

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**  
**DRAFT PERMIT FACT SHEET**  
**February 2020**

Permittee Name: Sunrise Park Resort--White Mountain Apache Tribe

Mailing Address: WMAT - Sunrise Day Lodge Wastewater Treatment Plant  
P.O. Box 3070  
Pinetop, AZ 85935

Facility Location: Sunrise Day Lodge Wastewater Treatment Plant  
Sunrise Park Resort  
200 Highway 273  
Greer, AZ 85927

Contact Persons: Gwendena Lee-Gatewood  
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NPDES Permit No.: AZ0022829

**I. STATUS OF PERMIT**

The Sunrise Park Resort--White Mountain Apache Tribe (the “permittee”) has applied for the renewal of its National Pollutant Discharge Elimination System (“NPDES”) permit to authorize the discharge of treated domestic wastewater from the Sunrise Day Lodge Wastewater Treatment Plant (“WWTP”) located in Fort Apache Indian Reservation in Arizona. The permittee applied for a permit renewal on September 4, 2019 and submitted a revised application on October 17, 2019. As White Mountain Apache Tribe (“WMAT” or the “Tribe”) does not have primary regulatory responsibility for administering the NPDES permitting program, EPA Region 9 is preparing the proposed NPDES permit renewal and fact sheet pursuant to Section 402 of the Clean Water Act, which requires point source dischargers to control the amount of pollutants that are discharged to waters of the United States. The proposed permit incorporates both federal standards and WMAT tribal water quality requirements.

The permittee is currently covered under NPDES Permit No. AZ0022829, which became effective on March 1, 2015, and expires on February 29, 2020. Pursuant to 40 CFR § 122.21, the terms of the existing permit are administratively extended until the issuance of a new permit. This permittee is classified as a minor discharger.

In December of 2014, EPA Region 9, the permittee and the Tribe entered into an Administrative Order on Consent [“AOC”, Docket No. CWA-309(a)-15-003] to address shortcomings and compliance failures with the operation, maintenance, submission of data, and overall implementation of the NPDES permit. The implementation of several modifications to facility operations and elements of the treatment system has been ongoing under the AOC;

therefore, monitoring data may vary in how representative it is of current facility operations – this issue is further complicated by several significant gaps in the submission of monitoring data. As of the date of writing of this Fact Sheet, the facility remains subject to this AOC and the corrective action requirements contained therein, in addition to the requirements specified in the reissued NPDES Permit.

## II. SIGNIFICANT CHANGES TO PREVIOUS PERMIT

Permit Condition	Previous Permit (2015 – 2020)	Re-issued permit	Reason for change
Dissolved oxygen (DO) effluent limit and monitoring requirement	Weekly DO effluent monitoring	Replace numeric DO effluent limit with narrative water quality standard	Permit requires compliance with narrative WMAT water quality standards (WQS) for DO for protection of coldwater habitat, including coldwater fish rearing.
<i>E. coli</i> limitation and monitoring requirement	Limits based on EPA's 1986 ambient water quality recommendations	Revise limits to be consistent with updated criteria for bacteria	Update requirement to reflect EPA's 2012 recreational water quality criteria
Chronic Whole Effluent Toxicity (WET) monitoring frequency	WET testing was required once per permit term but not performed under previous permit	Clarified chronic toxicity testing requirement, including requiring <u>monthly</u> monitoring frequency and within 30 days of discharge.	Insufficient or lack of data to characterize wastewater. This testing will require multiple splits of a collected composite water sample to be tested by an accredited water chemistry laboratory in order to determine the type(s) of organism most sensitive to the contents of the discharge, and whether non-Ammonia sources of toxicity to fish are present in the discharge.
Develop a Best Management Practices (BMP) plan	BMP plan was required but not performed under previous permit.	New requirement for the BMP plan to include development of an O&M Manual, SOPs, adequate staffing with proper wastewater operator certification, and other requirements in response to the ongoing AOC.	Incorporating BMP requirements consistent with the AOC.
Biosolids report	Hardcopy accepted	Require e-reporting	EPA e-reporting Rule
Discharge Monitoring Report (DMR) submittal	Hardcopy accepted	Require e-reporting	EPA e-reporting Rule
New reopener provision	None	The permit includes a specific reopener provision to allow for updates to the permit in response to plant modifications made under the AOC.	Consistent with the AOC.
Asset Management Program (AMP)	None	New requirement	Provision of 40 CFR § 122.41(e)

