



State of Utah

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Governor

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Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

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JAN 07 2014

CERTIFIED MAIL
(Return Receipt Requested)

Mayor Jonathan Benson
Fairview City
P.O. Box 97
Fairview City, UT 84629

Dear Mr. Benson:

Subject: Issuance for UPDES Renewal Permit No. UT0025542, Fairview City

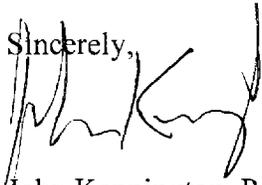
Enclosed is a signed copy of the Utah Pollutant Discharge Elimination System (UPDES) Renewal Permit No. UT0025542 for the above referenced facility. Discharge Monitoring Reports (DMR) forms (EPA form 3320-1) for reporting and self-monitoring requirements as specified in the permit are available upon request, however EPA's NetDMR process for on line DMR submittal is now available and will be required by the end of 2014. For more information and to sign up for NetDMR, please visit our website at www.waterquality.utah.gov/UPDES/NetDMR.htm.

DWQ Director Walter L. Baker is committed to continually assessing and improving the level and quality of services provided to you. Please take a few minutes to comment on the quality of service you received by completing the "Give Feedback to DWQ" form link on DWQ's webpage at www.waterquality.utah.gov. Thank you for assisting us in improving our service to you.



If you have any questions with regards to this matter, please contact Daniel Griffin of this office at (801) 536-4387 or by e-mail at dgriffin@utah.gov.

Sincerely,



John Kennington, P.E., Manager
UPDES Engineering Section

JK:DG:mc

4/6

Enclosures: (4)

1. Fairview City Permit (DWQ-2013-001926)
2. Fairview City Fact Sheet Statement of Basis (DWQ-2013-001925)
3. Fairview Waste Load Analysis (DWQ-2013-007402)
4. Industrial Pretreatment Wastewater Survey

cc: Stephanie Gieck, EPA Region VIII (w/ encl by email)
Bruce Costa, Environmental Director, Central Utah Health Department (w/o encl)
John Chartier, Central Utah District Engineer (w/o encl)
Dave Nuttal, Fairview City Operator (w/ encl)

DWQ-2013-008809

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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

Minor Municipal Permit No. **UT0025542**
Biosolids Permit No. **UTL0025542**

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

FAIRVIEW CITY

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

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 January 01, 2014

This permit expires at midnight on December 31, 2018.

Signed this 6th day of January 2014.


John J. Whitehead
Acting Director

Table of Contents

Outline	Page Number
I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS	1
A. Description of Discharge Point	1
B. Narrative Standard.....	1
C. Specific Limitations and Self-Monitoring Requirements.....	1
D. Reporting of Wastewater Monitoring Results.....	2
II. INDUSTRIAL PRETREATMENT PROGRAM	3
III. BIOSOLIDS REQUIREMENTS	7
IV. STORM WATER REQUIREMENTS.....	9
V. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS.....	10
A. Representative Sampling	10
B. Monitoring Procedures	10
C. Penalties for Tampering	10
D. Compliance Schedules	10
E. Additional Monitoring by the Permittee.....	10
F. Records Contents.....	10
G. Retention of Records	10
H. Twenty-four Hour Notice of Noncompliance Reporting	11
VI. COMPLIANCE RESPONSIBILITIES.....	13
A. Duty to Comply	13
B. Penalties for Violations of Permit Conditions.....	13
C. Need to Halt or Reduce Activity not a Defense	13
D. Duty to Mitigate	13
E. Proper Operation and Maintenance	13
F. Removed Substances	13
G. Bypass of Treatment Facilities	14
H. Upset Conditions	15
VII. GENERAL REQUIREMENTS.....	16
A. Planned Changes	16
B. Anticipated Noncompliance	16
C. Permit Actions.....	16
D. Duty to Reapply.....	16
E. Duty to Provide Information	16
F. Other Information.....	16
G. Signatory Requirements	16
H. Penalties for Falsification of Reports	17
I. Availability of Reports	17
J. Oil and Hazardous Substance Liability	18
K. Property Rights.....	18
L. Severability.....	18
M. Transfers.....	18
N. State or Federal Laws	18
O. Water Quality - Reopener Provision	18
P. Biosolids – Reopener Provision	19
Q. Toxicity Limitation - Reopener Provision.....	19
R. Storm Water-Reopener Provision.....	19
S. Total Maximum Daily Load-Reopener Provision	19
VIII. DEFINITIONS	20
A. Wastewater	20
B. Biosolids.....	21
C. Storm Water	23

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*.

<u>Outfall Number</u>	<u>Location of Surface Water Discharge Points</u>
001	Located at latitude 39°36'23" and longitude 111°26'50". The effluent will be discharged is through a 16-inch diameter gravity flow HDPE pipe to the San Pitch River.

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	Outfall 001 Effluent Limitations.*a			
	Max Monthly Average	Max Weekly Average	Minimum	Maximum
Flow, MGD	0.3	NA	NA	NA
BOD ₅ , mg/L	25	35	NA	NA
BOD ₅ Min. % Removal	85	NA	NA	NA
TSS, mg/L	25	35	NA	NA
TSS Min. % Removal	85	NA	NA	NA
TRC, mg/L	NA	NA	NA	0.2
E-coli, No/100mL	126	157	NA	NA
Oil & Grease, mg/L	NA	NA	NA	10
pH, Standard Units	NA	NA	6.5	9.0

NA – Not Applicable

Outfall 001 Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b *c	Continuous	Recorder	MGD
BOD ₅ , Influent *d Effluent	2 x Monthly	Composite	mg/L
	2 x Monthly	Composite	mg/L
TSS, Influent *d Effluent	2 x Monthly	Composite	mg/L
	2 x Monthly	Composite	mg/L
E. Coli, No/100mL	2 x Monthly	Grab	No./100mL
TRC	Daily	Grab	mg/L
Oil & Grease *e	2 x Monthly	Grab	mg/L
pH	2 x Monthly	Grab	SU

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

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

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

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

*e Sample when a sheen is visible

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) or by NetDMR, post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period. The first report is due on February 28, 2014. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part VII.G)*, and submitted by NetDMR, or to the Division of Water Quality at the following address:

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

II. INDUSTRIAL PRETREATMENT PROGRAM

A. Definitions.

For this section the following definitions shall apply:

1. Significant industrial user (SIU) is defined as an industrial user discharging to a publicly-owned treatment works (POTW) that satisfies any of the following:
 - a. Has a process wastewater flow of 25,000 gallons or more per average work day;
 - b. Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;
 - c. Is subject to Categorical Pretreatment Standards, or
 - d. Has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.
2. Local Limit is defined as a limit designed to prevent pass through and/or interference. And is developed in accordance with 40 CFR 403.5(c).

B. Self-Monitoring and Reporting Requirements.

Because the design capacity of this municipal wastewater treatment facility is less than 5 MGD, the permittee will not be required to develop a State-approved industrial pretreatment program at this time. However, in order to determine if development of an industrial pretreatment program is warranted, the permittee shall conduct an **industrial waste survey**, as described in *Part II.C.1*, and submit it to the Division of Water Quality within **sixty (60) calendar days** of the effective date of this permit.

