

Official Draft Public Notice Version **December 17, 2018**

The findings, determinations, and assertions contained in this document are not final and subject to change following the public comment period.

**FACT SHEET AND STATEMENT OF BASIS
HYRUM WASTEWATER TREATMENT PLANT
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORM WATER
UPDES PERMIT NUMBER: UT0023205
UPDES BIOSOLIDS PERMIT NUMBER: UTL-023205
UPDES MULTI-SECTOR STORM WATER GENERAL PERMIT NUMBER: UTR000000
MAJOR MUNICIPAL**

FACILITY CONTACTS

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DESCRIPTION OF FACILITY

The Hyrum City Wastewater Treatment Plant (HWTP) is located at 1900 West 4400 South, Hyrum, Cache County, Utah. The Facility serves the City of Hyrum with the outfall located at latitude 41°39'06" and longitude 111°52'50". The design capacity is 2 MGD with a present flow is approximately 1 MGD and population of approximately 8,000.

The HWTP consists of screening, two parallel anoxic basins and aerobic activated sludge process prior to the membrane bioreactor treatment (MBR). Alum is used to remove phosphorus. The facility discharges into an unnamed irrigation ditch to Spring Creek then to the Little Bear River during non-irrigation season of November through March. The facility is in the Bear River water shed. The Type I Effluent Reuse is land applied during the irrigation months of April through October to the East Bench of Hyrum City, the irrigation system or the to the irrigation storage reservoir.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Ammonia limits are based on the Wasteload Analysis (WLA) and have been decreased from the evaluation of the WLA. DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after January 1, 2016. A quantitative reasonable potential analysis (RP) was not able to be performed because there was insufficient data. Metals will be required to be monitored during this permit cycle.

Water Quality adopted UAC R317-1-3.3, Technology-Based Phosphorus Effluent Limit (TBPEL) Rule in 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

HWTP has been reporting self-monitoring results on Discharge Monitoring Reports on a monthly basis. A summary of the last 3 years of data is attached and there were no significant violations.

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	Located at latitude 41°39'06" and longitude 111°52'50". The discharge goes into an unnamed irrigation ditch to Spring Creek then to the Little Bear River during non-irrigation season of November through March. The facility is in the Bear River water shed.
001R	Located at latitude 41°39'06" and longitude 111°52'50". The Type I Effluent Reuse is land applied during the irrigation months of April through October to the East Bench of Hyrum City, the irrigation system or the to the irrigation storage reservoir.

RECEIVING WATERS AND STREAM CLASSIFICATION

If a discharge were to occur, it would be pumped into an irrigation ditch, which is a Class 2B, 3A, 3D, 3E 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 3D	Protected for waterfowl, shore birds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
Class 3E	Severely habitat-limited waters. Narrative standards will be applied to protect these waters for aquatic wildlife.
Class 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). Limitations on Ammonia are based on the Wasteload Analysis. The phosphorous limits are based on the Spring Creek TMDL and protective of Spring Creek during the critical months of the year. Attached is a Wasteload Analysis for this discharge into the unnamed irrigation ditch. 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. A quantitative RP analysis was not able to be performed because there was insufficient data. Metals will be required to be monitored during this permit cycle.

The permit limitations are:

Parameter	Outfall 001 Effluent Limitations *a						
	Maximum Monthly Avg	Maximum Weekly Avg	Yearly Average	Daily Minimum	Daily Maximum	Annual Max	Max 90-day Mean
Total Flow	2.0	--	--	--	--	--	--
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)	2.99	--	--	--	9.6	--	--
Fall (Oct-Dec)	4.4	--	--	--	10.8	--	--
Winter (Jan-Mar)	6.0	--	--	--	12.7	--	--
Spring (Apr-Jun)	4.4	--	--	--	10.6	--	--
<i>E. coli</i> , No./100mL	126	157	--	--	--	--	--
Total Phosphorous, mg/L (Oct-Jun)	1.0	--	--	--	--	--	--
Total Phosphorous, mg/L (Jul-Sep)	--	--	--	--	--	--	0.1
Total Phosphorous, kg/yr	--	--	--	--	--	563	--
Oil & Grease, mg/L	--	--	--	--	10.0	--	--
pH, Standard Units	--	--	--	6.5	9	--	--
WET, Chronic Biomonitoring	--	--	--	--	IC ₂₅ > 82.0% effluent	--	--