### **III. GENERAL DESCRIPTION OF FACILITY**

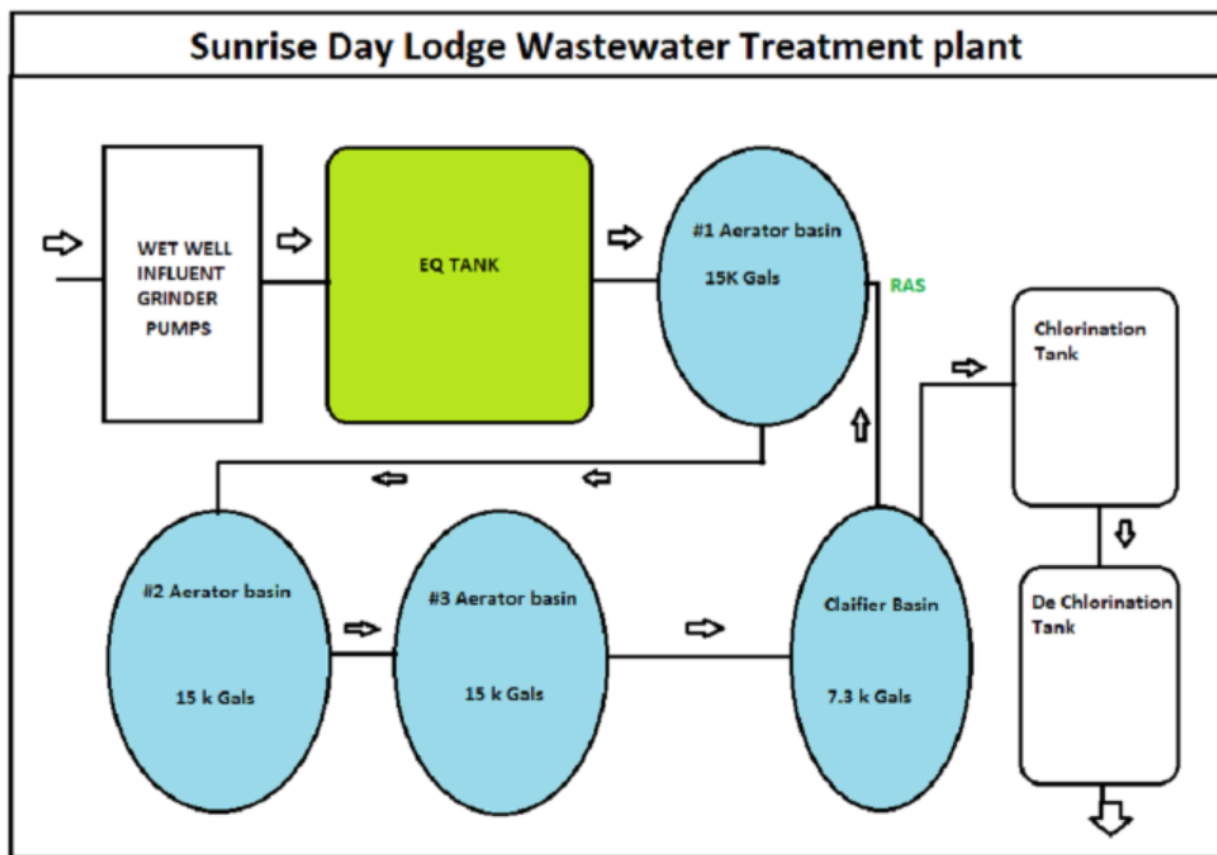
Sunrise Park Resort (“Sunrise”) is a governmental enterprise of the WMAT established to develop and manage the Sunrise Ski Park and associated facilities on approximately 23,000 acres of tribal lands located approximately 12 miles west of Greer, Apache County, Arizona, within the boundaries of the Fort Apache Indian Reservation. The Sunrise Ski Park is an Arizona destination for skiing, snowboarding, hiking, archery, and more. Sunrise operates three wastewater treatment plants including the Sunrise Day Lodge WWTP, and the drinking water treatment facilities.

