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. **UTL025542**

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

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 **modified** permit shall become effective on January 3, 2020.

This permit expires at midnight on December 31, 2023.

Signed this 3rd day of January, 2020.

Erica Brown Gaddis, PhD
Director

DWQ-2019-020094

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I. DISCHARGE LIMITATIONS AND REPORTING REQUIREMENTS

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

Outfall Number	Location of Discharge Outfall
001	Located at latitude 39º36'23" and longitude 111º26'50". The effluent will be discharged 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 through the life of this permit, there shall be no acute or chronic toxicity in Outfall 001as defined in *Part VIII*.

2.
   a. Effective immediately and lasting the duration of this permit, the permittee is authorized to discharge from Outfall 001. Such discharges shall be limited and monitored by the permittee as specified below:

Parameter	Effluent Limitations [1]				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow	0.3	-	-	-	-
BOD_5, mg/L	25	35	-	-	-
BOD_5 Min. % Removal	85	-	-	-	-
TSS, mg/L	25	35	-	-	-
TSS Min. % Removal	85	-	-	-	-
Total Ammonia (as N), mg/L					
Summer (Jul-Sep)	10	-	-	-	14
Fall (Oct-Dec)	20	-	-	-	24
Winter (Jan-Mar)	10	-	-	-	10
Spring (Apr-Jun)	18	-	-	-	18
Dissolved Oxygen, mg/L	-	-	-	5.0	-
TRC, mg/L	-	-	-	-	0.14
E. coli, No./100mL	126	157	-	-	-

[1] See Definitions, Part VIII, for definition of terms.

Parameter	Effluent Limitations [1]				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Oil & Grease, mg/L	-	-	-	-	10.0
pH, Standard Units	-	-	-	6.5	9.0
Interim Total Phosphorous, mg/L (Effective Jan 1, 2020)	-	-	2.8	-	-
Final Total Phosphorous, mg/L, (Effective January 1, 2022)	-	-	1.0	-	-
Phosphorous	-	-	a/	-	-

a/ Effective January 1, 2020, FWWTP shall report the calculated TBPEL Reuse Average Annual Discharge Concentration for the annual average concentration for total phosphorus. FWWTP shall comply with the effluent limitations for the annual average total phosphorus concentrations based on the calculated TBPEL Reuse Average Annual Discharge Concentration.

Self-Monitoring and Reporting Requirements [1]			
Parameter	Frequency	Sample Type	Units
Total Flow [2], [3]	Continuous	Recorder	MGD
BOD_5, Influent [4] Effluent	2 x Monthly 2 x Monthly	Composite Composite	mg/L mg/L
TSS, Influent [4] Effluent	2 x Monthly 2 x Monthly	Composite Composite	mg/L mg/L
E. coli	2 x Monthly	Grab	No./100mL
pH	2 x Monthly	Grab	SU
Total Ammonia (as N)	2 x Monthly	Grab	mg/L
DO	2 x Monthly	Grab	mg/L
TRC, mg/L, [5]	5 x Week	Grab	mg/L
Oil & Grease [6]	Monthly	Grab	mg/L
TBPEL Rule Monitoring[7]			
Total Ammonia (as N)	Monthly	Composite	mg/L
Orthophosphate, (as P)[7] Effluent	Monthly	Composite	mg/L
Phosphorus, Total [7] Influent Effluent	Monthly Monthly	Composite Composite	mg/L mg/L

[2] 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.
[3] If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
[4] 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
[5] Due to the low flow conditions Fairview has had a history of difficulty maintaining the TRC below limits required. The samples are taken inside the facility but the effluent flows through a channel and a small pond, then out through a pipe before discharging to the San Pitch River. This allows Fairview to confirm that the effluent is not exceeding the WQBEL before it enters the river..
[6] Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
[7] These reflect changes required with the adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent Limits rule.

Self-Monitoring and Reporting Requirements [1]			
Parameter	Frequency	Sample Type	Units
Total Kjeldahl Nitrogen, TKN (as N) [7]			
Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO3 [7]	Monthly	Composite	mg/L
Nitrite, NO2 [7]	Monthly	Composite	mg/L

3. Compliance Schedule

   a. There is no Compliance Schedule included in this renewal permit

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

As part of the nationwide effort to control toxics, biomonitoring requirements are being included in all major permits and in minor permits for facilities where effluent toxicity is an existing or potential concern. Authorization for requiring effluent biomonitoring is provided for in UAC R317-8-4.2 and R317-8-5.3. The Whole Effluent Toxicity (WET) Control Guidance Document, February 15, 1991, outlines guidance to be used by Utah Division of Water Quality staff and by permittee's for implementation of WET control through the UPDES discharge permit program.

Fairview City is a minor point source along the San Pitch River. Comparison of the laboratory analysis performed on their effluent to the waste load analysis on the San Pitch River, Fairview City's discharge is not likely to be toxic. As a result, biomonitoring of the effluent will not be required. However, the permit will contain a WET reopener provision

D. Reporting of Monitoring Results.

1. Reporting of Wastewater Monitoring Results Monitoring results obtained during the previous month shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1)[8] or by NetDMR, post-marked or entered into NetDMR no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports including whole effluent toxicity (WET) test reports required herein, shall be signed and certified in accordance with the requirements of *Signatory Requirements (see Part VII.G*), and submitted by NetDMR, or to the Division of Water Quality at the following address:

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

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

II. PRETREATMENT REQUIREMENTS

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

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

2. 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).

3. 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.

4. User or Industrial User means a source of Indirect Discharge

B. Pretreatment 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. The "Industrial Waste Survey" as required by *Part II.B.1*. consists of;

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

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

   c. Appropriate production data.

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

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

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

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

D. General and Specific Prohibitions. The general prohibitions and the specific prohibitions apply to each User introducing pollutants into a POTW whether or not the User is subject to other Pretreatment Standards or any national, State or local Pretreatment Requirements.

1. General prohibition Standards. A User may not introduce into a POTW any pollutant(s) which cause Pass Through or Interference.

2. Specific Prohibited Standards. Developed pursuant to *Section 307* of *The Water Quality Act of 1987* require that under no circumstances shall the permittee allow introduction of the following pollutants into the waste treatment system from any User (*40 CFR 403.5*):

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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.

