

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

UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMITS

Major Municipal Permit No. **UT0021440**  
Biosolids Permit No. **UTL-021440**

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

**MAGNA WATER DISTRICT**

is hereby authorized to discharge from the

**MAGNA WATER RECLAMATION FACILITY**

to receiving waters named **KERSEY CREEK AND C-7 DITCH,**

to dispose biosolids,

and to distribute effluent for reuse,

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

This permit shall become effective on April 1, 2024

This permit expires at midnight on March 31, 2029.

Signed this Eighth day of January, 2024.



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John K. Mackey, P.E.  
Director

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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*.

<u>Outfall Numbers</u>	<u>Location of Discharge Outfalls</u>
001	Located at latitude 40°43'30"N and longitude 112°04'26"W. The discharge is through a pipe east of the plant into Kersey Creek.
002	Located at latitude 40°43'43"N and longitude 112°04'04"W. The discharge is through a 42-inch pipe north of the plant into the C-7 Ditch.

  

<u>Outfall Number</u>	<u>Location of Effluent Reuse Discharge Outfall</u>
001R	Located at latitude 40°43'38"N and longitude 112°04'26"W. The discharge is from the reuse pump station into the secondary irrigation system.

- 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 the discharging Outfalls as defined in *Part VIII*, and determined by test procedures described in *Part I. C.3.a & b* of this permit.
  2.
    - a. Effective immediately and lasting the duration of this permit, the Permittee is authorized to discharge from Outfalls 001 and 002. Such discharges shall be limited and monitored by the Permittee as specified below:

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Parameter	Outfalls 001 and 002 Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD	4.0	--	--	--	--
BOD <sub>5</sub> , mg/L	25	35	--	--	--
BOD <sub>5</sub> Min. % Removal	85	--	--	--	--
TSS, mg/L	25	35	--	--	--
TSS Min. % Removal	85	--	--	--	--
Total Ammonia (as N), mg/L	7.0	--	--	--	30
TRC, mg/L;					
Summer (Jul-Aug-Sept)	--	--	--	--	17.7
Fall (Oct-Nov-Dec)	--	--	--	--	2.7
Winter (Jan-Feb-Mar)	--	--	--	--	1.3
Spring (Apr-May-Jun)	--	--	--	--	2.7
<i>E. coli</i> , No./100mL	126	157	--	--	--
WET, Acute Biomonitoring (001 & 002)	--	--	--	--	LC <sub>50</sub> > 100% effluent
WET, Chronic Biomonitoring (002 only)	--	--	--	--	IC <sub>25</sub> > 40% effluent
Oil & Grease, mg/L	--	--	--	--	10
pH, Standard Units	--	--	--	6.5	9
DO, mg/L	--	--	--	5.0	--
Total Phosphorus, mg/L;					
Effective January 1, 2021	--	--	1.8	--	--
Effective January 1, 2025	--	--	1.0	--	--

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Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD <sub>5</sub> , Influent *d	2 x Week	Composite	mg/L
Effluent	2 x Week	Composite	mg/L
TSS, Influent *d	2 x Week	Composite	mg/L
Effluent	2 x Week	Composite	mg/L
<i>E. coli</i>	2 x Week	Grab	No./100mL
pH	Daily	Grab	SU
Total Ammonia (as N)	Weekly	Composite	mg/L
DO	Weekly	Grab	mg/L
WET – Biomonitoring *e	Quarterly		
Ceriodaphnia - Acute	1 <sup>st</sup> & 3 <sup>rd</sup> Quarter	Composite	Pass/Fail
Ceriodaphnia - Chronic	2 <sup>nd</sup> & 4 <sup>th</sup> Quarter	Composite	Pass/Fail
Fathead Minnows - Acute	2 <sup>nd</sup> & 4 <sup>th</sup> Quarter	Composite	Pass/Fail
Fathead Minnows - Chronic	1 <sup>st</sup> & 3 <sup>rd</sup> Quarter	Composite	Pass/Fail
TRC, mg/L	Monthly	Grab	mg/L
Oil & Grease *f	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) Effluent	Monthly	Composite	mg/L
Phosphorus, Total Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO <sub>3</sub>	Monthly	Composite	mg/L
Nitrite, NO <sub>2</sub>	Monthly	Composite	mg/L
Metals, Influent *g	2 x Year	Composite	mg/L
Effluent	2 x Year	Composite	mg/L
Organic Toxics, Influent Effluent *h	1 <sup>st</sup> , 3 <sup>rd</sup> & 5 <sup>th</sup> year of the permit cycle	Grab/Composite	mg/L

\*a See *Part VIII* of this permit for definition of terms.

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

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

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

\*e The acute Ceriodaphnia will be tested during the 1<sup>st</sup> and 3<sup>rd</sup> quarters and the acute fathead minnows will be tested during the 2<sup>nd</sup> and 4<sup>th</sup> quarters. The chronic Ceriodaphnia will be tested during the 2<sup>nd</sup> and 4<sup>th</sup> quarters and the chronic fathead minnows will be tested during the 1<sup>st</sup> and 3<sup>rd</sup> quarters.

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

\*g See Metals Monitoring table in *Part II*. of this permit.

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\*h Testing shall be performed in the first, third and fifth year of the permit cycle. A list of the organics to be tested can be found in *40CFR122 appendix D table II*.

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

Parameter	Outfall 001R Effluent Limitations *a, *p, *q				
	Max Monthly Average	Max Weekly Median	Max Daily Average	Minimum	Maximum
Turbidity, NTU *p	--	--	2	--	5
TRC, mg/L *m, *q	--	--	--	1	--
BOD <sub>5</sub> , mg/L	10	--	--	--	--
<i>E coli</i> , No/100mL *o	--	ND	--	--	9
pH, Standard Units	--	--	--	6.0	9.0

Reuse Outfall 001R Self-Monitoring and Reporting Requirements *a *n			
Parameter	Frequency	Sample Type	Units
Total Flow, *b, *c	Continuous	Recorder	MGD
Turbidity	Continuous	Recorder	mg/L
TRC *m, *q	Daily	Recorder	mg/L
BOD <sub>5</sub>	Weekly	Composite	mg/L
<i>E. coli</i>	Daily	Grab	No./100mL
pH	Daily	Grab	SU

\*a See Part VIII of this permit for definition of terms.

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

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

\*m The facility is required to disinfect to destroy, inactivate or remove pathogenic microorganisms by chemical, physical or biological means. Disinfection may be accomplished by chlorination, ozonation, or other chemical disinfectants, UV radiation. Or other approved processes. Chlorine residual is recommended but no longer required. Sampling not required if chlorination is not being used. The total residual chlorine shall be measured continuously and shall at no time be less than 1.0 mg/l after 30 minutes contact time at peak flow. If an alternative disinfection process is used, it must be demonstrated to the satisfaction of the Director that the alternative process is comparable to that achieved by chlorination with a 1 mg/l residual after 30 minutes contact time. If the effectiveness cannot be related to chlorination, then the effectiveness of the alternative disinfection process must be demonstrated by testing for pathogen destruction as determined by the Director. A 1 mg/l total chlorine residual is recommended after disinfection and before the treated effluent goes into the distribution system.

\*n Reuse monitoring results obtained during the previous month for reuse discharges shall be summarized for each month and reported on a Monthly Operational Report, or by NetDMR post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period.

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- \*o The weekly median E. coli concentration shall be non-detect (ND).
- \*p An alternative disposal option or diversion to storage must be automatically activated if turbidity exceeds the maximum instantaneous limit for more than 5 minutes, or chlorine residual drops below the instantaneous required value for more than 5 minutes, where chlorine disinfection is used.
- \*q The total residual chlorine shall be measured continuously and shall at no time be less than 1.0 mg/l after 30 minutes contact time at peak flow. If an alternative disinfection process is used, it must be demonstrated to the satisfaction of the Director that the alternative process is comparable to that achieved by chlorination with a 1 mg/l residual after 30 minutes contact time. If the effectiveness cannot be related to chlorination, then the effectiveness of the alternative disinfection process must be demonstrated by testing for pathogen destruction as determined by the Director. A 1 mg/l total chlorine residual is recommended after disinfection and before the treated effluent goes into the distribution system.

c. 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.

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 (Compliance Schedule for a Particular Parameter if necessary)

3. Acute and Chronic Whole Effluent Toxicity (WET) Testing.

- a. *Whole Effluent Testing – Acute Toxicity.* Starting on the effective date of this permit, the Permittee shall quarterly conduct acute static renewal toxicity tests on a composite sample of the final effluent at Outfalls 001 & 002. The sample shall be collected at the point of compliance before mixing with the receiving water.

The monitoring frequency for acute tests shall be quarterly unless a sample is found to be acutely toxic during a routine test. If that occurs, the monitoring frequency shall become weekly (See Part I.C.3.c., Accelerated Testing). Unless otherwise approved by the Director, samples shall be collected on a two-day progression; i.e., if the first sample is on a Monday, during the next sampling period, the sampling shall begin on a Wednesday, etc.



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The static-renewal acute toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002, EPA-821-R-02-012 as per 40 CFR 136.3(a) TABLE IA-LIST OF APPROVED BIOLOGICAL METHODS. The Permittee shall conduct the 48-hour static renewal toxicity test using *Ceriodaphnia dubia* (solution renewal every 24 hours) and the acute 96-hour static renewal toxicity test using *Pimephales promelas* (fathead minnow) (solution renewal every 24 hours). Based on the Test Acceptability Criteria included in Utah Pollutant Discharge Elimination System (UPDES) Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (Biomonitoring) February, 2018, the Director may require acceptable variations in the test, i.e. temperature, carbon dioxide atmosphere, or any other acceptable variations in the testing procedure, as documented in the Fact Sheet Statement of Basis. If possible dilution water should be taken from the receiving stream. A valid replacement test is required within the specified sampling period to remain in compliance.

Acute toxicity occurs when 50 percent or more mortality is observed for either species at any effluent concentration. Mortality in the control must simultaneously be 10 percent or less for the results to be considered valid. If more than 10 percent control mortality occurs, the test shall be repeated until satisfactory control mortality is achieved. The Permittee shall meet all QA/QC requirements of the acute WET testing method listed in this Section of the permit.

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

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

b. *Whole Effluent Testing – Chronic Toxicity.*

Starting on the effective date of this permit, the Permittee shall quarterly conduct chronic static renewal toxicity tests on a composite sample of the final effluent at Outfalls 001 & 002. The sample shall be collected at the point of compliance before mixing with the receiving water.

Three samples are required and samples shall be collected on Monday, Wednesday and Friday of each sampling period or collected on a two-day progression for each sampling period. This may be changed with Director approval. The chronic toxicity tests shall be conducted in general accordance with the procedures set out in the latest revision of *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, October 2002, EPA—*

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821-R-02-013 as per 40 CFR 136.3(a) TABLE IA-LIST OF APPROVED BIOLOGICAL METHODS. Test species shall consist of *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnow) alternating quarterly.

A multi dilution test consisting of at least five concentrations and a control is required at two dilutions below and two above the RWC, if possible. If test acceptability criteria are not met for control survival, growth, or reproduction, the test shall be considered invalid. A valid replacement test is required within the specified sampling period to remain in compliance with this permit. Chronic toxicity occurs when, during a chronic toxicity test, the 25% inhibition concentration (IC25) calculated on the basis of test organism survival and growth or survival and reproduction, is less than or equal to 40% effluent concentration (equivalent to the RWC). If a sample is found to be chronically toxic during a routine test, the monitoring frequency shall become biweekly (see Part I.C.3.c., Accelerated Testing). (the Director may enter acceptable variations in the test procedure here as documented in the Fact Sheet Statement of Basis and based on the test acceptability criteria as contained in Utah Pollutant Discharge Elimination System (UPDES) Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control February, 2018). If possible, dilution water should be obtained from the receiving stream.

