophorone | ug/l | lbs/day | 600.0 ug/l | 284.65 lbs/day |
| Naphthalene | | | | |
| Nitrobenzene | ug/l | lbs/day | 1900.0 ug/l | 901.40 lbs/day |
| 2-Nitrophenol | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| 4-Nitrophenol | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| 2,4-Dinitrophenol | ug/l | lbs/day | 14000.0 ug/l | 6641.86 lbs/day |
| 4,6-Dinitro-o-cresol | ug/l | lbs/day | 765.0 ug/l | 362.93 lbs/day |
| N-Nitrosodimethylamine | ug/l | lbs/day | 8.1 ug/l | 3.84 lbs/day |
| N-Nitrosodiphenylamine | ug/l | lbs/day | 16.0 ug/l | 7.59 lbs/day |
| N-Nitrosodi-n-propylamine | ug/l | lbs/day | 1.4 ug/l | 0.66 lbs/day |
| Pentachlorophenol | ug/l | lbs/day | 8.2 ug/l | 3.89 lbs/day |
| Phenol | ug/l | lbs/day | 4.6E+06 ug/l | 2.18E+06 lbs/day |
| Bis(2-ethylhexyl)phthalate | ug/l | lbs/day | 5.9 ug/l | 2.80 lbs/day |
| Butyl benzyl phthalate | ug/l | lbs/day | 5200.0 ug/l | 2466.98 lbs/day |
| Di-n-butyl phthalate | ug/l | lbs/day | 12000.0 ug/l | 5693.02 lbs/day |
| Di-n-octyl phthalate | | | | |
| Diethyl phthalate | ug/l | lbs/day | 120000.0 ug/l | 56930.23 lbs/day |
| Dimethyl phthalate | ug/l | lbs/day | 2.9E+06 ug/l | 1.38E+06 lbs/day |
| Benzo(a)anthracene (PAH) | ug/l | lbs/day | 0.0 ug/l | 0.01 lbs/day |
| Benzo(a)pyrene (PAH) | ug/l | lbs/day | 0.0 ug/l | 0.01 lbs/day |
| Benzo(b)fluoranthene (PAH) | ug/l | lbs/day | 0.0 ug/l | 0.01 lbs/day |
| Benzo(k)fluoranthene (PAH) | ug/l | lbs/day | 0.0 ug/l | 0.01 lbs/day |
| Chrysene (PAH) | ug/l | lbs/day | 0.0 ug/l | 0.01 lbs/day |
| Acenaphthylene (PAH) | | | | |
| Anthracene (PAH) | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |

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| | | | | |
|--------------------------|------|---------|--------------|-------------------|
| Dibenzo(a,h)anthracene | ug/l | lbs/day | 0.0 ug/l | 0.01 lbs/day |
| Indeno(1,2,3-cd)pyrene | ug/l | lbs/day | 0.0 ug/l | 0.01 lbs/day |
| Pyrene (PAH) | ug/l | lbs/day | 11000.0 ug/l | 5218.60 lbs/day |
| Tetrachloroethylene | ug/l | lbs/day | 8.9 ug/l | 4.22 lbs/day |
| Toluene | ug/l | lbs/day | 200000 ug/l | 94883.72 lbs/day |
| Trichloroethylene | ug/l | lbs/day | 81.0 ug/l | 38.43 lbs/day |
| Vinyl chloride | ug/l | lbs/day | 525.0 ug/l | 249.07 lbs/day |
| Pesticides | | | | |
| Aldrin | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| Dieldrin | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| Chlordane | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| 4,4'-DDT | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| 4,4'-DDE | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| 4,4'-DDD | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| alpha-Endosulfan | ug/l | lbs/day | 2.0 ug/l | 0.95 lbs/day |
| beta-Endosulfan | ug/l | lbs/day | 2.0 ug/l | 0.95 lbs/day |
| Endosulfan sulfate | ug/l | lbs/day | 2.0 ug/l | 0.95 lbs/day |
| Endrin | ug/l | lbs/day | 0.8 ug/l | 0.38 lbs/day |
| Endrin aldehyde | ug/l | lbs/day | 0.8 ug/l | 0.38 lbs/day |
| Heptachlor | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| Heptachlor epoxide | | | | |
| PCB's | | | | |
| PCB 1242 (Arochlor 1242) | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| PCB-1254 (Arochlor 1254) | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| PCB-1221 (Arochlor 1221) | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| PCB-1232 (Arochlor 1232) | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| PCB-1248 (Arochlor 1248) | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| PCB-1260 (Arochlor 1260) | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| PCB-1016 (Arochlor 1016) | ug/l | lbs/day | 0.0 ug/l | 0.00 lbs/day |
| Pesticide | | | | |
| Toxaphene | ug/l | | 0.0 ug/l | 0.00 lbs/day |
| Dioxin | | | | |
| Dioxin (2,3,7,8-TCDD) | ug/l | lbs/day | | |
| Metals | | | | |
| Antimony | ug/l | lbs/day | | |
| Arsenic | ug/l | lbs/day | 4300.00 ug/l | 2040.00 lbs/day |
| Asbestos | ug/l | lbs/day | | |
| Beryllium | | | | |
| Cadmium | | | | |
| Chromium (III) | | | | |
| Chromium (VI) | | | | |
| Copper | | | | |
| Cyanide | ug/l | lbs/day | 2.2E+05 ug/l | 104372.09 lbs/day |
| Lead | ug/l | lbs/day | | |
| Mercury | | | 0.15 ug/l | 0.07 lbs/day |
| Nickel | | | 4600.00 ug/l | 2182.33 lbs/day |
| Selenium | ug/l | lbs/day | | |
| Silver | ug/l | lbs/day | | |
| Thallium | | | 6.30 ug/l | 2.99 lbs/day |
| Zinc | | | | |