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

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

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

III. BIOSOLIDS REQUIREMENTS

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

1. Treatment

   a. 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

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

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

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

3. Changes in Treatment Systems and Disposal Practices.

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

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

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

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

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

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1	Table 2	Table 3	Table 4
	Ceiling Conc. Limits, (mg/kg)	CPLR[9], (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR[10], (mg/ha-yr)
Total Arsenic	75	41	41	41
Total Cadmium	85	39	39	39
Total Copper	4300	1500	1500	1500
Total Lead	840	300	300	300
Total Mercury	57	17	17	17
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	420
Total Selenium	100	100	100	100
Total Zinc	7500	2800	2800	2800

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

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

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

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

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

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

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

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

9 CPLR -- Cumulative Pollutant Loading Rate
10 APLR – Annual Pollutant Loading Rate

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

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

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

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

Pathogen Control Class	
Class A	Class B
B Salmonella species –less than three (3) MPN[11] per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids). or	Fecal Coliforms – less than 2,000,000 MPN per gram total solids. or
Fecal Coliforms – less than 1,000 MPN per gram total solids.	Fecal Coliforms – less than 2,000,000 CFU[12] per gram total solids.
And - Enteric viruses –less than one (1) MPN (or plaque forming unit) per four (4) grams total solids	
And - Viable helminth ova –less than one (1) MPN per four (4) grams total solids	

3. Vector Attraction Reduction Requirements.

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

(1) Fairview City is meeting vector attraction reduction through daily cover at the landfill *40 CFR Part 503.33,b,11* "Sewage sludge placed on an active sewage sludge unit shall be covered with soil or other material at the end of each operating day "

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

4. Self-Monitoring Requirements.

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

Minimum Frequency of Monitoring (40 CFR Part 503.16, 503.26. and 503.46)

11 MPN – Most Probable Number
12 CFU – Colony Forming Units

Amount of Biosolids Disposed Per Year		Monitoring Frequency
Dry US Tons	Dry Metric Tons	Per Year or Batch
> 0 to < 320	> 0 to < 290[13]	Once Per Year or Batch
> 320 to < 1650	> 290 to < 1,500	Once a Quarter or Four Times
> 1,650 to < 16,500	> 1,500 to < 15,000	Bi-Monthly or Six Times
> 16,500	> 15,000	Monthly or Twelve Times

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

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

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

C. <u>Management Practices of Biosolids</u>.

1. Biosolids Distribution Information

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

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

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

2. Biosolids Application Site Storage

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

3. Land Application Practices

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

[13] Over the last five years Fairview has produced on average 120 Dry Metric Tons. Accordingly, they will sample at least one time per year.

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

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

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

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

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

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

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

(6) Agronomic Rate

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

F. Reporting of Monitoring Results.

1. Biosolids. The permittee shall provide the results of all monitoring performed in accordance with *Part III.B*, and information on management practices, biosolids treatment, site restrictions and certifications shall be provided no later than February 19 of each year. Each report is for the previous calendar year. If no biosolids were sold or given away during the reporting period, "no biosolids were sold or given away" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the *Signatory Requirements (see Part VII.G)*, and submitted to the Utah Division of Water Quality by NetDMR[14] or at the following address:

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

G. Additional Record Keeping Requirements Specific to Biosolids.

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

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

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

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

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

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

e. The following certification statement:

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

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

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

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

IV. STORM WATER REQUIREMENTS.

The *Utah Administrative Code (UAC) R-317-8-3.9* 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 *40 CFR Part 40.,*

The Fairview City does not meet one 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) 536-4123.

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

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

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

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

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

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

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

   a. A description of the noncompliance and its cause;

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

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

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

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

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

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

I. <u>Other Noncompliance Reporting.</u> 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. <u>Inspection and Entry</u> The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

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

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

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

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

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

VI. COMPLIANCE RESPONSIBILITIES

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

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

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

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

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

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

G. Bypass of Treatment Facilities.

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

2. Prohibition of Bypass.

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

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

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

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

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

3. Notice.

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

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

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

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

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

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

(6) Any additional information requested by the Director.

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

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

H. Upset Conditions.

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

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

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

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

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

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

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

VII. GENERAL REQUIREMENTS

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

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

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

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

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

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

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

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

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

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

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager,

superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Q. Toxicity Limitation - Reopener Provision.

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

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

VIII. DEFINITIONS

A. Wastewater.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

B. <u>Biosolids</u>.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

FACT SHEET STATEMENT OF BASIS
FAIRVIEW CITY WASTEWATER TREATMENT PLANT
PERMIT MODIFICATION
UPDES PERMIT NUMBER: UT0025542
MINOR MUNICIPAL

FACILITY CONTACTS

Person Name: Justin Jackson
Position: Water and Sewer Superintendent
Phone Number: (801) 362-2738

DESCRIPTION OF PERMIT MODIFICATIONS

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

The TBPEL requires that all non-lagoon wastewater treatment works discharging wastewater to surface waters of the state shall provide treatment processes which will produce effluent less than or equal to an annual mean of 1.0 mg/L for total phosphorus. This TBPEL shall be achieved by January 1, 2020 unless a variance has been granted by DWQ. November 23, 2019, DWQ approved the **FAIRVIEW CITY WASTEWATER TREATMENT PLANT** variance request not to extend beyond **January 1, 2022** and with an interim total phosphorous annual average limit of 2**.8** mg/L beginning January 1, 2020. This permit modification is incorporating the approved variance with the interim limits and dates that were previously public noticed in the local newspaper, in which no comments were received.

The permit effluent limits will incorporate the following changes:

Effective January 1, 2020, FWWTP shall report the calculated TBPEL Reuse Average Annual Discharge Concentration for the annual average concentration for total phosphorus.

a. FWWTP shall comply with the effluent limitations for the annual average total phosphorus concentrations based on the calculated TBPEL Reuse Average Annual Discharge Concentration.

PERMIT DURATION

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

Drafted by
Lonnie Shull
Environmental Scientist
Utah Division of Water Quality
Permit Modification Drafted December 23, 2019

DWQ-2019-020096

FACT SHEET AND STATEMENT OF BASIS
FAIRVIEW CITY
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORM WATER
UPDES PERMIT NUMBER: UT0025542
UPDES BIOSOLIDS PERMIT NUMBER: UTL-0025542
MINORMUNICIPAL

FACILITY CONTACTS

Person Name:	Justin Jackson
Position:	Water and Sewer Superintendent
Phone Number:	(801) 362-2738

Person Name:	Dave J. Taylor
Position:	Mayor

Facility Name:	Fairview City
Mailing and Facility Address:	PO Box 97 Fairview City, Utah 84629
Telephone:	(435) 427-3858
Actual Address:	22855 North Highway 89, Fairview 84629

DESCRIPTION OF FACILITY

Fairview City constructed a new wastewater treatment plant in July 2005. The facility has a design capacity of 0.3 MGD and is a Membrane Bioreactor (MBR) serving a population of approximately 1800. It is located 1¼-miles south of Fairview along Highway 89. 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 is piped from the membranes to a chlorine contact chamber (tank), past an effluent sample port and out, either over a water feature or directly to a channel that takes the effluent to a constructed pond on site. The effluent flows out of the pond through a pipe where it mixes with groundwater that is being removed from around the structure. The16 inch pipe empties into 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.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

1. WLA Model

A new model is used by Water Quality to develop a waste load allocation (WLA) for dischargers to Waters of the State. Since the permit was first issued, Water Quality has managed to acquire more data on the receiving stream.

2. RP
During the permit cycle, Water Quality has worked to improve our reasonable potential analysis (RP) for parameters that might have effluent limits included in the permit by using an EPA developed model. The results of the RP Analysis are included in Attachment 3 of the FSSOB.

3. Ammonia Limit
The WLA for the discharge indicated ammonia could require an effluent limitation in the permit. A review of the available data is not able to clearly indicate the RP on a seasonal basis, but it is indicated when all the data is compared to the most stringent season value. Therefore seasonal effluent limits for ammonia are being included in the permit.