C. Industrial Wastes.

1. As required by *Part II.B.1*, the industrial waste survey consists of:
 - a. Identifying each industrial user (IU) and determining if the IU is a significant industrial user (SIU),
 - b. Determination of the qualitative and quantitative characteristics of each discharge, and
 - c. Appropriate production data.
2. The IWS must be maintained and updated with IU information as necessary, to ensure that all IUs are properly permitted and/or controlled at all times. Updates must be submitted to the Executive Secretary sixty (60) days following a change to the IWS.

3. Evaluate all significant industrial users at least once every two years to determine if they need to develop a slug prevention plan. If a slug prevention plan is required, the permittee shall notify the Executive Secretary.
4. Notify all significant industrial users of their obligation to comply with applicable requirements under *Subtitles C and D* of the *Resource Conservation and Recovery Act (RCRA)*.
5. The permittee must notify the Executive Secretary of any new introductions by new or existing SIUs or any substantial change in pollutants from any major industrial source. Such notice must contain the information described in 1. above, and be forwarded no later than sixty (60) days following the introduction or change.

D. General and Specific Prohibitions

1. Developed pursuant to *Section 307 of The Water Quality Act of 1987* require that under no circumstances shall the permittee allow introduction of the following pollutants into the waste treatment system from any source of non-domestic discharge:
 - a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140°F (60°C);
 - b. Pollutants, which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;
 - c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;
 - d. Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a discharge at such volume or strength as to cause interference in the POTW;
 - e. Heat in amounts, which will inhibit biological activity in the POTW, resulting in interference, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104°F (40°C);
 - f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
 - g. Pollutants which result in the presence of toxic gases, vapor, or fumes within the POTW in a quantity that may cause worker health or safety problems; or,
 - h. Any trucked or hauled pollutants, except at discharge points designated by the POTW.

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

E. Signification Industrial Users Discharging to the POTW

The permittee shall provide adequate notice to the Executive Secretary and the Division of Water Quality Industrial Pretreatment Coordinator of;

1. Any new introduction of pollutants into the treatment works from an indirect discharger (i.e., industrial user) which would be subject to *Sections 301 or 306 of the WQA* if it were directly discharging those pollutants;
2. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit; and
3. For the purposes of this section, adequate notice shall include information on:
 - a. The quality and quantity of effluent to be introduced into such treatment works; and,
 - b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from such publicly owned treatment works.
4. Any SIU that must comply with applicable requirements under *Subtitles C and D of the Resource Conservation and Recovery Act (RCRA)*.

F. Change of Conditions

At such time as a specific pretreatment limitation becomes applicable to an industrial user of the permittee, the Executive Secretary may, as appropriate, do the following:

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

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

G. Legal Action

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

H. Local Limits

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

III. BIOSOLIDS REQUIREMENTS

- A. Biosolids Treatment and Disposal. The authorization to dispose of biosolids provided under this permit is limited to those biosolids produced from the treatment works owned and operated by the City of Fairview. The method and sites for disposal are specifically designated below.
1. Treatment. The wastewater solids will be stabilized during the membrane bioreactor process (MBR) with an average retention time of over 60 days. The wastewater solids from the MBR process will de-watered using a belt press.
 2. Description of Biosolids Disposal Method. The non-classified solids are disposed in the County Landfill
 3. Changes in Treatment Systems and Disposal Practices. Should Fairview City change their disposal methods or the biosolids generation and handling processes of the plant, Fairview City must notify the Director at least 180 days in advance. This includes, but is not limited to, the addition or removal of any biosolids treatment units (e.g., digesters, drying beds, etc.) and/or any other change that would require a major modification of the permit.

For any biosolids that are land filled, the requirements of *40 CFR 257.28* and *Utah Administrative Code R315-301-5*, must be followed.

B. Specific Limitations and Monitoring Requirements.

1. Landfill Limitations

All biosolids land filled must pass a paint filter test

2. Vector Attraction Reduction Requirements

Fairview City will meet vector attraction reduction through daily cover at the landfill.

There are additional vector attraction reduction alternatives available in *40 CFR 503.32* and *40 CFR 503.33*. If Fairview City intends to use one of these alternatives the Director and the EPA must be informed at least thirty days prior to its use. This change may be made without additional public notice.

3. Self-Monitoring Requirements

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

Minimum Frequency of Monitoring	
Amount of Solids Disposed Per Year	Monitoring Frequency
> 0 to < 290, DMT	Once per year

Fairview City shall monitor at least once per year for the parameters listed above

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

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

IV. STORM WATER REQUIREMENTS

The *Utah Administrative Code (UAC) R-317-8-3* requires storm water permit provisions to include the development of a storm water pollution prevention plan for waste water treatment facilities if the facility meets one or both of the following criteria.

1. waste water treatment facilities with a design flow of 1.0 MGD or greater, and/or,
2. waste water treatment facilities with an approved pretreatment program as described in *40CFR Part 403*,

Fairview City does not meet any of the above criteria; therefore this permit does not include storm water provisions. The permit does however include a storm water re-opener provision

V. MONITORING, RECORDING & GENERAL REPORTING REQUIREMENTS

A. Representative Sampling

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

B. Monitoring Procedures

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

C. Penalties for Tampering

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

D. Compliance Schedules.

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

E. Additional Monitoring by the Permittee.

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

F. Records Contents.

Records of monitoring information shall include:

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

G. Retention of Records.

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of

at least five years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time. A copy of this UPDES permit must be maintained on site during the duration of activity at the permitted location

H. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall (orally) report any noncompliance including transportation accidents, spills, and uncontrolled runoff from biosolids transfer or land application sites which may seriously endanger health or environment, as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of circumstances. The report shall be made to the Division of Water Quality, (801) 536-4300, or 24-hour answering service (801) 231-5729.
2. The following occurrences of noncompliance shall be reported by telephone (801) 536-4300 as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances:
 - a. Any noncompliance which may endanger health or the environment;
 - b. Any unanticipated bypass, which exceeds any effluent limitation in the permit (See *Part VI.G, Bypass of Treatment Facilities.*);
 - c. Any upset which exceeds any effluent limitation in the permit (See *Part VI.H, Upset Conditions.*);
 - d. Violation of a maximum daily discharge limitation for any of the pollutants listed in the permit; or,
 - e. Violation of any of the Table 3 metals limits, the pathogen limits, the vector attraction reduction limits or the management practices for biosolids that have been sold or given away.
3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times;
 - c. The estimated time noncompliance is expected to continue if it has not been corrected;
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and,
 - e. Steps taken, if any, to mitigate the adverse impacts on the environment and human health during the noncompliance period.

4. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Division of Water Quality, (801) 536-4300.
5. Reports shall be submitted to the addresses in *Part I.D, Reporting of Monitoring Results*.
- I. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for *Part I.D* are submitted. The reports shall contain the information listed in *Part V.H.3*
- J. Inspection and Entry The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:
 1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, including but not limited to, biosolids treatment, collection, storage facilities or area, transport vehicles and containers, and land application sites;
 4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the *Act*, any substances or parameters at any location, including, but not limited to, digested biosolids before dewatering, dewatered biosolids, biosolids transfer or staging areas, any ground or surface waters at the land application sites or biosolids, soils, or vegetation on the land application sites; and,
 5. The permittee shall make the necessary arrangements with the landowner or leaseholder to obtain permission or clearance, the Director, or authorized representative, upon the presentation of credentials and other documents as may be required by law, will be permitted to enter without delay for the purposes of performing their responsibilities.

VI. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply

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

B. Penalties for Violations of Permit Conditions.

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

C. Need to Halt or Reduce Activity not a Defense.

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

D. Duty to Mitigate

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

E. Proper Operation and Maintenance

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

F. Removed Substances.

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

G. Bypass of Treatment Facilities

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

2. Prohibition of Bypass.
 - a. Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:
 - (1) Bypass was unavoidable to prevent loss of human life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance, and
 - (3) The permittee submitted notices as required under *section VI.G.3*.
 - b. The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed in *sections VI.G.2.a (1), (2) and (3)*.

3. Notice.
 - a. *Anticipated bypass*. Except as provided above in *section VI.G.2* and below in *section VI.G.3.b*, if the permittee knows in advance of the need for a bypass, it shall submit prior notice, at least ninety days before the date of bypass. The prior notice shall include the following unless otherwise waived by the Director:
 - (1) Evaluation of alternative to bypass, including cost-benefit analysis containing an assessment of anticipated resource damages;
 - (2) A specific bypass plan describing the work to be performed including scheduled dates and times. The permittee must notify the Director in advance of any changes to the bypass schedule;
 - (3) Description of specific measures to be taken to minimize environmental and public health impacts;

- (4) A notification plan sufficient to alert all downstream users, the public and others reasonably expected to be impacted by the bypass;
 - (5) A water quality assessment plan to include sufficient monitoring of the receiving water before, during and following the bypass to enable evaluation of public health risks and environmental impacts; and,
 - (6) Any additional information requested by the Director.
- b. *Emergency Bypass.* Where ninety days advance notice is not possible, the permittee must notify the Director, and the Director of the Department of Natural Resources, as soon as it becomes aware of the need to bypass and provide to the Director the information in *section VI.G.3.a.(1) through (6)* to the extent practicable.
- c. *Unanticipated bypass.* The permittee shall submit notice of an unanticipated bypass to the Director as required under *Part IV.H, Twenty Four Hour Reporting.* The permittee shall also immediately notify the Director of the Department of Natural Resources, the public and downstream users and shall implement measures to minimize impacts to public health and environment to the extent practicable.

H. Upset Conditions

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph 2 of this section are met. Director's administrative determination regarding a claim of upset cannot be judiciously challenged by the permittee until such time as an action is initiated for noncompliance.
2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required under *Part V.H, Twenty-four Hour Notice of Noncompliance Reporting;* and,
 - d. The permittee complied with any remedial measures required under *Part VI.D, Duty to Mitigate.*
3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

VII. GENERAL REQUIREMENTS

A. Planned Changes

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

B. Anticipated Noncompliance

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

C. Permit Actions

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

D. Duty to Reapply

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

E. Duty to Provide Information

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

F. Other Information

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

G. Signatory Requirements

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

1. All permit applications shall be signed by either a principal executive officer or ranking elected official.
2. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Director, and,
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.
3. Changes to authorization. If an authorization under *paragraph VII.G.2* is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of *paragraph VII.G.2.* must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section shall make the following certification:

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

H. Penalties for Falsification of Reports

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

I. Availability of Reports

Except for data determined to be confidential under *UAC R317-8-3.2*, all reports prepared in accordance with the terms of this permit shall be available for public

inspection at the office of Director. As required by the *Act*, permit applications, permits and effluent data shall not be considered confidential.

J. Oil and Hazardous Substance Liability

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

K. Property Rights

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

L. Severability

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

M. Transfers

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

1. The current permittee notifies the Director at least 20 days in advance of the proposed transfer date;
2. The notice includes a written agreement between the existing and new permittee's containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,
3. The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.

N. State or Federal Laws

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

O. Water Quality - Reopener Provision

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

1. Water Quality Standards for the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.
2. A final wasteload allocation is developed and approved by the State and/or EPA for incorporation in this permit.
3. Revisions to the current CWA § 208 areawide treatment management plans or promulgations/revisions to TMDLs (40 CFR 130.7) approved by the EPA and adopted by DWQ which calls for different effluent limitations than contained in this permit.

P. Biosolids – Reopener Provision

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

Q. Toxicity Limitation - Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include whole effluent toxicity (WET) testing, a WET limitation, a compliance date, additional or modified numerical limitations, or any other conditions related to the control of toxicants if toxicity is detected during the life of this permit.

R. Storm Water-Reopener Provision

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

S. Total Maximum Daily Load-Reopener Provision.

This permit may be reopened and modified (following proper administrative procedures) to include Total Maximum Daily Load (TMDL) monitoring, related effluent limits, a compliance schedule, a compliance date, additional or modified numerical limitations, or any other conditions related to the TMDL Process and activity in effected impaired water body.

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

PART VIII
DISCHARGE PERMIT NO. UT0025542

- d. Continuous sample volume, with sample collection rate proportional to flow rate.
 6. "CWA," means *The Federal Water Pollution Control Act*, as amended, by *The Clean Water Act of 1987*.
 7. "Daily Maximum" (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.
 8. "Director," means Director of the Division of Water Quality
 9. "EPA," means the United States Environmental Protection Agency.
 10. "Director," means Director of the Utah Water Quality Board.
 11. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.
 12. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.
 13. "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.
 14. "Upset," means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- B. Biosolids.
1. "Biosolids," means any material or material derived from sewage solids that have been biologically treated.
 2. "Dry Weight-Basis," means 100 percent solids (i.e. zero percent moisture).
 3. "Land Application" is the spraying or spreading of biosolids onto the land surface; the injection of biosolids below the land surface; or the incorporation of biosolids into the land so that the biosolids can either condition the soil or fertilize crops or vegetation grown in the soil. Land application includes distribution and marketing (i.e. the selling or giving away of the biosolids).

PART VIII
DISCHARGE PERMIT NO. UT0025542

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.