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

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

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SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous permit. The permit will require reports to be submitted monthly and 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 *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
BOD ₅ , Influent *d	2 x Weekly	Composite	mg/L
Effluent	2 x Weekly	Composite	mg/L
TSS, Influent *d	2 x Weekly	Composite	mg/L
Effluent	2 x Weekly	Composite	mg/L
Total Ammonia (as N)	2 x Weekly 2 x Weekly	Composite	mg/L
<i>E. coli</i>	2 x Weekly	Grab	No./100mL
Total Phosphorous, mg/L Fall, Winter, Spring	Monthly	Grab	mg/L
Total Phosphorous, mg/L Summer	Monthly	Grab	mg/L
Total Phosphorous, kg/yr	Monthly	Grab	mg/L
Oil & Grease *e	When Sheen Observed	Grab	mg/L
pH	2 x Week	Grab	SU
Orthophosphate, (as P) Effluent	Monthly	Composite	mg/L
Phosphorus, Total Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Total Kjeldahl Nitrogen, TKN (as N) Influent	Monthly	Composite	mg/L
Effluent	Monthly	Composite	mg/L
Nitrate, NO ₃	Monthly	Composite	mg/L
Nitrite, NO ₂	Monthly	Composite	mg/L
WET – Biomonitoring *f Ceriodaphnia - Chronic	2 nd & 4 th Quarter	Composite	Pass/Fail
Fathead Minnows - Chronic	1 st & 3 rd Quarter	Composite	Pass/Fail
Metals Influent	2 x Year	Composite	mg/L
Effluent	2 x Year	Composite	mg/L
Organic Toxics Influent	2 nd and 4 th Year of the Permit		
Effluent	Cycle	Grab	mg/L

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

Reuse Outfall 001R Self-Monitoring and Reporting Requirements *a *i *h

Parameter	Frequency	Sample Type	Units
Total Flow, *b, *c	Continuous	Recorder	MGD
Turbidity	Continuous	Recorder	mg/L
BOD ₅	Weekly	Composite	mg/L
<i>E. coli</i> *j	Daily	Grab	No./100mL
pH	Daily	Grab	SU

- *a See Definitions, *Part VIII*, for definition of terms.
- *b Flow measurements of influent/effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- *c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- *d In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
- *e Oil & Grease sampled when sheen is present or visible. If no sheen is present or visible, report NA.
- *f The chronic Ceriodaphnia will be tested during the 2nd and 4th quarters, and the chronic fathead minnows will be tested during the 1st and 3rd quarters.
- *g Total phosphorus is also being sampled in support of the work being done for the TMDL currently underway for the Spring Creek and tributaries from the confluence with Little Bear River. Phosphorous will to be monitored and reported by the facility on Discharge Monitoring Report.
- *h The facility is required to disinfect to destroy, inactivate or remove pathogenic microorganisms by chemical, physical or biological means. Disinfection may be accomplished by chlorination, ozonation, or other chemical disinfectants, UV radiation. Or other approved processes. Chlorine residual is recommended but no longer required. Sampling not required if chlorination is not being used. The total residual chlorine shall be measured continuously and shall at no time be less than 1.0 mg/l after 30 minutes contact time at peak flow. If an alternative disinfection process is used, it must be demonstrated to the satisfaction of the Director that the alternative process is comparable to that achieved by chlorination with a 1 mg/l residual after 30 minutes contact time. If the effectiveness cannot be related to chlorination, then the effectiveness of the alternative disinfection process must be demonstrated by testing for pathogen destruction as determined by the Director. A 1 mg/l total chlorine residual is recommended after disinfection and before the treated effluent goes into the distribution system.
- *i Reuse monitoring results obtained during the previous month for reuse discharges shall be summarized for each month and reported on a Monthly Operational Report, post-marked no later than the 28th day of the month following the completed reporting period.
- *j (For Type I only.) The weekly median *E. coli* concentration shall be non-detect

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

Management Practices for Land Application of Treated Effluent:

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

BIOSOLIDS

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 HWTP is located approximately three miles northwest of downtown Hyrum. The plant is currently designed to treat 2.0 MGD. The facility consists of a fine screen and a vortex grit removal system, a parshall flume, 2 anoxic tanks, a pre-aeration basin, 3 membrane basins utilizing Membrane Bioreactor, UV disinfection, a 2 meter belt press, two 35 foot diameter aerobic digesters and nine sludge drying beds.

