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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. **UT0024414**
Biosolids Permit No. **UTL020001**
Storm Water Permit No. **UTR000000**

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

SILVER CREEK WATER RECLAMATION FACILITY -- SNYDERVILLE BASIN WATER RECLAMATION DISTRICT

is hereby authorized to discharge from its wastewater treatment facility to receiving waters named **SILVER CREEK**,

to dispose of biosolids,

and to discharge storm water,

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

This permit shall become effective on November 1, 2007.

This permit expires at midnight on October 31, 2012.

Signed this 5th day of October, 2007.

Walter L. Baker
Executive Secretary
Utah Water Quality Board

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I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS.

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

Outfall Number	Location of Discharge Outfall
001	Located at latitude 40° 44' 40" and longitude 111° 28' 45. The discharge is from the end of a 24 inch pipe on the Northeast side of the treatment plant. The pipe discharges to the wetlands area of Silver Creek, with the Silver Creek main channel about 1000 feet East of discharge point 001.

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

Parameter	Effluent Limitations[a]			
	Monthly Avg	Weekly Avg	Daily Minimum	Daily Maximum
$CBOD_5$, mg/L	20	30	NA	NA
BOD_5 Min. % Removal	85	NA	NA	NA
TSS, mg/L	25	35	NA	NA
TSS Min. % Removal	85	NA	NA	NA
Ammonia, mg/L[b]				
Summer	4.0			11.9
Spring/Fall	4.5	NA	NA	10.0
Winter	4.0			8.5
Dissolved Oxygen, mg/L	NA	NA	5.5	NA

Parameter	Effluent Limitations[a]			
	Monthly Avg	Weekly Avg	Daily Minimum	Daily Maximum
E-Coli, No./100mL	126	158	NA	NA
Oil & Grease, mg/L	NA	NA	NA	10
pH, Standard Units	NA	NA	6.5	9.0

NA – Not Applicable

[a] See Definitions, *Part VIII*, for definition of terms within the effluent limitations table.

[b] For application of limits, the seasons are defined as: Winter includes all of January, February, and March; Spring includes all of April, May, and June; Summer includes all of July, August, and September; Fall includes all of October, November, and December.

Self-Monitoring and Reporting Requirements[a]			
Parameter	Frequency	Sample Type	Units
Total Flow[b,c]	Continuous	Recorder	MGD
$CBOD_5$, Influent[d]	2 x Weekly	Composite	mg/L
Effluent		Composite	mg/L
TSS, Influent[d]	2 x Weekly	Composite	mg/L
Effluent		Composite	mg/L
Ammonia	2 x Weekly	Grab	mg/L
Dissolved Oxygen	2 x Weekly	Grab	mg/L
Phosphorus	Monthly	Grab	mg/L
E-Coli	2 x Weekly	Grab	No./100mL
Oil & Grease[e]	2 x Weekly[e]	Grab	mg/L
pH	2 x Weekly	Grab	SU
WET, Acute Biomonitoring	Quarterly	Composite	Pass/Fail
Metals[f], Influent	Quarterly	Composite[g]	mg/L
Effluent	Quarterly	Composite[g]	mg/L
Organic Toxics	Yearly	Grab	mg/L

[a] See Definitions, *Part VIII*, for definition of terms within the self-monitoring and reporting requirements table.

[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 permittee is required to take a sample from the effluent discharge and analyze it for Oil & Grease only when observation of the water surface of the discharge during the time of monitoring and/or sample taking indicates a visible sheen is present.

[f] Cyanide is included with metals (arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, zinc, see permit Part II.H.).

[g] In the case of mercury sampling is composite/grab, in the case of cyanide sampling is grab (see permit Part II.H.).

2. Acute/Chronic Whole Effluent Toxicity (WET) Testing.

a. *Whole Effluent Testing – Acute Toxicity.* Starting on the 4th quarter of 2007, the permittee shall conduct acute static replacement toxicity tests on a composite sample of the final effluent. The sample shall be collected at outfall 001

The permittee shall alternate quarterly between acute and chronic testing 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. 2.c., Accelerated Testing*). 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.

The replacement static 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. Fourth Edition. August 1993, EPA/600/4-90/027F* as per *40 CFR 136.3(a) TABLE 1A-LIST OF APPROVED BIOLOGICAL METHODS*, and the *Region VIII EPA NPDES Acute Test Conditions – Static Renewal Whole Effluent Toxicity Test (August, 1997).* In the case of conflicts, the Region VIII procedures will prevail. The permittee shall conduct the 48-hour static replacement toxicity test alternating between Ceriodaphnia dubia and the acute 96-hour static replacement toxicity test using Pimephales promelas (fathead minnow) for the quarters where acute testing is required. If necessary for pH adjustment, CO2 atmosphere can be used.

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. A variance to this requirement may be granted by the Executive Secretary if a mortality of less than 10 percent was observed in higher effluent dilutions.

If the permit contains a total residual chlorine limitation greater than 0.20 mg/L, the permittee may request from the Executive Secretary approval to de-chlorinate the sample, or collect the sample prior to chlorination.

Quarterly test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the reporting calendar quarter 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). All test results shall be reported along with the DMR submitted for that reporting period. The format for the report shall be consistent with the latest

revision of the *Region VIII Guidance for Acute Whole Effluent Reporting (August, 1997)* and shall include all chemical and physical data as specified.

If the results for one year of testing indicate no acute toxicity, the permittee may request a reduction in testing frequency and/or reduction to one species. The Executive Secretary may approve, partially approve, or deny the request based on results and other available information. If approval is given, the modification will take place without a public notice.

b. *Whole Effluent Testing – Chronic Toxicity.* Starting the 1st quarter of 2008, the permittee shall conduct chronic short-term toxicity tests on a composite sample of the final effluent. The sample shall be collected at outfall 001.

The permittee shall alternate between chronic and acute testing quarterly. Samples shall be collected on a two-day progression; i.e., if the first sample is on a Monday, during the next sampling period, sampling shall be on a Wednesday. If chronic toxicity is detected, the test shall be repeated in less than four weeks from the date the initial sample was taken. The need for any additional samples, and/or a Toxicity Reduction Evaluation (TRE, see *Part I.C.4.f.*) shall be determined by the Executive Secretary. If the second test shows no chronic toxicity, routine monitoring shall be resumed.

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. Third Edition. July 1994, EPA-600-4-91-002* as per 40 CFR 136.3(a) *TABLE 1A-LIST OF APPROVED BIOLOGICAL METHODS,* and the *Region VIII EPA NPDES Chronic Test Conditions - Static Renewal Whole Effluent Toxicity Test (August, 1997).* In case of conflicts, the Region VIII procedure will prevail. Tests will alternate, for each quarter where chronic tests are required, between species of Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Chronic toxicity tests will be conducted in a suppressed pH Environment (not below 6.5)

Chronic toxicity occurs when the survival, growth, or reproduction for either test species, when exposed to a dilution of 87.9 percent effluent or lower, is significantly less (at 95% confidence level) than that of the control specimens. Dilutions of 87.9 percent only will be required, plus the control. If any of the acceptable control performance criteria are not met, the test shall be considered invalid.

Quarterly test results shall be reported along with the Discharge Monitoring Report (DMR) submitted for the end of the reporting calendar quarter (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). All test results shall be reported along with the DMR submitted for that reporting period. The format for the report shall be consistent with the latest

revision of the *Region VIII Guidance for Chronic Whole Effluent Reporting (August, 1997)* and shall include all the physical testing as specified.

If the results for one year of testing indicate no chronic toxicity, the permittee may request a reduction in testing frequency and/or reduction to one species. The Executive Secretary may approve, partially approve, or deny the request based on results and other available information. If approval is given, the modification will take place without a public notice.

The current Utah whole effluent toxicity (WET) policy is in the process of being updated and revised to assure its consistency with the Environmental Protection Agency's national and regional WET policy. When said revised WET policy has been finalized and officially adopted, this permit will be reopened and modified to incorporate satisfactory follow-up chronic toxicity language (chronic pattern of toxicity, PTI and/or TIE/TRE, etc.) without a public notice, as warranted and appropriate.

c. *Accelerated Testing*. When acute toxicity is indicated during routine biomonitoring as specified in this permit, the permittee shall notify the Executive Secretary in writing within five (5) days after becoming aware of the test result. The permittee shall perform an accelerated schedule of biomonitoring to establish whether a pattern of toxicity exists. Accelerated testing will begin within seven (7) days after the permittee becomes aware of the test result. Accelerated testing shall be conducted as specified under *Part I.C.2.d., 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 (5) biomonitoring tests pursuant to the accelerated testing requirements using 100 percent effluent on the single species found to be more sensitive, once every week for up to five (5) consecutive weeks.

If two (2) consecutive tests (not including the scheduled quarterly or monthly test which triggered the search for a pattern of toxicity) do not result in acute toxicity, 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 Executive Secretary within five (5) days, and resume routine monitoring.

A pattern of toxicity is established if one of the following occurs:

(1) If two (2) consecutive test results (not including the scheduled quarterly or monthly test, which triggered the search for a pattern of toxicity) indicate acute toxicity, this constitutes an established pattern of toxicity.

(2) If consecutive tests continue to yield differing results each time, the permittee will be required to conduct up to a maximum of five (5) acute tests (not including the scheduled quarterly or monthly test which

triggered the search for a pattern of toxicity). If three out of five test results indicate acute toxicity, this will constitute an established pattern of toxicity.

e. *Preliminary Toxicity Investigation.*

(1) When a pattern of toxicity is detected the permittee will notify the Executive Secretary in writing within five (5) days and begin an evaluation of the possible causes of the toxicity. The permittee will have fifteen (15) working days from demonstration of the pattern to complete a Preliminary Toxicity Investigation (PTI) and submit a written report of the results to the Executive Secretary. 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 a spill may have occurred, and similar procedures.

(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 Executive Secretary. Within thirty (30) days of completing the PTI the permittee shall submit for approval a control program to control effluent toxicity and shall proceed to implement such a plan within seven (7) days following approval. The control program, as submitted to or revised by the Executive Secretary, may be incorporated into the permit.

(3) If no probable explanation for toxicity is identified in the PTI, the permittee shall notify the Executive Secretary as part of its final report, along with a schedule for conducting a Phase I Toxicity Reduction Evaluation (TRE) (See *Part I.C.2.f, Toxicity Reduction Evaluation*).

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

f. *Toxicity Reduction Evaluation (TRE).* If toxicity is detected during the life of this permit and it is determined by the Executive Secretary that a TRE is necessary, the permittee shall be so notified and shall initiate a TRE immediately thereafter. The purpose of the TRE will be to establish the cause of toxicity, locate the source(s) of the toxicity, and 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 Executive Secretary. 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 Executive Secretary, this permit may be reopened and modified.

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

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

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

If acceptable to the Executive Secretary, this permit may be reopened and modified to incorporate any additional numerical limitations, a modified compliance schedule if judged necessary by the Executive Secretary, and/or a modified biomonitoring protocol.

Failure to conduct an adequate TRE, or failure to submit a plan or program as described above, or the submittal of a plan or program judged inadequate by the Executive Secretary, shall be considered a violation of this permit.

D. Reporting of Wastewater Monitoring Results. Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), post-marked no later than the 28th day of the month following the completed reporting period. The first report is due on December 28, 2007. 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 to the Director, Division of Water Quality and to EPA at the following addresses:

original to: Department of Environmental Quality
Division of Water Quality
288 North 1460 West
PO Box 144870

Salt Lake City, Utah 84114-4870

copy to: Technical Enforcement Program (8ENF-T)
Office of Enforcement,
Compliance Assistance & Environmental Justice
US EPA Region VIII
999 18th Street, Suite 500
Denver, CO 80202-2466

II. INDUSTRIAL PRETREATMENT PROGRAM.

A. Pretreatment Program Delegation. The permittee has been delegated primary responsibility for enforcing against discharges prohibited by *40 CFR 403.5* and applying and enforcing any national Pretreatment Standards established by the United States Environmental Protection Agency in accordance with Section 307 (b) and (c) of *The Clean Water Act (CWA)*, as amended by *The Water Quality Act (WQA), of 1987.*

The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, and procedures described in the permittee's approved Pretreatment Program submission. Such program commits the permittee to do the following:

1. Carry out inspection, surveillance, and monitoring procedures, which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with the pretreatment standards. At a minimum, all significant industrial users shall be inspected and sampled by the permittee at least once per year;

2. Control through permit, order, or similar means, the contribution to the POTW by each industrial user to ensure compliance with applicable pretreatment standards and requirements;

3. Require development, as necessary, of compliance schedules by each industrial user for the installation of control technologies to meet applicable pretreatment standards;

4. Maintain and update industrial user information as necessary, to ensure that all IUs are properly permitted and/or controlled at all times;

5. Enforce all applicable pretreatment standards and requirements and obtain appropriate remedies for noncompliance by any industrial user;

6. Annually publish a list of industrial users that were determined to be in significant noncompliance during the previous year. The notice must be published before March 28 of the following year;

7. Maintain an adequate revenue structure and staffing level for continued implementation of the Pretreatment Program.

8. Evaluate all significant industrial users at least once every two years to determine if they need to develop a slug prevention plan. If a slug prevention plan is required, the permittee shall insure that the plan contains at least the minimum elements required in *R317-8-8.8(6)(b)5.a.-d.;*

9. 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); and

10. Develop, implement, and maintain an enforcement response plan as required by *R317-8-8.8(6)(b)10.* which shall, at a minimum,

    a. Describe how the POTW will investigate instances of noncompliance;

    b. Describe the types of escalating enforcement responses the POTW will take in response to all anticipated type of industrial user violations; and

    c. Describe the time periods within which such responses will be taken and identify the POTW staff position(s) responsible for pursuing these actions.