PART VIII
DISCHARGE PERMIT NO. UT0025542

16. "Cumulative Pollutant Loading Rate" is the maximum amount of an inorganic pollutant (dry-weight basis) that can be applied to a unit area of land.
 17. "Grit and Screenings" are sand, gravel, cinders, other materials with a high specific gravity and relatively large materials such as rags generated during preliminary treatment of domestic sewage at a treatment works and shall be disposed of according to *40 CFR 258*.
 18. "High Potential for Public Contact Site" is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
 19. "Low Potential for Public Contact Site" is the land with a low potential for contact by the public. This includes, but is not limited to, farms, ranches, reclamation areas, and other lands which are private lands, restricted public lands, or lands which are not generally accessible to or used by the public.
 20. "Monthly Average" is the arithmetic mean of all measurements taken during the month.
 21. "Volatile Solids" is the amount of the total solids in sewage sludge lost when the sludge is combusted at 550 degrees Celsius for 15-20 minutes in the presence of excess air.
- C. Storm Water.
1. "Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
 2. "Coal pile runoff" means the rainfall runoff from or through any coal storage pile.
 3. "Co-located industrial activity" means when a facility has industrial activities being conducted onsite that are described under more than one of the coverage sections of *Appendix II* in the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity. Facilities with co-located industrial activities shall comply with all applicable monitoring and pollution prevention plan requirements of each section in which a co-located industrial activity is described.
 4. "Commercial Treatment and Disposal Facilities" means facilities that receive, on a commercial basis, any produced hazardous waste (not their own) and treat or dispose of those wastes as a service to the generators. Such facilities treating

PART VIII
DISCHARGE PERMIT NO. UT0025542

and/or disposing exclusively residential hazardous wastes are not included in this definition.

5. "Landfill" means an area of land or an excavation in which wastes are placed for permanent disposal, and that is not a land application unit, surface impoundment, injection well, or waste pile.
6. "Land application unit" means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.
7. "Municipal separate storm sewer system" (large and/or medium) means all municipal separate storm sewers that are either:
 - a. Located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (at the issuance date of this permit, Salt Lake City is the only city in Utah that falls in this category); or
 - b. Located in the counties with unincorporated urbanized populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties (at the issuance date of this permit Salt Lake County is the only county that falls in this category); or
 - c. Owned or operated by a municipality other than those described in paragraph *a.* or *b.* (above) and that are designated by the *Director* as part of the large or medium municipal separate storm sewer system.
8. "NOI" means "notice of intent", it is an application form that is used to obtain coverage under the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity.
9. "NOT" means "notice of termination", it is a form used to terminate coverage under the General Multi-Sector Permit for Storm Water Discharges Associated with Industrial Activity.
10. "Point source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.
11. "Section 313 water priority chemical" means a chemical or chemical categories that:

PART VIII
DISCHARGE PERMIT NO. UT0025542

- 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

PART VIII
DISCHARGE PERMIT NO. UT0025542

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

PART VIII
DISCHARGE PERMIT NO. UT0025542

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 (l) 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))

PART VIII
DISCHARGE PERMIT NO. UT0025542

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

**FACT SHEET STATEMENT OF BASIS
FAIRVIEW CITY
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORM WATER
UPDES PERMIT NUMBER: UT0025542
UPDES BIOSOLIDS PERMIT NUMBER: UTL-025542
MINOR MUNICIPAL**

FACILITY CONTACTS

Person Name:	Jonathan Benson
Position:	Mayor;
Person Name:	Dave Nuttall
Position:	Facility Manager/Biosolids Coordinator
Facility Name:	Fairview City
Mailing Address:	P.O. Box 97 Fairview City), Utah 84629
Telephone:	(435) 427-3858
Actual Address:	1/4 Miles South of Fairview along Hwy 89

DESCRIPTION OF FACILITY

Fairview City completed construction of a new wastewater treatment plant in late July 2005 and started discharging. The facility has a design capacity of 0.3 MGD. It is a Membrane Bioreactor (MBR) serving a population of approximately 1650. It is located 1/4-miles south of Fairview along Highway 89 and Storet #494683. The influent flows through screening and grit removal, then to a splitter box where it can be divided between 2 process trains. Currently only one process train is needed and is being used. First step is an anoxic basin, then aeration basin, then the MBR basin. Effluent water flows from the membranes to a chlorine contact chamber, then out to a channel and is directed to a constructed pond on site. It flows out of the pond and mixes with groundwater that is being removed from around the structure. Then it flows out through a 16 inch pipe to the San Pitch River.

The sludge from the MBR process enters a belt press unit for dewatering of the sludge. The sludge is then disposed of in the County landfill.

Fairview City is interested, at a future date, in reusing its effluent. The effluent will be used for irrigation purposes in accordance with Type II Reuse. Reuse will not be addressed in this permit, but will be considered in the future.

Regarding Whole Effluent Toxicity (WET), Fairview completed at least 10 WET tests without a failure since the facility began operation in August 2005. In 2007, Fairview requested a reduction of testing and was granted a reduction from quarterly to semi-annual testing. For the 2008 renewal Fairview requested an elimination of the testing altogether as per the applicable permit provisions. Given the type of treatment and discharge history, the request was granted and WET testing was eliminated from the permit. However, the toxicity re-opener provision remains in the permit as described in the Biomonitoring Requirements section of this Fact Sheet Statement of Basis.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

There have been no changes from the previous permit cycle.

DISCHARGE

DESCRIPTION OF DISCHARGE

Fairview City has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. A summary of the last 4 years of data is attached and there were no significant violations.

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	Located at latitude 39°36'23" and longitude 111°26'50". The effluent will be discharged through a 16-inch diameter gravity flow HDPE pipe to the San Pitch River.

RECEIVING WATERS AND STREAM CLASSIFICATION

The final discharge is into the San Pitch River with a classification of 2B, 3A and 4.

- 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.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD₅), E-Coli coliform, pH and percent removal for BOD₅ 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 permit limitations are:

Parameter	Outfall 001 Effluent Limitations *a			
	Max Monthly Average	Max Weekly Average	Minimum	Maximum
Flow	0.3	NA	NA	NA
BOD ₅ , mg/L	25	35	NA	NA
BOD ₅ Min. % Removal	85	NA	NA	NA
TSS, mg/L	25	35	NA	NA
TSS Min. % Removal	85	NA	NA	NA
TRC, mg/L	NA	NA	NA	0.2
E-coli, No/100mL	126	157	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

The following self-monitoring requirements are the same as in the previous permit. 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. Lab sheets for metals and toxic organics must be attached to the quarterly DMRs.

Outfall 001 Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b *c	Continuous	Recorder	MGD
BOD ₅ , Influent *d	2 x Monthly	Composite	mg/L
Effluent	2 x Monthly	Composite	mg/L
TSS, Influent *d	2 x Monthly	Composite	mg/L
Effluent	2 x Monthly	Composite	mg/L
E. Coli, No/100mL	2 x Monthly	Grab	No./100mL
TRC	Daily	Grab	mg/L
Oil & Grease *e	2 x Monthly	Grab	mg/L
pH	2 x Monthly	Grab	SU

- *a See Definitions, *Part VIII*, for definition of terms.
- *b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- *c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- *d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
- *e Sample when a sheen is visible

BIOSOLIDS

DESCRIPTION OF TREATMENT AND DISPOSAL

The Fairview City is expected to dispose of approximately twenty five dry metric tons (DMT) of wastewater solids (sewage sludge) per year. The wastewater solids will be stabilized during the MBR process with an average retention time of over 60 days. The wastewater solids from the MBR process will be de-watered with a belt press. All sludge from Fairview City will be disposed of in the County landfill.