4. Dissolved Oxygen Monitoring
The WLA for the discharge indicates dissolved oxygen could require effluent limitations in the permit. A limit for DO is included in this renewal permit. The effluent limit is a daily minimum of 5.0 mg/L.

5. TBPEL Rule
Water Quality adopted UAC R317-1-3.3, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule on December 16, 2014. The TBPEL rule as it relates to "non-lagoon" wastewater treatment plants establishes new regulations for the discharge of phosphorus to surface waters and is self-implementing. The TBPEL rule includes the following requirements for non-lagoon wastewater treatment plants:

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

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

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

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

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

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.

Outfall Description of Discharge Point

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 according to *Utah Administrative Code (UAC) R317-2-13*:

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.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD5), *E. coli*, pH and percent removal for BOD5 and TSS are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The oil and grease is based on best professional judgment (BPJ). Attached is a Wasteload Analysis for this discharge into the San Pitch River (WLA) which includes Water Quality Base d Effluent Limits (WQBELs). Ammonia limits are based on the WLA. It has been determined that this discharge will not cause a violation of water quality standards. An Antidegradation Level II review is not required since the Level I review shows that water quality impacts are minimal. The permittee is expected to be able to comply with these limitations.

Reasonable Potential Analysis

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

A quantitative RP analysis was performed on ammonia to determine if there was reasonable potential for the discharge to exceed the applicable water quality standards. Based on the RP analysis, ammonia was determined to have a reasonable potential to exceed the most stringent chronic and acute water quality standard. A copy of the RP analysis is included at the end of this Fact Sheet.

The permit limitations are

Parameter	Effluent Limitations [1]				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Total Flow, MGD	0.3	-	-	-	-
BOD_5, mg/L	25	35	-	-	-
BOD_5 Min. % Removal	85	-	-	-	-
TSS, mg/L	25	35	-	-	-
TSS Min. % Removal	85	-	-	-	-

[1] See Definitions, Part VIII, for definition of terms.

Parameter	Effluent Limitations [1]				
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum
Dissolved Oxygen, mg/L	-	-	-	5.0	-
TRC, mg/L	-	-	-	-	0.14
E. coli, No./100mL	126	157	-	-	-
Total Ammonia (as N), mg/L					
Summer (Jul-Sep)	10	--	--	--	14
Fall (Oct-Dec)	20	--	--	--	24
Winter (Jan-Mar)	10	--	--	--	10
Spring (Apr-Jun)	18	--	--	--	18
Oil & Grease, mg/L	-	-	-	-	10.0
pH, Standard Units	-	-	-	6.5	9.0

SELF-MONITORING AND REPORTING REQUIREMENTS

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

Self-Monitoring and Reporting Requirements [1]			
Parameter	Frequency	Sample Type	Units
Total Flow [2], [3]	Continuous	Recorder	MGD
BOD_5, Influent [4]	2 x Monthly	Composite	mg/L
Effluent	2 x Monthly	Composite	mg/L
TSS, Influent [4]	2 x Monthly	Composite	mg/L
Effluent	2 x Monthly	Composite	mg/L
E. coli	2 x Monthly	Grab	No./100mL
pH	2 x Monthly	Grab	SU
Total Ammonia (as N)	2 x Monthly	Grab	mg/L
DO	2 x Monthly	Grab	mg/L
TRC, mg/L, [5]	5 x Week	Grab	mg/L
Oil & Grease [6]	Monthly	Grab	mg/L
TBPEL Rule Monitoring[7]			

[2] 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.
[3] If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
[4] 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
[5] Due to the low flow conditions Fairview has had a history of difficulty maintaining the TRC below limits required. The samples are taken inside the facility but the effluent flows through a channel and a small pond, then out through a pipe before discharging to the San Pitch River. This allows Fairview to confirm that the effluent is not exceeding the WQBEL before it enters the river..
[6] Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
[7] These reflect changes required with the adoption of UCA R317-1-3.3, Technology-based Phosphorus Effluent

Self-Monitoring and Reporting Requirements [1]			
Parameter	Frequency	Sample Type	Units
Total Ammonia (as N) [7]	Monthly	Composite	mg/L
Orthophosphate, (as P) [7] Effluent	Monthly	Composite	mg/L
Phosphorus, Total [7] Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Total Kjeldahl Nitrogen, TKN (as N) [7] Influent Effluent	 Monthly Monthly	 Composite Composite	 mg/L mg/L
Nitrate, NO3 [7]	Monthly	Composite	mg/L
Nitrite, NO2 [7]	Monthly	Composite	mg/L

BIOSOLIDS

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

DESCRIPTION OF TREATMENT AND DISPOSAL

The Permittee submitted their 2016 annual biosolids report on February 27, 2018. The report states the Permittee produced 122 dry metric tons (DMT) of solids that were disposed of at the county landfill.

The wastewater solids are stabilized during the membrane bioreactor process (MBR) with an average retention time of over 60 days. The wastewater solids from the MBR process are de-watered using a belt press and disposed of in a landfill.

The last inspection conducted at the facility was September 27, 2017. The inspection showed that Fairview City was in compliance with all aspects of the biosolids management program.

SELF-MONITORING REQUIREMENTS

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

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

Limits rule.

Over the last five years Fairview has produced on average 120 Dry Metric Tons. Accordingly, they will sample at least one time per year.

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

BIOSOLIDS LIMITATIONS

Heavy Metals

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

Class A Requirements With Regards to Heavy Metals
If the biosolids are to be applied to a lawn or home garden, the biosolids shall not exceed the maximum heavy metals in Table 1 and the monthly average pollutant concentrations in Table 3 (see Table 1 and Table 3 below). If the biosolids do not meet these requirements, the biosolids cannot be sold or given away for applications to home lawns and gardens.

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

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

> The maximum heavy metals listed in *40 CFR Part 503.13(b) Table 1* and the heavy metals loading rates in *40 CFR Part 503.13(b) Table 2*; or
>
> The maximum heavy metals in *40 CFR Part 503.13(b) Table 1* and the monthly heavy metals concentrations in *40 CFR Part 503.13(b) Table 3.*

Tables 1, 2, and 3 of Heavy Metal Limitations

Pollutant Limits, (40 CFR Part 503.13(b)) Dry Mass Basis				
Heavy Metals	Table 1 Ceiling Conc. Limits, (mg/kg)	Table 2 CPLR[8], (mg/ha)	Table 3 Pollutant Conc. Limits, (mg/kg)	Table 4 APLR[9], (mg/ha-yr)
Total Arsenic	75	41	41	41
Total Cadmium	85	39	39	39
Total Copper	4300	1500	1500	1500
Total Lead	840	300	300	300
Total Mercury	57	17	17	17
Total Molybdenum	75	N/A	N/A	N/A
Total Nickel	420	420	420	420
Total Selenium	100	100	100	100
Total Zinc	7500	2800	2800	2800

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

Pathogens

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

Pathogen Control Class	
Class A	Class B
B Salmonella species –less than three (3) MPN[10] per four (4) grams total solids (or less than 1,000 fecal coliforms per gram total solids). or	Fecal Coliforms – less than 2,000,000 MPN per gram total solids. or
Fecal Coliforms – less than 1,000 MPN per gram total solids.	Fecal Coliforms – less than 2,000,000 CFU[11] per gram total solids.
For 503.32,(a),(5) and (6) Include the Following	
And - Enteric viruses –less than one (1) MPN (or plaque forming unit) per four (4) grams total solids	
And - Viable helminth ova –less than one (1) MPN per four (4) grams total solids	

Class A Requirements for Home Lawn and Garden Use

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

[8] CPLR -- Cumulative Pollutant Loading Rate
[9] APLR – Annual Pollutant Loading Rate
[10] MPN – Most Probable Number
[11] CFU – Colony Forming Units

number (MPN/g) of fecal coliform per gram of total solids) to be considered Class A biosolids.

