

*Official Draft Public Notice Version, September 9, 2013*

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

**FACT SHEET/STATEMENT OF BASIS  
BLUE SKY RANCH AND RESORT  
RENEWAL PERMIT: DISCHARGE, BIOSOLIDS & STORM WATER  
UPDES PERMIT NUMBER: UT0025763  
UPDES BIOSOLIDS PERMIT NUMBER: UTL-025763  
MINOR INDUSTRIAL**

**FACILITY CONTACTS**

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Facility Name:	Blue Sky Ranch and Resort
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**DESCRIPTION OF FACILITY**

The Blue Sky Ranch and Resort (BSRR) is a 3,000 acre ranch owned and operated by Philips Edison and Company that will be used as a conference center resort and will include lodging, restaurant, conference and fitness facilities located in Wanship, Utah. The resort will also include a whiskey distillery owned and operated by High West Distillery. Construction of the facilities was expected to be completed in 2008 but due to various reasons, was delayed until the fall of 2013.

The facilities will be constructed in 2013 and will accommodate 340 guests and 40 employees. A wastewater treatment plant will be constructed to treat all of the wastewater generated on site. The treatment plant is designed to treat 39,000 gallons per day and will include a Sequencing Batch Reactor (SBR) with tertiary filtration and UV disinfection. After disinfection, the water will be discharged via outfall 001 with latitude 40.48°28.83N and longitude 111.26°51.90" to Alexander Creek which flows to Silver Creek, then to the Weber River and ultimately to Echo Reservoir.

**CHANGES FROM PREVIOUS PERMIT**

As previously mentioned, BSRR was not constructed during the last UPDES permit cycle. Instead, it is anticipated that the facility will be constructed in Fall 2013. The facility has elected to change the treatment technology from what was originally proposed in the 2008 UPDES permit application from MBR to SBR. Also, the facility plan now includes a distillery and as a result, they have requested an increase in flow from 30,000 gallons per day to 39,000 gallons per day.

## DISCHARGE

### **DESCRIPTION OF DISCHARGE**

Because BSRR is a new facility there is no historical effluent monitoring data.

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	Located at latitude 40.48°28.83N and longitude 111.26°51.90". The discharge is to Alexander Creek and hence to Silver Creek.

### **RECEIVING WATERS AND STREAM CLASSIFICATION**

The final discharge is to Alexander Creek which is classified as 1C, 2B, 3A, and 4 (in that segment) according to *Utah Administrative Code (UAC) R317-2-6 and R317-2-13.4*:

Class 1C	-Protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water.
Class 2B	-Protected for secondary contact recreation such as boating, wading, or similar uses.
Class 3A	-Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
Class 4	-Protected for agricultural uses including irrigation of crops and stock watering.

### **BASIS FOR EFFLUENT LIMITATIONS**

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD<sub>5</sub>), E. coli, pH and percent removal for BOD<sub>5</sub> and TSS are based on current Utah Secondary Treatment Standards, *UAC R317-1-3.2*. The phosphorus limitation is based on the wasteload allocation combined with the approved phosphorus abatement project to create a zero net phosphorus discharge to the watershed. As in the previous permit, the ammonia limitation is more stringent than the wasteload allocation states, however, it is a number that is more protective of water quality and the facility is confident that it can meet. The oil and grease effluent limit is based on best professional judgment (BPJ). The permit limitations are:

Parameter	Effluent Limitations			
	Monthly Average	Weekly Average	Daily Minimum	Daily Maximum
Total Flow, MGD	0.039	NA	NA	NA
BOD <sub>5</sub> , mg/L	25	35	NA	NA
BOD <sub>5</sub> Min. % Removal	85	NA	NA	NA
TSS, mg/L	25	35	NA	NA
TSS Min. % Removal	85	NA	NA	NA
E. coli, No./100mL	126	158	NA	NA
Total Phosphorus, mg/L	1.0	NA	NA	NA
Total Ammonia, as N, mg/L	1.0	NA	NA	NA
Dissolved Oxygen, mg/L	NA	NA	5.0	NA
Oil & Grease, mg/L	NA	NA	NA	10
pH, Standard Units	NA	NA	6.5	9.0

NA – Not Applicable.

