

Official Draft Public Notice Version **December 4, 2014**

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
GRANTSVILLE CITYRENEWAL PERMIT: DISCHARGE,
UPDES PERMIT NUMBER: UT0021130
MINOR MUNICIPAL**

FACILITY CONTACTS

Person Name: Brent Marshall
Position: Mayor

Person Name: Larry D Bolinder
Position: Public Works Director
Person Name: Ron Griffin
Position: Lagoon Manager

Facility Name: Grantsville City Corporation
Mailing Address: 429 East Main Street
P.O. Box 567
Grantsville, Utah 84029
Telephone: City Hall - (435) 884-3411
Actual Address: 630 North Race Street

DESCRIPTION OF FACILITY

The Grantsville City Lagoons (Grantsville) were constructed in 1972. The lagoons service the city of Grantsville with a service population of approximately 5000. The average design flow capacity in 2009 was 0.76 MGD, population equivalent of 6323 through the year 2015, and influent organic loadings of 170mg/L or 1,075lbs/day each for BOD₅ and TSS. The peak design flow was 1.9 MGD.

The facility consists of a headwork's control building containing control equipment as well as a Rotomat rag compactor, headwork's structure with two influent channels and one bar screen followed by a 15 inch Palmer Bowlus flume and Drexel Brook ultrasonic flow meter. The facility is equipped with a diesel-powered generator that will operate as a backup power source.

Grantsville City's Lagoons consisted of 8 lagoons, 1 primary, 1 secondary, 2 tertiary and 4 empty lagoons to allow for overflow. Their lagoons included aerators. The primary lagoon had eight (8) aerators. The secondary lagoon has five (5) aerators and the first tertiary cell has three (3) aerators. The cells are contained on 102.2 acres. The following is a summary of Grantsville's Lagoon dimensions.

Grantsville City Pond Summary			
Pond #	Pond Type	Surface Area, acres	Depth, ft
1	Aerated	2.69	10
2	Aerated	2.66	10
3	Aerated	3.64	10
4	Facultative	3.26	7
5	Evaporation (Overflow)	7.0	7
6	Evaporation (Overflow)	6.1	3
7	Evaporation (Overflow)	6.1	3
8	Evaporation (Overflow)	7.9	3

Following the lagoon cells is the disinfection building. The disinfection building contains the influent and effluent flow recorders, and an ultraviolet (UV) light channel. The UV channel is 21 feet long, 20 inches wide and contains two banks of UV lights in series, with 40 lights per bank. The building also houses the facility laboratory. Following the disinfection building is an effluent 15-inch Palmer Bowlus flume and Drexel Brook flow sensor.

The facility's discharge location at Outfall 001 is located at latitude 40°37'15" and longitude 112°26'50" and STORET number 496024.

The Utah Water Quality Board revised the bacteriological criteria in the Standards of Quality for Waters of the State effective June 1, 2005. Based, in part, on a long-standing recommendation from the Environmental Protection Agency, numeric criteria for E. coli bacteria were added to the standards. The new E. coli criteria is 126 (no.)/100 mL (30-day geometric mean) and 158 (no.)/100 mL (7-day geometric mean), which is considered equivalent to 200 (no.)/100 mL and 250 (no.)/100 mL fecal coliforms (UAC R317-1-3.2), respectively.

In March 2003, the Board agreed to adopted new standards that had a significant effect on ammonia limits. The new ammonia standards were public noticed and approved in January 2004. The parameters affected were dissolved oxygen (DO), ammonia and total residual chlorine (TRC). A flow limit was also added to the last renewal permit.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Grantsville has improved treatment and changed some of the process on site. Most notably they have improved the primary cell. They now use an Advanced Treatment Lagoon Activated Sludge system utilizing a Decant BioBalanced Reactor technology to manage biosolids (ATLAS™ - DBBR).

The process is described in the Anti-Degradation Review Facility Management Plan as, "The basic ATLAS framework uses conventional low-rate activated sludge process with process oxygen requirements provided by fine bubble aeration and system biomass controlled by a decant operation. The ATLAS-DBBR system is comprised of integrated hardware equipment design specifically to meet the treatment objectives of the plant. The key determinate technologies include in-basin aeration equipment (floating air laterals and diffusers), blowers, decant piping and valves and integrated process control logic."