Fairview City does not intend to give away biosolids for land application on home lawns or gardens, and will therefore not be required to meet PFRP. If the permittee changes their intentions in the future, they will need to meet a specific PFRP, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice.

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

Pathogens Class B

If biosolids are to be land applied for agriculture or land reclamation the solids need to be treated by a specific process to significantly reduce pathogens (PSRP). Fairview City does not intend to land apply the biosolids and will therefore not be required to meet PSRP. If the permittee intends to land apply in the future, they will need to meet a specific PSRP, the Director and the EPA must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice.

Vector Attraction Reduction (VAR)

If the biosolids are land applied Fairview will be required to meet VAR through the use of a method of listed under *40 CFR 503.33.* Fairview City is meeting vector attraction reduction through daily cover at the landfill.

1. Under *40 CFR 503.33(b)(11),* Sewage sludge placed on an active sewage sludge unit shall be covered with soil or other material at the end of each operating day.

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

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

Landfill Monitoring

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

Record Keeping

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

Reporting

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

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

Fairview City does not meet any of the above criteria; therefore this permit does not include storm water provisions. A storm water re-opener provision is included in the permit should a storm water permit be needed in the future.

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

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern

is regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018. Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

The permittee is a minor municipal facility that will be discharging a minimal amount of effluent, in which toxicity is neither an existing concern, nor likely to be present. Based on this consideration, there is no reasonable potential for toxicity in the permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control, February 2018). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

PERMIT DURATION

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

Drafted by
Daniel Griffin, P.E., Discharge, Biosolids, Reasonable Potential Analysis
Jennifer Robinson, Pretreatment
Lisa Stevens, Storm Water
Nick von Stackelberg, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: December 13, 2018
Ended: January 14, 2019

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

The Public Noticed of the draft permit was published in The Pyramid.

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

ADDENDUM TO FSSOB

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

No Comments were received regarding this permit.

DWQ-2018-007478

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ATTACHMENT 1

Industrial Waste Survey

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Industrial Pretreatment Wastewater Survey

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

An Industrial Waste Survey consists of:

Step 1: Identify Industrial Users

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

Sources for the list:
business license, building permits, water and wastewater billing, Chamber of Commerce, newspaper, telephone book, yellow pages.

Split the list into two groups:
domestic wastewater only--no further information needed
everyone else (IUs)

Step 2: Preliminary Inspection

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

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

Step 3: Informing the State

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

Jennifer Robinson

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

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

PRELIMINARY INSPECTION FORM
INSPECTION DATE ___ / ____ /

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

Description of Business _____

Principal product or service: _____

Raw Materials used: _____
_____

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

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

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

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

Wastes are discharged to (check all that apply):

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

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

Does the business discharge a lot of process wastewater?

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

Does the business do any of the following:

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

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

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

_____
Inspector

_____
Waste Treatment Facility

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

Jennifer Robinson
Division of Water Quality

PO Box 144870
Salt Lake City, Utah 84114-4870

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

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

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ATTACHMENT 2

Effluent Monitoring Data

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Effluent Monitoring Data.

Effluent Monitoiring Results										
	Flow	pH		TRC	BOD		TSS		E. coli	
	Chronic	Min	Max	Max	Chronic	Acute	Chronic	Acute	Chronic	Acute
	0.3	6.5	9	0.2	25	35	25	35	126	157
Jul-15	0.11	7.6	7.6	0.2	ND	ND	4	2	85	110
Aug-15	0.091	7.6	7.6	0.2	ND	ND	ND	ND	11	28
Sep-15	0.083	7.8	7.8	0.18	9	3	7	5.5	1430	170
Oct-15	0.097	7.3		0.18	ND	ND	6	5	170	580
Nov-15	0.103	7.7	7.7	0.2	ND	ND	15	9.5	36	73
Dec-15	0.102	7.7	7.7	0.15	ND	ND	5	4.5	218	520
Jan-16	0.104	7.9	8.3	0.2	ND	ND	5	4.5	32	60
Feb-16	0.086	7.5	7.8	0.2	6	3	6	6	87	150
Mar-16	0.077	7.8	7.9	0.17	3	6	6	6	160	121
Apr-16	0.072	7.9	7.9	0.2	ND	ND	4	2	ND	130
May-16	0.082	7.9	8.1	0.2	ND	ND	ND	ND	ND	ND
Jun-16	0.092	7.8	8.0	0.2	ND	ND	ND	ND	ND	ND
Jul-16	0.3	7.8	7.9		ND	ND	ND	ND	4	4
Aug-16	0.3				ND	ND	ND	ND	1	1
Sep-16	0.3	7.8	8.9	0.19	ND	ND	ND	ND	ND	ND
Oct-16	0.08	8.2	7.9		ND	ND	ND	ND	ND	ND
Nov-16	0.1	7.8	8.3	0.2	ND	ND	5	5	ND	ND
Dec-16	0.3	8.0	8.3	0.2	ND	ND	ND	ND	1	3
Jan-17	0.3	7.9	8.1	0.2	ND	ND	ND	ND	ND	ND
Feb-17	0.083	8.2	8.4	0.17	ND	ND	ND	ND	1	2
Mar-17	0.068	7.7	8.2	0.18	ND	ND	ND	ND	1	1
Apr-17	0.077	7.6	8.0	0.19	6.7	9	4	4	1	1
May-17	0.086	7.6	8.2	0.19	6.7	9	4	4	1	1
Jun-17	0.114	7.8	8.1	0.19	5.9	7	4	4	1	1
Jul-17	0.1	7.7	8.1	0.19	ND	ND	ND	ND	1	2
Aug-17	0.101	8.0	8.1	0.14	ND	ND	ND	ND	6	6
Sep-17	0.081	7.8	8.1	0.15	ND	ND	ND	ND	2	6
Oct-17	0.089	7.8	8.0	0.15	ND	ND	ND	ND	1	1
Nov-17	0.081	7.9	8.0	0.16	ND	ND	ND	ND	ND	ND
Dec-17	0.087	7.6	7.7	0.12	ND	ND	ND	ND	ND	ND
Jan-18	0.058	8.0	8.1	0.15	ND	ND	ND	ND	1	1
Feb-18	0.056	7.8	7.9	0.11	ND	ND	ND	ND	2	2
Mar-18	0.061	8.1	8.3	0.14	ND	ND	ND	ND	ND	ND
Apr-18	0.06	8.0	8.0	0.12	ND	ND	ND	ND	ND	ND
May-18	0.053	7.5	7.7	0.17	ND	ND	ND	ND	ND	ND
Jun-18	0.048	7.6	7.7	0.17	ND	ND	ND	ND	1	2
Jul-18	0.054	7.4	7.4	0.13	ND	ND	ND	ND	1	2
Aug-18	0.056	7.5	7.9	0.16	ND	ND	ND	ND	1	5
Sep-18	0.059	7.3	7.6	0.09	ND	ND	ND	ND	2	3