SOLIDS MONITORING REQUIREMENTS

Under *40 CFR 503* solids are not required to be monitored for heavy metals content or pathogen reduction if the solids are disposed in a landfill.

LANDFILL MONITORING

Paint Filter Test

Under *40 CFR 258*, landfill monitoring requirements, the solids will need to pass a paint filter test before the solids are disposed of in a landfill. If the solids do not pass a paint filter test, the solids cannot be disposed in a landfill.

Vector Attraction Reduction Monitoring

Under *40 CFR 503.33*, the solids need to meet a method of vector attraction reduction (VAR). Since the solids will be disposed of at the County Landfill, Fairview City will need to insure that the solids are covered daily with soil or another approved material. If the solids are not covered daily, the solids cannot be disposed in the landfill.

Minimum Frequency of Monitoring	
Amount of Solids Disposed Per Year	Monitoring Frequency
> 0 to < 290, DMT	Once per year

Since Fairview City is not expected to produce more than 290 DMT of solids per year, Fairview City will be required to monitor at least once per year for the paint filter tests.

RECORD KEEPING

The record keeping requirements from *40 CFR 503.17* are included under *Part III.F.* of the permit. Since the solids are disposed in a landfill the records need to be retained for a minimum of five years.

REPORTING

Fairview City needs to submit an annual solids report as required in *40 CFR 503.18*. This report is to include the results of all solids monitoring performed in accordance with *Part III.C.* of the permit, information on management practices, solids treatment, and certifications. This report is due no later than February 19 of each year. Each report is for the previous calendar year.

STORM WATER

STORMWATER REQUIREMENTS

The *Utah Administrative Code (UAC) R-317-8-3* requires storm water permit provisions to include the development of a storm water pollution prevention plan for waste water treatment facilities if the facility meets one or both of the following criteria.

1. waste water treatment facilities with a design flow of 1.0 MGD or greater, and/or,
2. waste water treatment facilities with an approved pretreatment program as described in *40CFR Part 403*,

Fairview City does not meet any of the above criteria; therefore this permit does not include storm water provisions. The permit does however include a storm water re-opener provision.

PRETREATMENT REQUIREMENTS

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

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

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

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

BIOMONITORING REQUIREMENTS

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the *State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity (WET) Control (biomonitoring)*. Authority to require effluent biomonitoring is provided in *Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3* and *Water Quality Standards, UAC R317-2-5* and *R317-2-7.2*.

The permittee is a minor municipal discharger that will be contributing a small volume of effluent to the existing stream flow, in which toxicity has not been present since facility operations began in 2005. Based on these considerations, and the fact that receiving stream water quality monitoring data indicate no impairment of the stream, there is no reasonable potential for toxicity in the permittee's discharge (*per State of Utah Permitting and Enforcement Guidance Document for WET Control*). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in future discharges.

PERMIT DURATION

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

Drafted by
Daniel Griffin, Discharge
Mark Schmitz, Biosolids
Jennifer Robinson, Pretreatment
Michael George, Storm Water
Utah Division of Water Quality

ADDENDUM TO FSSOB

Addendum to Fact Sheet Statement of Basis

A public notice for the draft permit was published in The Pyramid November 27, 2013. The comment period ended December 27, 2013. No Comments were received.

Responsiveness Summary

No comments received.

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

Date: December 31, 2013

Prepared by: Nicholas von Stackelberg, P.E.
Water Quality Management Section

Facility: Fairview Wastewater Treatment Facility
Fairview, UT
UPDES No. UT0025542

Receiving water: San Pitch River (2B, 3A, 4)

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

Discharge

Outfall 001: San Pitch River → Sevier River

The maximum daily design discharge is 0.3 MGD.

Receiving Water

The receiving water for Outfall 001 is the San Pitch River, which is tributary to the Sevier River.

Per UAC R317-2-13, the designated beneficial uses for San Pitch River and tributaries, from Highway U-132 crossing to headwaters are 2B, 3A and 4.

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

**Utah Division of Water Quality
Wasteload Analysis
Fairview Wastewater Treatment Facility, Fairview, UT
UPDES No. UT0025542**

Typically, the critical flow for the wasteload analysis is considered the lowest stream flow for seven consecutive days with a ten year return frequency (7Q10). Due to a lack of flow records for the San Pitch River in Fairview, the 20th percentile of the flow measurements was calculated to estimate seasonal critical flow in the receiving water (Table 1).

Table 1: San Pitch River critical low flow

Season	Flow (cfs)
Summer	4.5
Fall	4.4
Winter	6.0
Spring	5.9

TMDL

The San Pitch River is listed as impaired for Temperature and Benthic Macroinvertebrates according to the 2010 303(d) list. The source of the impairment will be determined as part of the TMDL, which has not been initiated.

Mixing Zone

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

Based on field observations of specific conductivity laterally across the cross-section, the discharge was determined to be fully mixed approximately 30 meters downstream of the discharge point. Therefore, the allowable mixing zone is 30 meters.

Parameters of Concern

The potential parameters of concern identified for the discharge/receiving water were total suspended solids (TSS), dissolved oxygen (DO), BOD₅, total phosphorus (TP), total nitrogen (TN), total ammonia (TAN), total residual chlorine (TRC) and pH as determined in consultation with the UPDES Permit Writer.

Water Quality Modeling

A QUAL2Kw model of the receiving water was built and calibrated under contract by Utah State University (USU). The model was calibrated to synoptic survey data collected in the summer of 2010 by USU and DWQ (8/2 to 8/5/2010). The calibrated model was extended further downstream for the wasteload analysis. The wasteload model extends from 340 meters above the plant discharge to 2.1 km downstream of the plant to the 1900 South road crossing (approximately 2.4 km total length).

Approximately 475 m downstream of the treatment plant discharge is a diversion structure for the Moroni and Mount Pleasant Canal. The San Pitch River can be completely diverted into the canal from April through October.

**Utah Division of Water Quality
Wasteload Analysis
Fairview Wastewater Treatment Facility, Fairview, UT
UPDES No. UT0025542**

Receiving water quality data was obtained from the monitoring site 4902720 San Pitch River above Fairview WWTP at Restoration Project. The average seasonal value was calculated for each constituent with available data in the receiving water.

The QUAL2Kw model was used for determining QBELs related to eutrophication and low dissolved oxygen, including ammonia toxicity. Effluent concentrations were adjusted so that water quality standards were not exceeded in the receiving water. QUAL2Kw rates, input and output are summarized in Appendix A.

A simple mixing analysis was conducted for conservative constituents such as dissolved metals. The QBELs determined using the simple mixing analysis are summarized in Appendix B.

The decay of chlorine from the treatment plant to the outfall at the river was estimated based on a first-order decay equation. The outlet conveyance is a combination of open channel, pipe and open pond, with a total length of 464 meters.