**SELF-MONITORING AND REPORTING REQUIREMENTS**

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

Self-Monitoring and Reporting Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow	Continuous	Recorder	MGD
BOD <sub>5</sub> , Influent Effluent	Monthly	Composite	mg/L
	Monthly	Composite	mg/L
TSS, Influent Effluent	Monthly	Composite	mg/L
	Monthly	Composite	mg/L
E.coli	Monthly	Grab	No./100mL
Total Phosphorus	Weekly	Grab	mg/L
Total Ammonia	Monthly	Grab	mg/L
Dissolved Oxygen	Monthly	Grab	mg/L
WET, Acute Biomonitoring	Quarterly	Composite	Pass/Fail
Oil & Grease	Monthly	Grab	mg/L
pH	Monthly	Grab	SU
Total Nitrogen	Monthly	Grab	SU
Certification that approved phosphorus abatement program has been implemented.	Within 30 days of the effective date of this permit.	NA	NA
Annual certification that phosphorus offset has been maintained.	By March 31st of the calendar year.	NA	NA

**BIOSOLIDS**

**DESCRIPTION OF TREATMENT AND DISPOSAL**

The solids from the Blue Sky Ranch and Resort (BSRR) may be dewatered with a bag system, or may be wasted to drying beds for pathogen reduction purposes, and used for agriculture purposes. If only Class B pathogen reduction standards are met, the biosolids may be used at low public contact sites (such farm fields and pasture land) and will need to be restricted from the public and guests of BSRR for at least one year. If Class A pathogen reduction standards are met, the Class A biosolids (compost) may be sold or given away to the public, or used on site for flower beds, lawns, gardens, or in the greenhouse for food crops. At this time it is believed that the BSRR will produce about 8-15 dry metric tons a year and they will dispose of it in the Summit County Three Mile Canyon Landfill.

## **BIOSOLIDS LIMITATIONS AND 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 Based Upon Dry Metric Tons (DMT)

Amount of Biosolids Produced Per Year	Monitoring Frequency
> 0 to < 290 DMT	Once Per Year

Accordingly, the BSRR shall monitor biosolids at least once a year.

### **Landfill Monitoring**

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

### **Heavy Metals Monitoring**

BSRR is required to sample for heavy metals prior to the time of disposal if the biosolids are land applied or sold or given away to the public.

### **Pathogen Monitoring for Class A Biosolids**

If the biosolids have met a "process to further reduce pathogens" (PFRP), the biosolids must be also be sampled for either *salmonella* or *fecal* coliform. If the biosolids have not met a PFRP, the biosolids cannot be sold or given away to the public.

### **Pathogen Monitoring for Class B Biosolids**

For biosolids to be considered Class B with regards to pathogens, the biosolids must be sampled for *fecal* coliform (or meet a process to significantly reduce pathogens).

### **Vector Attraction Reduction Monitoring**

The biosolids must be monitored for time and temperature for vector attraction reduction or use another means of meeting a requirement for vector attraction reduction under *40 CFR 503.33* such as incorporation into the soil.

## **MONITORING DATA**

Since the BSRR is a new facility, there is not any monitoring data.

## **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 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 II, D. 11. of the permit) to be handed out to all people who are receiving and land applying Class A biosolids to their lawns and gardens. If the instructions on 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 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 meet the maximum heavy metals in Table 1 and the monthly average pollutant concentrations in Table 3 (see the 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 II. D. 11. 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 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 Table 1 and the heavy metals loading rates in Table 2; or

The maximum heavy metals in Table 1 and the monthly heavy metals concentrations in Table 3.