There are additional standards that apply to this receiving water, but were not considered in this modeling/waste load allocation analysis.

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VII. Mathematical Modeling of Stream Quality

Model configuration was accomplished utilizing standard modeling procedures. Data points were plotted and coefficients adjusted as required to match observed data as closely as possible.

The modeling approach used in this analysis included one or a combination of the following models.

- (1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and QUAL2E (EPA, Athens, GA).
- (2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.
- (3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8
- (4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

Coefficients used in the model were based, in part, upon the following references:

- (1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.
- (2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

VIII. Modeling Information

The required information for the model may include the following information for both the upstream conditions at low flow and the effluent conditions:

| | |
|-----------------------|-------------------------------------|
| Flow, Q, (cfs or MGD) | D.O. mg/l |
| Temperature, Deg. C. | Total Residual Chlorine (TRC), mg/l |
| pH | Total NH3-N, mg/l |
| BOD5, mg/l | Total Dissolved Solids (TDS), mg/l |
| Metals, ug/l | Toxic Organics of Concern, ug/l |

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Other Conditions

In addition to the upstream and effluent conditions, the models require a variety of physical and biological coefficients and other technical information. In the process of actually establishing the permit limits for an effluent, values are used based upon the available data, model calibration, literature values, site visits and best professional judgement.

Model Inputs

The following is upstream and discharge information that was utilized as inputs for the analysis. Dry washes are considered to have an upstream flow equal to the flow of the discharge.

Current Upstream Information

| | Stream Critical Low Flow | Temp. Deg. C | pH | T-NH3 mg/l as N | BOD5 mg/l | DO mg/l | TRC mg/l | TDS mg/l |
|------------------------|---|-------------------------|------------|----------------------------|----------------------|--------------------|---------------------|---------------------|
| Summer (Irrig. Season) | 87.9 | 23.1 | 8.4 | 0.08 | 0.10 | 6.57 | 0.00 | 2333.7 |
| Fall | 202.9 | 7.6 | 8.4 | 0.04 | 0.10 | --- | 0.00 | 840.3 |
| Winter | 538.6 | 3.1 | 8.2 | 0.16 | 0.10 | --- | 0.00 | 840.3 |
| Spring | 99.5 | 16.3 | 8.3 | 0.07 | 0.10 | --- | 0.00 | 840.3 |
| Dissolved Metals | Al ug/l | As ug/l | Cd ug/l | CrIII ug/l | CrVI ug/l | Copper ug/l | Fe ug/l | Pb ug/l |
| All Seasons | 1.59* | 0.53* | 0.053* | 0.53* | 2.65* | 0.53* | 0.83* | 0.53* |
| Dissolved Metals | Hg ug/l | Ni ug/l | Se ug/l | Ag ug/l | Zn ug/l | Boron ug/l | | |
| All Seasons | 0.0000 | 0.53* | 1.06* | 0.1* | 0.053* | 10.0 | | * 1/2 MDL |

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Projected Discharge Information

| Season | Flow, MGD | Temp. | TDS mg/l | TDS tons/day |
|--------|-----------|-------|-------------|-----------------|
| Summer | 0.07000 | 21.4 | 1204.00 | 0.35138 |
| Fall | 0.07000 | 7.5 | | |
| Winter | 0.07000 | 2.5 | | |
| Spring | 0.07000 | 16.3 | | |

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

IX. 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 coincide with the environmental conditions expected at low stream flows.

Effluent Limitation for Flow based upon Water Quality Standards

In-stream criteria of downstream segments will be met with an effluent flow maximum value as follows:

| Season | Daily Average | |
|--------|---------------|-----------|
| Summer | 0.070 MGD | 0.108 cfs |
| Fall | 0.070 MGD | 0.108 cfs |
| Winter | 0.070 MGD | 0.108 cfs |
| Spring | 0.070 MGD | 0.108 cfs |

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 0.07 MGD. If the discharger is allowed to have a flow greater than 0.07 MGD during 7Q10 conditions, and effluent limit concentrations as indicated, then water quality standards will be violated. In order to prevent this from occurring, the permit writers must include the discharge flow limitation as indicated above; or, include loading effluent limits in the permit.