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

Models and supporting documentation are available for review upon request.

WET Limits

The percent of effluent in the receiving water in a fully mixed condition, and acute and chronic dilution in a not fully mixed condition are calculated in the WLA in order to generate WET limits. The LC₅₀ (lethal concentration, 50%) percent effluent for acute toxicity and the IC₂₅ (inhibition concentration, 25%) percent effluent for chronic toxicity, as determined by the WET test, needs to be below the WET limits, as determined by the WLA. The WET limit for LC₅₀ is typically 100% effluent and does not need to be determined by the WLA.

Table 2: WET Limits for IC₂₅

Season	Percent Effluent
Summer	9%
Fall	10%
Winter	7%
Spring	7%

Effluent Limits

Eutrophication and dissolved oxygen in the receiving water were evaluated using the QUAL2Kw model. Significant algal growth was predicted downstream of the WWTP during critical conditions; however, the DO was not predicted to exceed the criteria for 3A waters (Table 3) and Utah Secondary Treatment Standards for BOD₅ is sufficiently protective of the receiving water.

Ammonia limits were determined based on chronic toxicity criteria.

**Utah Division of Water Quality
Wasteload Analysis
Fairview Wastewater Treatment Facility, Fairview, UT
UPDES No. UT0025542**

Table 3: Water Quality Based Effluent Limits Summary

Effluent Constituent	Acute			Chronic		
	Standard	Limit	Averaging Period	Standard	Limit	Averaging Period
Flow (MGD)		0.3	1 day		0.3	30 days
Ammonia (mg/L) ¹	Varies	ND ³	1 hour	Varies	15	30 days
Summer						
Fall						
Winter						
Spring						
Min. Dissolved Oxygen (mg/L)	4.0	5.0	Instantaneous	6.5	5.0	30 days
BOD ₅ (mg/L) ²	None	35	7 days	None	25	30 days
Total Residual Chlorine (mg/L)	0.019	0.2	1 hour	0.011	0.2	4 days
Load (lb/day)		0.5			0.5	
1: Limits due to toxicity criteria. 2: Limits based on Utah Secondary Treatment Standards (UAC R317-1-3.2). 3: Limit not determined as it is greater than the chronic limit and the discharge does not have reasonable potential to exceed.						

Antidegradation Level I Review

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

A Level II Antidegradation Review (ADR) is not required for this discharge since the pollutant concentration and load are not increasing beyond the design capacity of the facility.

Documents:

WLA Document: *fairview_potw_wla_2013_draft.docx*
 QUAL2Kw Wasteload Model: *fairview_potw_wla_2013.xlsm*

References:

Utah Wasteload Analysis Procedures Version 1.0. 2012. Utah Division of Water Quality.
Field Data Collection for QUAL2Kw Model Build and Calibration Standard Operating Procedures Version 1.0. 2012. Utah Division of Water Quality.
Using QUAL2K Modeling to Support Nutrient Criteria Development and Wasteload Analyses in Utah. 2012. Neilson, B.T., A.J. Hobson, N. von Stackelberg, M. Shupryt, and J.D. Ostermiller.

Utah Division of Water Quality

WASTELOAD ANALYSIS [WLA]
Appendix A: QUAL2Kw Analysis Results

Date: 9/26/2013

Discharging Facility: Fairview WWTP
 UPDES No: UT-0025542
 Permit Flow [MGD]: 0.30 Max. Daily
 0.30 Max. Monthly Average

Receiving Water: San Pitch River
 Stream Classification: 2B, 3A, 4
 Stream Flows [cfs]: 4.50 Summer (July-Sept) Critical Low Flow
 4.40 Fall (Oct-Dec)
 6.00 Winter (Jan-Mar)
 5.90 Spring (Apr-June)

Instantaneously Fully Mixed: No
 Acute River Width: 50%
 Chronic River Width: 100%

Modeling Information

A QUAL2Kw model was used to determine these effluent limits.

Model Inputs

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

Headwater/Upstream Information	Summer	Fall	Winter	Spring
Flow (cfs)	4.5	4.4	6.0	5.9
Temperature (deg C)	16.6	7.4	4.5	12.5
Specific Conductance (µmhos)	706	703	697	585
Inorganic Suspended Solids (mg/L)	2.1	5.4	9.3	43.0
Dissolved Oxygen (mg/L)	8.8	10.7	11.8	10.5
Dissolved Oxygen Diel Range (mg/L)	8.0	4.0	4.0	4.0
CBOD ₅ (mg/L)	1.5	1.5	1.5	1.5
Organic Nitrogen (mg/L)	1.500	1.500	1.500	1.500
NH ₄ -Nitrogen (mg/L)	0.034	0.030	0.031	0.033
NO ₃ -Nitrogen (mg/L)	0.750	1.327	1.098	0.550
Organic Phosphorus (mg/L)	0.000	0.000	0.000	0.000
Inorganic Ortho-Phosphorus (mg/L)	0.010	0.010	0.010	0.010
Phytoplankton (µg/L)	0.0	0.0	0.0	0.0
Detritus [POM] (mg/L)	0.5	1.4	2.3	10.7
Alkalinity (mg/L)	300	300	300	300
pH	8.2	8.1	8.1	8.2

Utah Division of Water Quality

Discharge Information					
	Acute	Summer	Fall	Winter	Spring
Flow (cfs)		0.3	0.3	0.3	0.3
Temperature (deg C)		19.1	15.7	11.0	14.2
Specific Conductance (µmhos)		1,227	1,197	1,206	1,327
Inorganic Suspended Solids (mg/L)		2.0	2.0	2.0	2.0
Dissolved Oxygen (mg/L)		5.0	5.0	5.0	5.0
CBOD ₅ (mg/L)		35.0	35.0	35.0	35.0
Organic Nitrogen (mg/L)		10.000	10.000	10.000	10.000
NH ₄ -Nitrogen (mg/L)		15.000	19.000	25.000	20.000
NO ₃ -Nitrogen (mg/L)		15.000	15.000	15.000	15.000
Organic Phosphorus (mg/L)		1.000	1.000	1.000	1.000
Inorganic Ortho-Phosphorus (mg/L)		4.000	4.000	4.000	4.000
Phytoplankton (µg/L)		0.000	0.000	0.000	0.000
Detritus [POM] (mg/L)		0.000	0.000	0.000	0.000
Alkalinity (mg/L)		0	0	0	0
pH		0.0	0.0	0.0	0.0
	Chronic	Summer	Fall	Winter	Spring
Flow (cfs)		0.3	0.3	0.3	0.3
Temperature (deg C)		19.1	15.7	11.0	14.2
Specific Conductance (µmhos)		1,227	1,197	1,206	1,327
Inorganic Suspended Solids (mg/L)		2.0	2.0	2.0	2.0
Dissolved Oxygen (mg/L)		5.0	5.0	5.0	5.0
CBOD ₅ (mg/L)		25.0	25.0	25.0	25.0
Organic Nitrogen (mg/L)		10.000	10.000	10.000	10.000
NH ₄ -Nitrogen (mg/L)		15.000	19.000	25.000	20.000
NO ₃ -Nitrogen (mg/L)		15.000	15.000	15.000	15.000
Organic Phosphorus (mg/L)		1.000	1.000	1.000	1.000
Inorganic Ortho-Phosphorus (mg/L)		4.000	4.000	4.000	4.000
Phytoplankton (µg/L)		0.000	0.000	0.000	0.000
Detritus [POM] (mg/L)		0.000	0.000	0.000	0.000
Alkalinity (mg/L)		0	0	0	0
pH		8.2	8.0	7.9	8.0