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

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

- c. *Accelerated Testing.* When whole effluent toxicity is indicated during routine WET testing as specified in this permit, the Permittee shall notify the Director in writing within 5 days after becoming aware of the test result. The Permittee shall perform an accelerated schedule of WET testing to establish whether a pattern of toxicity exists unless the Permittee notifies the Director and commences a PTI, TIE, or a TRE. Accelerated testing or the PTI, TIE, or TRE will begin within fourteen days after the Permittee becomes aware of the test result. Accelerated testing shall be conducted as specified under Part I. Pattern of Toxicity. If the accelerated testing demonstrates no pattern of toxicity, routine monitoring shall be resumed.
- d. *Pattern of Toxicity.* A pattern of toxicity is defined by the results of a series of up to five biomonitoring tests pursuant to the accelerated testing requirements using a full set of dilutions for acute (five plus the control) and five effluent dilutions for chronic (five plus the control), on the species found to be more sensitive, once every week for up to five consecutive weeks for acute and once every two weeks up to ten consecutive weeks for chronic.

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

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

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

- 1) 2 consecutive tests fail, or 3 out of 5 tests fail, at which point a pattern of toxicity will have been identified, or
- 2) 2 consecutive tests pass, or 3 out of 5 tests pass, in which case no pattern of toxicity is identified.

e. *Preliminary Toxicity Investigation.*

- (1) When a pattern of toxicity is detected the Permittee will notify the Director in writing within 5 days and begin an evaluation of the possible causes of the toxicity. The Permittee will have 15 working days from demonstration of the pattern of toxicity to complete an optional Preliminary Toxicity Investigation (PTI) and submit a written report of the results to the Director. The PTI may include, but is not limited to: additional chemical and biological monitoring, examination of Pretreatment Program records, examination of discharge monitoring reports, a thorough review of the testing protocol, evaluation of treatment processes and chemical use, inspection of material storage and transfer areas to determine if any spill may have occurred.
- (2) If the PTI identifies a probable toxicant and/or a probable source of toxicity, the Permittee shall submit, as part of its final results, written notification of that effect to the Director. Within thirty days of completing the PTI the Permittee shall submit to the Director for approval a control program to control effluent toxicity and shall proceed to implement such plan in accordance with the Director's approval. The control program, as submitted to or revised by the Director, will be incorporated into the permit. After final implementation, the Permittee must demonstrate successful removal of toxicity by passing a two species WET test as outlined in this permit. With adequate justification, the Director may extend these deadlines.
- (3) If no probable explanation for toxicity is identified in the PTI, the Permittee shall notify the Director as part of its final report, along with a schedule for conducting a Phase I Toxicity Reduction Evaluation (TRE) (see *Toxicity Reduction Evaluation*).
- (4) If toxicity spontaneously disappears during the PTI, the Permittee shall submit written notification to that effect to the Director, with supporting testing evidence.

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

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

- (1) Phase I – Toxicity Characterization
- (2) Phase II – Toxicity Identification Procedures
- (3) Phase III – Toxicity Control Procedures
- (4) Any other appropriate procedures for toxicity source elimination and control.

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

If toxicity spontaneously disappears during the TIE/TRE, the Permittee shall submit written notification to that effect to the Director.

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

- (a) An alternative control program for compliance with the numerical requirements.
- (b) If necessary, as determined by the Director, provide a modified biomonitoring protocol which compensates for the pollutant(s) being controlled numerically.

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

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

**D. Reporting of Monitoring Results.**

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

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

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

2. Reporting of Reuse Monitoring Results. Monitoring results obtained during the previous month shall be summarized for each month and reported on a Monthly Operational Report or by NetDMR, post-marked or entered into NetDMR no later than the 28<sup>th</sup> day of the month following the completed reporting period. If no reuse occurs during the reporting period, “no reuse” shall be reported for those applicable effluent parameters. 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), and submitted by NetDMR, or submitted to the Division of Water Quality at the following address:

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

3. Annual Reporting of Wastewater Monitoring Results. Monitoring results obtained during the previous year shall be summarized and included in the Municipal Wastewater Planning Program (MWPP) submitted annually by April 1st. If no reuse occurs during the reporting period, “no reuse” shall be reported for those applicable effluent parameters. 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), and submitted to the Division of Water Quality at the following address:

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

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

**PART II**  
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**PRETREATMENT**

II. PRETREATMENT REQUIREMENTS

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 UPDES 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 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. The design capacity of the municipal wastewater treatment facility is less than 5 MGD; therefore, the Permittee will not be required to develop an Approved POTW Pretreatment Program. However, in order to determine if development of an Approved POTW Pretreatment Program is warranted, the Permittee shall conduct an **industrial waste survey**, as described in *Part II.C.1.*
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 Pretreatment Monitoring Table.

Pretreatment Monitoring Table				
Parameter	MDL	Sample Type	Frequency	Units
Total Arsenic	0.180	Composite	Twice a year	mg/L
Total Cadmium	0.0052			
Total Chromium	0.0166			
Total Copper	0.067			
Total Lead	0.0465			
Total Molybdenum	NA			
Total Nickel	0.376			
Total Selenium	0.0079			
Total Silver	0.0899			
Total Zinc	0.675			
Total Cyanide	0.0093			
Total Mercury	0.000022			
Organic Toxic Pollutants	NA	Composite/Grab	1 <sup>st</sup> , 3 <sup>rd</sup> and 5 <sup>th</sup> year of the permit cycle	

- a. The minimum detection limit (MDL) of the test method used for analysis must be below this limit, if a test method is not available the Permittee must submit documentation to the Director regarding the method that will be used.
- b. If a Local Limit will be developed for any metals listed above, sampling of domestic source(s) in the POTW must occur. The sampling location cannot be the influent of the POTW Treatment Plant.

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- c. In addition, the Permittee shall analyze the treatment facility influent and effluent for the presence of the toxic pollutants listed in *40 CFR 122* Appendix D Table II the 1st, 3rd & 5th year of the permit cycle. If expected to be present surfactants and *40 CFR 122* Appendix D Table V must be sampled the 1<sup>st</sup>, 3<sup>rd</sup> & 5<sup>th</sup> year of the permit cycle. The pesticides fraction of Appendix D, Table II is suspended unless pesticides are expected to be present.
    - d. The metals sample must be taken during the months of January to June and July to December.
  4. The results of the analyses of metals, cyanide and Organic Toxic Pollutants 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 Organic Toxic Pollutants data to the Pretreatment Coordinator for the Division of Water Quality via email.
  5. 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 Part I, or a pollutant of concern listed in the Local Limit development document or determined by the Director, the Permittee must report this information to the Pretreatment Coordinator for the Division of Water Quality. If the loading exceeds the allowable headworks load, increase sampling must occur based on the requirements given by the Pretreatment Coordinator for the Division of Water Quality. 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 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.



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- 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 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 Clean Water 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 Clean Water Act of 1987 as amended. (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 Pretreatment Coordinator of;

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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 *Clean Water Act* if it were directly discharging those pollutants;
  2. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit; and
  3. For the purposes of this section, adequate notice shall include information on:
    - a. The quality and quantity of effluent to be introduced into such treatment works; and,
    - b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from such publicly owned treatment works.
  4. Any IU that must comply with applicable requirements under Subtitles C and D of the 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 POTW 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 Division of Water Quality 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

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

1. Treatment

a. Biosolids produced at the facility are stabilized in an oxidation ditch, with a mean cell residence time of at least 50 days, and dewatered with screw presses, then transferred to another entity for disposal.

2. Description of Biosolids Disposal Method

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

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

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

3. Changes in Treatment Systems and Disposal Practices.

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

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

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

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

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

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits <sup>1</sup> , (mg/kg)	CPLR <sup>2</sup> , (mg/ha)	Pollutant Conc. Limits <sup>3</sup> (mg/kg)	APLR <sup>4</sup> , (mg/ha-yr)
Total Arsenic	75	41	41	2.0

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Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits <sup>1</sup> , (mg/kg)	CPLR <sup>2</sup> , (mg/ha)	Pollutant Conc. Limits <sup>3</sup> (mg/kg)	APLR <sup>4</sup> , (mg/ha-yr)
Total Cadmium	85	39	39	1.9
Total Copper	4300	1500	1500	75
Total Lead	840	300	300	15
Total Mercury	57	17	17	0.85
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	21
Total Selenium	100	100	100	5.0
Total Zinc	7500	2800	2800	140
1, If the concentration of any 1 (one) of these parameters exceeds the Table 1 limit, the biosolids cannot be land applied or beneficially used in any way.				
2, CPLR - Cumulative Pollutant Loading Rate - The maximum loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially used on agricultural, forestry, or a reclamation site.				
3, If the concentration of any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids cannot be land applied or beneficially used in on a lawn, home garden, or other high potential public contact site. If any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids may be land applied or beneficially reused on an agricultural, forestry, reclamation site, or other high potential public contact site, as long as it meets the requirements of Table 1, Table 2, and Table 4.				
4, APLR - Annual Pollutant Loading Rate - The maximum annual loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially reused on agricultural, forestry, or a reclamation site, when they do not meet Table 3, but do meet Table 1.				

2. Pathogen Limitations. All biosolids sold or given away in a bag or a similar container for application to lawns and home gardens must meet the pathogen limitations for Class A. Land applied biosolids must meet the pathogen limitations for Class B as described below. If the pathogen limitations are not met, the biosolids must be landfilled.
  - a. Class A biosolids shall meet one of the pathogen measurement requirements in the following Pathogen Control Class table or shall meet the requirements for a Process to Further Reduce Pathogens as defined in *40 CFR Part 503.32(a) Sewage Sludge – Class A*.
    - (1) At this time the Permittee does not intend to distribute biosolids to the public for use on the lawn and garden and thus is not required meet Class A Biosolids requirements currently.
  - b. Class B biosolids shall meet the pathogen measurement requirements in the following Pathogen Control Class table or shall meet the requirements for a Process to Significantly Reduce Pathogens as defined in *40 CFR Part 503.32(b) Sewage Sludge – Class B*.
    - (1) At this time the Permittee does not intend to distribute bulk biosolids for land application and thus is not required meet Class B Biosolids requirements currently ....
  - c. In addition, the Permittee shall comply with all applicable site restrictions listed below (*40 CFR 503.32, (b), (5)*):

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- (1) Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application.
- (2) Food crops with harvested parts below the land surface shall not be harvested for 20 months after application if the biosolids remains on the land surface for four months or more prior to incorporation into the soil.
- (3) Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil.
- (4) Food crops, feed crops, and fiber crops shall not be harvested from the land for 30 days after application.
- (5) Animals shall not be allowed to graze on the land for 30 days after application.
- (6) Turf grown on land where biosolids is applied shall not be harvested for one year after application if the harvested turf is placed on either land with a high potential for public exposure or a lawn.
- (7) Public access to land with a high potential for public exposure shall be restricted for one year after application.
- (8) Public access to land with a low potential for public exposure shall be restricted for 30 days after application.
- (9) The sludge or the application of the sludge shall not cause or contribute to the harm of a threatened or endangered species or result in the destruction or adverse modification of critical habitat of a threatened or endangered species after application.

Pathogen Control Class	
503.32 (a)(1) - (5), (7), (8), Class A	503.32 (b)(1) - (5), Class B
B Salmonella species –less than three (3) MPN <sup>1</sup> per four (4) grams total solids (DWB) <sup>2</sup> or Fecal Coliforms – less than 1,000 MPN per gram total solids (DWB).	Fecal Coliforms – less than 2,000,000 MPN or CFU <sup>3</sup> per gram total solids (DWB).
503.32 (a)(6) Class A—Alternative 4	
B Salmonella species –less than three (3) MPN per four (4) grams total solids (DWB) or less than 1,000 MPN Fecal Coliforms per gram total solids (DWB), And - Enteric viruses –less than one (1) plaque forming unit per four (4) grams total solids (DWB) And - Viable helminth ova –less than one (1) per four (4) grams total solids (DWB)	
1 - MPN – Most Probable Number	
2 - DWB – Dry Weight Basis	
3 - CFU – Colony Forming Units	

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3. Vector Attraction Reduction Requirements.