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If the biosolids do not meet these requirements they cannot be land applied.

Tables 1, 2, and 3 of Heavy Metal Limitations

Heavy Metals	Table 1	Table 2	Table 3
All heavy metals concentrations shall be measured and reported	Daily Maximum mg/Kg <u>a/b/c/</u>	Cumulative Loading Rate Kg/Ha <u>a/</u>	Monthly Average Concentration mg/Kg <u>a/b/c/d/</u>
Total Arsenic	75	41	41
Total Cadmium	85	39	39
Total Copper	4300	1500	1500
Total Lead	840	300	300
Total Mercury	57	17	17
Total Molybdenum	75	N/A	N/A
Total Nickel	420	420	420
Total Selenium	100	100	100
Total Zinc	7500	2800	2800

- a/ See Part V. of the permit for definition of terms.
- b/ The limitations represent the maximum allowable levels of heavy metals in any biosolids intended for land application.
- c/ Any violation of these limitations shall be reported in accordance with the requirements of Part II.G of the permit.
- d/ These limitations represent the maximum allowable levels of heavy metals based on an average of all samples taken during a 30-day period.

## **Pathogens**

### **Class A Requirements**

BSRR may achieve Class A biosolids with regards to pathogens by two methods of composting.

1. Under *40 CFR 503.32(7), Class A, Alternative 7(ii)* BSRR may use two different methods of composting to meet the requirement for a process to further reduce pathogens (PFRP).
  - a. Composting using the windrow method, the temperature of the biosolids is maintained at 55° C (131°F) or higher for at least 15 days, with a minimum of 5 turnings of the windrows during the 15 days, and tested for either *fecal* coliform or *salmonella* prior to sale or giveaway.
  - b. Composting using the static aerated pile method, the temperature of the biosolids is maintained at 55° C (131°F) or higher for at least 3 days, and tested for either *fecal* coliform or *salmonella* prior to sale or giveaway.

### **Class B Requirements for Agriculture**

BSRR may achieve Class B biosolids in one of three different ways with regards to pathogens:

1. Under *40 CFR 503.32 (b)(2) Appendix B*, BSRR may test the biosolids and must meet a microbiological limit of less than 2,000,000 most probable number (MPN) of fecal coliform per gram for the biosolids to be considered Class B biosolids with respect to pathogens.
2. Under *40 CFR 503.32 (b)(3), Appendix B.2*. BSRR must meet one of the processes to significantly reduce pathogens. BSRR intends to meet a process to significantly reduce pathogens by using the air drying method of pathogen reduction. The biosolids are applied to an impervious surface and dried at a depth of no more than 9 inches (23 cm) deep. 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)
3. Under *40 CFR 503.32 (b)(3)* BSRR must meet one of the processes to significantly reduce pathogens. BSRR intends to meet a process to significantly reduce pathogens (PSRP) by using the windrow method of composting. To achieve this, the temperature must be at least 40° C (104° F) or higher, and remain at least 40° C or higher for a minimum of five days. For four hours, during the five days, the temperature needs to be at or exceed 55° C (131 F °).

### **Vector Attraction Reduction**

If the biosolids are land applied BSRR will be required to meet a method of vector attraction reduction under *40 CFR 503.33*. BSRR intends to meet one of the vector attraction reduction requirements below.

1. Aerobic treatment of the biosolids for at least 14 days at 40° C (104° F) with an average temperature of over 45° C (113° F) 503.33(b)(5).
2. Solids are equal to or greater than 90% total solids when primary solids are present 503.33(b)(8).

3. All Class B biosolids land applied shall be incorporated into the soil within 6 hours after land application 503.33(b)(10).

### **Record Keeping**

The record keeping requirements from *40 CFR 503.17* are included under Part II.H. of the permit. The amount of time the records need to be retained is dependent upon the quality of the biosolids with regard to the metals concentrations. If the biosolids exceed Table 3 values for any parameter that are land applied to a site, that site thereafter is subject to the heavy metals loading rates in Table 2. Records for those sites are to be retained in perpetuity.