TBPEL Monitoring Results							
	Effluent					Influent	
	N	NO2+ NO3	Ortho P	TKN	Tot P	TKN	Tot P
Jul-15	20.2	ND	5.6	ND	5.5	29	4.8
Aug-15	ND	17.3	5.1	ND	5.2	36	6.8
Sep-15	ND	6.3	4.1	2	4.1	49	6.9
Oct-15	ND	8.6	2.5	ND	2.4	3.3	7.3
Nov-15	ND	ND	2.9	ND	3.2	38	3.2
Dec-15	7.8	ND	3.7	ND	4	49	7.3
Jan-16	ND	ND	ND	ND	2.9	52	6.8
Feb-16	ND	ND	2.6	ND	2.8	52	6.6
Mar-16	6.2	ND	2.4	ND	2.5	46	7.8
Apr-16	10	ND	1.9	ND	1.9	64	1.9
May-16	ND	ND	2.3	ND	2.4	55	6.9
Jun-16	ND	ND	1.5	ND	1.6	37	5.1
Jul-16	ND	8.4	3.5	ND	3.9	52	7.1
Aug-16	0.4	7.1	4.4	ND	3.5	27	5.1
Sep-16	1	9.3	3.1	ND	3.2	29	5.9
Oct-16	ND	6	2.6	ND	2.6	38.6	2.9
Nov-16	ND	7.3	3.4	ND	3.6	27.4	5.3
Dec-16	ND	7.2	2.4	ND	2.5	50.2	6
Jan-17	ND	7.7	2.9	1	3	48.3	6.6
Feb-17	ND	9.3	2.2	ND	3	46.2	6.2
Mar-17	ND	11.7	2.9	ND	3	33.1	5.8
Apr-17	ND	9.5	2.3	ND	2.5	44.7	6.5
May-17	ND	8.2	2.4	ND	2.4	31.5	4.9
Jun-17	ND	10.2	1.7	ND	1.8	33.5	4.8
Jul-17	ND	13.6	2.5	ND	2.7	35.2	5.6
Aug-17	ND	9.1	2	ND	2.1	38.6	6.8
Sep-17	ND	7.4	1.2	ND	1.3	ND	5.6
Oct-17	ND	7.5	2.7	ND	2.8	43.6	7.1
Nov-17	ND	10.2	3.6	ND	3.7	38.2	6.6
Dec-17	ND	5.2	2.7	ND	2.6	51.6	8.5

ATTACHMENT 3

Wasteload Analysis

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

Date: **October 1, 2018**

Facility: **Fairview Wastewater Treatment Facility**
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.*

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, the 20th percentile of the flow measurements from monitoring site 4902720 San Pitch River above Fairview WWTP at Restoration Project for the period 2006-2016 was calculated to estimate seasonal critical low flow in the receiving water (Table 1).

Table 1: San Pitch River critical low flow

Season	Flow (cfs)
Summer	2.7
Fall	3.8
Winter	3.5
Spring	5.0

TMDL

The San Pitch River from U-132 to the Pleasant Creek confluence is listed as impaired for E coli according to the 303(d) list in Utah's 2016 Integrated Report. 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 are total suspended solids (TSS), dissolved oxygen (DO), BOD_5, 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). For the wasteload analysis, the calibrated model was extended further downstream. 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.

Receiving water quality data was obtained from the monitoring site 4902720 San Pitch River above Fairview WWTP at Restoration Project for the period 2006-2016. The average seasonal value was calculated for each constituent with available data in the receiving water.

The QUAL2Kw model was used for determining WQBELs related to eutrophication and low dissolved oxygen. Effluent concentrations were adjusted so that water quality standards were not exceeded in the receiving water.

The QUAL2Kw model was also used to determine the limits for ammonia. The water quality standard for chronic ammonia toxicity is dependent on temperature and pH, and the water quality standard for acute ammonia toxicity is dependent on pH. QUAL2Kw kinetic rates, inputs and outputs are summarized in Appendix A.

A mass balance mixing analysis was conducted for conservative constituents such as dissolved metals. The WQBELs determined using the mass balance 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 and an estimated travel time of 50 minutes. The analysis for TRC is summarized in Appendix C.

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

Models and supporting documentation are available for review upon request.

WET Limits

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

Table 2: WET Limits for IC_{25}

Season	Percent Effluent
Summer	15%
Fall	11%
Winter	12%
Spring	8%

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 BOD_5 is sufficiently protective of the receiving water.

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)						
Summer		14			10	
Fall	Varies	24	1 hour	Varies	20	30 days
Winter		10			10	
Spring		18			18	
Total Phosphorus[2]						
Min. Dissolved Oxygen (mg/L)	4.0	5.0	Minimum	6.5	5.0	30 days
BOD_5 (mg/L)[1]	None	35	7 days	None	25	30 days
Total Residual Chlorine (mg/L)	0.019	0.14	1 hour	0.011	0.14	4 days

1: Limits based on Utah Secondary Treatment Standards (UAC R317-1-3.2).

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.

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

Documents:

WLA Document: *fairview_potw_wla_2018-10-01.docx*
QUAL2Kw Wasteload Model: *fairview_potw_wla_2018.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's 2016 Integrated Report. 2016. Utah Division of Water Quality.

WASTELOAD ANALYSIS [WLA] Date: 9/26/2018
Appendix A: QUAL2Kw Analysis Results

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]:	2.72	Summer (July-Sept)	Critical Low Flow
	3.80	Fall (Oct-Dec)	
	3.53	Winter (Jan-Mar)	
	5.03	Spring (Apr-June)	
Instantaneously Fully Mixed:	NO		
Acute River Width:	50%		
Chronic River Width:	100%		
Combined Flow [cfs]:	1.82	Acute	
	3.18	Chronic	