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

- (1) The Permittee transfers solids to another facility (E.T. Technologies) where they are stabilized and use as cover on the Salt Lake County Landfill.

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

4. Self-Monitoring Requirements.

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

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)		
Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times
The Permittee produces on average over the past 10 years 600 Dry Metric Tons per year, but has successfully petitioned the Director for a reduction in testing as per Part II.B.4.d of this permit. Accordingly, the Permittee will sample once per year unless they chose to land apply, which will then resume to sampling four times per year.		

- b. Sample collection, preservation and analysis shall be performed in a manner consistent with the requirements of *40 CRF 503* and/or other criteria specific to this permit. A metals analysis is to be performed using *Method SW 846* with *Method 3050* used for digestion. For the digestion procedure, an amount of biosolids equivalent to a dry weight of one gram shall be used. The methods are also described in the latest version of the *Region VIII Biosolids Management Handbook*.
- c. The Director may request additional monitoring for specific pollutants derived from biosolids if the data shows a potential for concern.
- d. After two (2) years of monitoring at the frequency specified, the Permittee may request that the Director reduce the sampling frequency for the heavy metals. The frequency cannot be reduced to less than once per year for biosolids that are sold or given away to the public for any parameter. The frequency also cannot be reduced for any of the pathogen or vector attraction reduction requirements listed in this permit.

C. Management Practices of Biosolids.

1. Biosolids Distribution Information

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- a. For biosolids that are sold or given away, an information sheet shall be provided to the person who receives the biosolids. The label or information sheet shall contain:
  - (1) The name and address of the person who prepared the biosolids for a sale or to be given away.
  - (2) A statement that prohibits the application of the biosolids to the land except in accordance with the instructions on the label or information sheet.
2. Biosolids Application Site Storage
  - a. For biosolids or material derived from biosolids that are stored in piles for one year or longer, measures shall be taken to ensure that erosion (whether by wind or water) does not occur. However, best management practices should also be used for piles used for biosolids treatment. If a treatment pile is considered to have caused a problem, best management practices could be added as a requirement in the next permit renewal
3. Land Application Practices
  - a. The Permittee shall operate and maintain the land application site operations in accordance with the following requirements:
    - (1) The Permittee shall provide to the Director and the EPA within 90 days of the effective date of this permit a land application plan.
    - (2) Application of biosolids shall be conducted in a manner that will not contaminate the groundwater or impair the use classification for that water underlying the sites.
    - (3) Application of biosolids shall be conducted in a manner that will not cause a violation of any receiving water quality standard from discharges of surface runoff from the land application sites. Biosolids shall not be applied to land 10 meters or less from waters of the United States (as defined in 40 CFR 122.2).
    - (4) No person shall apply biosolids for beneficial use to frozen, ice-covered, or snow-covered land where the slope of such land is greater than three percent and is less than or equal to six percent unless one of the following requirements is met:
      - (a) there is 80 percent vegetative ground cover; or,
      - (b) approval has been obtained based upon a plan demonstrating adequate runoff containment measures.
    - (5) Application of biosolids is prohibited to frozen, ice-covered, or snow-covered sites where the slope of the site exceeds six percent.
    - (6) Agronomic Rate
      - (a) Application of biosolids shall be conducted in a manner that does not exceed the agronomic rate for available nitrogen of the crops grown on the site. At a minimum, the Permittee is required to follow the methods for calculating agronomic rate outlined in the latest version of the *Region VIII Biosolids Management Handbook* (other methods may be approved by the Director).

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The treatment plant shall provide written notification to the applicer of the biosolids of the concentration of total nitrogen (as N on a dry weight basis) in the biosolids. Written permission from the Director is required to exceed the agronomic rate.

- (b) The Permittee may request the limits of *Part III.C.6.* be modified if different limits would be justified based on local conditions. The limits are required to be developed in cooperation with the local agricultural extension office or university.
  - (c) Deep soil monitoring for nitrate-nitrogen is required for all land application sites (does not apply to sites where biosolids are applied less than once every five years). A minimum of six samples for each 320 (or less) acre area is to be collected. These samples are to be collected down to either a 5-foot depth, or the confining layer, whichever is shallower (sample at 1 foot, 2 foot, 3 foot, 4 foot and 5 foot intervals). Each of these one-foot interval samples shall be analyzed for nitrate-nitrogen. In addition to the one-foot interval samples, a composite sample of the 5-foot intervals shall be taken, and analyzed for nitrate-nitrogen as well. Samples are required to be taken once every five years for non-irrigated sites that receive more than 18 inches of precipitation annually or for irrigated sites
- (7) Biosolids shall not be applied to any site area with standing surface water. If the annual high groundwater level is known or suspected to be within five feet of the surface, additional deep soil monitoring for nitrate-nitrogen as described in *Part III.C.(6)(c).* is to be performed. At a minimum, this additional monitoring will involve a collection of more samples in the affected area and possibly more frequent sampling. The exact number of samples to be collected will be outlined in a deep soil monitoring plan to be submitted to the Director and the EPA within 90 days of the effective date of this permit. The plan is subject to approval by the Director.
- (8) The specified cover crop shall be planted during the next available planting season. If this does not occur, the Permittee shall notify the Director in writing. Additional restrictions may be placed on the application of the biosolids on that site on a case-by-case basis to control nitrate movement. Deep soil monitoring may be increased under the discretion of the Director.
- (9) When weather and or soil conditions prevent adherence to the biosolids application procedure, biosolids shall not be applied on the site.
- (10) For biosolids that are sold or given away, an information sheet shall be provided to the person who receives the biosolids. The label or information sheet shall contain:
- (a) The name and address of the person who prepared the biosolids for sale or give away for application to the land.
  - (b) A statement that prohibits the application of the biosolids to the land except in accordance with the instructions on the label or information sheet.
  - (c) The annual whole biosolids application rate for the biosolids that do not cause the metals loading rates in Tables 1, 2, and 3 (*Part III.B.1.*) to be exceeded.



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- (11) Biosolids subject to the cumulative pollutant loading rates in Table 2 (*Part III.B.1.*) shall not be applied to agricultural land, forest, a public contact site, or a reclamation site if any of the cumulative pollutant loading rates in Table 2 have been reached.
  - (12) If the treatment plant applies the biosolids, it shall provide the owner or leaseholder of the land on which the biosolids are applied notice and necessary information to comply with the requirements in this permit.
  - (13) The Permittee shall inspect the application of the biosolids to active sites to prevent malfunctions and deterioration, operator errors and discharges, which may cause or lead to the release of biosolids to the environment or a threat to human health. The Permittee must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment. The Permittee shall keep an inspection log or summary including at least the date and time of inspection, the printed name and the handwritten signature of the inspector, a notation of observations made and the date and nature of any repairs or corrective action.
- D. Special Conditions on Biosolids Storage. Permanent storage of biosolids is prohibited. Biosolids shall not be temporarily stored for more than two (2) years. Written permission to store biosolids for more than two years must be obtained from the Director. Storage of biosolids for more than two years will be allowed only if it is determined that significant treatment is occurring.
- E. Representative Sampling. Biosolids samples used to measure compliance with *Part III* of this Permit shall be collected at locations representative of the quality of biosolids generated at the treatment works and immediately prior to land application.
- F. Reporting of Monitoring Results.
1. Biosolids. The Permittee shall provide the results of all monitoring performed in accordance with Part III.B, and information on management practices, biosolids treatment, site restrictions and certifications shall be provided no later than February 19 of each year. Each report is for the previous calendar year. If no biosolids were sold or given away during the reporting period, "no biosolids were sold or given away" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the Signatory Requirements (see Part VII.G), and submitted to the Utah Division of Water Quality and the EPA by the NeT-Biosolids system through the EPA Central Data Exchange (CDX) System.
- G. Additional Record Keeping Requirements Specific to Biosolids.
1. Unless otherwise required by the Director, **the Permittee is not required to keep records** on compost products if the Permittee prepared them from biosolids that meet the limits in Table 3 (*Part III.B.1.*), the Class A pathogen requirements in *Part III.B.2* and the vector attraction reduction requirements in *Part III.B.3*. The Director may notify the Permittee that additional record keeping is required if it is determined to be significant to protecting public health and the environment.
  2. **The Permittee is required** to keep the following information for at least 5 years:
    - a. Concentration of each heavy metal in Table 3 (*Part III.B.1.*).

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- b. A description of how the pathogen reduction requirements in *Part III.B.2* were met.
- c. A description of how the vector attraction reduction requirements in *Part III.B.3* were met.
- d. A description of how the management practices in *Part III.C* were met (if necessary).
- e. The following certification statement:

"I certify under the penalty of law, that the heavy metals requirements in *Part III.B.1*, the pathogen requirements in *Part III.B.2*, the vector attraction requirements in *Part III.B.3*, the management practices in *Part III.C*. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements, the vector attraction reduction requirements and the management practices have been met. I am aware that there are significant penalties for false certification including the possibility of imprisonment."

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

IV. STORM WATER REQUIREMENTS.

- A. 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.

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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, UAC R317-8-4.1(10)(d)*, and/or *40 CFR 503* utilizing sufficiently sensitive test methods unless other test procedures have been specified in this permit. Monitoring must be conducted according to the test procedures listed above unless another method is required under 40 CFR subchapters N or O. Sufficiently sensitive test method means: (1) The method minimum level (ML) is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or (2) The method has the lowest ML of the analytical methods approved under *40 CFR part 136* or required under *40 CFR chapter I, subchapter N or O* for the measured pollutant or pollutant parameter as per *40 CFR 122.44(i)(1)(iv)(A)*.
- 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 Permit Part V.B., 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.
- 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.

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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 (DWQ) via the 24-hour answering service (801) 536-4123.
  2. The following occurrences of noncompliance shall initially be reported by telephone to the DWQ via the 24-hour answering service 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. For other permit violations which will not endanger health or the environment, DWQ may otherwise be notified during business hours (801) 536-4300; 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*

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- J. Inspection and Entry The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
1. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
  2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;
  4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,
  5. The Permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

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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. 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 IV.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.

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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:
1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 122.29(b); or
  2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit nor to notification requirements under Subsection R317-8-4.1(15).
  3. The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. 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. A person is a duly authorized representative only if:

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- a. The authorization is made in writing by a person described above and submitted to the Director, and,
  - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
    - (1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
      - (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
      - (b) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
    - (2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or
    - (3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
      - (a) The chief executive officer of the agency, or
      - (b) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).
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.
  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:

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

- H. Penalties for Falsification of Reports. The *Act* provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.
- I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential.
- J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the Permittee of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under the *Act*.
- K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- L. Severability. The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.
- M. Transfers. This permit may be automatically transferred to a new Permittee if:
  - 1. The current Permittee notifies the Director at least 20 days in advance of the proposed transfer date;
  - 2. The notice includes a written agreement between the existing and new Permittee's containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
  - 3. The Director does not notify the existing Permittee and the proposed new Permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.
- N. State or Federal Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties

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- established pursuant to any applicable state law or regulation under authority preserved by Sections 19-5-117 and 510 of the *Clean Water 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, whole effluent toxicity (WET) limitations, a compliance date, a compliance schedule, a change in the whole effluent toxicity (biomonitoring) protocol, additional or modified numerical limitations, or any other conditions related to the control of toxicants if one or more of the following events occur;
1. Toxicity is detected, as per *Part I.C.3.a* and *b* of this permit, during the duration of this permit.
  2. The TRE results indicate that the toxicant(s) represent pollutant(s) or pollutant parameter(s) that may be controlled with specific numerical limits, and the Director concludes that numerical controls are appropriate.
  3. Following the implementation of numerical control(s) of toxicant(s), the Director agrees that a modified biomonitoring protocol is necessary to compensate for those toxicants that are controlled numerically.