Waste activated Sludge from the MBR process is wasted to digesters which are used as holding and mixing tanks. About every 5 days the solids in the digesters is dewatered through the 2 meter belt press, loaded in a truck and moved to the one of the drying beds. The biosolids in the bed is allowed to collect and further dry. At the end of June each year the solids are removed from the bed and laid out in rows, similar to windrows, and allowed to further dry while being turned by tractor. After several months (July, August and September) the solids are tested for metals and then land applied to fields owned by Hyrum which are farmed by a local farmer.

The last inspection of the biosolids program conducted at the HWTP was September 18, 2018. The inspection showed that HWTP 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

The HWTP disposes of approximately 85 DMT of biosolids a year, therefore they need to sample at least one time a 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)*). No biosolids were landfilled in the last five years.

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	Table 2	Table 3	Table 4
	Ceiling Conc. Limits, (mg/kg)	CPLR ¹ , (mg/ha)	Pollutant Conc. Limits, (mg/kg)	APLR ² , (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 ³ 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 ⁴ 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	

Class A Requirements for Home Lawn and Garden Use

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

The HWTP is investigating the option of meeting PFRP through a40 CFR Part 503.32(a)(6) Class A – Alternative 4. (Other Unknown Processes/Testing).

¹ CPLR -- Cumulative Pollutant Loading Rate

² APLR – Annual Pollutant Loading Rate

³ MPN – Most Probable Number

⁴ CFU – Colony Forming Units

1. Unknown Processes/Testing - Testing at the time the sewage sludge is prepared for sale or give away in a bag or other container for application to the land; or at the time the sewage sludge or material derived from sewage sludge is prepared to meet the requirements in §503.10 (b), (c), (e), or (f), the biosolids are tested for pathogens and enteric viruses and must meet;

Salmonella sp. Bacteria or Fecal Coliform - Either the density of fecal coliform in the sewage sludge shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge shall be less than three Most Probable Number per four grams of total solids (dry weight basis).

And Plaque-Forming Unit - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

And Viable Helminth Ova - The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

Both of these composting methods are found under (40 CFR 503.32(a)(6)).

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.

If the permittee intends to use another one of the listed alternatives in *40 CFR 503.32*, the Director must be informed at least thirty (30) days prior to its use. This change may be made without additional public notice.

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).

The HWTP uses the following methods to meet PSRP:

1. Under *40 CFR Part 503.32 (b)(2)* Test the biosolids and it must meet a microbiological limit of less than 2,000,000 MPN of fecal coliform per gram for the biosolids to be considered Class B biosolids with respect to pathogens. Or,

2. Under *40 CFR Part 503.32 (b)(3)*, Use a process that meets the requirements to significantly reduce pathogens,

Appendix B. A. 2. Air Drying – Biosolids are dried on sand beds or on paved or unpaved basins. The biosolids are allowed to dry for a minimum of 3 months. During 2 of the 3 months, the ambient average daily temperature is above 32° F (0° C). Or

Appendix B. A. 4. Composting – Using either the within-vessel, static aerated pile, or windrow composting methods, the temperature of the sewage sludge is raised to 40° C (104° F) or higher, and remain at 40° C or higher for a minimum of five days. For four hours, during the five days, the temperature needs to exceed 55° C (131° F).

If the permittee intends to use another one of the listed alternatives in *40 CFR 503.32*, the Director 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 HWTP will be required to meet VAR through the use of a method of listed under *40 CFR 503.33*. The HWTP intends to meet the vector attraction reduction requirements through one of the methods listed below.

1. Solids are equal to or greater than 75% total solids when primary solids are not present prior to land application *40 CFR Part 503.33(b)(7)*.
2. Solids are equal to or greater than 90% total solids when primary solids are present prior to land application *40 CFR Part 503.33(b)(8)*.