### **Reporting**

BSRR will be required to report annually as required in *40 CFR 503.18*. This report is to include the results of all monitoring performed in accordance with Part II.D. of the permit, information on management practices, land application sites, and certifications will be due no later than February 19 of each year. Each report is for the previous calendar year.

## **STORM WATER**

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

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

Blue Sky Ranch and Resort does not meet the above criteria; therefore this permit does not include storm water provisions. However, the permit does include a storm water re-opener provision.

## **PRETREATMENT REQUIREMENTS**

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

## **BIOMONITORING REQUIREMENTS**

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

Since the permittee will be a new minor industrial discharger utilizing SBR technology, with no previous discharge to evaluate, the permit will require whole effluent toxicity (WET) biomonitoring

testing. Based upon these facts and Best Professional Judgment of the permitting authority, the permittee will be required to conduct composite quarterly acute WET testing with alternating species and no acute WET limit requirements.

A review of the receiving stream's current water quality status indicate no further impairment of the stream other than phosphorous and dissolved oxygen, which are already included as monitoring requirements with the appropriate limitations as previously described. Therefore, there will be no numerical toxicity limitation and no chronic testing required at this time. The permit will however contain a toxicity limitation re-opener provision. This provision allows for modification of the permit to include WET limitations and/or increased WET monitoring, should additional information indicate the presence of toxicity in the discharge. The permit will contain the standard requirements for accelerated testing upon failure of a WET test as well as provisions for a Preliminary Toxicity Investigation and/or a Toxicity Reduction Evaluation as appropriate.

### **TOTAL MAXIMUM DAILY LOAD REQUIREMENTS**

BSRR discharges into the Alexander Creek and ultimately to Echo Reservoir. Echo Reservoir is 303(d) listed for total phosphorus and dissolved oxygen. A Total Maximum Daily Load (TMDL) has been drafted for Echo Reservoir that restricts the release of phosphorus into the watershed. In the draft TMDL, BSRR has been given an allocation of 15 kg/season total phosphorus and 148 kg/season total nitrogen (season is April 1<sup>st</sup> through September 30<sup>th</sup>). However, since the facility is new and has not previously had a load allocation, and because the TMDL has not yet been approved, the facility will be required to establish suitable pollutant offsets for the phosphorus it will release into the watershed as a backup. The approved phosphorus abatement project to offset the load generated by BSRR is to remove cattle from the watershed that formerly grazed on the land where the BSRR will be constructed. The removal of cattle from the watershed will reduce the amount of total phosphorus being discharged to the lake by a factor of 10 which is more than double what the Division of Water Quality requires. As part of its UPDES permit, BSRR will be required to complete and submit an initial certification that the load reduction has occurred and will certify annually that the offset has been maintained. Additionally, any future expansion beyond the current load allocation may require the facility to implement the offset program.

A TMDL is in place on Silver Creek for Cadmium and Zinc. However, it will not impact this facility due to the nature of the discharge quality.

### **ANTIDEGRADATION REVIEWS**

Antidegradation Reviews are intended to ensure that waters that have better quality than required by the standards are not degraded unless the degradation is necessary for important social or economic reasons.

An ADR Level I review was performed and the conclusion was that an ADR Level II review was required, because this facility is increasing its effluent flow in the renewal permit. BSRR has completed an Antidegradation Level II Review. Copies of both ADR documents are appended to this document.

The DWQ concurs with the findings of the Level I (compliance with water quality standards) and Level II Reviews.

**PERMIT DURATION**

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

Drafted by  
Kim Shelley, Discharge  
Mark Schmitz, Biosolids  
Utah Division of Water Quality

**PUBLIC NOTICE**

Began:  
Ended:  
Public Noticed in the Salt Lake Tribune.

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