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4. The TRE reveals other unique conditions or characteristics, which in the opinion of the permit issuing authority justify the incorporation of unanticipated special conditions in the permit.

VIII. DEFINITIONS

A. Wastewater.

1. The “7-day (and weekly) average”, other than for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria, and total coliform bacteria. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limitations. The calendar week, which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains Saturday.
2. The "30-day (and monthly) average," other than for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for *E. coli* bacteria, fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.
3. “Act,” means the *Utah Water Quality Act*.
4. “Acute toxicity” occurs when 50 percent or more mortality is observed for either test species at any effluent concentration (lethal concentration or “LC<sub>50</sub>”).
5. “Bypass,” means the diversion of waste streams from any portion of a treatment facility.
6. “Chronic toxicity” occurs when the IC<sub>25</sub> < 40% effluent. The XX% effluent is the concentration of the effluent in the receiving water, at the end of the mixing zone expressed as per cent effluent.
7. "IC<sub>25</sub>" is the concentration of toxicant (given in % effluent) that would cause a 25% reduction in mean young per female, or a 25% reduction in overall growth for the test population.
8. “Composite Samples” shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:
  - a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;

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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.
9. "CWA" means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
  10. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.
  11. "EPA," means the United States Environmental Protection Agency.
  12. "Director," means Director of the Division of Water Quality.
  13. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
  14. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
  15. "Severe Property Damage," means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
  16. "Upset," means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- B. Biosolids.
1. "Biosolids," means any material or material derived from sewage solids that have been biologically treated.
  2. "Dry Weight-Basis," means 100 percent solids (i.e. zero percent moisture).
  3. "Land Application" is the spraying or spreading of biosolids onto the land surface; the injection of biosolids below the land surface; or the incorporation of biosolids into the land so that the biosolids can either condition the soil or fertilize crops or vegetation grown in the soil. Land application includes distribution and marketing (i.e. the selling or giving away of the biosolids).



**PART VIII**  
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**BIOSOLIDS PERMIT NO. UTL-021440**

4. "Pathogen," means an organism that is capable of producing an infection or disease in a susceptible host.
5. "Pollutant" for the purposes of this permit is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or pathogenic organisms that after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food-chain, could on the basis of information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms.
6. "Runoff" is rainwater, leachate, or other liquid that drains over any part of a land surface and runs off the land surface.
7. "Similar Container" is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less.
8. "Total Solids" are the materials in the biosolids that remain as a residue if the biosolids are dried at 103° or 105° Celsius.
9. "Treatment Works" are either Federally owned, publicly owned, or privately owned devices or systems used to treat (including recycling and reclamation) either domestic sewage or a combination of domestic sewage and industrial waste or liquid manure.
10. "Vector Attraction" is the characteristic of biosolids that attracts rodents, flies mosquito's or other organisms capable of transporting infectious agents.
11. "Animals" for the purpose of this permit are domestic livestock.
12. "Annual Whole Sludge Application Rate" is the amount of sewage sludge (dry-weight basis) that can be applied to a unit area of land during a cropping cycle.
13. "Agronomic Rate is the whole sludge application rate (dry-weight basis) designed to: (1) provide the amount of nitrogen needed by the crop or vegetation grown on the land; and (2) minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.
14. "Annual Pollutant Loading Rate" is the maximum amount of a pollutant (dry-weight basis) that can be applied to a unit area of land during a 365-day period.
15. "Application Site or Land Application Site" means all contiguous areas of a users' property intended for sludge application.
16. "Cumulative Pollutant Loading Rate" is the maximum amount of an inorganic pollutant (dry-weight basis) that can be applied to a unit area of land.

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17. "Grit and Screenings" are sand, gravel, cinders, other materials with a high specific gravity and relatively large materials such as rags generated during preliminary treatment of domestic sewage at a treatment works and shall be disposed of according to *40 CFR 258*.
18. "High Potential for Public Contact Site" is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
19. "Low Potential for Public Contact Site" is the land with a low potential for contact by the public. This includes, but is not limited to, farms, ranches, reclamation areas, and other lands which are private lands, restricted public lands, or lands which are not generally accessible to or used by the public.
20. "Monthly Average" is the arithmetic mean of all measurements taken during the month.
21. "Volatile Solids" is the amount of the total solids in sewage sludge lost when the sludge is combusted at 550 degrees Celsius for 15-20 minutes in the presence of excess air.

**FACT SHEET AND STATEMENT OF BASIS  
MAGNA WATER RECLAMATION FACILITY  
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & REUSE  
UPDES PERMIT NUMBER: UT0021440  
UPDES BIOSOLIDS PERMIT NUMBER: UTL-021440  
MAJOR MUNICIPAL FACILITY**

**FACILITY CONTACTS**

Operator Name: Dallas Henline  
Position: Wastewater Operations Manager

Permittee: Magna Water District  
Facility Name: Magna Water Reclamation Facility  
Facility Location: 7650 West 2100 South  
Magna, Utah 84044

Mailing Address: PO Box 303  
Magna, Utah 84044

Telephone: (801) 864-3255

**DESCRIPTION OF FACILITY**

The Magna Water District owns and operates the Magna Water Reclamation Facility (MWRF) located in the northwest part of Salt Lake County, Utah and serving a population of over 33,000 in the Township of Magna, as well as small portions of West Valley City and Salt Lake City. MWRF collects and treats wastewater with a monthly average design flow of 4.0 million gallons per day (MGD) and a maximum daily design flow of 8.0 MGD. The domestic wastewater treatment at MWRF consists of 2 influent fine screens, followed by 2 grit removal traps, 3 influent lift pumps, 2 oxidation ditches, Alum injection for phosphorus removal, 3 secondary clarifiers, a chlorine contact chamber with 2 sections prior to the final effluent discharge to the C-7 Ditch via Outfall 002, which first began discharging in November 2021. Prior to the construction and operation of Outfall 002, the effluent discharged via Outfall 001 to Kersey Creek. Outfall 002 continues to be the primary discharge location while Outfall 001 remains onsite as a backup discharge location in case of an emergency situation. MWRF is currently in the process of implementing a tertiary treatment filtration system to meet Type I reuse requirements in order to provide customers with secondary water for irrigation purposes. The MWRF solids waste handling consists of a screw press facility on site with all biosolids either land applied or sent to an approved off-site disposal facility.

**SUMMARY OF CHANGES FROM PREVIOUS PERMIT**

There are only two proposed changes with this permit renewal. The first change is regarding the previously included Stormwater provisions, which have been removed as part of a Division of Water Quality (DWQ) programmatic separation of the previously combined UPDES permits. MWRF may now be required to apply for and obtain separate UPDES Industrial Storm Water Permit coverage under the UPDES MSGP

No. UTR000000, or an applicable exemption, as described further in the **STORMWATER** section of this Fact Sheet.

The second permit change is the addition of Reuse provisions including the effluent Reuse Outfall 001R and monitoring requirements as included in the permit and referenced in this Fact Sheet. MWRf plans to produce Type I Reuse water and the renewal permit will include provisions covering the Type I Reuse of the effluent. MWRf submitted a Secondary Effluent Reuse Plan to DWQ in August 2021 that was subsequently approved, as MWRf plans to provide secondary water for its customers during the irrigation seasons beginning in 2024-25. Therefore, Reuse provisions are being included in the permit as appropriate.

## **DISCHARGE INFORMATION**

### **DESCRIPTION OF DISCHARGE OUTFALLS**

MWRf has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis as required. Outfall 002 is the primary discharge location while Outfall 001 remains in place as a backup for emergency use. A description of the permitted discharging outfalls are as follows:

<u>Permitted Outfalls</u>	<u>Location and Description of Outfalls</u>
001	Located at latitude 40°43'30"N and longitude 112°04'26"W. The discharge is through a pipe east of the plant into Kersey Creek.
002	Located at latitude 40°43'43"N and longitude 112°04'04"W. The discharge is through a 42-inch pipe north of the plant into the C-7 Ditch.
<u>Outfall Number</u>	<u>Location of Effluent Reuse Discharge Outfall</u>
001R	Located at latitude 40°43'38"N and longitude 112°04'26"W. The discharge is from the reuse pump station into the secondary irrigation system.

### **RECEIVING WATERS AND STREAM CLASSIFICATION**

Discharges from MWRf flow directly into either Kersey Creek via Outfall 001, which is tributary to the C-7 Ditch, or Outfall 002 which discharges directly into the C-7 Ditch and ultimately to the Great Salt Lake. Kersey Creek has designated beneficial uses classified as 2B, 3D according to *Utah Administrative Code (UAC) R317-2-12.7*. The C-7 Ditch, which was determined by DWQ to be a drainage ditch, does not have designated beneficial uses or downstream agricultural users. Therefore, per *UAC R317-2-13.10*, the presumptive beneficial uses for all drainage canals and ditches statewide are 2B and 3E and the applicable designated beneficial uses for both receiving waters are collectively as follows:

- 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 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 3E -- Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.
- Class 5 -- The Great Salt Lake. Protected for primary and secondary contact recreation, aquatic wildlife, and mineral extraction.

### **TOTAL MAXIMUM DAILY LOAD (TMDL) REQUIREMENTS**

The receiving waters, which are included as part of Lee Creek watershed from the Great Salt Lake to headwaters near 2100 South (UT16020204-036\_00), supports all designated uses according to the Utah 2022 303(d) Water Quality Assessment Report, "Final 2022 Integrated Report on Water Quality". Therefore, no additional monitoring requirements or parameters of concern have been included in this permit as a result of any TMDL requirements.

### **BASIS FOR EFFLUENT LIMITATIONS**

In accordance with regulations promulgated in *40 Code of Federal Regulations (CFR) Part 122.44* and in *Utah Administrative Code (UAC) R317-8-4.2*, effluent limitations are derived from technology-based effluent limitations guidelines, Utah Secondary Treatment Standards (*UAC R317-1-3.2*) or Utah Water Quality Standards (*UAC R317-2*) as applicable. In cases where multiple limits have been developed, those that are more stringent apply. In cases where no limits or multiple limits have been developed, Best Professional Judgment (BPJ) of the permitting authority may be used where applicable. Best Professional Judgment or BPJ, refers to a discretionary, best professional decision made by the permit writer based upon precedent, prevailing regulatory standards or other relevant information.

Permit limits can also be derived from the Wasteload Analysis (WLA), which incorporates Secondary Treatment Standards, Water Quality Standards (WQS), including any applicable TMDL impairments as appropriate, Antidegradation Review (ADR) and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were completed as appropriate. An ADR Level I review was performed and concluded that an ADR Level II review was not required this time since there are no proposed increases in flow or concentrations from the existing discharge operations. The WLA indicates that the effluent limitations will be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The WLA and ADR are attached as an addendum to this Fact Sheet.

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, as found in *UAC R317-1-3.2*. While the Total ammonia (as Nitrogen), total residual chlorine (TRC), dissolved oxygen (DO) and Whole Effluent Toxicity (WET) Biomonitoring limitations are based upon the current WLA. The oil & grease limitation is based upon best professional judgment of the permitting authority (BPJ) and is consistent with other similar UPDES permits statewide. The permittee is expected to be able to continue complying with the permit effluent limitations.

Type I Reuse Effluent Limitations are based on UAC R317-11-4.