Effluent Limitation for Whole Effluent Toxicity (WET) based upon WET Policy

Effluent Toxicity will not occur in downstream segments if the values below are met.

| | | | |
|------------------|--------|---------------|-----------|
| WET Requirements | LC50 > | 0.8% Effluent | [Acute] |
| | IC25 > | 0.1% Effluent | [Chronic] |

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Effluent Limitation for Biological Oxygen Demand (BOD) based upon Water Quality Standards or Regulations

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

| Season | Concentration | |
|--------|-------------------|--------------|
| Summer | 25.0 mg/l as BOD5 | 14.6 lbs/day |
| Fall | 25.0 mg/l as BOD5 | 14.6 lbs/day |
| Winter | 25.0 mg/l as BOD5 | 14.6 lbs/day |
| Spring | 25.0 mg/l as BOD5 | 14.6 lbs/day |

Effluent Limitation for Dissolved Oxygen (DO) based upon Water Quality Standards

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

| Season | Concentration |
|--------|---------------|
| Summer | 4.00 |
| Fall | 4.00 |
| Winter | 4.00 |
| Spring | 4.00 |

Effluent Limitation for Total Ammonia based upon Water Quality Standards

In-stream criteria of downstream segments for Total Ammonia will be met with an effluent limitation (expressed as Total Ammonia as N) as follows:

| Season | | Concentration | Load |
|--------|----------------------|------------------|-----------------|
| Summer | 4 Day Avg. - Chronic | 559.7 mg/l as N | 326.7 lbs/day |
| | 1 Hour Avg. - Acute | 1120.0 mg/l as N | 653.7 lbs/day |
| Fall | 4 Day Avg. - Chronic | 986.6 mg/l as N | 575.9 lbs/day |
| | 1 Hour Avg. - Acute | 1162.0 mg/l as N | 678.3 lbs/day |
| Winter | 4 Day Avg. - Chronic | 7129.2 mg/l as N | 4,161.2 lbs/day |
| | 1 Hour Avg. - Acute | 9434.2 mg/l as N | 5,506.6 lbs/day |
| Spring | 4 Day Avg. - Chronic | 2005.0 mg/l as N | 0.0 lbs/day |
| | 1 Hour Avg. - Acute | 2364.8 mg/l as N | 0.0 lbs/day |

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 50.0%.

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Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards

In-stream criteria of downstream segments for Total Residual Chlorine will be met with an effluent limitation as follows:

| Season | | Concentration | | Load | |
|--------|----------------------|---------------|------|-------|---------|
| Summer | 4 Day Avg. - Chronic | 8.860 | mg/l | 5.17 | lbs/day |
| | 1 Hour Avg. - Acute | 7.691 | mg/l | 4.49 | lbs/day |
| Fall | 4 Day Avg. - Chronic | 20.430 | mg/l | 11.92 | lbs/day |
| | 1 Hour Avg. - Acute | 17.722 | mg/l | 10.34 | lbs/day |
| Winter | 4 Day Avg. - Chronic | 54.221 | mg/l | 31.65 | lbs/day |
| | 1 Hour Avg. - Acute | 47.018 | mg/l | 27.44 | lbs/day |
| Spring | 4 Day Avg. - Chronic | 10.022 | mg/l | 0.00 | lbs/day |
| | 1 Hour Avg. - Acute | 8.698 | mg/l | 0.00 | lbs/day |

Effluent Limitations for Total Dissolved Solids based upon Water Quality Standards

| Season | | Concentration | | Load | |
|--------------------------------|----------------------|----------------------------------|------|------|----------|
| Summer | Maximum, Acute | 1200.0 | mg/l | 0.35 | tons/day |
| Fall | Maximum, Acute | 1200.0 | mg/l | 0.35 | tons/day |
| Winter | Maximum, Acute | 1200.0 | mg/l | 0.35 | tons/day |
| Spring | 4 Day Avg. - Chronic | 1200.0 | mg/l | 0.35 | tons/day |
| Colorado Salinity Forum Limits | | Determined by Permitting Section | | | |

Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 319.84 mg/l):

| | 4 Day Average | | 1 Hour Average | | |
|--------------|---------------|--------------|----------------|------|----------------|
| | Concentration | Load | Concentration | Load | |
| Aluminum | N/A | N/A | 304,207.5 | ug/l | 177.6 lbs/day |
| Arsenic | 1.54E+05 ug/l | 58.0 lbs/day | 138,023.6 | ug/l | 80.6 lbs/day |
| Cadmium | 456.00 ug/l | 0.2 lbs/day | 2,798.0 | ug/l | 1.6 lbs/day |
| Chromium III | 1.81E+05 ug/l | 68.2 lbs/day | 1.90E+06 | ug/l | 1109.5 lbs/day |
| Chromium VI | 5,713.91 ug/l | 2.2 lbs/day | 4,897.0 | ug/l | 2.9 lbs/day |
| Copper | 1.98E+04 ug/l | 7.5 lbs/day | 16,711.9 | ug/l | 9.8 lbs/day |
| Iron | N/A | N/A | 406,393.4 | ug/l | 237.2 lbs/day |
| Lead | 1.07E+04 ug/l | 4.0 lbs/day | 145,623.4 | ug/l | 85.0 lbs/day |
| Mercury | 9.75 ug/l | 0.0 lbs/day | 976.6 | ug/l | 0.6 lbs/day |
| Nickel | 1.13E+05 ug/l | 42.5 lbs/day | 510,171.9 | ug/l | 297.8 lbs/day |
| Selenium | 2,448.12 ug/l | 0.9 lbs/day | 7,492.6 | ug/l | 4.4 lbs/day |
| Silver | N/A ug/l | N/A lbs/day | 11,375.4 | ug/l | 6.6 lbs/day |
| Zinc | 2.61E+05 ug/l | 98.4 lbs/day | 130,533.8 | ug/l | 76.2 lbs/day |
| Cyanide | 4,226.57 ug/l | 1.6 lbs/day | 8,951.8 | ug/l | 5.2 lbs/day |