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

Effluent Limitations

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

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

Effluent Limitation for Biological Oxygen Demand (BODs) based upon Secondary Standards

In-stream criteria of downstream segments for Dissolved Oxygen will be met with an effluent BOD5 limitation as follows:

Season	Concentration		
	Chronic	Acute	
Summer	25.0	35.0	mg/L as CBOD5
Fall	25.0	35.0	mg/L as CBOD5
Winter	25.0	35.0	mg/L as CBOD5
Spring	25.0	35.0	mg/L as CBOD5

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 DO limitation as follows:

Season	Concentration		
	Chronic	Acute	
Summer	5.0	5.0	mg/L
Fall	5.0	5.0	mg/L
Winter	5.0	5.0	mg/L
Spring	5.0	5.0	mg/L

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	Total Ammonia		
	Chronic	Acute	
Summer	15.0	15.0	mg/L as N
Fall	19.0	19.0	mg/L as N
Winter	25.0	25.0	mg/L as N
Spring	20.0	20.0	mg/L as N

Summary Comments

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

Utah Division of Water Quality

Coefficients and Other Model Information

<i>Parameter</i>	<i>Value</i>	<i>Units</i>
<i>Stoichiometry:</i>		
Carbon	40	gC
Nitrogen	7.2	gN
Phosphorus	1	gP
Dry weight	100	gD
Chlorophyll	1	gA
<i>Inorganic suspended solids:</i>		
Settling velocity	2	m/d
<i>Oxygen:</i>		
Reaeration model	Tsivoglou-Neal	
Temp correction	1.024	
Reaeration wind effect	None	
O2 for carbon oxidation	2.69	gO2/gC
O2 for NH4 nitrification	4.57	gO2/gN
Oxygen inhib model CBOD oxidation	Exponential	
Oxygen inhib parameter CBOD oxidation	0.60	L/mgO2
Oxygen inhib model nitrification	Exponential	
Oxygen inhib parameter nitrification	0.60	L/mgO2
Oxygen enhance model denitrification	Exponential	
Oxygen enhance parameter denitrification	0.60	L/mgO2
Oxygen inhib model phyto resp	Exponential	
Oxygen inhib parameter phyto resp	0.60	L/mgO2
Oxygen enhance model bot alg resp	Exponential	
Oxygen enhance parameter bot alg resp	0.60	L/mgO2
<i>Slow CBOD:</i>		
Hydrolysis rate	0	/d
Temp correction	1.047	
Oxidation rate	0.103	/d
Temp correction	1.047	
<i>Fast CBOD:</i>		
Oxidation rate	10	/d
Temp correction	1.047	
<i>Organic N:</i>		
Hydrolysis	0.61971067	/d
Temp correction	1.07	
Settling velocity	0.097716	m/d
<i>Ammonium:</i>		
Nitrification	8.6356657	/d
Temp correction	1.07	
<i>Nitrate:</i>		
Denitrification	1.03600496	/d
Temp correction	1.07	
Sed denitrification transfer coeff	0.003685	m/d
Temp correction	1.07	
<i>Organic P:</i>		
Hydrolysis	0.56611432	/d
Temp correction	1.07	
Settling velocity	0.020553	m/d
<i>Inorganic P:</i>		
Settling velocity	0.453255	m/d
Sed P oxygen attenuation half sat constant	0.27356	mgO2/L

Utah Division of Water Quality

<i>Phytoplankton:</i>			
Max Growth rate	2.685375	/d	
Temp correction	1.07		
Respiration rate	0.0925322	/d	
Temp correction	1.07		
Death rate	0.10456	/d	
Temp correction	1		
Nitrogen half sat constant	15	ugN/L	
Phosphorus half sat constant	2	ugP/L	
Inorganic carbon half sat constant	1.30E-05	moles/L	
Phytoplankton use HCO3- as substrate	Yes		
Light model	Smith		
Light constant	57.6	langleys/d	
Ammonia preference	9.83175	ugN/L	
Settling velocity	0.21137	m/d	
<i>Bottom Plants:</i>			
Growth model	Zero-order		
Max Growth rate	49.06007	gD/m2/d or /d	
Temp correction	1.07		
First-order model carrying capacity	100	gD/m2	
Basal respiration rate	0.0501236	/d	
Photo-respiration rate parameter	0.01	unitless	
Temp correction	1.07		
Excretion rate	0.106182	/d	
Temp correction	1.07		
Death rate	0.068256	/d	
Temp correction	1.07		
External nitrogen half sat constant	355.2396	ugN/L	
External phosphorus half sat constant	49.0929	ugP/L	
Inorganic carbon half sat constant	7.85E-05	moles/L	
Bottom algae use HCO3- as substrate	Yes		
Light model	Smith		
Light constant	54.8028	mgO ² /L	
Ammonia preference	23.7415	ugN/L	
Subsistence quota for nitrogen	6.05075	mgN/gD	
Subsistence quota for phosphorus	2.9939	mgP/gD	
Maximum uptake rate for nitrogen	167.496	mgN/gD/d	
Maximum uptake rate for phosphorus	137.4714	mgP/gD/d	
Internal nitrogen half sat ratio	1.0737		
Internal phosphorus half sat ratio	4.684316		
Nitrogen uptake water column fraction	1		
Phosphorus uptake water column fraction	1		
<i>Detritus (POM):</i>			
Dissolution rate	2.9460445	/d	
Temp correction	1.07		
Settling velocity	0.9081	m/d	
<i>pH:</i>			
Partial pressure of carbon dioxide	370	ppm	

Atmospheric Inputs:	Summer	Fall	Winter	Spring
Max. Air Temperature, F	79.6	45.2	34.6	62.7
Min. Air Temperature, F	49.4	21.9	13.1	35.5
Dew Point, Temp., F	54.5	29.9	26.0	44.3
Wind, ft./sec. @ 21 ft.	6.6	5.8	5.8	8.4
Cloud Cover, %	0.1	0.1	0.1	0.1

Other Inputs:	
Bottom Algae Coverage	100.0%
Bottom SOD Coverage	100.0%
Prescribed SOD	0.0 gO2/m2/d

WASTELOAD ANALYSIS [WLA]

Date: 9/26/2013

Appendix B: Simple Mixing Analysis for Conservative Constituents

Discharging Facility:	Fairview WWTP	
UPDES No:	UT-0025542	
Permit Flow [MGD]:	0.30	Maximum Monthly Flow
	0.30	Maximum Daily Flow
Receiving Water:	San Pitch River	
Stream Classification:	2B, 3A, 4	
Stream Flows [cfs]:	4.50	Summer (July-Sept) Critical Low Flow
	4.40	Fall (Oct-Dec)
	6.00	Winter (Jan-Mar)
	5.90	Spring (Apr-June)
Instantaneously Fully Mixed:	No	
Acute River Width:	50%	
Chronic River Width:	100%	

Modeling Information

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

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.