11. Establish and enforce specific local limits as necessary to implement the provisions of the *40 CFR Parts 403.5(a)* and *(b)*, and as required by *40 CFR Part 403.5(c)*.

B. Program Updates. The permittee is required to modify its pretreatment program, as necessary, to reflect changes in the regulations of *40 CFR 403*. Such modifications shall be completed within the time frame set forth by the applicable regulations. Modification of the approved pretreatment program must be done in accordance with the requirements of *40 CFR 403.18*. Modifications of the approved program which result in less stringent industrial user requirements shall not be effective until after approval has been granted by the Executive Secretary.

C. Annual Report. The permittee shall provide the Division of Water Quality and EPA with an annual report briefly describing the permittee's pretreatment program activities over the previous calendar year. Reports shall be submitted no later than March 28 of each year. These annual reports shall, at a minimum, include:

1. An updated listing of the permittee's industrial users.

2. A descriptive summary of the compliance activities including numbers of any major enforcement actions, i.e., administrative orders, penalties, civil actions, etc.

3. An assessment of the compliance status of the permittee's industrial users and the effectiveness of the permittee's Pretreatment Program in meeting its needs and objectives.

4. A summary of all sampling data taken of the influent and effluent for those pollutants listed in *Part II.H.*

5. A description of all substantive changes made to the permittee's pretreatment program referenced in *Section B* of this section. Substantive changes include, but are not limited to, any change in any ordinance, major modification in the

program's administrative structure or operating agreement(s), a significant reduction in monitoring, or a change in the method of funding the program.

6. Other information as may be determined necessary by the Executive Secretary.

D. General and Specific Prohibitions. Pretreatment standards (*40 CFR 403.5*) specifically prohibit the introduction of the following pollutants into the waste treatment system from any source of non-domestic discharge:

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

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

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

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

5. 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);

6. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

7. 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;

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

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

10. Any specific pollutant which exceeds any local limitation established by the POTW in accordance with the requirement of *40 CFR 403.5(c)* and *40 CFR 403.5(d)*.

E. Categorical Standards. In addition to the general and specific limitations expressed in *Part A and D* of this section, applicable National Categorical Pretreatment Standards must be met by all industrial users of the POTW. These standards are published in the federal regulations at *40 CFR 405* et. seq.

F. Enforcement Notice. *UCA 19-5-104* provides that the State may issue a notice to the POTW stating that a determination has been made that appropriate enforcement

action must be taken against an industrial user for noncompliance with any pretreatment requirements within 30 days. The issuance of such notice shall not be construed to limit the authority of the Executive Secretary.

G. Formal Action. The Executive Secretary retains the right to take legal action against any industrial user and/or POTW for those cases where a permit violation has occurred because of the failure of an industrial user to meet an applicable pretreatment standard.

H. Self-Monitoring and Reporting Requirements

1. Influent and Effluent Monitoring and Reporting Requirements. The permittee shall sample and analyze both the influent and effluent quarterly, for the following parameters.

Metals Monitoring for Pretreatment Program				
Parameter	Sample Type	Frequency	Test Limit [a]	Units
Total Arsenic	Composite	Quarterly	50	ug/L
Total Cadmium		Quarterly	0.8	
Total Chromium		Quarterly	279	
Total Copper		Quarterly	30	
Total Lead		Quarterly	18	
Total cyanide	Grab	Quarterly	5	
Total Mercury	Composite/Grab	Quarterly	0.012	
Total Molybdenum	Composite	Quarterly	75000	
Total Nickel		Quarterly	169	
Total Selenium		Quarterly	4.6	
Total Silver		Quarterly	41	
Total Zinc		Quarterly	385	

[a] The 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 Executive Secretary regarding the method that will be used.

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

The results of the analyses of metals, cyanide and toxic organics shall be submitted along with the Discharge Monitoring Report (DMR) at the end of the earliest possible reporting period.

2. In accordance with the requirements of *40 CFR Part 403.5(c)*, the permittee shall determine if there is a need to develop or revise its local limits in order to implement the general and specific prohibitions of *40 CFR Part 403.5 (a)* and *Part 403.5 (b)*. A technical evaluation of the need to develop or revise local limits shall be submitted to the Division within **12 months** of the effective date of

this permit. This evaluation should be conducted in accordance with the latest revision of the *Utah Model industrial Pretreatment Program, Section 4, Local Limits*. If a technical evaluation, which may be based on the *Utah Model Industrial Pretreatment Program, Section 4, Local Limits*, reveals that development or revision of local limits is necessary, the permittee shall submit the proposed local limits revision to the Division of Water Quality for approval, and after approval implement the new local limits, within **12 months** of the Division's determination that a revision is necessary.

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 Snyderville Basin Water Reclamation District (SBWRD). The solids are treated with extended aeration (oxidation ditches). The treatment methods and disposal practices are specifically designated below.

1. The biosolids are dewatered with centrifuges to about twenty percent solids and hauled to ET Technologies for further treatment, and then land applied at the Salt Lake Valley Solid Waste Management Facility for final landfill cover.

2. The biosolids are dewatered with centrifuges to about twenty percent solids and hauled to the permitted R^3 facility and treated meet Class A or Class B standards and land applied for agriculture production.

3. Aerobic Treatment. (Class A Biosolids, (Compost)). The biosolids are stabilized in oxidation ditches through the extended aeration process, and dewatered with centrifuges to about twenty percent solids, and composted to meet Class A standards.

4. Aerobic Treatment. (Class B Biosolids (Compost)). The biosolids are stabilized in oxidation ditches through the extended aeration process, and dewatered with centrifuges to about twenty percent solids, and composted to meet Class B standards.

5. The biosolids are de-watered with centrifuges to about twenty percent solids, dried on an impervious surface, spread not more than 9" thick (not covered with snow) for at least 3 months. During 2 of the 3 months, the ambient average daily temperature is above 0°C (32°F).

6. The biosolids are dewatered with centrifuges to about twenty percent solids, formed into windrows, turned as needed, and tested to meet Class A Alternative 4 standards.

7. The biosolids are land filled at a sanitary landfill.

8. The biosolids are mono filled at the Summit County Landfill or another facility that has obtained a UPDES permit.

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

    b. Class B biosolids may be land applied for agriculture use.

    c. Biosolids that do not meet at least Class B requirements are land filled.

9. Changes in Treatment Systems and Disposal Practices. Should the permittee change their disposal methods or the biosolids generation and handling processes of the plant, the permittee must notify the Executive Secretary at least 180 days in advance. This includes, but is not limited to, the addition or removal of any biosolids treatment units and/or any other change, which would require a major modification of the permit.

   For any biosolids that are land filled, the requirements of *Utah Administrative Code R315-301-5* and *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 that are to be sold or given away to the public, or biosolids that are land applied shall meet the requirements of Part III.B.1, 2, 3 and 4 listed below.

1. Metals Limitations:

   Class A

   All biosolids that are sold, or given away in a bag or similar container for application to home lawns and gardens must meet the metals limitations as described below. If these metals limitations are not met, the biosolids cannot be sold or given away for home lawn and garden use.

Table 3, Exceptional Quality Biosolids Limitations, mg/kg	
Total Arsenic	41.0
Total Cadmium	39.0
Total Copper	1500.0
Total Lead	300.0
Total Mercury	17.0
Total Molybdenum	75.0
Total Nickel	420.0
Total Selenium	36.0
Total Zinc	2800.0

   Class B

All biosolids that are land applied for agriculture use cannot exceed one of the tables listed below. If these metals limitations are not met, the biosolids cannot be land applied and must be land filled.

Pollutant	Table 1	Table 2	Table 4
All metals concentrations shall be measured and reported on a dry weight basis	Daily Maximum mg/Kg a/	Cumulative Loading Kg/Ha	Annual Loading Kg/Ha/365 day Period
Total Arsenic	75	41	2.0
Total Cadmium	85	9	1.9
Total Copper	4300	1500	75
Total Lead	840	300	15
Total Mercury	57	17	0.85
Total Molybdenum	75	N/A	N/A
Total Nickel	420	420	21
Total Selenium	100	100	5.0
Total Zinc	7500	2800	140

2. Pathogen Limitations:

Class A

If the biosolids are sold or given away in a bag or a similar container for application to home lawns and gardens, the biosolids shall meet the requirements below. If the biosolids do not meet these requirements, the biosolids cannot be sold or given away.

Class A Pathogen Requirements[a]

Fecal Coliform or *Salmonella* Limits		The process to further reduce pathogens will be met by:
Fecal Coliform shall be < 1000 MPN/g of total biosolids[b] **OR** *Salmonella* shall be <3 MPN/4g of total biosolids	**AND**	Composting using the windrow method, the temperature of the biosolids is maintained at, at least 55° C (131°F) or higher for at least 15 days or longer, with a minimum of 5 turnings of the windrows during the 15 days.[a] OR Composting using the static aerated pile method, the temperature of the biosolids is maintained at, at least 55° C (131°F) or higher for at least 3 days or longer.[a]

Class B

If the biosolids are to be land applied to agricultural land, the biosolids shall meet Class B pathogen requirements (including the site restrictions and management practices) as described below. If the biosolids do not meet the Class B pathogen requirements, the biosolids cannot be land applied.

Class B Pathogen Requirements[a]

Fecal Coliform shall be less than 2,000,000 most probable number per gram of total solids.[b]	**OR**	The process to significantly reduce pathogens will be accomplished through air drying. The biosolids are dried on an impervious surface, spread not more than 9" thick (not covered with snow) for at least 3 months. During 2 of the 3 months, the ambient average daily temperature is above 0°C (32°F). **OR** Using the windrow method of composting, or static aerated pile, the temperature of the windrows is maintained at 40° C (104°F) or higher for 15 days or longer, with a minimum of 5 turnings of the windrows during the 15 days.[a]

Class A Pathogen Limitations, Alternative 4 (Testing for Class A Biosolids)[a]

The *salmonella* shall be less than 3 most probable number per 4 grams of biosolids or the fecal coliform shall be less than 1000 most probable number per gram of total biosolids[b].
The *density* of enteric viruses in the biosolids shall be less than 1 plaque-forming unit per 4 grams of total solids.
The density of viable helminth ova in the biosolids shall be less than 1 per 4 grams *total* solids.

3. Vector Attraction Reduction Requirements[a]. One of the vector attraction reduction requirements below must be met if the biosolids are land applied.

   a. Vector attraction reduction will be met through the windrow or static aerated pile method of composting. The composted biosolids need to be treated for at

least 14 days at a temperature of at least 40° C (104° F) for at least 14 days with an average temperature of over 45° C (113° F).

b. Vector attraction reduction will be met through moisture reduction. The biosolids content must be at least 90%. If the biosolids content does not meet 90%, the biosolids must be incorporated into the soil within 6 hours (If the biosolids meet Class Standards with respect to pathogens, the biosolids must be incorporated within 8 hours) if land applied.

c. All biosolids that are land filled must be covered with soil or another approved material at the end of each operating day for vector attraction reduction.

4. Self-Monitoring Requirements

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

Minimum Frequency of Monitoring (Dry Metric Tons (DMT))	
Amount of Biosolids Disposed Per Year	Monitoring Frequency
> 0 to < 290 DMT	Once per year
> 290 to < 1,500 DMT	Four times per year
> 1,500 to < 15,000 DMT	Six times per year

b. Deep soil monitoring for nitrate-nitrogen is required for all land application sites (does not apply to biosolids compost that is sold or given away, or sites where biosolids are applied less than once every five years). A minimum of six sample sites for each 320-acre area (or less) is to be collected. These samples are to be collected at a depth of 5 feet or to the confining layer whichever is shallower. Each one-foot increment is to be a composite with the other samples from the site and one analysis for nitrate is to be done for each increment. Samples are required to be taken once every five years for non-irrigated sites or annually for irrigated sites.

c. Soil monitoring for phosphorus (reported as P) is required for all land application sites (does not apply to biosolids compost that is sold or given away, or sites where biosolids are applied less than once every five years). Six samples of a one-foot depth each are to be collected for each 320-acre area and composited. Samples are required to be taken once every five years for non-irrigated sites or annually for irrigated sites.

d. Sample collection, preservation and analysis shall be performed in a manner consistent with the requirements of *40 CFR Part 503* and/or other criteria specified in this permit. 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 one-gram dry weight shall be used. The methods are also described in the latest version of the *Region VIII Biosolids Management Handbook.* Monitoring for soil nitrate and phosphorus is to be performed using the methods in *Methods of Soil Analysis, Part 2. Chemical and Microbiological Properties.* Page, A. L., Ed., American Society of Agronomy and Soil Science Society of America, Madison, WI, 1982.

e. The Executive Secretary may request additional monitoring for specific pollutants derived from biosolids if the data shows a potential for concern.

f. After two years of monitoring at the frequency specified, the permittee may request that the Executive Secretary reduce the sampling frequency for the heavy metals. The frequency cannot be reduced to less than once per year for land-applied biosolids for any parameter. The frequency also cannot be reduced for any of the pathogen or vector attraction reduction requirements listed in this permit.