The result of the process change is that the facility has greatly improved the effluent quality and increased

capacity. They have requested the design capacity (discharge flow limit) of the facility be adjusted to match. They submitted the Anti-Degradation Review and needed supporting reports for the changes. This Document (DWQ-2014-007999) is included in the attachments to the Fact Sheet Statement of Basis (FSSOB).

Water Quality has reviewed the receiving waters and the report for the resulting review (DWQ-2014-009708) is being included as an attachment to the FSSOB. The review confirmed the status of the receiving water bodies as 3D. A Waste Load Analyses (DWQ-2014-009709) was also developed for the permit after the site review and is included as an attachment. The new WLA has some limits that have changed from the previous permit. The limits are compared in the table below.

In reviewing the proposed new limits for Ammonia it was determined that Grantsville would have trouble meeting the monthly average (1.1 mg/L) during the summer months. They do not have trouble meeting the maximum daily limit (3.2 mg/L). The accepted solution is to issue the permit with a monthly loading limit for ammonia based on the average concentration and flow.

The mass loading limit is calculated as shown here;

$$\text{Mass Loading, } \frac{\text{lbs}}{\text{Mon}} = (\text{Flow, MGD}) * \left(\text{Concentration, } \frac{\text{mg}}{\text{L}}\right) * \left(8.34 \frac{\text{lbs}}{\text{gal}}\right) * \left(30 \frac{\text{days}}{\text{Mon}}\right)$$

$$\text{Mass Loading, } \frac{\text{lbs}}{\text{Mon}} = (1.5, \text{MGD}) * \left(1.1, \frac{\text{mg}}{\text{L}}\right) * \left(8.34 \frac{\text{lbs}}{\text{gal}}\right) * \left(30 \frac{\text{days}}{\text{Mon}}\right)$$

$$\text{Mass Loading, } \frac{\text{lbs}}{\text{Mon}} = 412.8$$

If the Concentration is higher, and the flow is lower, they can still discharge up to 412.8 lbs in a month. When they hit that limit, they just stop discharging. The reported mass discharged is calculated as shown here;

$$\text{Mass Loading, lbs} = (\text{Ave Flow}) * (\text{Ave Concentration}) * \left(8.34 \frac{\text{lbs}}{\text{gal}}\right) * (\text{Days Discharged})$$

Parameter	Previous Limit		New Limit		
	Monthly Ave	Daily Max	Monthly Ave	lbs./Month	Daily Max
Ammonia, mg/l					
Summer (Jul-Sept)	NA	21.1		413	3.2
Fall (Oct-Dec)	NA	21.1	2.5		3.2
Winter (Jan-Mar)	NA	21.1	2.9		3.2
Spring (Apr-Jun)	NA	21.1	1.7		3.2
	Monthly Ave	Daily Min	Monthly Ave		Daily Min
DO, mg/L	NA	5	5		4

Due to the increase of flow, above 1 MGD, Grantsville will be required to sample for metals and organic toxics. The permit requires metals to be sampled yearly. The permit requires the organic toxics to be sampled in the odd numbered years during the permit cycle. The frequency of all samples will also be

increased as a result of the increased permitted flow. The Division's guidance for monitoring frequency based on flow is shown in the table below.

Monitoring Frequency by Flow			
Flow Range	0.25 to 0.5 MGD	0.5 to 1.0 MGD	1.0 to 5.0 MGD
Frequency	2 x Monthly	Weekly	2 x Weekly

The flow used may be based on actual average daily flow over a 12 month period. The average flow over the last permitting cycle was 0.3 MGD. The flow over the next permitting cycle is not expected to more than double which would still be less than 1.0 MGD. Therefore the frequency will be based on an average flow between 0.5 and 1.0 MGD.

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. Until the increase in design flow for this permitting cycle Grantsville has not been required to sample for any metals. During the next renewal the model will be run using data collected during this permit cycle.

DISCHARGE

DESCRIPTION OF DISCHARGE

Grantsville City has upgraded their primary and secondary ponds for improved aeration. This greatly improved the effluent quality and eliminated BOD violations.

Outfall

Description of Discharge Point

001 Located at latitude 40°37'15" and longitude 112°26'50". The discharge is located North of the disinfection building, in the NW ¼ section 29, T2S R5W, via a constructed ditch that travels approximately 150 yards to the North, before entering Blue Lakes.