The Sunrise Day Lodge WWTP receives flows from the Sunrise Day Lodge, a restaurant, Sunrise Park offices, and an employee residential housing. A crew of seven, including a facility manager and a lab technician, are responsible for maintaining and operating the Sunrise Day Lodge WWTP and the other WWTPs. There are no industrial users discharging to any of these facilities.

The resort is primarily used for skiing, so wastewater generation fluctuates from day to day, and season to season, and tends to be much higher in the winter than the summer. Daily use population ranges from a skeleton staff in the dozens up to approximately 600 staff and visitors during a busy ski season. According to the October 2019 permit application, the facility has a maximum design flow of 0.076 million gallons per day (MGD). In 2019, the annual average and maximum daily flow discharge effluent flows were 0.005 MGD and 0.015 MGD, respectively. In 2018, the annual average and maximum daily flow discharge effluent flow were 0.0025 MGD and 0.095 MGD, respectively. In 2017, they were 0.003 MGD and 0.008 MGD.

The WWTP provides secondary treatment of wastewater using an activated sludge package system. Treatment is comprised of preliminary influent grinding, flow equalization, aeration, clarification, and disinfection with calcium hypochlorite tablets in the clarifier overflow channel, and dechlorination with sodium sulfite tablets in the effluent structure. Treated effluent is discharged to East Becker Creek via a vegetated buffer area and drainage channel through Outfall No. 001.

Since the WWTP is not equipped with sludge processing equipment, biosolids are periodically pumped out of the aeration basins by the Tribal Utility Authority (“TUA”). The TUA uses a pumping truck one to two times a year to transport the biosolids offsite to the Hon-Dah WWTP where the biosolids are stored, treated, and disposed.



#### IV. DESCRIPTION OF RECEIVING WATER

The Sunrise Day Lodge WWTP discharges treated effluent from the facility outfall via a vegetated buffer area and drainage channel to East Becker Creek, which is a tributary to Becker Creek and the North Fork of the White River. The North Fork lies within Tribal lands and merges with the East Fork to form the White River. The discharge outfall coordinates are latitude 33° 58' 37.43" North and longitude 109° 33' 54.18" West.

In order to protect the designated uses of surface waters, WMAT of the Fort Apache Indian Reservation has adopted water quality standards for different stream segments, depending on the level of protection required. The WMAT Environmental Code (formerly known as Water Quality Protection Ordinance) does not include East Becker Creek or Becker Creek. However, North Fork of the White River is listed as a perennial stream and its designated uses include:

- (i) Coldwater habitat, including coldwater fish rearing;
- (ii) Irrigation;
- (iii) Livestock and wildlife;
- (iv) Secondary contact recreational use;
- (v) Gathering of medicinally or otherwise culturally significant plants; and
- (vi) Cultural significance.

There are no known impairments for East Becker Creek, Becker Creek, or the North Fork of the White River. In the Nemo-Watershed-Based Plan Salt Watershed, the North Fork of the White River is classified as moderate risk of impairment from metals, sediment, organics, and selenium based on the lack of monitoring data. (See [NEMO Watershed-Based Plan Salt Watershed, August 2008](#)).