If pollutant concentrations in the biosolids no longer meet the limitations in Table 3, the limitations in Table 2 and/or Table 4 must be used. The permittee shall determine cumulative pollutant loadings and/or annual pollutant loadings for each land application site.

C. Site Restrictions. If the biosolids are Class B with respect to pathogens, the SBWRD shall comply with all applicable site restrictions listed below:

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. Other food crops and feed crops shall not be harvested from the land for 30 days after application.

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

5. 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.

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

D. Management Practices for Application of Biosolids to Land. The permittee shall operate and maintain the land application site operations in accordance with the following requirements:

1. The permittee shall provide to the Executive Secretary 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. Biosolids shall not be applied to sites where the available phosphorous content of the soil exceeds the following[c]:

   a. 100 ppm as determined by the sodium bicarbonate extraction method

   b. 50 ppm as determined by the AB-DPTA extraction method

   c. 170 ppm by the Bray P1 extraction method

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

The permittee may request the limits of Part III, D., 6 and 7 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.

8. 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.B.4.b 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 Executive Secretary and the EPA within 90 days of the effective date of this permit. The plan is subject to approval by the Executive Secretary.

9. The specified cover crop shall be planted during the next available planting season. If this does not occur, the permittee shall notify the Executive Secretary 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 Executive Secretary.

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

11. 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 annual metals loading rates in Table 4 (Part II.B.1.) to be exceeded.

12. 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 has been reached.

13. 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.

14. 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.

15. 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.

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

F. Representative Sampling. Biosolids samples used to measure compliance with Part I 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.

G. Reporting of Monitoring Results. 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 at the following addresses:

Original to:

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

Copy to:

Biosolids Coordinator, 8P-W-P
U. S. Environmental Protection Agency
Region VIII
999 18th Street, Suite 500

Denver, Colorado 80202-2466

H. Additional Record Keeping Requirements Specific to Biosolids.

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

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

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

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

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

   e. If the biosolids are land applied, 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, and the site restrictions have been met. 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."

2. 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.

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[a] There are additional pathogen reduction and vector attraction reduction alternatives available in *40 CFR 503.32* and *40 CFR 503.33.* If the permittee intends to use one of these alternatives the Executive Secretary and the EPA must be informed at least 30 days prior to its use. This change may be made without additional public notice.

[b] Based on a minimum of seven (7) samples of biosolids collected over a two-week period (or as approved by the Executive Secretary in your sampling and analysis plan).

[c] These phosphorous limits do not apply to the application sites if the SBWRD has bermed the sites to prevent runoff from entering surface waters of the State. The berm shall be constructed to hold a 24 hour, 100 year storm event. The available phosphorous limits apply to all other sites the SBWRD may apply biosolids to unless the SBWRD provides a separate justification for each site for a change or elimination of the limits. The SBWRD is still required to monitor each site for phosphorous as stated in Part III.B.4.c. of this permit.

IV. STORM WATER REQUIREMENTS.

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

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

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

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

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

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

significant materials, which may be reasonably expected to have the potential as a significant pollutant source. Each plan shall include, at a minimum:

(1) *Drainage*. A site map indicating drainage areas and storm water outfalls. For each area of the facility that generates storm water discharges associated with the waste water treatment related activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow and an identification of the types of pollutants that are likely to be present in storm water discharges associated with the activity. Factors to consider include the toxicity of the pollutant; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. Flows with a significant potential for causing erosion shall be identified. The site map shall include but not be limited to:

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

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

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

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

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

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

(g) Location of any sand or salt piles.

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

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

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

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

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

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

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

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

(7) *Good Housekeeping.* All areas that may contribute pollutants to storm waters discharges shall be maintained in a clean, orderly manner. These are practices that would minimize the generation of pollutants at the source or before it would be necessary to employ sediment ponds or

other control measures at the discharge outlets. Where applicable, such measures or other equivalent measures would include the following: sweepers and covered storage to minimize dust generation and storm runoff; conservation of vegetation where possible to minimize erosion; sweeping of haul roads, bio-solids access points, and exits to reduce or eliminate off site tracking; sweeping of sand or salt storage areas to minimize entrainment in storm water runoff; collection, removal, and proper disposal of waste oils and other fluids resulting from vehicle and equipment maintenance; other equivalent measures to address identified potential sources of pollution.

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

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

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

(11) *Employee Training.* Employee training programs shall inform personnel responsible for implementing activities identified in the storm water pollution prevention plan or otherwise responsible for storm water management at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The pollution prevention plan shall identify how often training will take place, but training should be held at least

annually (once per calendar year). Employee training must, at a minimum, address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and control; fueling procedures; general good housekeeping practices; proper procedures for using fertilizers, herbicides and pesticides.

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

(13) *Non-storm Water Discharges.*

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

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

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

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

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

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

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

(b) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with *Part IV.C.1.b* (Description of Potential Pollutant Sources) of this section and pollution prevention measures and controls identified in the plan in accordance with *Part IV.C.1.b.(6)* (Measures and Controls) of this section shall be revised as appropriate within 2 weeks of such evaluation and shall provide for implementation of any changes to

the plan in a timely manner, but in no case more than 12 weeks after the evaluation.

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

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

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

D. Monitoring and Reporting Requirements.

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

a. *Sample and Data Collection*. Examinations shall be made of samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed 1 hour) of when the runoff or snowmelt begins discharging. The examinations shall document observations of color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen, and other obvious indicators of storm water pollution. The examination must be conducted in a well lit area. No analytical tests are required to be performed on the samples.

All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where practicable, the same individual should carry out the collection and examination of discharges for entire permit term.

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

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

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

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

V. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS.

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

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

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

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

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

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

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

G. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the

Executive Secretary at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location

H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 538-6146, or 24-hour answering service (801) 536-4123.

2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4123 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:

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

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

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

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

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

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

   a. A description of the noncompliance and its cause;

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

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

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

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

4. The Executive Secretary 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) 538-6146.

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

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

J. Inspection and Entry. The permittee shall allow the Executive Secretary, 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 Executive Secretary, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

VI. COMPLIANCE RESPONSIBILITIES.

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

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

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

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

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

F. Removed Substances. Collected screening, grit, solids, sludge, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. Sludge/digester supernatant and filter backwash

shall not directly enter either the final effluent or waters of the state by any other direct route.

G. Bypass of Treatment Facilities.

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

2. Prohibition of Bypass.

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

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

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

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

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

3. Notice.

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

      (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 Executive Secretary 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 Executive Secretary.

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

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

H. Upset Conditions.

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

2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate,

through properly signed, contemporaneous operating logs, or other relevant evidence that:

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

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

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

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

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

VII. GENERAL REQUIREMENTS.

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

B. Anticipated Noncompliance. The permittee shall give advance notice to the Executive Secretary 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 Executive Secretary, within a reasonable time, any information which the Executive Secretary 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 Executive Secretary, 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 Executive Secretary, it shall promptly submit such facts or information.

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

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

2. All reports required by the permit and other information requested by the Executive Secretary shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Executive Secretary, and,

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

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

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

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

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

$10,000.00 per violation, or by imprisonment for not more than six months per violation, or by both.

I. Availability of Reports. Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of Executive Secretary. 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 Executive Secretary 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 Executive Secretary does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph *2* above.

N. State or Federal Laws. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by *UCA 19-5-117* and *Section 510* of the *Act* or any applicable Federal or State transportation

regulations, such as but not limited to the Department of Transportation regulations.

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

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

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

3. A revision to the current Water Quality Management Plan is approved and adopted which calls for different effluent limitations than contained in this permit.

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

Q. Toxicity Limitation - Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include, whole effluent toxicity (WET) limitations, a compliance 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.4.a* and/or *b* of this permit, during the duration of this permit.

2. The TRE results indicate that compliance with the toxic limits will require an implementation schedule past the date for compliance and the Executive Secretary agrees with the conclusion.

3. The TRE results indicate that the toxicant(s) represent pollutant(s) that may be controlled with specific numerical limits, and the Executive Secretary agrees that numerical controls are the most appropriate course of action.

4. Following the implementation of numerical control(s) of toxicant(s), the Executive Secretary agrees that a modified biomonitoring protocol is necessary to compensate for those toxicant that are controlled numerically.

5. 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.

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

VIII. DEFINITIONS.

A. Wastewater.

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

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

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

4. "Acute toxicity" occurs when 50 percent or more mortality is observed for either test species at any effluent concentration.

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

6. "Chronic toxicity" occurs when the survival, growth, or reproduction for either test species exposed to a dilution of 25 percent effluent (or lower) is significantly less (at the 95 percent confidence level) than the survival, growth, or reproduction of the control specimens.

7. "Composite Samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the

collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

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

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

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

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

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

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

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

11. "Executive Secretary," means Executive Secretary of the Utah Water Quality Board.

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

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

14. "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.

15. "Upset," means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent

limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

B. Biosolids.

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

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

3. "Land Application" is the spraying or spreading of biosolids onto the land surface; the injection of biosolids below the land surface; or the incorporation of biosolids into the land so that the biosolids can either condition the soil or fertilize crops or vegetation grown in the soil. Land application includes distribution and marketing (i.e. the selling or giving away of the biosolids).

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

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

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

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

8. "Total Solids" are the materials in the biosolids that remain as a residue if the biosolids are dried at 103° 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.

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. The includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and gold courses.

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

public lands, or lands which are not generally accessible to or used by the public.

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

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

C. Storm Water.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

c. Meet at least one of the following criteria:

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

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

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

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

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

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

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

16. "Storm water associated with industrial activity" (*UAC R317-8-3.8(6)(c) & (d)*) means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial

plant. The term does not include discharges from facilities or activities excluded from the *UPDES* program. For the categories of industries identified in paragraphs *(a)* through *(j)* of this definition, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined in *40 CFR Part 401*); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in paragraph *(k)* of this definition, the term includes only storm water discharges from all areas (except access roads and rail lines) listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs *(a)* to *(k)* of this definition) include those facilities designated under *UAC R317-8-3.8(1)(a)5.* The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

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

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

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

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

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

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

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

h. Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45 and 5171 that have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or that are otherwise identified under paragraphs (a) to (g) or (I) to (k) of this subsection are associated with industrial activity;

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

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

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

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

FILE COPY

STATEMENT OF BASIS
SNYDERVILLE BASIN WATER RECLAMATION DISTRICT
SILVER CREEK WATER RECLAMATION FACILITY
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORM WATER
UPDES PERMIT NUMBER: UT0024414
UPDES BIOSOLIDS PERMIT NUMBER: UTL-020001
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT NUMBER: UTR000000
MAJOR MUNICIPAL

FACILITY CONTACTS

Person Name:	Michael Luers	Person Name:	Michael Boyle
Position:	District Manager	Position:	Operations Manager
Person Name:	Neil Jones	Person Name:	Larry Smith
Position:	Treatment Superintendent	Position:	Treatment Supervisor

Facility Name:	Silver Creek Water Reclamation Facility
Mailing Address:	Snyderville Basin Water Reclamation District 2800 Homestead Road Park City, Utah 84098
District Telephone:	435-649-7993
Facility Telephone:	435-649-5654
Location:	1 mile east of the junction of Interstate 80 and highway US 40 in unincorporated Summit County, with access from US 40 (turn East from US 40) about 1 mile south of the junction.

DESCRIPTION OF FACILITY

Silver Creek Water Reclamation Facility (SCWRF) is one of two water reclamation facilities owned by the Snyderville Basin Water Reclamation District (SBWRD); East Canyon Water Reclamation Facility (ECWRF) is the other. SBWRD has a piping system that allows a portion of the wastewater flows to be delivered to either facility.

SBWRD encompasses all of Park City and the adjoining unincorporated area within the Silver Creek and East Canyon Creek watersheds. It includes the most populated portion of Summit County. SBWRD encompasses a progressive, growing and active population in an area with housing or facilities for permanent and seasonal accommodations. There are several ski resorts in the area that draw winter ski crowds. The people and businesses in the area often host events such as national or international ski competitions. A local annually occurring event that occurs every winter is the Sundance Film Festival that draws large crowds each year. These annual or one time special events cause temporary increases in the normal yearly winter resort population. The local resorts have historically drawn visitors during the winter ski season, but are marketing travel packages during the off skiing season also.

SCWRF consists of an extended aeration air-activated sludge treatment process (EIMCO carousel) with ultraviolet disinfection. The physical plant consists of three (3) influent screw

pumps, one (1) mechanically cleaned bar screen, one (1) pista vortex grit chamber, one (1) parshall flume, one (1) carousel oxidation ditch, two (2) mechanical surface oxidation ditch aeration units, two (2) final clarifiers, two (2) traveling hood mixed media filters, three (3) in vessel ultraviolet disinfection chambers, one (1) static post aerator, an effluent meter, one (1) gravity thickener, two (2) sludge holding tanks one is aerated and mixed; one is just aerated, and one (1) sludge belt press. The facility was placed in service in 1987 with a design capacity of 1.5 MGD. Since 1987 many modifications and improvements to the plant have been made. Because of the improvements the plant has increased capacity but it has not been officially rated for the increased capacity. With the improvements the plant should be able to safely handle around 2.0 MGD. Snyderville Basin Water Reclamation District is considering upgrades to the Silver Creek plant. The projected flows for the Silver Creek plant goes a little over the 2.0 MGD by the end of the permit period.