### **Reasonable Potential Analysis**

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes defined in the RP Guidance: Outcome A, B, C, or D. These Outcomes provide a frame work for what routine monitoring or effluent limitations are required to be included in the permit.

A qualitative RP analysis was performed on the applicable metals constituents from the MWRf discharge data over the past five years. Initial screening for metals values that were submitted through the discharge monitoring reports showed that a closer look at any of the metals is not needed since all of the semi-annual metals concentration results were either below the appropriate method detection limits and/or below the applicable water quality standards. Therefore, no RP currently exists at MWRf and a quantitative RP analysis was not necessary at this time. The result of the RP analysis was; *Outcome C: No new effluent limitation, routine monitoring requirements maintained as they are in the permit.* A copy of the RP analysis summary is included as an addendum to this Fact Sheet.

The permit limitations are as follows:

Parameter	Outfalls 001 and 002 Effluent Limitations *a				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD	4.0	--	--	--	--
BOD <sub>5</sub> , mg/L	25	35	--	--	--
BOD <sub>5</sub> Min. % Removal	85	--	--	--	--
TSS, mg/L	25	35	--	--	--
TSS Min. % Removal	85	--	--	--	--
Total Ammonia (as N), mg/L	7.0	--	--	--	30
TRC, mg/L;					
Summer (Jul-Aug-Sept)	--	--	--	--	17.7
Fall (Oct-Nov-Dec)	--	--	--	--	2.7
Winter (Jan-Feb-Mar)	--	--	--	--	1.3
Spring (Apr-May-Jun)	--	--	--	--	2.7
<i>E. coli</i> , No./100mL	126	157	--	--	--
WET, Acute Biomonitoring (001 & 002)	--	--	--	--	LC <sub>50</sub> > 100% effluent
WET, Chronic Biomonitoring (002 only)	--	--	--	--	IC <sub>25</sub> > 40% effluent
Oil & Grease, mg/L	--	--	--	--	10
pH, Standard Units	--	--	--	6.5	9
DO, mg/L	--	--	--	5.0	--
Total Phosphorus, mg/L;					
Effective January 1, 2021	--	--	1.8	--	--
Effective January 1, 2025	--	--	1.0	--	--

The permit limitations for Outfall 001R (Reuse) are:

Parameter	Outfall 001R Effluent Limitations *a, *p, *q				
	Max Monthly Average	Max Weekly Median	Max Daily Average	Minimum	Maximum
Turbidity, NTU *p	--	--	2	--	5
TRC, mg/L *m, *q	--	--	--	1	--
BOD <sub>5</sub> , mg/L	10	--	--	--	--
<i>E. coli</i> , No/100mL *o	--	ND	--	--	9
pH, Standard Units	--	--	--	6.0	9.0

### SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are similar as in the previous permit with the exception that this permit now also includes Reuse Outfall monitoring. The permit will require reports to be submitted monthly and annually, as applicable, on Discharge Monitoring Report (DMR) forms, or via NetDMR due 28 days after the end of the monitoring period. Effective January 1, 2017, monitoring results must be submitted using NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for biomonitoring must be attached to the biomonitoring DMR. Lab sheets for metals and toxic organics must also be attached to the DMRs.

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD <sub>5</sub> , Influent *d	2 x Week	Composite	mg/L
Effluent	2 x Week	Composite	mg/L
TSS, Influent *d	2 x Week	Composite	mg/L
Effluent	2 x Week	Composite	mg/L
<i>E. coli</i>	2 x Week	Grab	No./100mL
pH	Daily	Grab	SU
Total Ammonia (as N)	Weekly	Composite	mg/L
DO	Weekly	Grab	mg/L
WET – Biomonitoring *e	Quarterly		
Ceriodaphnia - Acute	1 <sup>st</sup> & 3 <sup>rd</sup> Quarter	Composite	Pass/Fail
Ceriodaphnia - Chronic	2 <sup>nd</sup> & 4 <sup>th</sup> Quarter	Composite	Pass/Fail
Fathead Minnows - Acute	2 <sup>nd</sup> & 4 <sup>th</sup> Quarter	Composite	Pass/Fail
Fathead Minnows - Chronic	1 <sup>st</sup> & 3 <sup>rd</sup> Quarter	Composite	Pass/Fail
TRC, mg/L	Monthly	Grab	mg/L
Oil & Grease *f	When Sheen Observed	Grab	mg/L
Orthophosphate, (as P) Effluent	Monthly	Composite	mg/L
Phosphorus, Total Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO <sub>3</sub>	Monthly	Composite	mg/L

Nitrite, NO <sub>2</sub>	Monthly	Composite	mg/L
Metals, Influent *g	2 x Year	Composite	mg/L
Effluent	2 x Year	Composite	mg/L
Organic Toxics, Influent Effluent *h	1 <sup>st</sup> , 3 <sup>rd</sup> & 5 <sup>th</sup> year of the permit cycle	Grab/Composite	mg/L

The following is a summary of the Type I reuse self-monitoring and reporting requirements:

Reuse Outfall 001R Self-Monitoring and Reporting Requirements *a *n			
Parameter	Frequency	Sample Type	Units
Total Flow, *b, *c	Continuous	Recorder	MGD
Turbidity	Continuous	Recorder	mg/L
TRC *m, *q	Daily	Recorder	mg/L
BOD <sub>5</sub>	Weekly	Composite	mg/L
<i>E. coli</i>	Daily	Grab	No./100mL
pH	Daily	Grab	SU

- \*a See *Part VIII* of this permit, for definition of terms.
- \*b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- \*c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- \*d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
- \*e The acute Ceriodaphnia will be tested during the 1<sup>st</sup> and 3<sup>rd</sup> quarters and the acute fathead minnows will be tested during the 2<sup>nd</sup> and 4<sup>th</sup> quarters. The chronic Ceriodaphnia will be tested during the 2<sup>nd</sup> and 4<sup>th</sup> quarters and the chronic fathead minnows will be tested during the 1<sup>st</sup> and 3<sup>rd</sup> quarters.
- \*f Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- \*g See Metals Monitoring table in *Part II*. of this permit.
- \*h Testing shall be performed in the first, third and fifth year of the permit cycle. A list of the organics to be tested can be found in *40CFR122 appendix D table II*.
- \*m The facility is required to disinfect to destroy, inactivate or remove pathogenic microorganisms by chemical, physical or biological means. Disinfection may be accomplished by chlorination, ozonation, or other chemical disinfectants, UV radiation. Or other approved processes. Chlorine residual is recommended but no longer required. Sampling not required if chlorination is not being used. The total residual chlorine shall be measured continuously and shall at no time be less than 1.0 mg/l after 30 minutes contact time at peak flow. If an alternative disinfection process is used, it must be demonstrated to the satisfaction of the Director that the alternative process is comparable to that achieved by chlorination with a 1 mg/l residual after 30 minutes contact time. If the effectiveness cannot be related to chlorination, then the effectiveness of the alternative disinfection process must be demonstrated by testing for pathogen destruction as determined by



the Director. A 1 mg/l total chlorine residual is recommended after disinfection and before the treated effluent goes into the distribution system.

- \*n Reuse monitoring results obtained during the previous month for reuse discharges shall be summarized for each month and reported on a Monthly Operational Report, or by NetDMR post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period.
- \*o The weekly median E. coli concentration shall be non-detect (ND).
- \*p An alternative disposal option or diversion to storage must be automatically activated if turbidity exceeds the maximum instantaneous limit for more than 5 minutes, or chlorine residual drops below the instantaneous required value for more than 5 minutes, where chlorine disinfection is used.
- \*q The total residual chlorine shall be measured continuously and shall at no time be less than 1.0 mg/l after 30 minutes contact time at peak flow. If an alternative disinfection process is used, it must be demonstrated to the satisfaction of the Director that the alternative process is comparable to that achieved by chlorination with a 1 mg/l residual after 30 minutes contact time. If the effectiveness cannot be related to chlorination, then the effectiveness of the alternative disinfection process must be demonstrated by testing for pathogen destruction as determined by the Director. A 1 mg/l total chlorine residual is recommended after disinfection and before the treated effluent goes into the distribution system.

#### 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 (Compliance Schedule for a Particular Parameter if necessary)

#### **BIOSOLIDS**

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

**DESCRIPTION OF TREATMENT AND DISPOSAL**

The MWRF facility treats wastewater in oxidation ditches and sends it through clarifiers to separate the solids from waste stream. Solids are stabilized in the oxidation ditches with a mean cell residences time of about 50 days. Wasted sludge is then sent to a screw press for dewatering that discharges to a trailer used to transport the biosolids offsite for final disposal.

The solids dewatering building containing the screw press was constructed in one of two 1.4 acre drying beds. The old beds are no longer in service but are utilized to store equipment and material at the facility site and reduce impacts on storm water at the site. The facility also has ten 0.12 acre drying beds from decades ago that can be used in the same way. The beds have been used to store/stage biosolids for land application in the past, but currently they are only used to store biosolids when they can't transport deliver to ET Technologies.

Currently, MWRF sends all biosolids to ET Technologies for further treatment and use at the Salt Lake Valley Solid Waste Management Facility. ET Technologies mixes the biosolids petroleum cleanup soils, sump and interceptor waste, and other mixed waste, then stabilize it in cells until it can be used for cover at the landfill.

In the past, MWRF has land applied the biosolids at a mine reclamation site, but the receiving facility started to be concerned with the level of plastic that was getting through the primary screening and making its way through to the biosolids. Since that time the MWRF has replaced and upgraded the screening system, eliminating plastic from the biosolids. The MWRF has not commenced land application again yet, but is ready to do so when needed in the future.

**SELF-MONITORING REQUIREMENTS**

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

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

Annually MWRF disposes of approximately 500 DMT of biosolids and would therefore need to sample four times a year. However, in 2018 MWRF petitioned DWQ for a reduction in sampling frequency to once per year following Part II.B.4.d of the permit. Subsequently, DWQ approved this reduction as of October 2018. Accordingly, the Permittee will sample once per year unless they chose to land apply, which will then resume to sampling four times per year as required.

Landfill Monitoring

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

**BIOSOLIDS LIMITATIONS**

Heavy Metals

Class A Biosolids for Home Lawn and Garden Use

The intent of the heavy metals regulations of Table 3, *40 CFR 503.13* is to ensure the heavy metals do not build up in the soil in home lawn and gardens to the point where the heavy metals become phytotoxic to plants. The permittee will be required to produce an information sheet (see *Part III. C.* of the permit) to made available to all people who are receiving and land applying Class A biosolids to their lawns and gardens. If the instructions of the information sheet are followed to any reasonable degree, the Class A biosolids will be able to be land applied year after year, to the same lawns and garden plots without any deleterious effects to the environment. The information sheet must be provided to the public, because the permittee is not required, nor able to track the quantity of Class A biosolids that are land applied to home lawns and gardens.

Class A Requirements With Regards to Heavy Metals

If the biosolids are to be applied to a lawn or home garden, the biosolids shall not exceed the maximum heavy metals in Table 3 below. If the biosolids do not meet these requirements, the biosolids cannot be sold or given away for applications to home lawns and gardens.