Effluent Limitations for Heat/Temperature based upon Water Quality Standards

| | | |
|--------|---------------|--------------|
| Summer | 100.0 Deg. C. | 212.0 Deg. F |
| Fall | 100.0 Deg. C. | 212.0 Deg. F |
| Winter | 100.0 Deg. C. | 212.0 Deg. F |

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Spring 100.0 Deg. C. 212.0 Deg. F

**Effluent Limitations for Organics [Pesticides]
Based upon Water Quality Standards**

In-stream criteria of downstream segments for Organics [Pesticides] will be met with an effluent limit as follows:

| | 4 Day Average Concentration | Load | 1 Hour Average Concentration | Load |
|-------------------|--|------------------|---|------------------|
| Aldrin | | | 1.5E+00 ug/l | 1.35E-03 lbs/day |
| Chlordane | 4.30E-03 ug/l | 2.51E-03 lbs/day | 1.2E+00 ug/l | 1.08E-03 lbs/day |
| DDT, DDE | 1.00E-03 ug/l | 5.84E-04 lbs/day | 5.5E-01 ug/l | 4.97E-04 lbs/day |
| Dieldrin | 1.90E-03 ug/l | 1.11E-03 lbs/day | 1.3E+00 ug/l | 1.13E-03 lbs/day |
| Endosulfan | 5.60E-02 ug/l | 3.27E-02 lbs/day | 1.1E-01 ug/l | 9.93E-05 lbs/day |
| Endrin | 2.30E-03 ug/l | 1.34E-03 lbs/day | 9.0E-02 ug/l | 8.13E-05 lbs/day |
| Guthion | 0.00E+00 ug/l | 0.00E+00 lbs/day | 1.0E-02 ug/l | 9.03E-06 lbs/day |
| Heptachlor | 3.80E-03 ug/l | 2.22E-03 lbs/day | 2.6E-01 ug/l | 2.35E-04 lbs/day |
| Lindane | 8.00E-02 ug/l | 4.67E-02 lbs/day | 1.0E+00 ug/l | 9.03E-04 lbs/day |
| Methoxychlor | 0.00E+00 ug/l | 0.00E+00 lbs/day | 3.0E-02 ug/l | 2.71E-05 lbs/day |
| Mirex | 0.00E+00 ug/l | 0.00E+00 lbs/day | 1.0E-02 ug/l | 9.03E-06 lbs/day |
| Parathion | 0.00E+00 ug/l | 0.00E+00 lbs/day | 4.0E-02 ug/l | 3.61E-05 lbs/day |
| PCB's | 1.40E-02 ug/l | 8.17E-03 lbs/day | 2.0E+00 ug/l | 1.81E-03 lbs/day |
| Pentachlorophenol | 1.30E+01 ug/l | 7.59E+00 lbs/day | 2.0E+01 ug/l | 1.81E-02 lbs/day |
| Toxephene | 2.00E-04 ug/l | 1.17E-04 lbs/day | 7.3E-01 ug/l | 6.59E-04 lbs/day |

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**Effluent Targets for Pollution Indicators
Based upon Water Quality Standards**

In-stream criteria of downstream segments for Pollution Indicators will be met with an effluent limit as follows:

| | 1 Hour Average | |
|------------------------|-----------------------|--------------|
| | Concentration | Loading |
| Gross Beta (pCi/l) | 50.0 pCi/L | |
| BOD (mg/l) | 5.0 mg/l | 2.9 lbs/day |
| Nitrates as N | 4.0 mg/l | 2.3 lbs/day |
| Total Phosphorus as P | 0.05 mg/l | 0.0 lbs/day |
| Total Suspended Solids | 90.0 mg/l | 52.5 lbs/day |

Note: Pollution indicator targets are for information purposes only.