DISCHARGE

DESCRIPTION OF DISCHARGE

Silver Creek Wastewater Reclamation Facility has been reporting self-monitoring results on Discharge Monitoring Reports (DMR) on a monthly basis. A summary of their DMR data from January 1998 is attached and there are no significant violations. The outfall is also monitored by DWQ under STORET Number 4926790.

Outfall	Description of Discharge Point
001	Located at latitude 40° 44' 40" and longitude 111° 28' 45". The discharge is through a 24-inch diameter gravity flow concrete pipe on the Northeast side of the treatment plant. The pipe discharges to the wetlands area of Silver Creek, with the Silver Creek main channel about 1000 feet East of discharge point 001

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge flows into Silver Creek, which flows into the Weber River. Silver Creek and the Weber River are Class 1C, 2B, 3A, and 4, according to *Utah Administrative Code (UAC) R317-2-13.4*:

Class1C	-Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water.
Class 2B	-Protected for secondary contact recreation such as boating, wading, or similar uses.
Class 3A	-Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
Class 4	-Protected for agricultural uses including irrigation of crops and stock watering.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

A TMDL study on cadmium and zinc for Silver Creek was approved by EPA on August 4, 2004. The primary source areas for these pollutants are mining-related tailings along and within the

stream channel. Cadmium and Zinc are listed in the TMDL as pollutants of concern. For cadmium the TMDL states that "the historical [Silver Creek] WRF effluent data for cadmium shows that virtually all of the values are below the detection limit. In order to be protective of the stream, an effluent limit that at least meets the new water quality standard should be imposed. It is unlikely that measurable contributions of cadmium will be detected from the Water Reclamation Facility."

In addition for cadmium and zinc, the TMDL states, "the time-frame for including the proposed effluent limits for the Silver Creek WRF is not urgent given that currently, the non-point source (NPS) loads dwarf the point source contribution. The current zinc loads from NPS sources will undoubtedly take 5 to 10 years for completion of the BMPs needed to address the NPS loads. Accordingly, the effluent limits for the Silver Creek WRF need not be in place until the NPS loads have been reduced by at least 75% of the target value through implementation of BMPs. Using zinc as the constituent of interest, this would translate into a load reduction of 7,670 lbs. needed at the "above Atkinson" station (or a total load of 2,556 lbs. of zinc measured at above Atkinson) to trigger the need for point source effluent limits to be in place." Accordingly, no effluent limits for zinc or cadmium will be put in the UPDES permit for this renewal.

A change for this renewal is all UPDES permits are now combined into one permit (wastewater, biosolids, and storm water).

The bacterial standard for waters in the State has change to include E-Coli. Fecal and Total Coliform limits have been removed from the permit. This limit was originally changed in a modification on June 1, 2006.

The ammonia and dissolved oxygen limit has changed due to a reassessment of conditions, the waste load analysis has been updated.

Some time ago the EPA relaxed the standards for ammonia. The standard changed as a result of new research, establishing new scientific data. In addition, at that time DWQ adopted the use of an EPA approved model for considering pH depression (the AMTOX model).

The new standard was applied in this renewal of the Silver Creek permit. When a discharge enters a stream, typically the pH in the stream is depressed temporarily as it mixes, suppressing the formation of the toxic species of ammonia. During that time ammonia is lost through volatilization and conversion to nitrate. By the time the pH in the stream rebounds to where it was prior to the discharge mixing, there is less ammonia. Since ammonia is toxic for aquatic life at specific concentrations (depending on temperature and pH), the attenuation of ammonia during the period of mixing allows a greater initial quantity of ammonia in the discharge with no deleterious effect.

The permit has changed in the biosolids part to allow for more opportunities for disposal of biosolids.

WASTEWATER DISCHARGE CONDITIONS

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD_5), e-coli, pH and percent removal for BOD_5 and TSS are based on current Utah Secondary Treatment Standards, *UAC R317-1-3.2*. The oil and grease is based on best professional judgment (BPJ).

The limitation on ammonia and dissolved oxygen is based on Water Quality Standards and a wasteload analysis.

The permit limitations are:

Parameter	Effluent Limitations			
	Monthly Average	Weekly Average	Daily Minimum	Daily Maximum
$CBOD_5$, mg/L	20	30	NA	NA
BOD_5 Min. % Removal	85	NA	NA	NA
TSS, mg/L	25	35	A	NA
TSS Min. % Removal	85	NA	NA	NA
Ammonia, as N, mg/L				
Summer	4.0			11.9
Fall/Spring	4.5	NA	NA	10.0
Winter	4.0			8.5
Dissolved Oxygen, mg/L	NA	NA	5.5	NA
E-Coli, No./100mL	126	158	NA	NA
Oil & Grease, mg/L	NA	NA	NA	10
pH, Standard Units	NA	NA	6.5	9.0

NA – Not Applicable.

SELF-MONITORING AND REPORTING REQUIREMENTS

Although there is no limit (see above) for phosphorus, phosphorus is included in the monitoring requirements due to concerns for phosphorus in the watershed.

The permit will require reports to be submitted monthly and quarterly, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Lab sheets for biomonitoring must be attached to the biomonitoring DMR.

Self-Monitoring and Reporting Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow	Continuous	Recorder	MGD
BOD_5, Influent	2 x Weekly	Composite	mg/L
Effluent	2 x Weekly	Composite	mg/L
TSS, Influent	2 x Weekly	Composite	mg/L

Self-Monitoring and Reporting Requirements			
Parameter	Frequency	Sample Type	Units
Effluent	2 x Weekly	Composite	mg/L
Ammonia	2 x Weekly	Grab	mg/L
Dissolved Oxygen	2 x Weekly	Grab	mg/L
Phosphorus	Monthly	Grab	mg/L
E-Coli	2 x weekly	Grab	No./100mL
Oil & Grease	2 x weekly[1]	Grab	mg/L
pH	2 x weekly	Grab	SU
WET, Acute Biomonitoring	2 x weekly	Composite	Pass/Fail
Metals[2], Influent Effluent	Quarterly Quarterly	Composite[3] Composite[3]	mg/L mg/L
Organic Toxics	Yearly	Grab	mg/L

[1] The permittee is required to take a sample from the effluent discharge and analyze it for Oil & Grease only when observation of the water surface of the discharge during the time of monitoring and/or sample taking indicates a visible sheen is present.

[2] Cyanide is included with metals (arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, zinc).

[3] In the case of mercury sampling is composite/grab, in the case of cyanide sampling is grab.

BIOSOLIDS

DESCRIPTION OF BIOSOLIDS TREATMENT AND DISPOSAL

The Snyderville Basin Water Reclamation District (SBWRD) stabilizes the solids (sewage sludge) in oxidation ditches at both of their Water Reclamation facilities with a mean cell residence time of about twenty days. The stabilized solids are dewatered with centrifuges to about eighteen percent solids. Since the solids produced at the SBWRD cannot meet Class A or Class B for land application requirements at their own facilities due to odor, the solids will need to be further treated before any of the solids are land applied for beneficial use. The solids are currently disposed at one of two disposal facilities. In 2005, the SBWRD disposed of 844.4 dry metric tons (DMT) of solids, 636.7 DMT were disposed at ET Technologies, and 207.7 DMT were disposed at R^3 (Please see below for additional information on ET Technologies and R^3).

ET Technologies.

ET Technologies is located directly adjacent to the Salt Lake Valley Landfill and operates under a processing facility permit issued from the Salt Lake Valley Health Department. All biosolids hauled to ET Technologies are weighed and the drivers are given a manifest. The biosolids must pass a toxicity characteristic leaching procedure (TCLP), are screened for radiation and "sniffed" for volatile organic compounds. ET Technologies is a soil regeneration site and mixes the solids with soil, contaminated soil from petroleum spills, saw dust, sump waste, fly ash, and other waste. It is buried for approximately one year for pathogen reduction, dug up and used for final

cover at the adjacent Salt Lake Valley Solid Waste Management Facility for land reclamation purposes with very good results.

R^3.
R^3 is a privately owned company that is part of the Ensign Group, and is located in Skull Valley, Tooele County, Utah in Section 4, Township 4S and Range 8W, just west of State Road 196, 19 miles north of the entrance to Dugway Proving Grounds. The facility is adjacent to Ensign Ranches that is also part of the Ensign Group. The facility consists of a half acre pad of impermeable asphalt with berms, and a storm water runoff pond designed to contain a 25 year, 24 hour storm event. R^3 processes biosolids under a UPDES permit that was issued from the Division of Water Quality in February 2003. R^3 provides a service to water reclamation facilities that cannot meet pathogen or vector attraction reduction standards for land application of biosolids at their own facilities due to offensive odors or space constrictions. R^3 spreads the solids less than a foot thick to initiate a rapid reduction of water content in the material. The solids are formed into windrows about 1-3 feet high and about 3-5 wide. The solar drying and turning of the windrows will further de-water the solids and reduce pathogens and achieve appropriate levels of vector attraction reduction. Once moisture reduction is achieved the "old dried solids" will be mixed with the "new wet solids" to accelerate the moisture reduction of the new solids. This process is ongoing until R^3 believes the solids will pass pathogen and VAR testing requirements proving the product meets Class A or Class B biosolids standards.

If the product meets Class A standards the biosolids processed at R^3 may be sold or given away to the public or used on other high public contact sites. If the product meets Class A or Class B standards the biosolids can be land applied at agronomic rates for agricultural production. Should the product fail to meet the requirements of Class A or Class B standards with regards to pathogens, VAR, or heavy metals, the solids will need to be hauled away and land filled.

FUTURE DISPOSAL METHODS

In the future, the SBWRD may change its disposal methods to include disposal at a sanitary landfill, a mono fill site or a composting site. If the sanitary landfill method of disposal is used, it would probably be, but not limited to either the Wasatch Regional Landfill, or the Summit County Landfill. If the mono fill method of disposal is used it would probably be at the Summit County Landfill or at a location selected by the steering Committee (see below for details). If the composting method of disposal is used it would probably be at the Summit County Landfill or at a location selected by the steering committee.

The Steering Committee is a consortium of different water reclamation facilities that are in the process of banding together to explore different long range disposal options. This consortium would probably be considered a special services district and will need to obtain a solids treatment UPDES permit under *Utah Administrative Code (UAC) R317-1-6.1*

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 (Dry Metric Tons (DMT))	
Amount of Solids Disposed Per Year	Monitoring Frequency
> 0 to < 290 DMT	Once Per Year
> 290 to < 1,500 DMT	Four Times Per Year

Landfill Monitoring. Prior to disposal in a landfill all solids must pass a paint filter test (to determine if the solids exhibit free liquid). If the solids do not pass a paint filter test, the solids cannot be disposed of in the landfill.

BIOSOLIDS LIMITATIONS

Heavy Metals Limitations. Prior to the sale or giveaway to the public, all biosolids need to be sampled and meet the heavy metals limits of *Table 3, 40 CFR 503.13,* for the biosolids to be considered Class A (exceptional quality (EQ)) biosolids in regards to heavy metals. 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 EQ standards. If the biosolids do not meet the EQ standards for heavy metals, the biosolids cannot be sold or given away to the public. If the biosolids are land applied for agricultural purposes or land reclamation, *Tables 1, 2,* or *4* of *40 CFR 503.13* will need to be met. However, all biosolids produced from the SBWRD have met EQ standards with respect to heavy metals during the life of the last permit, and it is expected that the SBWRD will continue to meet EQ standards for the life of this permit. If the biosolids fail to meet any of the heavy metals standards of *40 CFR 503.13*, the biosolids cannot be land applied, and the SBWRD will need find another method of disposal.

Pathogens Limitations, Class A Biosolids (Composting Requirements). 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 3 MPN of *Salmonella* per 4 grams of total solids (or less than 1,000 most probable number (MPN) of fecal coliform per gram of total solids) to be considered Class A biosolids. The PFRP will be accomplished through windrow composting. *(Using the windrow method of composting, the temperature needs to be maintained at 55°C (131 °F) or higher for fifteen days, with a minimum of five turnings during those fifteen days. (40 CFR 503.32(a)(8), Appendix (B), (B)(1).* 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 SBWRD will need to find another method of disposal.

Pathogens Limitations, Class A Biosolids (Alternative 4 Standards). If the biosolids are to be land applied to home lawns and gardens, the solids will need to meet Class A standards with respect to pathogens. The total solids will be required to meet a microbiological limit of less than 1,000 most probable number (MPN) of fecal coliform per gram of total solids (or less than 4 MPN per gram of total solids for *salmonella*), a microbiological limit of less than 1 plaque forming unit per 4 grams of enteric virus and less than 1 viable helminth ova per 4 grams of solids under *40 CFR 503 (C)(6), Class A, Alternative 4(i).* The practice of sale or giveaway to the public will be an acceptable use of biosolids of this quality as long as the biosolids continue to meet these pathogen limits. If the biosolids do not meet Class A pathogen standards, the SBWRD will need to find another method of disposal.