Class B Requirements for Agriculture and Reclamation Sites

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

Class B Requirements With Regards to Heavy Metals

If the biosolids are to be land applied to agricultural land, forest land, a public contact site or a reclamation site it must meet at all times:

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

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

Tables 1, 2, and 3 of Heavy Metal Limitations

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits <sup>1</sup> , (mg/kg)	CPLR <sup>2</sup> , (mg/ha)	Pollutant Conc. Limits <sup>3</sup> (mg/kg)	APLR <sup>4</sup> , (mg/ha-yr)
Total Arsenic	75	41	41	2.0
Total Cadmium	85	39	39	1.9
Total Copper	4300	1500	1500	75
Total Lead	840	300	300	15
Total Mercury	57	17	17	0.85

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits <sup>1</sup> , (mg/kg)	CPLR <sup>2</sup> , (mg/ha)	Pollutant Conc. Limits <sup>3</sup> (mg/kg)	APLR <sup>4</sup> , (mg/ha-yr)
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	21
Total Selenium	100	100	100	5.0
Total Zinc	7500	2800	2800	140
1, If the concentration of any 1 (one) of these parameters exceeds the Table 1 limit, the biosolids cannot be land applied or beneficially used in any way.				
2, CPLR - Cumulative Pollutant Loading Rate - The maximum loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially used on agricultural, forestry, or a reclamation site.				
3, If the concentration of any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids cannot be land applied or beneficially used in on a lawn, home garden, or other high potential public contact site. If any 1 (one) of these parameters exceeds the Table 3 limit, the biosolids may be land applied or beneficially reused on an agricultural, forestry, reclamation site, or other high potential public contact site, as long as it meets the requirements of Table 1, Table 2, and Table 4.				
4, APLR - Annual Pollutant Loading Rate - The maximum annual loading for any 1 (one) of the parameters listed that may be applied to land when biosolids are land applied or beneficially reused on agricultural, forestry, or a reclamation site, when they do not meet Table 3, but do meet Table 1.				

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

Pathogens

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

Pathogen Control Class	
503.32 (a)(1) - (5), (7), (8), Class A	503.32 (b)(1) - (5), Class B
B Salmonella species –less than three (3) MPN <sup>1</sup> per four (4) grams total solids (DWB) <sup>2</sup> or Fecal Coliforms – less than 1,000 MPN per gram total solids (DWB).	Fecal Coliforms – less than 2,000,000 MPN or CFU <sup>3</sup> per gram total solids (DWB).
503.32 (a)(6) Class A—Alternative 4	
B Salmonella species –less than three (3) MPN per four (4) grams total solids (DWB) or less than 1,000 MPN Fecal Coliforms per gram total solids (DWB), And - Enteric viruses –less than one (1) plaque forming unit per four (4) grams total solids (DWB) And - Viable helminth ova –less than one (1) per four (4) grams total solids (DWB)	
1 - MPN – Most Probable Number	

Pathogen Control Class	
503.32 (a)(1) - (5), (7), (8), Class A	503.32 (b)(1) - (5), Class B
2 - DWB – Dry Weight Basis	
3 - CFU – Colony Forming Units	

Class A Requirements for Home Lawn and Garden Use

If biosolids are land applied to home lawns and gardens, the biosolids need to be treated by a specific process to further reduce pathogens (PFRP), and meet a microbiological limit of less than less than 3 most probable number (MPN) of *Salmonella* per 4 grams of total solids (or less than 1,000 most probable number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids. At this time the MWRF does not intend to distribute biosolids to the public for use on the lawn and garden and thus is not required meet Class A Biosolids requirements currently.

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

Pathogens Class B

If biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP). At this time MWRF does not intend to distribute bulk biosolids for land application and thus is not required meet Class B Biosolids requirements currently.

Vector Attraction Reduction (VAR)

If the biosolids are land applied, MWRF will be required to meet VAR through the use of a method of listed under *40 CFR 503.33*. At this time MWRF does not intend to distribute biosolids to the public for beneficial use, and will be disposing of them in a landfill. Under *40 CFR 503.33(b)(11)*

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

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

Landfill Monitoring

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

Record Keeping

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

Reporting

MWRF must report annually as required in *40 CFR 503.18*. This report is to include the results of all monitoring performed in accordance with *Part III.B* of the permit, information on management practices,

biosolids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

**MONITORING DATA**

METALS MONITORING DATA

MWRF has been required to sample for metals at least once a year since 2018. The metals monitoring data is summarized in the table below.

MWRF Metals Monitoring Data:

MWRF Metals Monitoring Data (2012 – 2022)			
Parameter	Table 3, mg/kg (Exceptional Quality)	Average, mg/kg	Maximum, mg/kg
Arsenic	41.0	20.3	28.4
Cadmium	39.0	0.8	2.8
Copper	1,500.0	415.7	565.0
Lead	300.0	12.7	28.1
Mercury	17.0	0.8	1.5
Molybdenum	75.0	9.5	11.1
Nickel	400.0	12.0	17.2
Selenium	36.0	11.7	28.2
Zinc	2,800.0	468.8	632.0

The results indicate that the biosolids produced at MWRF consistently meet the requirements to be considered exceptional quality with regards to pollutants. The option to reduce or eliminate metals monitoring was evaluated by DWQ while MWRF continues to take the biosolids to ET Technologies for disposal. In *40 CFR Part 503.16(J)(a)(2)*, a facility may request and be allowed to reduce the monitoring frequency for pollutants after at least two years of monitoring has shown they meet the *40 CFR Part 503.13(b)Table 3* limits. MWRF submitted a formal request letter to DWQ which was subsequently evaluated and approved in October 2018. Therefore, the MWRF will only need to sample once per year instead of four times per year.

**STORM WATER**

Storm water permits may be required based on the types of activities occurring on site. As mentioned previously, Storm Water provisions have been removed from this permit as part of a DWQ programmatic separation of the previously combined UPDES permits. Previously, storm water discharge requirements and coverage were combined in this individual UPDES permit. The permits have now been separated to provide consistency among permittees, electronic reporting for storm water discharge monitoring reports, and increase flexibility to changing site conditions. MWRF may now be required to apply for and obtain separate UPDES Industrial Storm Water Permit coverage under the Multi Sector General Permit (MSGP) UPDES No. UTR000000, or an applicable exemption demonstration.

Permit coverage under the MSGP for Storm Water Discharges from Industrial Activities is likely required based on the Standard Industrial Classification (SIC) code for and size of the facility. If the facility is not already covered, it has 30 days from when this permit is issued to either submit the appropriate Notice of Intent (NOI) for the MSGP, or to submit the applicable exemption documentation.

Additionally, 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 pretreatment requirements in the permit are to assist DWQ in understanding the sources discharging to the Magna Water District Publicly Owned Treatment Works (POTW). Staff with Magna Water District are currently gaining knowledge and understanding regarding implementing an Approved POTW Pretreatment Program (Program).

It is the desire of DWQ that a Program be approved and implemented by Magna Water District within the next five years. This will require the permit to be modified, although this is considered a minor modification, which will not be public noticed. The requirement to develop a Program is due to Magna Water District having a Significant Industrial User (SIU) with additional Industrial Users that may need to be permitted.

The requirement to have Magna Water District develop a Program is due to a Categorical Industrial User, which is an SIU, in the service area. Currently, DWQ is permitting SKF, which is required to meet the effluent guidelines in 40 CFR 428 due to process wastewater being discharged to the Magna Water District POTW. Also, there are other Industrial Users that if process wastewater was discharged from to facilities would be required to meet other categorical standards found in 40 CFR; although, these facilities are currently zero discharging facilities. The Northrop Grumman facility also discharges process wastewater to the Magna Water District. Although this wastewater is adequately regulated by the Magna Water District; therefore, a permit is not required to be issued by DWQ.

DWQ encourages the Magna Water District Staff to seek out opportunities to attend training locally and nationally regarding the Program to assist with understanding how to implement the Program. Also, staff should read the guidance manuals for implementing the Program developed by EPA.

Although Magna Water District is not implementing an approved Program, any wastewater discharges to the POTW are subject to Federal, State and local regulations. Pursuant to Section 307 of the Clean Water Act, Magna Water District 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. This includes although is not limited to notifying DWQ of Industrial Users discharging to the POTW that could violate a Pretreatment Standard or Requirement.

An industrial waste survey (IWS) is required of Magna Water District, as stated in Part II of the permit. The IWS is to assess the needs of Magna Water District regarding pretreatment assistance. If an Industrial User begins to discharge or an existing Industrial User changes their discharge, Magna Water District must resubmit an IWS within sixty days following the introduction or change as stated in Part II of the permit.

The permit requires influent and effluent monitoring of metals and organic toxics. The organic toxics are listed in UAC R317-8-7.5. Metals monitoring is required twice a year and organic toxics monitoring is required in the 1<sup>st</sup>, 3<sup>rd</sup> and 5<sup>th</sup> year of the permit cycle. For more information regarding sample requirements related to the pretreatment requirements see Part II of the permit.

It is required that Magna Water District submit for review and approval any Local Limits that are developed to DWQ for review. If Local Limits are developed, it is required that Magna Water District 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 in 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.

Since the Permittee is a major municipal discharger, the renewal permit will once again require whole effluent toxicity (WET) testing. MWRF has had no WET testing failures over the past 5 years. Therefore, the Biomonitoring requirements shall remain the same as the previous permit requirements. Acute and Chronic toxicity testing shall be conducted using one species, alternating each quarter between Ceriodaphnia dubia and Pimephales promelas (fathead minnows) for each toxicity test as outlined above in the effluent monitoring tables. Prior to the installation of Outfall 002 in 2020, MWRF was only required to conduct Acute toxicity testing and that will still be the case for any potential discharges from Outfall 001, but MWRF is once again required to perform both Acute and Chronic toxicity testing at Outfall 002 in accordance with DWQ's updated WET policy entitled, *Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control, dated February 2018*. Specifically, as part of the 'Great Salt Lake WET Policy' section of the aforementioned updated DWQ WET policy, MWRF's Outfall 002 discharges to a severely habitat-limited waters (Class 3E), which then discharges to the Great Salt Lake, requiring both Acute and Chronic WET testing in this case. The renewal permit will also contain the standard requirements for accelerated testing upon failure of a WET test, a Preliminary Toxicity Investigation (PTI) and Toxicity Reduction Evaluation (TRE) as necessary, and a toxicity limitation re-opener provision as appropriate.

### **PERMIT DURATION**

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

Drafted and Reviewed by  
Jeff Studenka, Discharge Permit Writer  
Daniel Griffin, Biosolids  
Jennifer Robinson, Pretreatment  
Lonnie Shull, Biomonitoring  
Jennifer Berjikian, Reuse  
Jordan Bryant, Storm Water  
Jim Harris, TMDL/Watershed  
Suzan Tahir, Wasteload Analysis/ADR  
Utah Division of Water Quality, (801) 536-4300  
October 30, 2023



**PUBLIC NOTICE INFORMATION (updated January 10, 2024)**

Began: December 8, 2023

Ended: January 8, 2024

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

The Public Notice of the draft UPDES Permit was published on DWQ website for at least 30 days as required.

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. No comments or requests were received during the public notice period. Therefore, DWQ staff recommends reissuance of the UPDES Permit as drafted.

**ADDENDUM TO FSSOB**

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

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# **ATTACHMENT 1**

## *Industrial Waste Survey*

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# Industrial Pretreatment Wastewater Survey



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

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

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

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

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

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

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

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

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

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

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

1. A discharge which creates a fire or explosion hazard in the collection system.
2. A discharge which creates toxic gases, vapor or fumes in the collection system.
3. A discharge of solids or thick liquids which creates flow obstructions in the collection system.
4. An acidic discharge (low pH) which causes corrosive damage to the collection system.
5. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause problems in the collection system or at the waste treatment facility.
6. Waste haulers are prohibited from discharging without permission. (No midnight dumping!)