## V. DESCRIPTION OF DISCHARGE

The Sunrise Day Lodge WWTP provides secondary treatment of wastewater using an activated sludge package treatment system. The treated effluent is discharged through Outfall No. 001 to East Becker Creek. The facility is not equipped with sludge processing equipment.

EPA's compliance evaluation inspections in January 2008, December 2012, September 2013, and June 2019 found all three WMAT treatment plants to be in poor condition and functioning improperly. The major findings identified in 2008 were again identified as major findings in the 2013 and 2019 inspections, indicating that these ongoing issues have not been adequately addressed. Other areas of concern include inadequate staffing and lack of certified, skilled wastewater operators increasing the potential for continued problems at the facilities, inadequate phosphorus treatment at all 3 plants causing exceedances of permit limits, reporting deficiencies, and noncompliance with EPA administrative orders on consent entered into in December 2014. These permit violations are discussed further in Part VI.B.4 -- History of Compliance Problems and Toxic Impacts. In addition to the effluent limit exceedances, the inspectors identified the need for experienced operators and adequate funding for maintenance and plant operation.

### A. Application Discharge Data

As part of the application for permit renewal, the permittee is required to provide data from an analysis of the facility's treated wastewater discharge. However, data management, adequate staffing and retention have long been areas of concern for the facility, thus data discrepancies may exist for all pollutant parameters. A new operator was hired recently and had to rely on existing data to complete the application form for permit renewal.

Table 1. Application Discharge Data <sup>(1)</sup>

Pollutant Parameter	Units	Discharge Data		Number of Samples
		Maximum Daily Discharge	Average Daily Discharge	
Flow	MGD	0.095 <sup>(2)</sup>	0.005 <sup>(2)</sup>	12
Biochemical oxygen demand, 5-day (BOD <sub>5</sub> )	mg/L	5.7	5	12
pH	Standard units	6.6 to 7.9		
Temperature (winter)	°C	4.2 to 4.6		3
Temperature (summer)	°C	11.4 to 15.9		3
Fecal coliform	CFU	570	73	12
Total Suspended Solids (TSS)	mg/L	23	12	12
Ammonia (as N)	mg/L	1.9	0.36	12

Pollutant Parameter	Units	Discharge Data		Number of Samples
		Maximum Daily Discharge	Average Daily Discharge	
Chlorine, total residual (TRC)	mg/L	0.13	0.03	12
Dissolved oxygen	mg/L	10.7	9	12
Oil & grease, total (as O&G)	mg/L	<5.6	<4.8	12
Phosphorus, total (as P)	mg/L	8.6	2.7	12

**FOOTNOTES:**

- (1) From the permittee's NPDES permit application, revised application and/or supplemental information.
- (2) As shown in Table 2, the highest flow rate for average monthly was 0.079 and 0.095 MGD for daily maximum.

**B. Recent Discharge Monitoring Report Data (2014-2019)**

EPA reviewed DMR data for the period between June 2014 and June 2019. Table 2 provides a summary of effluent limitations and monitoring data based on this timeframe. The data shows elevated concentrations of ammonia, numerous ammonia impact ratio, *E. coli*, TSS (mg/L and percent removal), and phosphorus exceedances. The permittee did not report oil and grease, and daily maximum values for many parameters. All exceedances are discussed further in Part VI.B.4, History of Compliance Problems and Toxic Impacts.

The 2015 permit required whole effluent toxicity ("WET") testing once during the permit term with the sample being collected at the outfall within 30 days of discharging. However, the permittee did not conduct this testing, nor during the 2008 permit cycle. The permittee should have split the sample and analyzed for toxicity as well as the other required parameters (i.e. BOD<sub>5</sub>, *E. coli*, TSS, total ammonia, oil and grease, and total phosphorus). If the test results indicated the presence of chronic toxicity, the permittee would have increased monitoring, pursuant to the facility's Toxics Reduction Evaluation ("TRE") plan.<sup>1</sup>

Table 2 on the next page provides a summary of the data reported for the previous permit term.