Pathogens Limitations, Class B Biosolids (Air Drying Requirements). If the biosolids are to be land applied for agriculture or reclamation purposes, the biosolids need to be treated by a specific process to significantly to reduce pathogens (PSRP) or meet a microbiological limit of less than 2,000,000 most probable number (MPN) of fecal coliform per gram of total solids. The PSRP may be accomplished through air drying and solar treatment of the solids, to meet Class B standards. If the air drying method of a PSRP is used to reduce pathogens the solids will need to be spread about 9" deep on an impervious surface for at least three months, during 2 of those 3 months the ambient daily temperature is above 0° C (32° F). During this time the solids should not be covered with snow. If the solids do not meet Class B pathogen standards or a PSRP the SBWRD must dispose of the solids in the landfill.

Pathogens Limitations, Class B Biosolids (Windrow and Static Pile Aerated Composting Requirements). If the windrow or static aerated pile method of composting is used to reduce pathogens the temperature of the solids will need to be maintained at a minimum of 40° C (104°F) for at least five days, and the during those five days the temperature must rise to at least 55 C° (131° F) for a minimum of four hours. If the solids do not meet Class B pathogen standards or a PSRP the SBWRD must dispose of the solids in the landfill.

VECTOR ATTRACTION REDUCTION (VAR) REQUIREMENTS

The SBWRD needs to meet a method of VAR if the biosolids are land applied. The available options are below.

Composting, Class A and Class B Biosolids (VAR). If the solids are composted to meet Class A pathogen reduction requirements, the biosolids will automatically meet a method of vector attraction reduction. If the solids are composted to meet Class B pathogen reduction requirements the temperature of the solids will need to be maintained at 40°C (104° F) for at least 14 days according to *40 CFR 503.33(b)(5).*

Moisture Reduction (VAR). If the biosolids are land applied, the solids content must be at least 90% according to *40 CFR 503.33(b)(8).*

Incorporation (VAR). If the biosolids are land applied, Class A biosolids must be incorporated into the soil within eight hours of land application. If Class B biosolids are land applied, the biosolids must be incorporated into the soil within six hours of land application according to *40 CFR 503.33 (b)(10).*

Landfill (VAR). If the solids are land filled the solids must be covered with soil or another approved material at the end of each operating day for vector attraction reduction according to *40 CFR 503.33(b)(11)* and *UAC R315-301-5* .

MONITORING DATA

Heavy Metals. The SBWRD was not required to sample the solids for heavy metals in 2005. However, they did sample each plant once. The monitoring data shows that the SBWRD met the heavy metals requirements from both plants of *Table 3* of *40 CFR 503.13,* therefore, the SBWRD solids is considered Exceptional Quality with respect to heavy metals. The monitoring data for both plants is below.

Heavy Metals Monitoring Data, East Canyon Water Reclamation Facility

Parameter	Table 3 Limits, mg/kg (Exceptional Quality)	SBWRD, mg/kg (2005)
Arsenic	41.0	ND
Cadmium	39.0	0.71
Copper	1500.0	78.5
Lead	300.0	3.71
Mercury	17.0	0.100
Molybdenum	75.0	ND
Nickel	420.0	2.29
Selenium	36.0	ND
Zinc	2,800.0	211.0

ND=Non Detectable

Heavy Metals Monitoring Data, Silver Creek Water Reclamation Facility

Parameter	Table 3 Limits, mg/kg (Exceptional Quality)	SBWRD, mg/kg (2005)
Arsenic	41.0	2.1
Cadmium	39.0	0.12
Copper	1500.0	45.6
Lead	300.0	1.64
Mercury	17.0	0.220
Molybdenum	75.0	0.87
Nickel	420.0	2.08
Selenium	36.0	ND
Zinc	2,800.0	73.2

ND=Non Detectable

Record Keeping. The record keeping requirements from *40 CFR 503.17* are included under Part III.F. of the permit. The disposal records will need to be retained for a minimum of five years.

Reporting. The SBWRD will be required to report annually as required in *40 CFR 503.18.* This report is to include the results of all monitoring performed in accordance with Part I.C. of the permit, information regarding disposal sites and certifications will be due no later than February 19 of each year. Each report is for the previous calendar year.

STORM WATER

STORMWATER REQUIREMENTS

Storm water provisions are included in this combined UPDES permit.

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

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the plant. Elements of this plan are required to include: 1. The development of a pollution prevention team: 2. Development of drainage maps and materials stockpiles: 3. An inventory of exposed materials: 4. Spill reporting and response procedures: 5. A preventative maintenance program: 6. Employee training: 7. Certification that storm water discharges are not mixed with non-storm water discharges: 8. Compliance site evaluations and potential pollutant source identification, and: 9. Visual examinations of storm water discharges.

PRETREATMENT REQUIREMENTS

The pretreatment requirements remain the same as in the current permit with the permittee administering an approved pretreatment program. Any substantial changes to the program must be submitted for approval to the Division of Water Quality. Authority to require a pretreatment program is provided for in *19-5-108 UCA, 1953 ann.* and *UAC R317-8-8.*

The permittee will be required to perform an annual evaluation of the need to revise or develop technically based local limits to implement the general and specific prohibitions of *40 CFR, Part 403.5(a)* and *Part 403.5(b).* This evaluation may indicate that present local limits are sufficiently protective, or that they must be revised.

As part of this evaluation, the permit requires quarterly influent and effluent monitoring for metals and yearly organic toxics listed in *R317-8-7.5* and sludge monitoring for potential pollutants listed in *40 CFR 503.*

BIOMONITORING REQUIREMENTS

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

Since the permittee is a major municipal discharger, the renewal permit will again require whole effluent toxicity (WET) testing. Over the last five years the permittee has not failed their acute WET testing. Therefore, the permittee will continue alternating between acute and chronic WET testing quarterly, with alternating species and no acute WET limit. However, the permit will contain a toxicity limitation re-opener provision. This provision allows for modification of the permit to include WET limitations and/or increased WET monitoring, should additional information indicate the presence of toxicity in the discharge.

The permit will contain the standard requirements for accelerated testing upon failure of a WET test and a PTI (Preliminary Toxicity Investigation) and TRE (Toxicity Reduction Evaluation) as necessary. Biomonitoring tests are required quarterly, alternating acute and chronic and alternating Ceriodaphnia dubia and Pimephales promelas (fathead minnow).

PERMIT DURATION

This permit will be effective for five (5) years. This permit has been drafted by Harry Campbell, P.E.; Mark Schmitz, Biosolids Coordinator, drafted the Biosolids portion of the permit. Thomas Rushing, Storm Water Coordinator, drafted the Storm Water portion of the permit.

APPENDIX 1

DWQ Waste Load Analysis

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis
SUMMARY

Discharging Facility:	**Silver Creek WWTP**		
UPDES No:	UT-0024414		
Current Flow:	1.70 cfs		
Projected Flow:	2.24 cfs		
Receiving Water:	**Silver Creek --> Weber River**		
Stream Classification:	C, 2B,3A, 4		
Stream Flows, cfs:	0.001	Summer (July-Sept)	20th Percentile DWQ Monitoring Data
	0.001	Fall (Oct-Dec)	20th Percentile DWQ Monitoring Data
	0.970	Winter (Jan-Mar)	20th Percentile DWQ Monitoring Data
	0.045	Spring (Apr-June)	20th Percentile DWQ Monitoring Data
	2.486	Average	
Stream NH3 Conc.	0.10	Summer (July-Sept)	Default
	0.10	Fall (Oct-Dec)	Default
	0.10	Winter (Jan-Mar)	Default
	0.10	Spring (Apr-June)	Default

Calculated Effluent Limits		**Period**	**WQ Std.**	**Comment**
Flow, MGD:	2.24	Summer		Projected 5 Year + 20% Safety Factor
BOD, mg/l:	25.0	Summer	5.0	Indicator [R317-2]
Dissolved Oxygen, mg/l:	5.5	Summer	6.5	30 Day Average [R317-2]
TNH3, Chronic, mg/l:	3.97	Summer	Varies	Function of pH and Temperature [317-2]
Zinc mg/l:	N/A	All Seasons		TMDL

Modeling Parameters:

Acute River Width:	6.62 ft.
Chronic River Width:	13.23 ft.

Antidegradation Review Completed for: NH3
Antidegradation Level II Review is NOT Required

		Date:
Permit Writers:	_____	_____
WLA by:	_____	_____
WQM Sec. Approval:	_____	_____
TMDL Sec. Approval:	_____	_____

Utah Division of Water Quality
Salt Lake City, Utah

WASTELOAD ANALYSIS [WLA]
Addendum: Statement of Basis

21-Jun-07
4:00 PM

Facilities: Silver Creek WWTP
Discharging to: Silver Creek --> Weber River

UPDES No: UT-0024414

THIS IS A DRAFT DOCUMENT

I. Introduction

Wasteload analyses are performed to determine point source effluent limitations necessary to maintain designated beneficial uses by evaluating projected effects of discharge concentrations on in-stream water quality. The wasteload analysis also takes into account downstream designated uses [R317-2-8, UAC]. Projected concentrations are compared to numeric water quality standards to determine acceptability. The anti-degradation policy and procedures are also considered. The primary in-stream parameters of concern may include metals (as a function of hardness), total dissolved solids (TDS), total residual chlorine (TRC), un-ionized ammonia (as a function of pH and temperature, measured and evaluated interms of total ammonia), and dissolved oxygen.

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

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

II. Receiving Water and Stream Classification

Silver Creek --> Weber River:	1C, 2B,3A, 4
Antidegradation Review:	Antidegradation Level II Review is NOT Required

III. Numeric Stream Standards for Protection of Aquatic Wildlife

Total Ammonia (TNH3)	Varies as a function of Temperature and pH Rebound. See Water Quality Standards
Chronic Total Residual Chlorine (TRC)	0.011 mg/l (4 Day Average) 0.019 mg/l (1 Hour Average)
Chronic Dissolved Oxygen (DO)	6.50 mg/l (30 Day Average) 5.00 mg/l (7Day Average) 4.00 mg/l (1 Day Average
Maximum Total Dissolved Solids	3.5 mg/l

Acute and Chronic Heavy Metals (Dissolved)

Parameter	4 Day Average (Chronic) Standard Concentration	Load*	1 Hour Average (Acute) Standard Concentration		Load*
Aluminum	87.00 ug/l**	1.512 lbs/day	750.00	ug/l	13.036 lbs/day
Arsenic	190.00 ug/l	3.302 lbs/day	340.00	ug/l	5.910 lbs/day

Cadmium	0.76 ug/l	0.013 lbs/day	8.73	ug/l	0.152 lbs/day
Chromium III	268.24 ug/l	4.662 lbs/day	5612.00	ug/l	97.545 lbs/day
ChromiumVI	11.00 ug/l	0.191 lbs/day	16.00	ug/l	0.278 lbs/day
Copper	30.50 ug/l	0.530 lbs/day	51.69	ug/l	0.898 lbs/day
Iron			1000.00	ug/l	17.381 lbs/day
Lead	18.58 ug/l	0.323 lbs/day	476.86	ug/l	8.289 lbs/day
Mercury	0.0120 ug/l	0.000 lbs/day	2.40	ug/l	0.042 lbs/day
Nickel	168.55 ug/l	2.930 lbs/day	1516.01	ug/l	26.350 lbs/day
Selenium	4.60 ug/l	0.080 lbs/day	20.00	ug/l	0.348 lbs/day
Silver	N/A ug/l	N/A lbs/day	41.08	ug/l	0.714 lbs/day
Zinc	387.85 ug/l	6.741 lbs/day	387.85	ug/l	6.741 lbs/day

* Allowed below discharge

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

Metals Standards Based upon a Hardness of 400.03 mg/l as CaCO3

Organics [Pesticides]

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard		
Parameter	**Concentration**	**Load***	**Concentration**		**Load***
Aldrin			1.500	ug/l	0.026 lbs/day
Chlordane	0.004 ug/l	0.080 lbs/day	1.200	ug/l	0.021 lbs/day
DDT, DDE	0.001 ug/l	0.019 lbs/day	0.550	ug/l	0.010 lbs/day
Dieldrin	0.002 ug/l	0.035 lbs/day	1.250	ug/l	0.022 lbs/day
Endosulfan	0.056 ug/l	1.045 lbs/day	0.110	ug/l	0.002 lbs/day
Endrin	0.002 ug/l	0.043 lbs/day	0.090	ug/l	0.002 lbs/day
Guthion			0.010	ug/l	0.000 lbs/day
Heptachlor	0.004 ug/l	0.071 lbs/day	0.260	ug/l	0.005 lbs/day
Lindane	0.080 ug/l	1.493 lbs/day	1.000	ug/l	0.017 lbs/day
Methoxychlor			0.030	ug/l	0.001 lbs/day
Mirex			0.010	ug/l	0.000 lbs/day
Parathion			0.040	ug/l	0.001 lbs/day
PCB's	0.014 ug/l	0.261 lbs/day	2.000	ug/l	0.035 lbs/day
Pentachlorophenol	13.00 ug/l	242.600 lbs/day	20.000	ug/l	0.348 lbs/day
Toxephene	0.0002 ug/l	0.004 lbs/day	0.7300	ug/l	0.013 lbs/day