**Effluent Limitations for Protection of Human Health [Toxics Rule]
Based upon Water Quality Standards (Most stringent of 1C or 3A & 3B as appropriate.)**

In-stream criteria of downstream segments for Protection of Human Health [Toxics] will be met with an effluent limit as follows:

| | Maximum Concentration | |
|-----------------------------|------------------------------|------------------|
| | Concentration | Load |
| Toxic Organics | | |
| Acenaphthene | 2.19E+06 ug/l | 1.28E+03 lbs/day |
| Acrolein | 6.34E+05 ug/l | 3.70E+02 lbs/day |
| Acrylonitrile | 5.36E+02 ug/l | 3.13E-01 lbs/day |
| Benzene | 5.77E+04 ug/l | 3.37E+01 lbs/day |
| Benidine | ug/l | lbs/day |
| Carbon tetrachloride | 3.58E+03 ug/l | 2.09E+00 lbs/day |
| Chlorobenzene | 1.71E+07 ug/l | 9.96E+03 lbs/day |
| 1,2,4-Trichlorobenzene | | |
| Hexachlorobenzene | 6.26E-01 ug/l | 3.65E-04 lbs/day |
| 1,2-Dichloroethane | 8.05E+04 ug/l | 4.70E+01 lbs/day |
| 1,1,1-Trichloroethane | | |
| Hexachloroethane | 7.23E+03 ug/l | 4.22E+00 lbs/day |
| 1,1-Dichloroethane | | |
| 1,1,2-Trichloroethane | 3.41E+04 ug/l | 1.99E+01 lbs/day |
| 1,1,2,2-Tetrachloroethane | 8.94E+03 ug/l | 5.22E+00 lbs/day |
| Chloroethane | | |
| Bis(2-chloroethyl) ether | 1.14E+03 ug/l | 6.64E-01 lbs/day |
| 2-Chloroethyl vinyl ether | | |
| 2-Chloronaphthalene | 3.50E+06 ug/l | 2.04E+03 lbs/day |
| 2,4,6-Trichlorophenol | 5.28E+03 ug/l | 3.08E+00 lbs/day |
| p-Chloro-m-cresol | | |
| Chloroform (HM) | 3.82E+05 ug/l | 2.23E+02 lbs/day |
| 2-Chlorophenol | 3.25E+05 ug/l | 1.90E+02 lbs/day |
| 1,2-Dichlorobenzene | 1.38E+07 ug/l | 8.07E+03 lbs/day |
| 1,3-Dichlorobenzene | 2.11E+06 ug/l | 1.23E+03 lbs/day |
| 1,4-Dichlorobenzene | 2.11E+06 ug/l | 1.23E+03 lbs/day |
| 3,3'-Dichlorobenzidine | 6.26E+01 ug/l | 3.65E-02 lbs/day |
| 1,1-Dichloroethylene | 2.60E+03 ug/l | 1.52E+00 lbs/day |
| 1,2-trans-Dichloroethylene1 | | |
| 2,4-Dichlorophenol | 6.42E+05 ug/l | 3.75E+02 lbs/day |
| 1,2-Dichloropropane | 3.17E+04 ug/l | 1.85E+01 lbs/day |
| 1,3-Dichloropropylene | 1.38E+06 ug/l | 8.07E+02 lbs/day |
| 2,4-Dimethylphenol | 1.87E+06 ug/l | 1.09E+03 lbs/day |
| 2,4-Dinitrotoluene | 7.40E+03 ug/l | 4.32E+00 lbs/day |
| 2,6-Dinitrotoluene | | |
| 1,2-Diphenylhydrazine | 4.39E+02 ug/l | 2.56E-01 lbs/day |