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)	2.7	3.8	3.5	5.0
Temperature (deg C)	17.2	5.9	3.8	15.2
Specific Conductance (µmhos)	722	704	678	600
Inorganic Suspended Solids (mg/L)	0.6	4.4	7.0	12.5
Dissolved Oxygen (mg/L)	10.0	10.5	11.7	10.1
Dissolved Oxygen Diel Range (mg/L)	8.0	4.0	4.0	4.0
$CBOD_5$ (mg/L)	16.3	44.7	53.7	37.8
Organic Nitrogen (mg/L)	0.248	0.000	0.317	0.239
NH4-Nitrogen (mg/L)	0.020	0.024	0.021	0.021
NO3-Nitrogen (mg/L)	0.783	1.228	1.061	0.452
Organic Phosphorus (mg/L)	0.002	0.000	0.004	0.006
Inorganic Ortho-Phosphorus (mg/L)	0.012	0.051	0.014	0.016
Phytoplankton (µg/L)	0.0	0.0	0.0	0.0
Detritus [POM] (mg/L)	1.8	4.3	6.9	2.5
Alkalinity (mg/L)	300	300	300	300
pH	8.2	8.0	8.5	8.2

Discharge Information

Acute	Summer	Fall	Winter	Spring
Flow (cfs)	0.3	0.3	0.3	0.3
Temperature (deg C)	18.5	14.9	10.8	14.5
Specific Conductance (µmhos)	1,318	1,227	1,211	1,377
Inorganic Suspended Solids (mg/L)	2.0	3.2	2.0	2.5
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)	0.000	0.555	3.447	4.007
NH4-Nitrogen (mg/L)	14.000	24.000	10.000	16.000
NO3-Nitrogen (mg/L)	6.778	11.933	14.408	10.018
Organic Phosphorus (mg/L)	1.380	1.040	0.000	1.500
Inorganic Ortho-Phosphorus (mg/L)	3.500	3.660	3.860	2.790
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)	309	309	309	309
pH	8.3	8.3	8.7	8.2

Chronic	Summer	Fall	Winter	Spring
Flow (cfs)	0.3	0.3	0.3	0.3
Temperature (deg C)	18.5	14.9	10.8	14.5
Specific Conductance (µmhos)	1,318	1,227	1,211	1,377
Inorganic Suspended Solids (mg/L)	2.0	3.2	2.0	2.5
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)	0.000	0.555	3.447	4.007
NH4-Nitrogen (mg/L)	10.000	20.000	10.000	18.000
NO3-Nitrogen (mg/L)	6.778	11.933	14.408	10.018
Organic Phosphorus (mg/L)	0.907	0.335	0.000	1.096
Inorganic Ortho-Phosphorus (mg/L)	1.706	3.384	3.188	2.750
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)	309	309	309	309
pH	8.0	8.0	8.0	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 (BOD_5) based upon Secondary Standards

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

	Concentration		
Season	**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:

	Concentration		
Season	**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:

	Total Ammonia		
Season	**Chronic**	**Acute**	
Summer	10.0	14.0	mg/L as N
Fall	20.0	24.0	mg/L as N
Winter	10.0	10.0	mg/L as N
Spring	18.0	18.0	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.

Coefficients and Other Model Information

Parameter	*Value*	*Units*
Stoichiometry:		
Carbon	40	gC
Nitrogen	7.2	gN
Phosphorus	1	gP
Dry weight	100	gD
Chlorophyll	1	gA
Inorganic suspended solids:		
Settling velocity	2	m/d
Oxygen:		
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
Slow CBOD:		
Hydrolysis rate	0	/d
Temp correction	1.047	
Oxidation rate	0.103	/d
Temp correction	1.047	
Fast CBOD:		
Oxidation rate	10	/d
Temp correction	1.047	
Organic N:		
Hydrolysis	0.61971067	/d
Temp correction	1.07	
Settling velocity	0.097716	m/d
Ammonium:		
Nitrification	8.6356657	/d
Temp correction	1.07	
Nitrate:		
Denitrification	1.03600496	/d
Temp correction	1.07	
Sed denitrification transfer coeff	0.003685	m/d
Temp correction	1.07	
Organic P:		
Hydrolysis	0.56611432	/d
Temp correction	1.07	
Settling velocity	0.020553	m/d
Inorganic P:		
Settling velocity	0.453255	m/d
Sed P oxygen attenuation half sat constant	0.27356	mgO2/L

Phytoplankton:		
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
Bottom Plants:		
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	
Detritus (POM):		
Dissolution rate	2.9460445	/d
Temp correction	1.07	
Settling velocity	0.9081	m/d
pH:		
Partial pressure of carbon dioxide	370	ppm

Atmospheric Inputs:	Spring	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: 9/26/2018

Appendix B: Mass Balance 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]:	2.72	Summer (July-Sept)	Critical Low Flow
	3.80	Fall (Oct-Dec)	
	3.53	Winter (Jan-Mar)	
	5.03	Spring (Apr-June)	
Instantaneously Fully Mixed:	No		
Acute River Width:	50%		
Chronic River Width:	100%		

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	**Flow** cfs
Summer	2.7
Fall	3.8
Winter	3.5
Spring	5.0

Discharge Information	**Flow** cfs
Maximum Daily	0.46
Maximum Monthly	0.46

Combined Flow Information	**Flow** cfs
Acute	1.82
Chronic	3.18

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

Effluent Limitations

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

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

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

Physical

Parameter	Maximum Concentration
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

Parameter	Maximum Concentration
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	0.020
Hydrogen Sulfide (Undissociated) [mg/L]				0.002	0.001	0.004
Total Residual Chlorine (mg/L)	0.011	0.0	0.1	0.019	0.000	0.075

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)	N/A[3]		None	750.0	502.5	1,475
Arsenic (µg/L)	150.0	100.5	440	340.0	100.5	1,042
Cadmium (µg/L)	0.6	0.4	1.7	6.8	0.4	25.6
Chromium VI (µg/L)	11.0	7.4	32.3	16.0	7.4	41.3
Chromium III (µg/L)	206.8	138.5	607	1589.6	138.5	5,842
Copper (µg/L)	26.1	17.5	76.6	43.8	17.5	121
Cyanide (µg/L)	5.2	3.5	15.3	22.0	3.5	76.3
Iron (µg/L)				1000.0	670.0	1,967
Lead (µg/L)	9.5	6.4	28.0	244.8	6.4	943
Mercury (µg/L)	0.012	0.008	0.035	2.4	0.0	9.4
Nickel (µg/L)	150.1	100.6	440	1351.3	100.6	5,016
Selenium (µg/L)	4.6	3.1	13.5	18.4	3.1	63.3
Silver (µg/L)				27.7	18.6	54.6
Tributylin (µg/L)	0.072	0.048	0.211	0.46	0.05	1.67
Zinc (µg/L)	341.5	228.8	1,002	338.7	228.8	661

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

2: Background concentration assumed 67% of chronic standard

3: Where the pH is equal to or greater than 7.0 and the hardness is equal to or greater than 50 ppm as $CaCO_3$ in the receiving water after mixing, the 87 ug/L chronic criterion (expressed as total recoverable) will not apply, and aluminum will be regulated based on compliance with the 750 ug/L acute aluminum criterion (expressed as total recoverable).