IV. Numeric Stream Standards for Protection of Agriculture

	4 Day Average (Chronic) Standard		1 Hour Average (Acute) Standard	
	Concentration	**Load***	**Concentration**	**Load***
Arsenic			100.0 ug/l	lbs/day
Boron			750.0 ug/l	6.52 lbs/day
Cadmium			10.0 ug/l	0.09 lbs/day
Chromium			100.0 ug/l	lbs/day
Copper			200.0 ug/l	lbs/day
Lead			100.0 ug/l	lbs/day
Selenium			50.0 ug/l	lbs/day
TDS, Summer			3.5 mg/l	0.03 tons/day

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

	4 Day Average (Chronic) Standard	1 Hour Average (Acute) Standard

Utah Division of Water Quality
Salt Lake City, Utah

Metals	Concentration	Load*	Concentration	Load*
Arsenic			50.0 ug/l	0.933 lbs/day
Barium			1000.0 ug/l	18.662 lbs/day
Cadmium			10.0 ug/l	0.187 lbs/day
Chromium			50.0 ug/l	0.933 lbs/day
Lead			50.0 ug/l	0.933 lbs/day
Mercury			2.0 ug/l	0.037 lbs/day
Selenium			10.0 ug/l	0.187 lbs/day
Silver			50.0 ug/l	0.933 lbs/day
Fluoride (3)			1.4 ug/l	0.026 lbs/day
to			2.4 ug/l	0.045 lbs/day
Nitrates as N			10.0 ug/l	0.187 lbs/day
Chlorophenoxy Herbicides				
2,4-D			100.0 ug/l	1.866 lbs/day
2,4,5-TP			10.0 ug/l	0.187 lbs/day
Endrin			0.2 ug/l	0.004 lbs/day
·ocyclohexane (Lindane)			4.0 ug/l	0.075 lbs/day
Methoxychlor			100.0 ug/l	1.866 lbs/day
Toxaphene			5.0 ug/l	0.093 lbs/day

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

	Maximum Conc., ug/l - Acute Standards			
	Class 1C		Class 3A, 3B	
Toxic Organics	[2 Liters/Day for 70 Kg Person over 70 Yr.]		[6.5 g for 70 Kg Person over 70 Yr.]	
Acenaphthene	1200.00 ug/l	22.39 lbs/day	2700.0 ug/l	50.39 lbs/day
Acrolein	320.00 ug/l	5.97 lbs/day	780.0 ug/l	14.56 lbs/day
Acrylonitrile	0.06 ug/l	0.00 lbs/day	0.7 ug/l	0.01 lbs/day
Benzene	1.20 ug/l	0.02 lbs/day	71.0 ug/l	1.32 lbs/day
Benzidine	0.00012 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Carbon tetrachloride	0.25 ug/l	0.00 lbs/day	4.4 ug/l	0.08 lbs/day
Chlorobenzene	680.00 ug/l	12.69 lbs/day	21000.0 ug/l	391.89 lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenzene	0.00075 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Dichloroethane	0.38 ug/l	0.01 lbs/day	99.0 ug/l	1.85 lbs/day
1,1,1-Trichloroethane				
Hexachloroethane	1.90 ug/l	0.04 lbs/day	8.9 ug/l	0.17 lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	0.61 ug/l	0.01 lbs/day	42.0 ug/l	0.78 lbs/day
1,1,2,2-Tetrachloroethar	0.17 ug/l	0.00 lbs/day	11.0 ug/l	0.21 lbs/day
Chloroethane			0.0 ug/l	0.00 lbs/day
Bis(2-chloroethyl) ether	0.03 ug/l	0.00 lbs/day	1.4 ug/l	0.03 lbs/day
2-Chloroethyl vinyl ether	0.00 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
2-Chloronaphthalene	1700.00 ug/l	31.72 lbs/day	4300.0 ug/l	80.24 lbs/day
2,4,6-Trichlorophenol	2.10 ug/l	0.04 lbs/day	6.5 ug/l	0.12 lbs/day
p-Chloro-m-cresol			0.0 ug/l	0.00 lbs/day
Chloroform (HM)	5.70 ug/l	0.11 lbs/day	470.0 ug/l	8.77 lbs/day
2-Chlorophenol	120.00 ug/l	2.24 lbs/day	400.0 ug/l	7.46 lbs/day
1,2-Dichlorobenzene	2700.00 ug/l	50.39 lbs/day	17000.0 ug/l	317.25 lbs/day

1,3-Dichlorobenzene	400.00	ug/l	7.46	lbs/day	2600.0 ug/l	48.52 lbs/day
1,4-Dichlorobenzene	400.00	ug/l	7.46	lbs/day	2600.0 ug/l	48.52 lbs/day
3,3'-Dichlorobenzidine	0.04	ug/l	0.00	lbs/day	0.1 ug/l	0.00 lbs/day
1,1-Dichloroethylene	0.06	ug/l	0.00	lbs/day	3.2 ug/l	0.06 lbs/day
1,2-trans-Dichloroethyle	700.00	ug/l	13.06	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dichlorophenol	93.00	ug/l	1.74	lbs/day	790.0 ug/l	14.74 lbs/day
1,2-Dichloropropane	0.52	ug/l	0.01	lbs/day	39.0 ug/l	0.73 lbs/day
1,3-Dichloropropylene	10.00	ug/l	0.19	lbs/day	1700.0 ug/l	31.72 lbs/day
2,4-Dimethylphenol	540.00	ug/l	10.08	lbs/day	2300.0 ug/l	42.92 lbs/day
2,4-Dinitrotoluene	0.11	ug/l	0.00	lbs/day	9.1 ug/l	0.17 lbs/day
2,6-Dinitrotoluene	0.00	ug/l	0.00	lbs/day	0.0 ug/l	0.00 lbs/day
1,2-Diphenylhydrazine	0.04	ug/l	0.00	lbs/day	0.5 ug/l	0.01 lbs/day
Ethylbenzene	3100.00	ug/l	57.85	lbs/day	29000.0 ug/l	541.19 lbs/day
Fluoranthene	300.00	ug/l	5.60	lbs/day	370.0 ug/l	6.90 lbs/day
4-Chlorophenyl phenyl ether						
4-Bromophenyl phenyl ether						
Bis(2-chloroisopropyl) et	1400.00	ug/l	26.13	lbs/day	170000.0 ug/l	3172.47 lbs/day
Bis(2-chloroethoxy) metl	0.00	ug/l	0.00	lbs/day	0.0 ug/l	0.00 lbs/day
Methylene chloride (HM)	4.70	ug/l	0.09	lbs/day	1600.0 ug/l	29.86 lbs/day
Methyl chloride (HM)	0.00	ug/l	0.00	lbs/day	0.0 ug/l	0.00 lbs/day
Methyl bromide (HM)	0.00	ug/l	0.00	lbs/day	0.0 ug/l	0.00 lbs/day
Bromoform (HM)	4.30	ug/l	0.08	lbs/day	360.0 ug/l	6.72 lbs/day
Dichlorobromomethane(	0.27	ug/l	0.01	lbs/day	22.0 ug/l	0.41 lbs/day
Chlorodibromomethane	0.41	ug/l	0.01	lbs/day	34.0 ug/l	0.63 lbs/day
Hexachlorobutadiene(c)	0.44	ug/l	0.01	lbs/day	50.0 ug/l	0.93 lbs/day
Hexachlorocyclopentadi	240.00	ug/l	4.48	lbs/day	17000.0 ug/l	317.25 lbs/day
Isophorone	8.40	ug/l	0.16	lbs/day	600.0 ug/l	11.20 lbs/day
Naphthalene						
Nitrobenzene	17.00	ug/l	0.32	lbs/day	1900.0 ug/l	35.46 lbs/day
2-Nitrophenol	0.00	ug/l	0.00	lbs/day	0.0 ug/l	0.00 lbs/day
4-Nitrophenol	0.00	ug/l	0.00	lbs/day	0.0 ug/l	0.00 lbs/day
2,4-Dinitrophenol	70.00	ug/l	1.31	lbs/day	14000.0 ug/l	261.26 lbs/day
4,6-Dinitro-o-cresol	13.00	ug/l	0.24	lbs/day	765.0 ug/l	14.28 lbs/day
N-Nitrosodimethylamine	0.00069	ug/l	0.00	lbs/day	8.1 ug/l	0.15 lbs/day
N-Nitrosodiphenylamine	5.00	ug/l	0.09	lbs/day	16.0 ug/l	0.30 lbs/day
N-Nitrosodi-n-propylamii	0.01	ug/l	0.00	lbs/day	1.4 ug/l	0.03 lbs/day
Pentachlorophenol	0.28	ug/l	0.01	lbs/day	8.2 ug/l	0.15 lbs/day
Phenol	2.10E+04	ug/l	3.92E+02	lbs/day	4.6E+06 ug/l	8.58E+04 lbs/day
Bis(2-ethylhexyl)phthalat	1.80	ug/l	0.03	lbs/day	5.9 ug/l	0.11 lbs/day
Butyl benzyl phthalate	3000.00	ug/l	55.98	lbs/day	5200.0 ug/l	97.04 lbs/day
Di-n-butyl phthalate	2700.00	ug/l	50.39	lbs/day	12000.0 ug/l	223.94 lbs/day
Di-n-octyl phthlate						
Diethyl phthalate	23000.00	ug/l	429.22	lbs/day	120000.0 ug/l	2239.39 lbs/day
Dimethyl phthlate	3.13E+05	ug/l	5.84E+03	lbs/day	2.9E+06 ug/l	5.41E+04 lbs/day
Benzo(a)anthracene (PA	0.0028	ug/l	0.00	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(a)pyrene (PAH)	0.0028	ug/l	0.00	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(b)fluoranthene (P	0.0028	ug/l	0.00	lbs/day	0.0 ug/l	0.00 lbs/day
Benzo(k)fluoranthene (P	0.0028	ug/l	0.00	lbs/day	0.0 ug/l	0.00 lbs/day
Chrysene (PAH)	0.0028	ug/l	0.00	lbs/day	0.0 ug/l	0.00 lbs/day
Acenaphthylene (PAH)						
Anthracene (PAH)	9600.00	ug/l	179.15	lbs/day	0.0 ug/l	0.00 lbs/day

Dibenzo(a,h)anthracene	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Indeno(1,2,3-cd)pyrene	0.0028 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Pyrene (PAH)	960.00 ug/l	17.92 lbs/day	11000.0 ug/l	205.28 lbs/day
Tetrachloroethylene	0.80 ug/l	0.01 lbs/day	8.9 ug/l	0.17 lbs/day
Toluene	6800.00 ug/l	126.90 lbs/day	200000.0 ug/l	3732.31 lbs/day
Trichloroethylene	2.70 ug/l	0.05 lbs/day	81.0 ug/l	1.51 lbs/day
Vinyl chloride	2.00 ug/l	0.04 lbs/day	525.0 ug/l	9.80 lbs/day
			0.0	0.00 lbs/day
Pesticides			0.0	0.00 lbs/day
Aldrin	0.0001 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Dieldrin	0.0001 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Chlordane	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDT	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDE	0.0006 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
4,4'-DDD	0.0008 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
alpha-Endosulfan	0.9300 ug/l	0.02 lbs/day	2.0 ug/l	0.04 lbs/day
beta-Endosulfan	0.9300 ug/l	0.02 lbs/day	2.0 ug/l	0.04 lbs/day
Endosulfan sulfate	0.9300 ug/l	0.02 lbs/day	2.0 ug/l	0.04 lbs/day
Endrin	0.7600 ug/l	0.01 lbs/day	0.8 ug/l	0.02 lbs/day
Endrin aldehyde	0.7600 ug/l	0.01 lbs/day	0.8 ug/l	0.02 lbs/day
Heptachlor	0.0002 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Heptachlor epoxide				
PCB's				
PCB 1242 (Arochlor 124	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1254 (Arochlor 125	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1221 (Arochlor 122	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1232 (Arochlor 123	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1248 (Arochlor 124	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1260 (Arochlor 126	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
PCB-1016 (Arochlor 101	0.000044 ug/l	0.00 lbs/day	0.0 ug/l	0.00 lbs/day
Pesticide				
Toxaphene	0.000750 ug/l	0.00	0.0 ug/l	0.00 lbs/day
Dioxin				
Dioxin (2,3,7,8-TCDD)	1.30E-08 ug/l	0.00 lbs/day	1.40E-08	0.00
Metals				
Antimony	14.0 ug/l	0.26 lbs/day		
Arsenic	50.0 ug/l	0.93 lbs/day	4300.00 ug/l	80.24 lbs/day
Asbestos	7.00E+06 ug/l	1.31E+05 lbs/day		
Beryllium				
Cadmium				
Chromium (III)				
Chromium (VI)				
Copper				
Cyanide	1.30E+03 ug/l	24.26 lbs/day	2.2E+05 ug/l	4105.55 lbs/day
Lead	700.0 ug/l	13.06 lbs/day		
Mercury			0.15 ug/l	0.00 lbs/day

Nickel			4600.00 ug/l	85.84 lbs/day
Selenium	0.1 ug/l	0.00 lbs/day		
Silver	610.0 ug/l	11.38 lbs/day		
Thallium			6.30 ug/l	0.12 lbs/day
Zinc				

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

VII. Mathematical Modeling of Stream Quality

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

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

(1) The Utah River Model, Utah Division of Water Quality, 1992. Based upon STREAMDO IV (Region VIII) and Supplemental Ammonia Toxicity Models; EPA Region VIII, Sept. 1990 and QUAL2E (EPA, Athens, GA).