Headwater/Upstream Information

	San Pitch River cfs
Summer	4.5
Fall	4.4
Winter	6.0
Spring	5.9

Discharge Information

	Flow MGD
Maximum Daily	0.30
Maximum Monthly	0.30

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

Effluent Limitations

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

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

Utah Division of Water Quality

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

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

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

Physical		Maximum Concentration
Parameter		
	Temperature (deg C)	20
	Temperature Change (deg C)	2

Inorganics	Chronic Standard (4 Day Average)			Acute Standard (1 Hour Average)			
	Parameter	Standard	Background	Limit	Standard	Background ²	Limit
	Phenol (mg/L)				0.010	0.007	0.026
	Hydrogen Sulfide (Undissociated) [mg/L]				0.002	0.001	0.005
	Total Residual Chlorine (mg/L)	0.011	0.0	0.2	0.019	0.0	0.2

Dissolved Metals	Chronic Standard (4 Day Average) ¹			Acute Standard (1 Hour Average) ¹			
	Parameter	Standard	Background ²	Limit	Standard	Background ²	Limit
	Aluminum (µg/L)	87.0	58.3	365.3	750.0	58.3	4103.0
	Arsenic (µg/L)	150.0	100.5	629.9	340.0	100.5	1501.0
	Cadmium (µg/L)	0.6	0.4	2.5	6.8	0.4	37.8
	Chromium VI (µg/L)	11.0	7.4	46.2	16.0	7.4	57.8
	Chromium III (µg/L)	206.8	138.5	868.3	1589.6	138.5	8623.5
	Copper (µg/L)	26.1	17.5	109.7	43.8	17.5	171.0
	Cyanide (µg/L)	22.0	14.7	92.4	5.2	14.7	-41.0
	Iron (µg/L)				1000.0	670.0	2599.7
	Lead (µg/L)	9.5	6.4	40.1	244.8	6.4	1400.3
	Mercury (µg/L)	0.012	0.008	0.050	2.4	0.0	14.0
	Nickel (µg/L)	150.1	100.6	630.3	1351.3	100.6	7414.1
	Selenium (µg/L)	4.6	3.1	19.3	18.4	3.1	92.7
	Silver (µg/L)				27.7	18.6	72.1
	Tributyltin (µg/L)	0.072	0.048	0.302	0.46	0.05	2.46
	Zinc (µg/L)	341.5	228.8	1434.0	338.7	228.8	871.6

1: Based upon a Hardness of 350 mg/l as CaCO₃

2: Background concentration assumed 67% of chronic standard

Utah Division of Water Quality

Organics [Pesticides]	Chronic Standard (4 Day Average)			Acute Standard (1 Hour Average)			
	Parameter	Standard	Background ¹	Limit	Standard	Background ¹	Limit
Aldrin (µg/L)					1.5	1.0	3.9
Chlordane (µg/L)	0.0043	0.0029	0.0181	1.2	0.0	7.0	
DDT, DDE (µg/L)	0.001	0.001	0.004	0.55	0.00	3.21	
Diazinon (µg/L)	0.17	0.11	0.71	0.17	0.11	0.44	
Dieldrin (µg/L)	0.0056	0.0038	0.0235	0.24	0.00	1.39	
Endosulfan, a & b (µg/L)	0.056	0.038	0.235	0.11	0.04	0.46	
Endrin (µg/L)	0.036	0.024	0.151	0.086	0.024	0.386	
Heptachlor & H. epoxide (µg/L)	0.0038	0.0025	0.0160	0.26	0.00	1.51	
Lindane (µg/L)	0.08	0.05	0.34	1.0	0.1	5.6	
Methoxychlor (µg/L)				0.03	0.02	0.08	
Mirex (µg/L)				0.001	0.001	0.003	
Nonylphenol (µg/L)	6.6	4.4	27.7	28.0	4.4	142.3	
Parathion (µg/L)	0.0130	0.0087	0.0546	0.066	0.009	0.344	
PCB's (µg/L)	0.014	0.009	0.059				
Pentachlorophenol (µg/L)	15.0	10.1	63.0	19.0	10.1	62.4	
Toxephene (µg/L)	0.0002	0.0001	0.0008	0.73	0.00	4.27	

1: Background concentration assumed 67% of chronic standard

Radiological	Maximum Concentration			
	Parameter	Standard	Background ¹	Limit
Gross Alpha (pCi/L)	15	10.1	-8.8	

1: Background concentration assumed 67% of chronic standard; TDS is based on observed ambient data

Effluent Limitation for Protection of Agriculture (Class 4 Waters)

Parameter	Maximum Concentration		
	Standard	Background	Limit
Total Dissolved Solids (mg/L)	1200	637	3932
Boron (µg/L)	75	37.5	257
Arsenic (µg/L)	100	50	342
Cadmium (µg/L)	10	5	34
Chromium (µg/L)	100	50	342
Copper (µg/L)	200	100	685
Lead (µg/L)	100	50	342
Selenium (µg/L)	50	25	171
Gross Alpha (pCi/L)	15	7.5	51

Industrial Pretreatment Wastewater Survey

Do you periodically experience any of the following treatment works problems:
foam, floaties or unusual colors
plugged collection lines caused by grease, sand, flour, etc.
discharging excessive suspended solids, even in the winter
smells unusually bad
waste treatment facility doesn't seem to be treating the waste right



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

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

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

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

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

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

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

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

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

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

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

An Industrial Waste Survey consists of:

Step 1: Identify Industrial Users

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

Sources for the list:

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

Split the list into two groups:

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

Step 2: Preliminary Inspection

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

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

Step 3: Informing the State

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

Jennifer Robinson

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

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

PRELIMINARY INSPECTION FORM

INSPECTION DATE ___ / ___ /

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

Description of Business _____

Principal product or service: _____

Raw Materials used: _____

Production process is: Batch Continuous Both

Is production subject to seasonal variation? yes no

If yes, briefly describe seasonal production cycle.

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

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

Wastes are discharged to (check all that apply):

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> Sanitary sewer | <input type="checkbox"/> Storm sewer |
| <input type="checkbox"/> Surface water | <input type="checkbox"/> Ground water |
| <input type="checkbox"/> Waste haulers | <input type="checkbox"/> Evaporation |
| <input type="checkbox"/> Other (describe) | |

Name of waste hauler(s), if used

Is a grease trap installed? Yes No

Is it operational? Yes No

Does the business discharge a lot of process wastewater?

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

Does the business do any of the following:

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

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

Inspector

Waste Treatment Facility

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

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

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

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