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

## An Industrial Waste Survey consists of:

### Step 1: Identify Industrial Users

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

Sources for the list:

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

Split the list into two groups:

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

### Step 2: Preliminary Inspection

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

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

### Step 3: Informing the State

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

**Jennifer Robinson**

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

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

**PRELIMINARY INSPECTION FORM**

**INSPECTION DATE** \_\_\_ / \_\_\_ /

**Name of Business** \_\_\_\_\_ **Person Contacted** \_\_\_\_\_  
**Address** \_\_\_\_\_ **Phone Number** \_\_\_\_\_

**Description of Business** \_\_\_\_\_

**Principal product or service:** \_\_\_\_\_

**Raw Materials used:** \_\_\_\_\_

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

**Is production subject to seasonal variation?** [ ] yes [ ] no

**If yes, briefly describe seasonal production cycle.**

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

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

**Wastes are discharged to (check all that apply):**

- |                      |                  |
|----------------------|------------------|
| [ ] Sanitary sewer   | [ ] Storm sewer  |
| [ ] Surface water    | [ ] Ground water |
| [ ] Waste haulers    | [ ] Evaporation  |
| [ ] Other (describe) |                  |

**Name of waste hauler(s), if used**

**Is a grease trap installed?** Yes No

**Is it operational?** Yes No

**Does the business discharge a lot of process wastewater?**

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

**Does the business do any of the following:**

- |   |  |
|---|--|
| <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.

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Inspector

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Waste Treatment Facility

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

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

**Phone: (801) 536-4383  
Fax: (801) 536-4301**

**E-Mail: [jenrobinson@utah.gov](mailto:jenrobinson@utah.gov)**



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

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**ATTACHMENT 2**

*Effluent Monitoring Data Summary*  
*(DWQ-2023-124855)*



MWD Effluent Monitor

	TP	Ammonia		Flow		p
Year	Avg	Avg	Max	Avg	Max	Min
2019	1.825	5.75	20	3.02	4.894	6.6
2020	2.03	2.75	17	2.785	4.102	7
2021	1.56	5.98	33	2.59	3.605	6.1
2022	1.64	1.23	3.5	2.504	2.947	6.8
2023	1.56	0.93	5.4	2.851	3.461	6.8

2019	TP	Ammonia		Flow		p
Month	Avg	Avg	Max	Avg	Max	Min
Jan	2	2	2	2.631	2.919	6.6
Feb	2	4	4	2.69	2.938	7.5
March	2	1	1	2.902	3.952	7.6
April	2	2	2	3.119	3.657	7.7
May	2	1	1	2.971	3.454	7.7
June	1	1	1	3.124	3.453	7.6
July	2	1	1	3.778	4.894	7.7
August	2	1	1	3.604	4.562	7.5
September	2	14	16	3.127	3.792	7.6
October	1.6	19	20	2.707	3.112	7.4
November	1.6	18	19	2.686	3.542	7.6
December	1.7	5	11	2.912	3.485	7.3
<b>Average</b>	<b>1.825</b>	<b>5.75</b>	<b>20</b>	<b>3.0209</b>	<b>4.894</b>	<b>6.6</b>

2020	TP	Ammonia		Flow		p
Month	Avg	Avg	Max	Avg	Max	Min

Month	Avg	Avg	Max	Avg	Max	p
Jan	1.9	15	17	2.749	3.033	7.6
Feb	1.5	1	1	2.926	3.269	7.4
March	2.8	0	0	2.876	3.214	7.4
April	2.1	0.2	0.2	3.048	4.102	7.3
May	2.1	3.6	15	3.412	3.809	7.6
June	2.8	5.2	12.5	2.819	3.746	7.5
July	1.9	1.1	3.1	2.723	2.854	7
August	2.1	0.5	0.9	2.712	2.975	7
September	2.3	1	3	2.627	2.809	7.3
October	1.5	0.4	0.7	2.567	2.9	7.6
November	1.4	1.3	2.2	2.506	2.728	7
December	2	3.8	8	2.458	2.67	7.1
<b>Average</b>	<b>2.0333333</b>	<b>2.7583333</b>	<b>17</b>	<b>2.7853</b>	<b>4.102</b>	<b>7</b>

2021	TP	Ammonia		Flow		p
Month	Avg	Avg	Max	Avg	Max	Min
Jan	1.8	18.7	24.5	2.366	2.57	6.1
Feb	1.2	29	33	2.457	2.671	6.8
March	1.6	16.4	29	2.478	2.752	6.9
April	0.82	0.4	0.8	2.84	3.457	6.5
May	1.3	0.8	2	2.599	3.372	6.6
June	2.1	0.5	1.4	2.578	2.712	6.7
July	1.9	0.3	0.5	2.666	2.795	6.8
August	1	0.6	0.8	2.727	3.071	6.9
September	1.6	1.5	1.9	2.573	2.746	6.9
October	1.5	1.5	1.8	2.683	3.605	6.9
November	1.6	1.3	2.1	2.575	2.792	6.9
December	2.3	0.8	1.8	2.541	2.846	6.9
<b>Average</b>	<b>1.56</b>	<b>5.9833333</b>	<b>33</b>	<b>2.5903</b>	<b>3.605</b>	<b>6.1</b>

2022	TP	Ammonia		Flow		p
Month	Avg	Avg	Max	Avg	Max	Min
Jan	1.6	0.5	0.9	2.568	2.872	7
Feb	1.5	0.6	0.9	2.428	2.626	7

March	1.3	1.8	2.3	2.525	2.947	6.8
April	1.6	1.5	2.1	2.451	2.701	7.2
May	1.2	0.7	1.5	2.419	2.614	6.9
June	1	1	1.9	2.477	2.614	7.1
July	1.7	1.4	2.1	2.554	2.676	6.8
August	1.4	1.1	1.5	2.626	2.88	7.2
September	1.7	1.3	2.2	2.458	2.605	7.1
October	1.6	1.6	1.8	2.449	2.822	6.9
November	1.5	1.6	2.5	2.49	2.83	7.2
December	3.6	1.7	3.5	2.606	2.909	7.1
<b>Average</b>	<b>1.6416667</b>	<b>1.2333333</b>	<b>3.5</b>	<b>2.5043</b>	<b>2.947</b>	<b>6.8</b>

2023	TP	Ammonia		Flow		p
Month	Avg	Avg	Max	Avg	Max	Min
Jan	1.6	1	1	2.941	3.355	6.8
Feb	1.4	0.9	1.9	2.706	3.014	7.1
March	1.4	0.2	0.3	2.914	3.142	7.2
April	1	0.9	1.6	3.031	3.454	7.2
May	1.6	0.4	0.6	2.796	3.007	7.3
June	2	0.3	0.4	2.773	2.947	7.2
July	2	0.8	1.3	2.78	3.05	7.3
August	1.7	1.9	5.4	2.967	3.461	7.2
September	1.4	2	2	2.756	2.899	7
October						
November						
December						
<b>Average</b>	<b>1.5666667</b>	<b>0.9333333</b>	<b>5.4</b>	<b>2.8516</b>	<b>3.461</b>	<b>6.8</b>

ing Data Summary Table (2019-2023)

H	DO	TRC	<i>E. coli</i>		BOD5		TSS	
Max	Avg	Avg	Avg	Max	Avg	Max	Avg	Max
7.9		0.75	8	109	6	20	5	21
8.6	5.9	0.67	10	165	7	20	5	44
8.1	6.9	0.75	7	83	8	41	8	88
7.5	7.8	1	3	18	8	18	6	20
7.6	8	0.78	3	38	7	23	7	29

H	DO	TRC	<i>E. coli</i>		BOD5		TSS	
Max	Avg	Avg	Avg	Max	Avg	Max	Avg	Max
7.7		0.7	2	25	6	8	5	6
7.9		0.5	8	15	6	7	5	6
7.8		0.7	1	1	6	9	5	10
7.9		0.8	33	109	5	7	6	2
7.9		0.7	14	31	6	6	4	5
7.9		0.8	3	9	5	7	5	12
7.8		0.8	2	6	8	20	5	14
7.8		0.8	9	16	4	4	6	21
7.6		0.8	5	11	7	13	5	6
7.8		0.8	2	4	6	13	5	7
7.8		0.8	3	16	7	11	6	10
7.7		0.8	10	32	5	6	5	8
<b>7.9</b>		<b>0.75</b>	<b>7.6667</b>	<b>109</b>	<b>5.9167</b>	<b>20</b>	<b>5.1667</b>	<b>21</b>

H	DO	TRC	<i>E. coli</i>		BOD5		TSS	
Max	Avg	Avg	Avg	Max	Avg	Max	Avg	Max

IVIAL	AVG	AVG	AVG	IVIAL	AVG	IVIAL	AVG	IVIAL
7.7	6	0.8	41	165	12	20	11	44
7.9	6	0.7	8	27	5	5	5	13
7.6	6	0.7	8	19	5	8	5	13
7.6	6	0.7	14	38	6	8	5	8
7.8	6	0.6	12	48	6	8	4	5
8.3	6	0.7	8	18	9	16	6	9
7.4	6	0.6	12	32	7	13	5	7
7.3	6	0.6	3	12	6	9	4	5
8.6	6	0.7	3	9	5	6	4	4
8.1	6	0.6	2	4	5	6	4	7
7.9	6	0.6	5	9	6	7	6	8
7.4	5	0.8	5	19	6	10	6	10
<b>8.6</b>	<b>5.9167</b>	<b>0.675</b>	<b>10.083</b>	<b>165</b>	<b>6.5</b>	<b>20</b>	<b>5.4167</b>	<b>44</b>

H	DO	TRC	<i>E. coli</i>		BOD5		TSS	
Max	Avg	Avg	Avg	Max	Avg	Max	Avg	Max
7.4	2	0.7	1	2	9	21	11	16
7.3	6	0.7	10	32	15	23	16	29
7.4	7	0.7	16.6	83	9	21	13	32
8.1	7	0.6	3	7	8	17	6	8
7	7	0.7	5	15	5	6	5	6
7.2	8	0.7	10	18	6	7	5	6
7.3	8	0.8	7	16	7	8	5	7
7.6	7	0.7	7	15	5	5	5	7
7.4	8	0.8	7	36	7	21	4	6
7.2	8	0.7	10	27	14	41	18	88
7.3	8	1.1	1	2	6	10	4	6
7.5	7	0.9	5	20	7	14	5	8
<b>8.1</b>	<b>6.9167</b>	<b>0.7583</b>	<b>6.8833</b>	<b>83</b>	<b>8.1667</b>	<b>41</b>	<b>8.0833</b>	<b>88</b>

H	DO	TRC	<i>E. coli</i>		BOD5		TSS	
Max	Avg	Avg	Avg	Max	Avg	Max	Avg	Max
7.5	8	1	3	8	5	7	5	9
7.2	8	0.9	3	6	7	17	5	10



7.4	8	1	2	3	6	8	5	10
7.4	7	1	1	3	5	7	5	8
7.3	8	1.1	3	9	8	14	7	10
7.5	8	0.9	8	18	6	7	5	7
7.5	7	1.2	1	2	10	16	4	5
7.4	8	1.4	2	6	9	15	4	7
7.3	8	1.2	2	3	7	11	5	7
7.3	8	0.9	2	5	7	17	4	6
7.4	8	0.8	2	11	10	15	8	13
7.3	8	0.7	2	5	10	18	11	20
<b>7.5</b>	<b>7.8333</b>	<b>1.0083</b>	<b>2.5833</b>	<b>18</b>	<b>7.5</b>	<b>18</b>	<b>5.6667</b>	<b>20</b>

H	DO	TRC	<i>E. coli</i>		BOD5		TSS	
Max	Avg	Avg	Avg	Max	Avg	Max	Avg	Max
7.1	8	0.8	7	38	10	19	11	29
7.3	8	0.7	2	9	9	19	9	12
7.3	8	0.8	2	4	5	7	8	13
7.5	8	0.9	2	6	6	9	7	13
7.5	8	0.8	1	5	7	15	8	17
7.6	8	0.9	2	5	6	7	6	10
7.6	8	0.8	2	4	7	23	6	10
7.5	8	0.6	1	6	6	14	5	9
7.4	8	0.8	2	3	7	12	6	10
<b>7.6</b>	<b>8</b>	<b>0.7889</b>	<b>2.3333</b>	<b>38</b>	<b>7</b>	<b>23</b>	<b>7.3333</b>	<b>29</b>

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## **ATTACHMENT 3**

*Wasteload Analysis and Antidegradation Review  
(DWQ-2023-120348)*

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

**Date:** July 20, 2023  
**Prepared by:** Suzan Tahir  
Standards and Technical Services  
**Facility:** Magna Wastewater Treatment Plant  
UPDES No. UT0021440  
**Receiving water:** C-7 Ditch

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**

002 C-7 Ditch → Lee Creek → Great Salt Lake 4 MGD  
(7.43 cfs, Max Design Flow,  
Average Monthly)  
8 MGD (14.86 cfs, Maxim Daily)

**Receiving Water**

The receiving water for Outfall 001 is the C-7 Ditch, which does not have designated beneficial uses. The C-7 Ditch was determined to be a drainage ditch that does not have downstream agricultural users of the water. Therefore, per UAC R317-2-13.10, the presumptive beneficial uses for all drainage canals and ditches statewide are 2B and 3E.