Organics [Pesticides]	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	3.0
Chlordane (µg/L)	0.0043	0.0029	0.0126	1.2	0.0	4.7
DDT, DDE (µg/L)	0.001	0.001	0.003	0.55	0.00	2.16
Diazinon (µg/L)	0.17	0.11	0.50	0.17	0.11	0.33
Dieldrin (µg/L)	0.0056	0.0038	0.0164	0.24	0.00	0.93
Endosulfan, a & b (µg/L)	0.056	0.038	0.164	0.11	0.04	0.32
Endrin (µg/L)	0.036	0.024	0.106	0.086	0.024	0.267
Heptachlor & H. epoxide (µg/L)	0.0038	0.0025	0.0111	0.26	0.00	1.01
Lindane (µg/L)	0.08	0.05	0.23	1.0	0.1	3.8
Methoxychlor (µg/L)				0.03	0.02	0.06
Mirex (µg/L)				0.001	0.001	0.002
Nonylphenol (µg/L)	6.6	4.4	19.4	28.0	4.4	97.1
Parathion (µg/L)	0.0130	0.0087	0.0381	0.066	0.009	0.234
PCB's (µg/L)	0.014	0.009	0.041			
Pentachlorophenol (µg/L)	15.0	10.1	44.0	19.0	10.1	45.2
Toxephene (µg/L)	0.0002	0.0001	0.0006	0.73	0.00	2.87

1: Background concentration assumed 67% of chronic standard

Radiological	Maximum Concentration		
Parameter	Standard	Background[1]	Limit
Gross Alpha (pCi/L)	15	10.1	44.0

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

Effluent Limitation for Protection of Agriculture (Class 4 Waters)

	Maximum Concentration		
Parameter	Standard	Background[1]	Limit
Total Dissolved Solids (mg/L)	1200	376	6,029
Boron (µg/L)	75	50.25	220
Arsenic (µg/L)	100	67	293
Cadmium (µg/L)	10	6.7	29
Chromium (µg/L)	100	67	293
Copper (µg/L)	200	134	587
Lead (µg/L)	100	67	293
Selenium (µg/L)	50	33.5	147
Gross Alpha (pCi/L)	15	10.05	44

WASTELOAD ANALYSIS [WLA]
Appendix C: Total Residual Chlorine

Date: 9/26/2018

Discharging Facility: Fairview WWTP
UPDES No: UT-0025542

CHRONIC

	Season	Receiving Water	Standard	Total Effluent	Mixing Zone Boundary	Effluent Limit Without Decay	Temperature (°C)	Decay Rate (/day) @ 20 deg C	Decay Rate (/day) @ T deg C	Travel Time (min)	Decay Coefficient	Effluent Limit
Discharge (cfs)	Summer	2.7		0.46	3.2							
	Fall	3.8		0.46	4.3							
	Winter	3.5		0.46	4.0							
	Spring	5.0		0.46	5.5							
TRC (mg/L)	Summer	0.000	0.011			0.075	18.5	20	18.6	50	0.5235	0.144
	Fall	0.000	0.011			0.101	14.9	20	15.8	50	0.5779	0.175
	Winter	0.000	0.011			0.095	10.8	20	13.1	50	0.6345	0.149
	Spring	0.000	0.011			0.130	14.5	20	15.5	50	0.5832	0.223

ACUTE

	Season	Receiving Water	Standard	Total Effluent	Mixing Zone Boundary	Effluent Limit Without Decay	Temperature (°C)	Decay Rate (/day) @ 20 °C	Decay Rate (/day) @ T °C	Travel Time (min)	Decay Coefficient	Effluent Limit
Discharge (cfs)	Summer	1.4		0.46	1.8							
	Fall	1.9		0.46	2.4							
	Winter	1.8		0.46	2.2							
	Spring	2.5		0.46	3.0							
TRC (mg/L)	Summer	0.000	0.019			0.075	18.5	20	18.6	50	0.5235	0.143
	Fall	0.000	0.019			0.097	14.9	20	15.8	50	0.5779	0.167
	Winter	0.000	0.019			0.091	10.8	20	13.1	50	0.6345	0.144
	Spring	0.000	0.019			0.122	14.5	20	15.5	50	0.5832	0.209

ATTACHMENT 4

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

Water Quality has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available at water Quality. There are four outcomes for the RP Analysis[12]. They are;

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

Fairview is a minor discharger with an average flow less than 0.2 MGD and no significant industrial users contributing to the facility. As a result they have not been required to monitor for metals, priority pollutants or other toxics in accordance with the UPDES Pretreatment Guidance for Sampling of POTWs. Water quality will continue to follow this path with Fairview and those parameters will again not be required to monitor for by the permit. If the circumstances change, the monitoring may be added at any time in the future without public notice.

The RP model was run on ammonia using the most recent data back through 2015. This resulted in 21 data points and that there is a Reasonable Potential for an acute and chronic limit for ammonia when basing the RP on the most stringent acute and chronic limits from the WLA. There is not enough data to evaluate the RP on a seasonal basis. This result indicates that the inclusion of an effluent limit for ammonia is required at this time. The seasonal values will be applied and an RP will be conducted again during the next renewal. If the seasonal limits are no longer required, they may be removed
(Outcome A from Reasonable Potential Guide)

The ammonia RP Outputs Table are included in this attachment.

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

RP input/output summary

RP Procedure Output	Outfall Number:		001	Data Units		mg/L
Parameter	Ammonia-N					
Distribution	Lognormal					
Reporting Limit	0.01					
Significant Figures	2					
Maximum Reported Effluent Conc.	10					
Coefficient of Variation (CV)	6.6					
Acute Criterion	14					
Chronic Criterion	10					
Confidence Interval	95	99				
Projected Maximum Effluent Conc. (MEC)	20	120				
RP Multiplier	2.0	12				
RP for Acute?	YES	YES				
RP for Chronic?	YES	YES				
Outcome	A					