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| | | |
|------------------------------|---------------|------------------|
| Ethylbenzene | 2.36E+07 ug/l | 1.38E+04 lbs/day |
| Fluoranthene | 3.01E+05 ug/l | 1.76E+02 lbs/day |
| 4-Chlorophenyl phenyl ether | | |
| 4-Bromophenyl phenyl ether | | |
| Bis(2-chloroisopropyl) ether | 1.38E+08 ug/l | 8.07E+04 lbs/day |
| Bis(2-chloroethoxy) methane | | |
| Methylene chloride (HM) | 1.30E+06 ug/l | 7.59E+02 lbs/day |
| Methyl chloride (HM) | | |
| Methyl bromide (HM) | | |
| Bromoform (HM) | 2.93E+05 ug/l | 1.71E+02 lbs/day |
| Dichlorobromomethane(HM) | 1.79E+04 ug/l | 1.04E+01 lbs/day |
| Chlorodibromomethane (HM) | 2.76E+04 ug/l | 1.61E+01 lbs/day |
| Hexachlorocyclopentadiene | 1.38E+07 ug/l | 8.07E+03 lbs/day |
| Isophorone | 4.88E+05 ug/l | 2.85E+02 lbs/day |
| Naphthalene | | |
| Nitrobenzene | 1.54E+06 ug/l | 9.01E+02 lbs/day |
| 2-Nitrophenol | | |
| 4-Nitrophenol | | |
| 2,4-Dinitrophenol | 1.14E+07 ug/l | 6.64E+03 lbs/day |
| 4,6-Dinitro-o-cresol | 6.22E+05 ug/l | 3.63E+02 lbs/day |
| N-Nitrosodimethylamine | 6.58E+03 ug/l | 3.84E+00 lbs/day |
| N-Nitrosodiphenylamine | 1.30E+04 ug/l | 7.59E+00 lbs/day |
| N-Nitrosodi-n-propylamine | 1.14E+03 ug/l | 6.64E-01 lbs/day |
| Pentachlorophenol | 6.66E+03 ug/l | 3.89E+00 lbs/day |
| Phenol | 3.74E+09 ug/l | 2.18E+06 lbs/day |
| Bis(2-ethylhexyl)phthalate | 4.80E+03 ug/l | 2.80E+00 lbs/day |
| Butyl benzyl phthalate | 4.23E+06 ug/l | 2.47E+03 lbs/day |
| Di-n-butyl phthalate | 9.75E+06 ug/l | 5.69E+03 lbs/day |
| Di-n-octyl phthalate | | |
| Diethyl phthalate | 9.75E+07 ug/l | 5.69E+04 lbs/day |
| Dimethyl phthalate | 2.36E+09 ug/l | 1.38E+06 lbs/day |
| Benzo(a)anthracene (PAH) | 2.52E+01 ug/l | 1.47E-02 lbs/day |
| Benzo(a)pyrene (PAH) | 2.52E+01 ug/l | 1.47E-02 lbs/day |
| Benzo(b)fluoranthene (PAH) | 2.52E+01 ug/l | 1.47E-02 lbs/day |
| Benzo(k)fluoranthene (PAH) | 2.52E+01 ug/l | 1.47E-02 lbs/day |
| Chrysene (PAH) | 2.52E+01 ug/l | 1.47E-02 lbs/day |
| Acenaphthylene (PAH) | | |
| Anthracene (PAH) | | |
| Dibenzo(a,h)anthracene (PAH) | 2.52E+01 ug/l | 1.47E-02 lbs/day |
| Indeno(1,2,3-cd)pyrene (PAH) | 2.52E+01 ug/l | 1.47E-02 lbs/day |
| Pyrene (PAH) | 8.94E+06 ug/l | 5.22E+03 lbs/day |
| Tetrachloroethylene | 7.23E+03 ug/l | 4.22E+00 lbs/day |
| Toluene | 1.63E+08 ug/l | 9.49E+04 lbs/day |
| Trichloroethylene | 6.58E+04 ug/l | 3.84E+01 lbs/day |
| Vinyl chloride | 4.27E+05 ug/l | 2.49E+02 lbs/day |

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Pesticides

| | | |
|--------------------|---------------|------------------|
| Aldrin | 1.14E-01 ug/l | 6.64E-05 lbs/day |
| Dieldrin | 1.14E-01 ug/l | 6.64E-05 lbs/day |
| Chlordane | 4.80E-01 ug/l | 2.80E-04 lbs/day |
| 4,4'-DDT | 4.80E-01 ug/l | 2.80E-04 lbs/day |
| 4,4'-DDE | 4.80E-01 ug/l | 2.80E-04 lbs/day |
| 4,4'-DDD | 6.83E-01 ug/l | 3.99E-04 lbs/day |
| alpha-Endosulfan | 1.63E+03 ug/l | 9.49E-01 lbs/day |
| beta-Endosulfan | 1.63E+03 ug/l | 9.49E-01 lbs/day |
| Endosulfan sulfate | 1.63E+03 ug/l | 9.49E-01 lbs/day |
| Endrin | 6.58E+02 ug/l | 3.84E-01 lbs/day |
| Endrin aldehyde | 6.58E+02 ug/l | 3.84E-01 lbs/day |
| Heptachlor | 1.71E-01 ug/l | 9.96E-05 lbs/day |
| Heptachlor epoxide | | |

PCB's

| | | |
|--------------------------|---------------|------------------|
| PCB 1242 (Arochlor 1242) | 3.66E-02 ug/l | 2.13E-05 lbs/day |
| PCB-1254 (Arochlor 1254) | 3.66E-02 ug/l | 2.13E-05 lbs/day |
| PCB-1221 (Arochlor 1221) | 3.66E-02 ug/l | 2.13E-05 lbs/day |
| PCB-1232 (Arochlor 1232) | 3.66E-02 ug/l | 2.13E-05 lbs/day |
| PCB-1248 (Arochlor 1248) | 3.66E-02 ug/l | 2.13E-05 lbs/day |
| PCB-1260 (Arochlor 1260) | 3.66E-02 ug/l | 2.13E-05 lbs/day |
| PCB-1016 (Arochlor 1016) | 3.66E-02 ug/l | 2.13E-05 lbs/day |

Pesticide

| | | |
|-----------|---------------|------------------|
| Toxaphene | 6.10E-01 ug/l | 3.56E-04 lbs/day |
|-----------|---------------|------------------|