- *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 3E: Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.*

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The C-7 Ditch is tributary to Lee Creek, which does not have designated beneficial uses. Per UAC R317-2-13.13, the presumptive beneficial uses for all waters not specifically classified are 2B and 3D.

- *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.*

**Flow**

The critical flow for the wasteload analysis is typically considered the lowest stream flow for seven consecutive days with a recurrence interval of once every ten years (7Q10). Flow records from USGS stream gage #10172640 Lee Creek Near Magna, UT, for the period 2002 – 2023 were obtained, however the most recent data for the gage were for the period 2006-2008. Therefore, the 7Q10 was estimated as the lowest seven-day average and the record of the gage for that period was considered more representative of the current higher flow regime in the creek. It was insufficient to statistically calculate the 7Q10 flow.

The discharge at the gage includes flows from C-7 Ditch, Kersey Creek, Magna WWTP, Lee Creek and groundwater (Table 1). The average discharge from Magna WWTP was calculated from DWQ monitoring records from 1999 – 2008. Critical low flow from Kersey Creek and groundwater was assumed to be zero. No flow records were available for C-7 Ditch and Lee Creek above the confluence with C-7 Ditch; the critical low flow was assumed to be 67% from C-7 Ditch and 33% from Lee Creek above C-7 Ditch.

**Table 1: Annual Critical Low Flow**

Source	Critical Low Flow (cfs)
C-7 Ditch	9.42
Kersey Creek above Magna WWTP	0.0
Magna WWTP	3.81
Lee Creek above C-7 Ditch	4.71
Groundwater	0.0
<i>Lee Creek at USGS Gage</i>	<i>17.93</i>

Receiving water quality data was obtained from sampling stations 4991430 Lee Creek at I-80 Crossing. The seasonal annual value was calculated for each constituent with available data in the receiving water.

**Protection of Downstream Uses**

Per UAC R317-2-8, *all actions to control waste discharges under these rules shall be modified as necessary to protect downstream designated uses.* For this discharge, numeric aquatic life use criteria do not apply to the immediate receiving water (C-7 Ditch), but do apply to downstream receiving waters (Lee Creek). Therefore, Lee Creek is considered the limiting condition in this wasteload allocation to ensure protection of aquatic life uses.

### **Mixing Zone**

The 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 actual length of the mixing zone was not determined; however, it was presumed to remain within the maximum allowable mixing zone dimensions. Acute limits were calculated using 50% of the annual critical low flow.

### **Parameters of Concern**

The potential parameters of concern identified for the discharge and receiving water were total suspended solids (TSS), dissolved oxygen (DO), BOD<sub>5</sub>, total phosphorus (TP), total nitrogen (TN), total ammonia nitrogen (TAN), E. coli, pH, and total residual chlorine (TRC) as determined in consultation with the UPDES Permit Writer to be consistent with previous permits.

### **TMDL**

The receiving water, Lee Creek from Great Salt Lake to headwaters near 2100 South (UT16020204-036\_00) supports all designated uses according to the 303(d) list in the *2021 Utah Integrated Report*.

### **Water Quality Modeling**

A QUAL2Kw model of the receiving water was populated based on physiographic information from Google Earth and site data collected by DWQ staff. The model extends from C-7 Ditch through Lee Creek to the outlet to Gilbert Bay (Figure 1). The QUAL2Kw model was used for determining WQBELs related to eutrophication of the receiving waters, including BOD<sub>5</sub>, phosphorus, nitrogen and dissolved oxygen.

The QUAL2Kw model was also used to determine the limits for ammonia toxicity. The water quality criterion for chronic ammonia toxicity is dependent on temperature and pH, and the water quality criterion for acute ammonia toxicity is dependent on pH. Effluent concentrations were adjusted so that water quality standards were not exceeded in the receiving water. QUAL2Kw rates, input and output are summarized in Appendix A.

Insufficient observed data was available for model calibration. The rate parameters used in the model were the same as those used for the Box Elder Creek/Brigham City WWTP QUAL2Kw, which was calibrated under contract by Utah State University (Neilson et al. 2012). C-7 Ditch and Lee Creek were considered to have similar stream characteristics to Box Elder Creek. Synoptic data needs to be collected in the future in order to calibrate the model.

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

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The limits for total residual chlorine were determined assuming a decay rate of 37 /day (at 20 °C), based on a chlorine decay assessment (Carollo 2016). The chlorine decay in C-7 Ditch should be verified once the effluent pipeline is constructed and discharging. A total travel time of 240 minutes was estimated [35 minutes in the effluent pipe (4,000 lineal feet at 1.9 feet per second velocity) and 205 minutes in C-7 Ditch prior to confluence with Lee Creek (7,350 lineal feet at 0.6 feet per second velocity)]. The analysis for TRC is summarized in Appendix C.

Where WQBELs exceeded secondary standards or categorical limits, the concentration in the model was set at the secondary standard or categorical limit.

Models and supporting documentation are available for review upon request.

**WET Limits**

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

**Table 2: WET Limits for IC<sub>25</sub>**

<b>Season</b>	<b>Percent Effluent</b>
Annual	40%

**Ammonia**

The QUAL2Kw model was utilized to determine annual limits for ammonia based on summer season conditions. Ammonia exerts an oxygen demand on the water column through nitrification to nitrate and is toxic to aquatic life above certain thresholds that are pH and temperature dependent. Seasonal limits were determined that meet both in-stream DO criteria and in-stream toxicity criteria. Annual average pH and seasonal average temperature was used for determining chronic limits (30-day average) and maximum pH was used for determining acute limits (1-hour).

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**Effluent Limits**

The effect of the effluent on the DO in the receiving water was evaluated using the QUAL2Kw model. A DO sag in C-7 Ditch downstream from the plant discharge was predicted by the model; however, the DO concentration recovered by the confluence with Lee Creek and secondary standards for BOD<sub>5</sub> are sufficient to meet DO criteria.

**Table 3: Water Quality Based Effluent Limits Summary**

Effluent Constituent	Acute			Chronic		
	Standard	Limit	Averaging Period	Standard	Limit	Averaging Period
Flow (MGD)		8.0	1 day		4.0	30 days
Ammonia (mg/L)	Varies	30.0	1 hour	Varies	7.0	30 days
Min. Dissolved Oxygen (mg/L) <sup>2</sup>	3.0	5.0	Instantaneous	5.0	5.0	30 days
BOD <sub>5</sub> (mg/L)	NA	35	7 days	NA	25	30 days
Total Residual Chlorine (mg/L)	0.019		1 hour	0.011		4 days
Summer		17.7			17.2	
Fall		2.7			2.6	
Winter		1.3			1.3	
Spring		2.7			2.6	

**Antidegradation Level I Review**

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

A Level II Antidegradation Review (ADR) is not required for this discharge, as this wasteload is renewal for an existing outfall.

**Documents**

WLA Document: *Magna\_WLA\_2023m\_Final.docx*  
QUAL2Kw Wasteload Model: *Magna\_WLA\_2023.xlsm*

**References:**

Carollo. 2016. *Chlorine Decay Assessment*. Magna Water District.

Epic Engineering. 2016. *WWTP Outfall Bypass Pipeline – Alternative Comparison Summary Memo*. Prepared for Magna Water District.

Neilson, B.T., A.J. Hobson, N. von Stackelberg, M. Shupryt, and J.D. Ostermiller. 2012. *Using QUAL2K Modeling to Support Nutrient Criteria Development and Wasteload Analyses in Utah*.

Utah Division of Water Quality. 2022. *Final 2022 Integrated Report on Water Quality*

Utah Division of Water Quality. 2021. *Utah Wasteload Analysis Procedures Version 2.0*.



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## **ATTACHMENT 4**

### *Reasonable Potential Analysis*

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## REASONABLE POTENTIAL ANALYSIS

The Division of 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 Guidance) is available at the Division of Water Quality. As listed below, there are four outcomes from the RP Analysis<sup>1</sup> that provide a frame work for what routine monitoring or effluent limitations are required.

- 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.

The Initial RP Screening Table is included below for all metals parameters of concern. Note that the full RP analysis model was not necessary at this time due to the results of the initial screening results below.

**RP Initial Screening Table for Magna POTW Discharges (UT0021440)**

Parameter	No. of Samples	MEC* mg/L	Water Quality Standard, units MAC**		Outcome/Result
			Acute mg/L	Chronic mg/L	
Total Arsenic	10	<0.05	0.568	0.153	MEC < MAC***
Total Cadmium	10	<0.005	0.0166	0.0013	MEC < MAC***
Total Chromium	10	<0.005	0.0242	0.0194	MEC < MAC***
Total Copper	10	0.005	0.0815	0.0537	MEC < MAC***
Total Lead	10	<0.02	0.919	0.0327	MEC < MAC***
Total Mercury	10	<0.00015	0.0047	0.00021	MEC < MAC***
Total Molybdenum	10	0.02	NA	NA	NA
Total Nickel	10	<0.005	2.851	0.297	MEC < MAC***
Total Selenium	10	<0.001	0.033	0.0081	MEC < MAC***
Total Silver	10	<0.005	0.0541	NA	MEC < MAC***
Total Zinc	10	0.06	0.511	0.683	MEC < MAC***
Total Cyanide	10	0.007	0.0052	0.0387	MEC < MAC***

### Notes:

NA – not applicable, no current Water Quality Standard.

\*MEC – Maximum expected effluent concentration as determined from existing data set and initial metals screening.

\*\*MAC – Maximum allowable concentration, UPDES permit effluent limits derived from the current wasteload allocation analysis (WLA).

\*\*\*MEC < (less than) MAC. No Acute or Chronic limits required.

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**Result:** From the table above, the RP analysis results of the discharge for all of the listed metals is: MEC < MAC, therefore no additional Acute or Chronic limits are required regarding the listed metals parameters. This equates to ***RP Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit.***

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<sup>1</sup> See Reasonable Potential Analysis Guidance for definitions of terms

Summary: A qualitative RP analysis was performed on the applicable metals constituents from the MWRf discharge data over the past five years. Initial screening for metals values that were submitted through the discharge monitoring reports showed that a closer look at any of the metals is not needed since all of the semi-annual metals concentration results were either below the appropriate method detection limits and/or below the applicable water quality standards. Therefore, no RP currently exists at MWRf for these metals parameters and a more quantitative RP analysis using the RP Model was not necessary at this time. Based upon the RP Guidance, no additional metal effluent limits have been included in this renewal permit. The results of the RP analysis was; Outcome C: No new effluent limitation, routine monitoring requirements maintained as they are in the permit. Metals monitoring will continue however, as detailed in the permit. This will be re-evaluated during the next permit cycle as appropriate.