ATTACHMENT 5

Fairview Site Flow and Location

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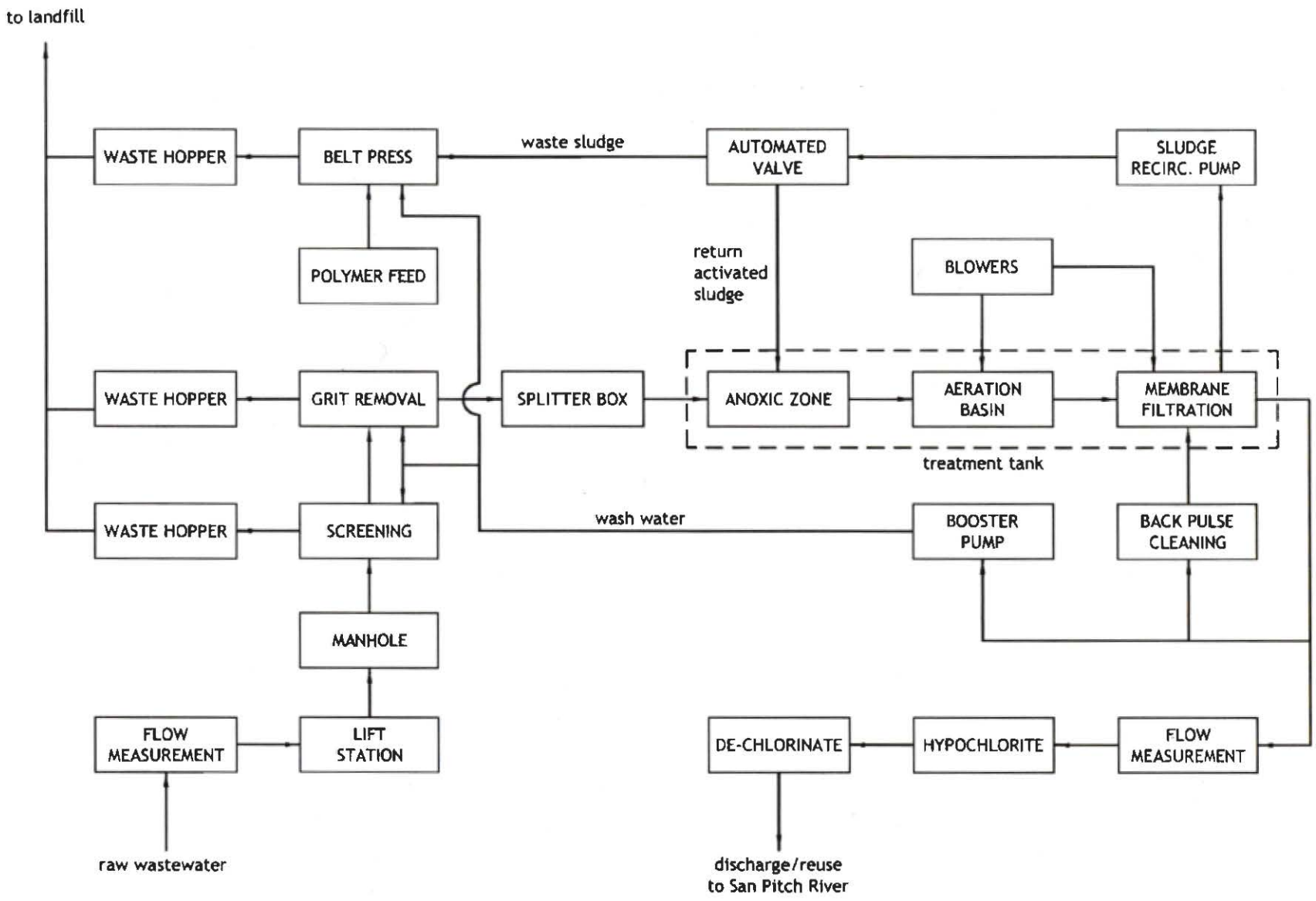

SUNRISE ENGINEERING, INC.
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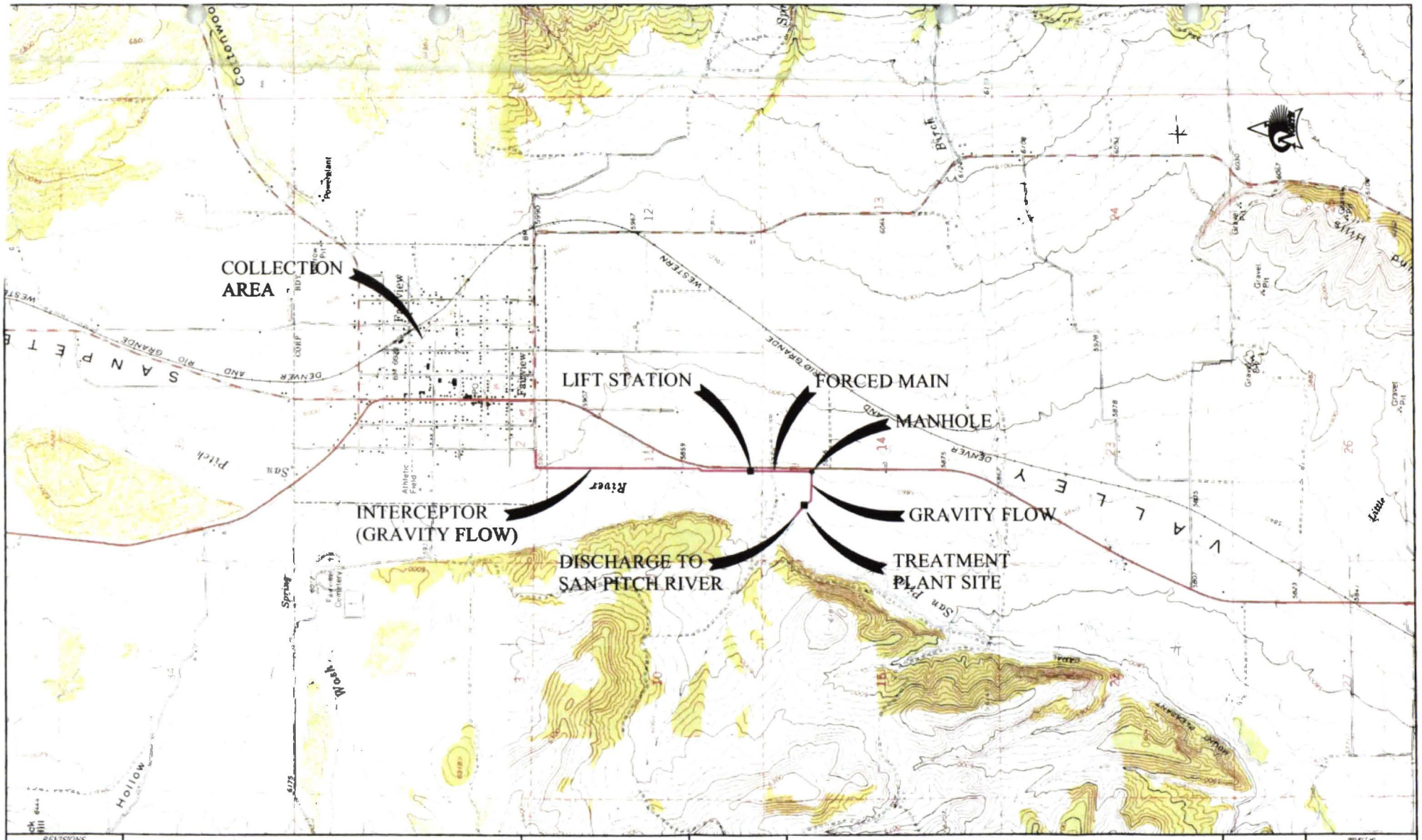
25 East 500 North Fillmore, Utah

FAIRVIEW CITY
WASTEWATER MEMBRANE FILTRATION PLANT
FLOW PROCESS DIAGRAM



REVISIONS			
NO	DATE	DESCRIPTION	BY
1			
2			
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6			

SUNRISE ENGINEERING, INC.

CONSULTING ENGINEERS & LAND SURVEYORS

25 EAST 500 NORTH
FILLMORE, UTAH 84631

TEL (435) 743-6151
FAX (435) 743-7900

SUNRISE ENGINEERING INC.

FAIRVIEW CITY
WASTEWATER COLLECTION & TREATMENT SYSTEM

OVERVIEW

PROJECT NO
DESIGNED
CHECKED
DRAWN CK
DATE
DRAWING NO
SCALE 1"=2000'
SHEET NO

DWQ-2018-012221