Metals

| | | |
|----------------|------|---------|
| Antimony | ug/l | lbs/day |
| Arsenic | ug/l | lbs/day |
| Asbestos | ug/l | lbs/day |
| Beryllium | | |
| Cadmium | | |
| Chromium (III) | | |
| Chromium (VI) | | |
| Copper | ug/l | lbs/day |
| Cyanide | ug/l | lbs/day |
| Lead | | |
| Mercury | ug/l | lbs/day |
| Nickel | ug/l | lbs/day |
| Selenium | | |
| Silver | | |
| Thallium | ug/l | lbs/day |
| Zinc | | |

Dioxin

| | | |
|-----------------------|---------------|------------------|
| Dioxin (2,3,7,8-TCDD) | 1.14E-05 ug/l | 6.64E-09 lbs/day |
|-----------------------|---------------|------------------|

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**Metals Effluent Limitations for Protection of All Beneficial Uses
Based upon Water Quality Standards and Toxics Rule**

| | Class 4 Acute Agricultural ug/l | Class 3 Acute Aquatic Wildlife ug/l | Acute Toxics Drinking Water Source ug/l | Acute Toxics Wildlife ug/l | 1C Acute Health Criteria ug/l | Acute Most Stringent ug/l | Class 3 Chronic Aquatic Wildlife ug/l |
|----------------|--|--|--|---|--|--|--|
| Aluminum | | 304207.5 | | | | 304207.5 | N/A |
| Antimony | | | | 3495047.1 | | 3495047.1 | |
| Arsenic | 81280.2 | 138023.6 | | | 0.0 | 81280.2 | 153786.9 |
| Barium | | | | | | 0.0 | |
| Beryllium | | | | | | 0.0 | |
| Cadmium | 8063.5 | 2798.0 | | | 0.0 | 2798.0 | 456.0 |
| Chromium (III) | | 1900891.8 | | | 0.0 | 1900891.8 | 180875.0 |
| Chromium (VI) | 80634.8 | 4897.0 | | | 0.0 | 4896.96 | 5713.91 |
| Copper | 161914.9 | 16711.9 | | | | 16711.9 | 19832.1 |
| Cyanide | | 8951.8 | 1.8E+08 | | | 8951.8 | 4226.6 |
| Iron | | 406393.4 | | | | 406393.4 | |
| Lead | 80634.8 | 145623.4 | | | 0.0 | 80634.8 | 10715.3 |
| Mercury | | 976.56 | | 121.92 | 0.0 | 121.92 | 9.749 |
| Nickel | | 510171.9 | | 3738887.6 | | 510171.9 | 112729.4 |
| Selenium | 39349.3 | 7492.6 | | | 0.0 | 7492.6 | 2448.1 |
| Silver | | 11375.4 | | | 0.0 | 11375.4 | |
| Thallium | | | | 5120.7 | | 5120.7 | |
| Zinc | | 130533.8 | | | | 130533.8 | 260746.6 |
| Boron | 609601.2 | | | | | 609601.2 | |

Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]

[If Acute is more stringent than Chronic, then the Chronic takes on the Acute value.]

| | WLA Acute ug/l | WLA Chronic ug/l | |
|----------------|---------------------------|-----------------------------|----------------|
| Aluminum | 304207.5 | N/A | |
| Antimony | 3.50E+06 | | |
| Arsenic | 81280.2 | 153786.9 | Acute Controls |
| Asbestos | 0.00E+00 | | |
| Barium | | | |
| Beryllium | | | |
| Cadmium | 2798.0 | 456.0 | |
| Chromium (III) | 1900891.8 | 180875 | |
| Chromium (VI) | 4897.0 | 5713.9 | Acute Controls |
| Copper | 16711.9 | 19832.1 | Acute Controls |
| Cyanide | 8951.8 | 4226.6 | |
| Iron | 406393.4 | | |
| Lead | 80634.8 | 10715.3 | |
| Mercury | 121.920 | 9.749 | |
| Nickel | 510171.9 | 112729 | |
| Selenium | 7492.6 | 2448.1 | |
| Silver | 11375.4 | N/A | |
| Thallium | 5120.7 | | |
| Zinc | 130533.8 | 260746.6 | Acute Controls |
| Boron | 609601.23 | | |

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Other Effluent Limitations are based upon R317-1.
E. coli 126.0 organisms per 100 ml

X. Antidegradation Considerations

The Utah Antidegradation Policy allows for degradation of existing quality where it is determined that such lowering of water quality is necessary to accommodate important economic or social development in the area in which the waters are protected [R317-2-3]. It has been determined that certain chemical parameters introduced by this discharge will cause an increase of the concentration of said parameters in the receiving waters. Under no conditions will the increase in concentration be allowed to interfere with existing instream water uses.

The antidegradation rules and procedures allow for modification of effluent limits less than those based strictly upon mass balance equations utilizing 100% of the assimilative capacity of the receiving water. Additional factors include considerations for "Blue-ribbon" fisheries, special recreational areas, threatened and endangered species, and drinking water sources.

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an **increase in permitted flow or concentration.**

XI. Colorado River Salinity Forum Considerations

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedence of this value. This doesn't apply to facilities that do not discharge to the Colorado River Basin.

XII. 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 downstream segments, will not occur for the evaluated parameters of concern as discussed above if the effluent limitations indicated above are met.