(2) Utah Ammonia/Chlorine Model, Utah Division of Water Quality, 1992.

(3) AMMTOX Model, University of Colorado, Center of Limnology, and EPA Region 8

(4) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

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

(1) Rates, Constants, and Kinetics Formulations in Surface Water Quality Modeling. Environmental Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Athens Georgia. EPA/600/3-85/040 June 1985.

(2) Principles of Surface Water Quality Modeling and Control. Robert V. Thomann, et.al. Harper Collins Publisher, Inc. 1987, pp. 644.

VIII. Modeling Information

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

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

Other Conditions

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

Model Inputs

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

Current Upstream Information

	Stream Critical Low Flow cfs	Temp. Deg. C	pH	T-NH3 mg/l as N	BOD5 mg/l	DO mg/l	TRC mg/l	TDS mg/l
Summer	0.0	20.0	8.2	0.10	0.50	10.74	0.00	400.0
Fall	0.0	12.0	8.1	0.10	0.50	---	0.00	400.0
Winter	1.0	4.0	8.0	0.10	0.50	---	0.00	400.0
Spring	0.0	12.0	8.1	0.10	0.50	---	0.00	400.0

Dissolved	Al	As	Cd	CrIII	CrVI	Copper	Fe	Pb
Metals	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
All Seasons	1.59*	0.53*	38.66	0.53*	2.65*	0.53*	0.83*	0.53*

Dissolved	Hg	Ni	Se	Ag	Zn	Boron	
Metals	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
All Seasons	0.0000	0.53*	1.06*	0.1*	9044.00	10.0	* 1/2 MDL

Projected Discharge Information

Season	Flow, MGD	Temp.	TDS mg/l	TDS tons/day
Summer	2.23740	17.0	2.00	0.01866
Fall	2.08452	12.0		
Winter	2.63395	4.0		
Spring	2.46208	12.0		

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

IX. Effluent Limitations

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

Other conditions used in the modeling effort coincide with the environmental conditions expected

at low stream flows.

Effluent Limitation for Flow based upon Water Quality Standards

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

Season	Daily Average	
Summer	2.237 MGD	3.461 cfs
Fall	2.085 MGD	3.225 cfs
Winter	2.634 MGD	4.075 cfs
Spring	2.462 MGD	3.809 cfs

Flow Requirement or Loading Requirement

The calculations in this wasteload analysis utilize the maximum effluent discharge flow of 2.23740044378949 MGD discharger is allowed to have a flow greater than 2.23740044378949 MGD during 7Q10 conditions, and effluent lim concentrations as indicated, then water quality standards will be violated. In order to prevent this from occuring, the permit writers must include the discharge flow limititation as indicated above; or, include loading effluent limits in the permit.

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

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

WET Requirements	LC50 >	EOP Effluent	[Acute]
	IC25 >	100.0% Effluent	[Chronic]

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

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

Season	Concentration	
Summer	25.0 mg/l as BOD5	466.4 lbs/day
Fall	25.0 mg/l as BOD5	466.4 lbs/day
Winter	25.0 mg/l as BOD5	466.4 lbs/day
Spring	25.0 mg/l as BOD6	466.4 lbs/day

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

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

Season	**Concentration**
Summer	5.50

Fall	5.50
Winter	5.50
Spring	5.50

Effluent Limitation for Total Ammonia based upon Water Quality Standards

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

Season		Concentration		Load	
Summer	4 Day Avg. - Chronic	4.0	mg/l as N	74.1	lbs/day
	1 Hour Avg. - Acute	11.9	mg/l as N	221.9	lbs/day
Fall	4 Day Avg. - Chronic	4.5	mg/l as N	78.2	lbs/day
	1 Hour Avg. - Acute	10.0	mg/l as N	173.8	lbs/day
Winter	4 Day Avg. - Chronic	4.0	mg/l as N	88.3	lbs/day
	1 Hour Avg. - Acute	8.5	mg/l as N	186.6	lbs/day
Spring	4 Day Avg. - Chronic	4.5	mg/l as N	0.0	lbs/day
	1 Hour Avg. - Acute	10.0	mg/l as N	0.0	lbs/day

Acute limit calculated with an Acute Zone of Initial Dilution (ZID) to be equal to 100.%.

Effluent Limitation for Total Residual Chlorine based upon Water Quality Standards

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

Season		Concentration		Load	
Summer	4 Day Avg. - Chronic	0.011	mg/l	0.21	lbs/day
	1 Hour Avg. - Acute	0.019	mg/l	0.35	lbs/day
Fall	4 Day Avg. - Chronic	0.011	mg/l	0.19	lbs/day
	1 Hour Avg. - Acute	0.019	mg/l	0.33	lbs/day
Winter	4 Day Avg. - Chronic	0.014	mg/l	0.30	lbs/day
	1 Hour Avg. - Acute	0.024	mg/l	0.52	lbs/day
Spring	4 Day Avg. - Chronic	0.011	mg/l	0.00	lbs/day
	1 Hour Avg. - Acute	0.019	mg/l	0.00	lbs/day

Effluent Limitations for Total Recoverable Metals based upon Water Quality Standards

In-stream criteria of downstream segments for Dissolved Metals will be met with an effluent limitation as follows (based upon a hardness of 400.03 mg/l):

	4 Day Average		1 Hour Average	
	Concentration	Load	Concentration	Load

Aluminum	N/A		N/A	750.0	ug/l	13.0	lbs/day
Arsenic	190.05	ug/l	2.1 lbs/day	340.0	ug/l	5.9	lbs/day
Cadmium	0.74	ug/l	0.0 lbs/day	8.7	ug/l	0.2	lbs/day
Chromium III	268.31	ug/l	3.0 lbs/day	5,612.0	ug/l	97.5	lbs/day
Chromium VI	11.00	ug/l	0.1 lbs/day	16.0	ug/l	0.3	lbs/day
Copper	30.51	ug/l	0.3 lbs/day	51.7	ug/l	0.9	lbs/day
Iron	N/A		N/A	1,000.0	ug/l	17.4	lbs/day
Lead	18.59	ug/l	0.2 lbs/day	476.9	ug/l	8.3	lbs/day
Mercury	0.01	ug/l	0.0 lbs/day	2.4	ug/l	0.0	lbs/day
Nickel	168.60	ug/l	1.9 lbs/day	1,516.0	ug/l	26.4	lbs/day
Selenium	4.60	ug/l	0.1 lbs/day	20.0	ug/l	0.3	lbs/day
Silver	N/A	ug/l	N/A lbs/day	41.1	ug/l	0.7	lbs/day
Zinc	385.35	ug/l	4.3 lbs/day	387.9	ug/l	6.7	lbs/day
Cyanide	5.20	ug/l	0.1 lbs/day	22.0	ug/l	0.4	lbs/day

Effluent Limitations for Heat/Temperature based upon Water Quality Standards

Summer	24.0 Deg. C.	75.2 Deg. F
Fall	17.1 Deg. C.	62.8 Deg. F
Winter	8.0 Deg. C.	46.4 Deg. F
Spring	17.1 Deg. C.	62.8 Deg. F

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

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

	4 Day Average Concentration		Load		1 Hour Average Concentration		Load	
Aldrin					1.5E+00	ug/l	4.33E-02	lbs/day
Chlordane	4.30E-03	ug/l	8.02E-02	lbs/day	1.2E+00	ug/l	3.46E-02	lbs/day
DDT, DDE	1.00E-03	ug/l	1.87E-02	lbs/day	5.5E-01	ug/l	1.59E-02	lbs/day
Dieldrin	1.90E-03	ug/l	3.54E-02	lbs/day	1.3E+00	ug/l	3.61E-02	lbs/day
Endosulfan	5.60E-02	ug/l	1.04E+00	lbs/day	1.1E-01	ug/l	3.17E-03	lbs/day
Endrin	2.30E-03	ug/l	4.29E-02	lbs/day	9.0E-02	ug/l	2.60E-03	lbs/day
Guthion	0.00E+00	ug/l	0.00E+00	lbs/day	1.0E-02	ug/l	2.89E-04	lbs/day
Heptachlor	3.80E-03	ug/l	7.09E-02	lbs/day	2.6E-01	ug/l	7.50E-03	lbs/day
Lindane	8.00E-02	ug/l	1.49E+00	lbs/day	1.0E+00	ug/l	2.89E-02	lbs/day
Methoxychlor	0.00E+00	ug/l	0.00E+00	lbs/day	3.0E-02	ug/l	8.66E-04	lbs/day
Mirex	0.00E+00	ug/l	0.00E+00	lbs/day	1.0E-02	ug/l	2.89E-04	lbs/day
Parathion	0.00E+00	ug/l	0.00E+00	lbs/day	4.0E-02	ug/l	1.15E-03	lbs/day
PCB's	1.40E-02	ug/l	2.61E-01	lbs/day	2.0E+00	ug/l	5.77E-02	lbs/day
Pentachlorophenol	1.30E+01	ug/l	2.43E+02	lbs/day	2.0E+01	ug/l	5.77E-01	lbs/day
Toxephene	2.00E-04	ug/l	3.73E-03	lbs/day	7.3E-01	ug/l	2.11E-02	lbs/day

Effluent Targets for Pollution Indicators
Based upon Water Quality Standards

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

	1 Hour Average Concentration		Loading	
Gross Beta (pCi/l)	50.0	pCi/L		
BOD (mg/l)	5.0	mg/l	86.9	lbs/day
Nitrates as N	4.0	mg/l	69.5	lbs/day
Total Phosphorus as P	0.05	mg/l	0.9	lbs/day
Total Suspended Solids	90.0	mg/l	1564.3	lbs/day

Note: Pollution indicator targets are for information purposes only.

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

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

	Maximum Concentration Concentration		Load	
Toxic Organics				
Acenaphthene	1.20E+03	ug/l	2.24E+01	lbs/day
Acrolein	3.20E+02	ug/l	5.97E+00	lbs/day
Acrylonitrile	5.90E-02	ug/l	1.10E-03	lbs/day
Benzene	1.20E+00	ug/l	2.24E-02	lbs/day
Benzidine		ug/l		lbs/day
Carbon tetrachloride	2.50E-01	ug/l	4.67E-03	lbs/day
Chlorobenzene	6.80E+02	ug/l	1.27E+01	lbs/day
1,2,4-Trichlorobenzene				
Hexachlorobenzene	7.50E-04	ug/l	1.40E-05	lbs/day
1,2-Dichloroethane	3.80E-01	ug/l	7.09E-03	lbs/day
1,1,1-Trichloroethane				
Hexachloroethane	1.90E+00	ug/l	3.55E-02	lbs/day
1,1-Dichloroethane				
1,1,2-Trichloroethane	6.10E-01	ug/l	1.14E-02	lbs/day
1,1,2,2-Tetrachloroethane	1.70E-01	ug/l	3.17E-03	lbs/day
Chloroethane				
Bis(2-chloroethyl) ether	3.10E-02	ug/l	5.79E-04	lbs/day
2-Chloroethyl vinyl ether				
2-Chloronaphthalene	1.70E+03	ug/l	3.17E+01	lbs/day
2,4,6-Trichlorophenol	2.10E+00	ug/l	3.92E-02	lbs/day
p-Chloro-m-cresol				
Chloroform (HM)	5.70E+00	ug/l	1.06E-01	lbs/day
2-Chlorophenol	1.20E+02	ug/l	2.24E+00	lbs/day