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 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

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

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

MONITORING DATA

METALS MONITORING DATA

The HWTP was required to samples for metals at least one time a year.. All biosolids land applied in the last five years met *Table 3 of 40 CFR 503.13*; therefore the HWTP biosolids qualify as EQ with regards to metals. The monitoring data is summarized below.

HWTP Metals Monitoring Data 2012 through 2017

Metals Limits and Concentration Summary, (mg/kg)				
Heavy Metals	Table 1	Table 3	Hyrum Results	
	Ceiling Conc. Limits, (Max)	Pollutant Conc. Limits, (Avg)1	Avg	Max
Arsenic	75	41	13.0	23.4
Cadmium	85	39	0.53	0.98
Copper	4300	1500	118.5	241
Lead	840	300	11.2	19.9
Mercury	57	17	0.52	1.1
Molybdenum	75	N/A	2.9	6.4
Nickel	420	420	9.7	16.5
Selenium	100	100	3.8	12
Zinc	7500	2800	344.9	755

PATHOGEN MONITORING DATA

The results are below.. All biosolids land applied in 2018 met the Class B pathogen standards .

HWTP *Fecal Coliform* Monitoring Data 2018

Geometric Mean, MPN Per Gram	Maximum, MPN Per Gram
195	195

STORM WATER

STORMWATER REQUIREMENTS

Storm water provisions are included in this combined UPDES permit.

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

The permit requires the preparation and implementation of a storm water pollution prevention plan for all areas within the confines of the plant. Elements of this plan are required to include:

1. The development of a pollution prevention team,
2. Development of drainage maps and materials stockpiles,
3. An inventory of exposed materials,
4. Spill reporting and response procedures,
5. A preventative maintenance program,
6. Employee training,
7. Certification that storm water discharges are not mixed with non-storm water discharges,
8. Compliance site evaluations and potential pollutant source identification, and
9. Visual examinations of storm water discharges.

PRETREATMENT REQUIREMENTS

The 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 State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring). Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

Since the facility is considered a major municipal facility and has a categorical industry discharging to it, biomonitoring is required and the renewal permit will include chronic WET testing and reporting requirements. Based upon the Utah Permit and Enforcement Guidance Document for Whole Effluent Toxicity (February 2018), Acute WET testing is being eliminated from the permit.

PERMIT DURATION

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

Drafted by
Sarah Leavitt, Discharge
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lisa Stevens, Storm Water
Dave Wham, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: Month Day, Year
Ended: Month Day, Year

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 (NEWSPAPER OF RECORD FOR AREA).

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

ADDENDUM TO FSSOB

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

Responsiveness Summary

(Explain any comments received and response sent. Actual letters can be referenced, but not required to be included).

ATTACHMENT 1

Industrial Waste Survey

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Industrial Pretreatment Wastewater Survey



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

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

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

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

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

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

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

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

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

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

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

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

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

An Industrial Waste Survey consists of:

Step 1: Identify Industrial Users

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

Sources for the list:

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

Split the list into two groups:

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

Step 2: Preliminary Inspection

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

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

Step 3: Informing the State

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

Jennifer Robinson

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

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

PRELIMINARY INSPECTION FORM

INSPECTION DATE ___ / ___ /

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

Description of Business _____

Principal product or service: _____

Raw Materials used: _____

Production process is: Batch Continuous Both

Is production subject to seasonal variation? yes no

If yes, briefly describe seasonal production cycle.

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

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

Wastes are discharged to (check all that apply):

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

Name of waste hauler(s), if used

Is a grease trap installed? Yes No

Is it operational? Yes No

Does the business discharge a lot of process wastewater?

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

Does the business do any of the following:

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

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

Inspector

Waste Treatment Facility

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

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

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

E-Mail: jenrobinson@utah.gov

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

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ATTACHMENT 2

Wasteload Analysis

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ATTACHMENT 3

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 Analysis⁵. 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.

Initial screening for metals values that were submitted through the discharge monitoring reports showed that a closer look at some of the metals is not needed.

⁵ See Reasonable Potential Analysis Guidance for definitions of terms