RECEIVING WATERS AND STREAM CLASSIFICATION

If a discharge were to occur, it would be pumped into an irrigation ditch, which is a Class 4 according to *Utah Administrative Code (UAC) R317-2-13*:

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), fecal and total coliforms, pH and percent removal for BOD5 and TSS are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The Ammonia limit was derived from a Waste Load Analysis (WLA) on the discharge. The permit limitations are listed on the table below.

Parameter	Effluent Limitations *a				
	Monthly Average	Weekly Average	Daily Minimum	lbs./Month	Daily Maximum
Flow, MGD	1.5	-	-		2.25
BOD ₅ , mg/L	25	35	-	-	-
BOD ₅ % Removal	85	-	-	-	-
TSS, mg/L	25	35	-	-	-
TSS % Removal	85	-	-	-	-
Ammonia, mg/L					
Summer (Jul – Sep)	-			412.8	3.2
Fall (Oct – Dec)	2.5	-	-	-	3.2
Winter (Jan – Mar)	2.9	-	-	-	3.2
Spring (Apr – Jun)	1.7	-	-	-	3.2
DO, mg/L	NA	NA	4		NA
E-Coli, No./100mL	126	157	NA		NA
pH, Standard Units	NA	NA	6.5		9

NA – Not Applicable.

SELF-MONITORING AND REPORTING REQUIREMENTS

The table below contains the self-monitoring requirements which 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. 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	Weekly	Grab	mg/L
Effluent	Weekly	Grab	mg/L
TSS, Influent *d	Weekly	Grab	mg/L
Effluent	Weekly	Grab	mg/L
Dissolved Oxygen	Weekly	Grab	mg/L
Ammonia	Weekly	Grab	mg/L
E. Coli, No/100mL	Weekly	Grab	No./100mL
pH	Weekly	Grab	SU
Metals,			
Influent	Semiannually	Composite	mg/L
Effluent	Semiannually	Composite	mg/L
Organic Toxics,			
Influent	Odd Calendar Years	Grab	mg/L
Effluent	Odd Calendar Years	Grab	mg/L

*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.

BIOSOLIDS

The State of Utah has adopted the *40 CFR 503* federal regulations for the disposal of sewage sludge (biosolids) by reference. However, since this facility is a lagoon, there is not any regular sludge production. Therefore *40 CFR 503* does not apply at this time. In the future, if the sludge needs to be removed from the lagoons and is disposed in some way, the Division of Water Quality must be contacted prior to the removal of the sludge to ensure that all applicable state and federal regulations are met.

STORM WATER

STORMWATER REQUIREMENTS

Wastewater treatment facilities, which includes treatment lagoons, are required to comply with storm water permit requirements if they meet one or both of the following criteria,

1. The facility has an approved pretreatment program as described in 40 CFR Part 403.
2. The facility has a design flow of 1.0 MGD or greater.

The Grantsville City facility only fits one of these criteria for exclusion for a UPDES Storm Water Permit and is required to submit a No Exposure Certification to be exempt from storm water permit requirements. The Grantsville City facility only recently became required to submit a No Exposure Certification and was asked to submit the certification during the permit renewal cycle and have met all requirements. Therefore, no storm water permitting requirements will be required at this time. 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 recommended that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions 40 CFR, Part 403.5(a) and Part 403.5(b). This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed. The permittee is required to submit for review any local limits that are developed to the Division of Water Quality. If local limits are developed they must be public noticed.

BIOMONITORING REQUIREMENTS

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

The potential for toxicity is not deemed sufficient to require biomonitoring or whole effluent toxicity (WET) limits because there are no present or anticipated industrial dischargers on the system nor are there any anticipated for the duration of this permit. The waste discharge is anticipated to be household waste only. Therefore, biomonitoring is not required in this permit, however the permit will contain a WET reopener provision.

PERMIT DURATION

It is recommended that this permit be effective for a duration no greater than five (5) years.

Drafted by
Daniel Griffin, Discharge
Utah Division of Water Quality

ADDENDUM TO FSSOB

A public notice for the draft permit will be published in The Tootle Transcript on December 9, 2014. The comment period ended on January 7, 2015. During finalization of the Permit certain dates, spelling edits and minor language corrections may be completed. Due to the nature of these types of changes they would not be considered Major and the permit may not require re Public Noticing.

Responsiveness Summary

PN DRAFT

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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