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XIII. Notice of UPDES Requirement

This Addendum to the Statement of Basis does not authorize any entity or party to discharge to the waters of the State of Utah. That authority is granted through a UPDES permit issued by the Utah Division of Water Quality. The numbers presented here may be changed as a function of other factors. Dischargers are strongly urged to contact the Permits Section for further information. Permit writers may utilize other information to adjust these limits and/or to determine other limits based upon best available technology and other considerations provided that the values in this wasteload analysis [TMDL] are not compromised. See special provisions in Utah Water Quality Standards for adjustments in the Total Dissolved Solids values based upon background concentration.

XIV. Special Considerations - TMDL

The Corinne Lagoons discharge to a segment of the Bear River that is 303(d) listed for total phosphorous (TP). A TP TMDL was completed for the Bear River on September 9th, 2002.

The TMDL indicated that the three point sources in this segment, Corinne, Bear River and Tremonton cities, accounted for approximately 3% of the total phosphorous load to the Lower Bear River. The remaining 97% is attributed to nonpoint sources. Given that the non-point source TP loads overshadow the point source contributions, the time-frame for including TP effluent limits for the small towns of Bear River City, Tremonton and Corinne is not urgent. The Division of Water Quality recently completed a TMDL for Cutler Reservoir (immediately upstream of the lower Bear River segment). Following completion of the Cutler Reservoir TMDL, the Lower Bear River TMDL will be redone.

In 2018, an Implementation Plan developed by the Utah Division of Water Quality allocated 2.5 lb/d of total phosphorus (previously the Corinne Lagoons were allocated 2.0 lb/d of total phosphorus).

The Lower Bear River Implementation Plan is based on records from May 2011 through June 2016 where average monthly flows range from 0.06 to 0.22 mgd. Insufficient data are available to evaluate trends. Discharge TP concentrations range from 0.69 mg/l to 4.05 mg/l.

There do not appear to be any discernible seasonal or long-term trends in discharge TP concentration.

TP discharge loads range from 0.20 lb/d to 18.14 lb/d. As with concentration, insufficient data are available to evaluate trends. Additional TP data continues to be collected.

A WLA of 2.5 lb/d was calculated by multiplying the average annual load (2.0 lb/d) by 125 percent.

A daily average load for each calendar month was calculated by averaging paired TP and flow from June 2011 through May 2016. The daily average load for each month was then multiplied by the number of days per month and summed; the summation was divided by 365 days per year to yield the average annual load in lb/d.

The current average annual load is 2.0 lb/d, which was calculated using monthly averages of paired TP and effluent flow data from June 2011 through May 2016. Implementing the phosphorus loading cap (would result in an increase (on average) of 0.5 lb/d.

No assimilative capacity exists for this pollutant. Effluent limit equals the water quality standard.

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File Name: Corrine_WLA_1-26-2021.xls

**Utah Division of Water Quality
Salt Lake City, Utah**

APPENDIX - Coefficients and Other Model Information

| | | | | | | | |
|--|---|---|---|--|---|--|---|
| CBOD Coeff. (Kd)20 1/day 1.000 | CBOD Coeff. FORCED (Kd)/day 0.000 | CBOD Coeff. (Ka)T 1/day 1.155 | REAER. Coeff. (Ka)20 (Ka)/day 8.299 | REAER. Coeff. FORCED 1/day 0.000 | REAER. Coeff. (Ka)T 1/day 8.939 | NBOD Coeff. (Kn)20 1/day 0.400 | NBOD Coeff. (Kn)T 1/day 0.509 |
| Open Coeff. (K4)20 1/day 0.000 | Open Coeff. (K4)T 1/day 0.000 | NH3 LOSS (K5)20 1/day 4.000 | NH3 (K5)T 1/day 4.618 | NO2+NO3 LOSS (K6)20 1/day 0.000 | NO2+NO3 (K6)T 1/day 0.000 | TRC Decay K(Cl)20 1/day 32.000 | TRC K(Cl)(T) 1/day 38.402 |
| BENTHIC DEMAND (SOD)20 gm/m2/day 1.000 | BENTHIC DEMAND (SOD)T gm/m2/day 1.218 | | | | | | |
| K1 CBOD {theta} 1.0 | K2 Reaer. {theta} 1.0 | K3 NH3 {theta} 1.1 | K4 Open {theta} 1.0 | K5 NH3 Loss {theta} 1.0 | K6 NO2+3 {theta} 1.0 | K(Cl) TRC {theta} 1.1 | S Benthic {theta} 1.1 |

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 Analysis¹. 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.

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. In order to complete a RP analysis, more than 10 data points per parameter are needed. Corinne was not required to sample for metal parameters in their previous permit, therefore, analysis data is not available to perform a RP analysis. For this permit cycle, Corinne will be required to permit, at a minimum, annual metal sampling. If additional sampling is performed, it shall be reported to DWQ. Less than 10 data points may affect the RP outcomes which may require additional monitoring in the future.

¹ See Reasonable Potential Analysis Guidance for definitions of terms