1,2-Dichlorobenzene	2.70E+03 ug/l	5.04E+01 lbs/day
1,3-Dichlorobenzene	4.00E+02 ug/l	7.46E+00 lbs/day
1,4-Dichlorobenzene	4.00E+02 ug/l	7.46E+00 lbs/day
3,3'-Dichlorobenzidine	4.00E-02 ug/l	7.46E-04 lbs/day
1,1-Dichloroethylene	5.70E-02 ug/l	1.06E-03 lbs/day
1,2-trans-Dichloroethylene1		
2,4-Dichlorophenol	9.30E+01 ug/l	1.74E+00 lbs/day
1,2-Dichloropropane	5.20E-01 ug/l	9.70E-03 lbs/day
1,3-Dichloropropylene	1.00E+01 ug/l	1.87E-01 lbs/day
2,4-Dimethylphenol	5.40E+02 ug/l	1.01E+01 lbs/day
2,4-Dinitrotoluene	1.10E-01 ug/l	2.05E-03 lbs/day
2,6-Dinitrotoluene		
1,2-Diphenylhydrazine	4.00E-02 ug/l	7.46E-04 lbs/day
Ethylbenzene	3.10E+03 ug/l	5.79E+01 lbs/day
Fluoranthene	3.00E+02 ug/l	5.60E+00 lbs/day
4-Chlorophenyl phenyl ether		
4-Bromophenyl phenyl ether		
Bis(2-chloroisopropyl) ether	1.40E+03 ug/l	2.61E+01 lbs/day
Bis(2-chloroethoxy) methane		
Methylene chloride (HM)	4.70E+00 ug/l	8.77E-02 lbs/day
Methyl chloride (HM)		
Methyl bromide (HM)		
Bromoform (HM)	4.30E+00 ug/l	8.02E-02 lbs/day
Dichlorobromomethane(HM)	2.70E-01 ug/l	5.04E-03 lbs/day
Chlorodibromomethane (HM)	4.10E-01 ug/l	7.65E-03 lbs/day
Hexachlorocyclopentadiene	2.40E+02 ug/l	4.48E+00 lbs/day
Isophorone	8.40E+00 ug/l	1.57E-01 lbs/day
Naphthalene		
Nitrobenzene	1.70E+01 ug/l	3.17E-01 lbs/day
2-Nitrophenol		
4-Nitrophenol		
2,4-Dinitrophenol	7.00E+01 ug/l	1.31E+00 lbs/day
4,6-Dinitro-o-cresol	1.30E+01 ug/l	2.43E-01 lbs/day
N-Nitrosodimethylamine	6.90E-04 ug/l	1.29E-05 lbs/day
N-Nitrosodiphenylamine	5.00E+00 ug/l	9.33E-02 lbs/day
N-Nitrosodi-n-propylamine	5.00E-03 ug/l	9.33E-05 lbs/day
Pentachlorophenol	2.80E-01 ug/l	5.23E-03 lbs/day
Phenol	2.10E+04 ug/l	3.92E+02 lbs/day
Bis(2-ethylhexyl)phthalate	1.80E+00 ug/l	3.36E-02 lbs/day
Butyl benzyl phthalate	3.00E+03 ug/l	5.60E+01 lbs/day
Di-n-butyl phthalate	2.70E+03 ug/l	5.04E+01 lbs/day
Di-n-octyl phthlate		
Diethyl phthalate	2.30E+04 ug/l	4.29E+02 lbs/day
Dimethyl phthlate	3.13E+05 ug/l	5.84E+03 lbs/day
Benzo(a)anthracene (PAH)	2.80E-03 ug/l	5.23E-05 lbs/day
Benzo(a)pyrene (PAH)	2.80E-03 ug/l	5.23E-05 lbs/day
Benzo(b)fluoranthene (PAH)	2.80E-03 ug/l	5.23E-05 lbs/day
Benzo(k)fluoranthene (PAH)	2.80E-03 ug/l	5.23E-05 lbs/day
Chrysene (PAH)	2.80E-03 ug/l	5.23E-05 lbs/day
Acenaphthylene (PAH)		
Anthracene (PAH)		

Dibenzo(a,h)anthracene (PAH)	2.80E-03 ug/l	5.23E-05 lbs/day
Indeno(1,2,3-cd)pyrene (PAH)	2.80E-03 ug/l	5.23E-05 lbs/day
Pyrene (PAH)	9.60E+02 ug/l	1.79E+01 lbs/day
Tetrachloroethylene	8.00E-01 ug/l	1.49E-02 lbs/day
Toluene	6.80E+03 ug/l	1.27E+02 lbs/day
Trichloroethylene	2.70E+00 ug/l	5.04E-02 lbs/day
Vinyl chloride	2.00E+00 ug/l	3.73E-02 lbs/day
Pesticides		
Aldrin	1.30E-04 ug/l	2.43E-06 lbs/day
Dieldrin	1.40E-04 ug/l	2.61E-06 lbs/day
Chlordane	5.70E-04 ug/l	1.06E-05 lbs/day
4,4'-DDT	5.90E-04 ug/l	1.10E-05 lbs/day
4,4'-DDE	5.90E-04 ug/l	1.10E-05 lbs/day
4,4'-DDD	8.30E-04 ug/l	1.55E-05 lbs/day
alpha-Endosulfan	9.30E-01 ug/l	1.74E-02 lbs/day
beta-Endosulfan	9.30E-01 ug/l	1.74E-02 lbs/day
Endosulfan sulfate	9.30E-01 ug/l	1.74E-02 lbs/day
Endrin	7.60E-01 ug/l	1.42E-02 lbs/day
Endrin aldehyde	7.60E-01 ug/l	1.42E-02 lbs/day
Heptachlor	2.10E-04 ug/l	3.92E-06 lbs/day
Heptachlor epoxide		
PCB's		
PCB 1242 (Arochlor 1242)	4.40E-05 ug/l	8.21E-07 lbs/day
PCB-1254 (Arochlor 1254)	4.40E-05 ug/l	8.21E-07 lbs/day
PCB-1221 (Arochlor 1221)	4.40E-05 ug/l	8.21E-07 lbs/day
PCB-1232 (Arochlor 1232)	4.40E-05 ug/l	8.21E-07 lbs/day
PCB-1248 (Arochlor 1248)	4.40E-05 ug/l	8.21E-07 lbs/day
PCB-1260 (Arochlor 1260)	4.40E-05 ug/l	8.21E-07 lbs/day
PCB-1016 (Arochlor 1016)	4.40E-05 ug/l	8.21E-07 lbs/day
Pesticide		
Toxaphene	7.30E-04 ug/l	1.36E-05 lbs/day
Metals		
Antimony	14.00 ug/l	0.26 lbs/day
Arsenic	50.01 ug/l	0.93 lbs/day
Asbestos	7.00E+06 ug/l	1.31E+05 lbs/day
Beryllium		
Cadmium		
Chromium (III)		
Chromium (VI)		
Copper	1300.38 ug/l	24.26 lbs/day
Cyanide	700.20 ug/l	13.06 lbs/day
Lead	0.00	0.00
Mercury	0.14 ug/l	0.00 lbs/day
Nickel	610.18 ug/l	11.38 lbs/day
Selenium	0.00	0.00
Silver	0.00	0.00
Thallium	1.70 ug/l	0.03 lbs/day

Zinc

Dioxin

Dioxin (2,3,7,8-TCDD)	1.30E-08 ug/l	2.43E-10 lbs/day

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

	Class 4 Acute Agricultural ug/l	Class 3 Acute Aquatic Wildlife ug/l	Acute Toxics Drinking Water Source ug/l	Acute Toxics Wildlife ug/l	1C Acute Health Criteria ug/l	Acute Most Stringent ug/l	Class 3 Chronic Aquatic Wildlife ug/l
Aluminum		750.0				750.0	N/A
Antimony			14.0	4301.2		14.0	
Arsenic	100.0	340.0	50.0		0.0	50.0	190.1
Barium					1000.3	1000.3	
Beryllium						0.0	
Cadmium	10.0	8.7			0.0	8.7	0.7
Chromium (III)		5612.0			0.0	5612.0	268.3
Chromium (VI)	100.0	16.0			0.0	16.00	11.00
Copper	200.1	51.7	1300.4			51.7	30.5
Cyanide		22.0	220063.6			22.0	5.2
Iron		1000.0				1000.0	
Lead	100.0	476.9			0.0	100.0	18.6
Mercury		2.40	0.1	0.15	0.0	0.14	0.012
Nickel		1516.0	610.2	4601.3		610.2	168.6
Selenium	50.0	20.0			0.0	20.0	4.6
Silver		41.1			0.0	41.1	
Thallium			1.7	6.3		1.7	
Zinc		387.9				387.9	385.4
Boron	750.2					750.2	

Summary Effluent Limitations for Metals [Wasteload Allocation, TMDL]
[If Acute is more stringent than Chronic, then the Chronic takes on the Acute value.]

	WLA Acute ug/l	WLA Chronic ug/l	
Aluminum	750.0	N/A	
Antimony	14.00		
Arsenic	50.0	190.1	Acute Controls
Asbestos	7.00E+06		
Barium			
Beryllium			
Cadmium	8.7	0.74	
Chromium (III)	5612.0	268	

Chromium (VI)	16.0	11.0
Copper	51.7	30.5
Cyanide	22.0	5.2
Iron	1000.0	
Lead	100.0	18.6
Mercury	0.140	0.012
Nickel	610.2	169
Selenium	20.0	4.6
Silver	41.1	N/A
Thallium	1.7	
Zinc	387.9	385.4
Boron	750.22	

Other Limitations

E. coli	126.0	organisms per 100 ml	R317-2.	
Zinc	N/A	mg/l	TMDL	All Seasons
0.0	0.0	0.0	TMDL	

X. Antidegradation Considerations

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

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

An Antidegradation Level I Review was conducted on this discharge and its effect on the receiving water. Based upon that review, it has been determined that an
Antidegradation Level II Review is NOT Required

XI. Colorado River Salinity Forum Considerations

Discharges in the Colorado River Basin are required to have their discharge at a TDS loading of less than 1.00 tons/day unless certain exemptions apply. Refer to the Forum's Guidelines for additional information allowing for an exceedence of this value.

XII. Summary Comments

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

XIII. Notice of UPDES Requirement

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

XIV. Special Considerations

TMDL Issues and Calculations may adjust these values as appropriate. See TMDL Section of DWQ.

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File Name: Silver Creek WLA September 28 2006

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APPENDIX - Coefficients and Other Model Information

CBOD Coeff. (Kd)20	CBOD Coeff. FORCED	CBOD Coeff. (Ka)T	REAER. Coeff. (Ka)20	REAER. Coeff. FORCED	REAER. Coeff. (Ka)T	NBOD Coeff. (Kn)20	NBOD Coeff. (Kn)T

Utah Division of Water Quality
Salt Lake City, Utah

1/day	(Kd)/day	1/day	(Ka)/day	1/day	1/day	1/day	1/day
2.000	0.000	0.806	2822.781	0.000	1764.973	0.400	0.087

Open Coeff. (K4)20 1/day	Open Coeff. (K4)T 1/day	NH3 LOSS (K5)20 1/day	NH3 (K5)T 1/day	NO2+NO3 LOSS (K6)20 1/day	NO2+NO3 (K6)T 1/day	TRC Decay K(Cl)20 1/day	TRC K(Cl)(T) 1/day
0.000	0.000	4.000	1.611	0.000	0.000	32.000	10.095

BENTHIC DEMAND (SOD)20 gm/m2/day	BENTHIC DEMAND (SOD)T gm/m2/day
1.000	0.287

K1 CBOD {theta}	K2 Reaer. {theta}	K3 NH3 {theta}	K4 Open {theta}	K5 NH3 Loss {theta}	K6 NO2+3 {theta}	K(Cl) TRC {theta}	S Benthic {theta}
1.0	1.0	1.1	1.0	1.0	1.0	1.1	1.1

Level I Antidegradation Review for: Silver Creek WWTP

Silver Creek WLA September 28 2006

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Major Parameter of concern:	**NH3**	
WQ Standard	**3.5**	**mg/l**
Current Stream Conditions Above Discharge		
Flow, Average	**2.5**	**cfs**
Concentration	**2.0**	**mg/l**
Loading	**4.9**	**tons/year**
Flow, 7Q10 (20th Percentile)	**0.0**	**cfs**
Concentration (80th Percentile)	**400.0**	**mg/l**
Loading	**0.4**	
Remaining Assimilative Conc. Capacity @ 7Q10		
Concentration	**1.5**	**mg/l**
Loading	**0.0**	**tons/year**
Percentage	**42.9%**	
Current Discharge Conditions		
Design Flow	**1.7**	**MGD**
Concentration	**2.0**	**mg/l**
Loading	**5.2**	**tons/year**
New Discharge Conditions		
Design Flow	**2.2**	**MGD**
Concentration	**3.0**	**mg/l**
Loading	**10.2**	**tons/year**
Current Stream Conditions Below Discharge		
Flow @ 7Q10	**2.6**	**cfs**
Concentration	**2.2**	**mg/l**

Loading	5.6	tons/year	
Projected Stream Conditions Below Discharge			
Flow @ 7Q10	3.5	cfs	
Concentration	3.1	mg/l	
Loading	10.6	tons/year	
New Discharge Conc. <= Current Discharge Conc.	No		
Discharge limits are from a TMDL.	No		
Impacts to stream are temporary.	No	See 317-2-3.4(a-e)	
Impacts are related to sediments only.	No		
Fish spawning will be impaired.	No		
Current asimilative capacity @ 100%	No		
Classification excludes 3A or 3B	No		
Considered as "poor quality" [DNR]	No		
Water body listed on 303(d) list	No		
Existing stream WQ > standard	No		
Water Quality Impacts are minor			
Increase in project loading < 20%	No		97.4%
Increase in Pollutant loading			
is < 20% over [avg] background	No		103.1%
Other considerations [See justification below]	Yes	Off-ramped	
Small Discharge Volume			
Stream flow (avg) / New Discharge Flow >100:1	No		1.7
Stream flow (7Q10) / New Discharge Flow >25:1	No		0.0
Stream increase conc. < 10%	No		44.8%
All three above conditions are met.	No		
Executive Director requires Level II Review	No		

Antidegradation Level II Review is NOT Required

Justification / Other Information:

R317-2-3.4b.1 applies to all parameters in the permit with the exception of ammonia.
The water quality standard for ammonia was made less stringent due to recommendations previously received from EPA. In addition, the EPA approved the use of the AMTOX model to take into consideration the downward depression of pH in the mixing zone. This made the water quality standard for ammonia even less stringent.
An equivalent level of protection for the receiving water is obtained even though an increase in flow occurs from the discharging facility. Therefore it has been determined to be a minor water quality impact that does not require a Level II review.
See: R317-2-3.4b.10

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Review by: _____ 6/21/2007