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<sup>1</sup> The previous permit defined the presence of chronic toxicity as: 1) greater than 1.0 TUC base on any monthly median of test results, and 2) any one test result greater than 2.0 TUC. However, the permittee did not conduct WET testing. EPA is retaining this requirement and has updated the required statistical approach used to analyze WET data in the permit.

Table 2. Effluent Data for Outfall 001 from 2014-2019 based on 0.08 MGD design flow

Parameters	Units	Permit Effluent Limitations			Effluent Data			Monitoring Frequency
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly	Highest Average Weekly	Highest Maximum Daily	
Flow Rate	MGD	Monitoring Only	--	Monitoring Only	0.079 (2/28/2015)	--	0.095 (1/31/18)	Weekly
Ammonia (as Nitrogen)	mg/L	-- <sup>(1)</sup>	--	-- <sup>(1)</sup>	29.5 (1/31/16)	--	29.5 (1/31/16)	Monthly
Ammonia Impact Ratio (AIR)	Ratio	1.0 <sup>(2)</sup>	--	1.0 <sup>(2)</sup>	12.3 (1/31/2016)	--	12.3 (1/31/2016)	
Biochemical Oxygen Demand 5-day (BOD <sub>5</sub> )	mg/L	30	45	--	20 (1/31/2017)	Not reported	--	Monthly
	lbs/day	20 <sup>(3)</sup>	30 <sup>(3)</sup>	--	0.66 (1/31/2016)	Not reported	--	
	% Removal	>85 % <sup>(4)</sup>			73% (8/31/18)			Monthly
Total Suspended Solids (TSS)	mg/L	30	45	--	84 (7/31/2015)	Not reported	--	Monthly
	lbs/day	20 <sup>(3)</sup>	30 <sup>(3)</sup>	--	36.8 (7/31/2015)	Not reported	--	
	% Removal	>85 % <sup>(4)</sup>			0% (6/30/2018)			Monthly
Chlorine, total residual (TRC)	mg/L	0.08	--	0.16	0.15 (5/31/2016)	--	0.18 (1/31/2018)	Weekly
Dissolved Oxygen (DO)	mg/L	--	--	>6.0	--	--	5.22 (12/31/2015)	Weekly
<i>E. coli</i>	MPN/100mL	Geometric mean < 47	--	88	740 (1/31/2017)	--	740 (1/31/2017)	Monthly
Oil & Grease	mg/L	10	--	15	8.6 (9/30/2014)	--	8.6 (9/30/2014)	Monthly
Phosphorus, Total (as P)	mg/L	0.08	--	0.16	8 (1/31/2018)	--	8 (1/31/2018)	Monthly
pH	standard units	Not < 6.5; Not > 9.0			5.4 – 8.1 (min-max)			Weekly
Temperature	°C	--	--	23	--	--	20.1 (7/31/2015)	Weekly
Turbidity	NTU	--	--	50	--	--	97 (10/31/2015)	Weekly
Chronic WET	Pass or Fail	--	--	Pass <sup>(5)</sup>	Not reported			Once/permit

**FOOTNOTES:**

- (1) The permittee had to calculate the WQBEL for total ammonia (as nitrogen in mg/L) based on WMAT Environmental Code (aka. Water Quality Protection Ordinance), Appendix A using the temperature and pH at the time of the sampling.
- (2) When monitoring for total ammonia (as nitrogen), pH monitoring must be concurrent. The Ammonia Impact Ratio (AIR) is calculated as the ratio of the ammonia value in the effluent and the applicable ammonia standard from the chronic equation in the WMAT Water Quality Standards. See Attachment E for a sample log to help calculate and record the AIR values. The AIR is the ammonia effluent limit and must be reported in the DMRs in addition to the ammonia-N and pH effluent values.
- (3) Mass-based limits calculated using 0.08 MGD design flow provided in the previous 2015 permit and fact sheet.
- (4) Both the influent and the effluent shall be monitored. The arithmetic means of the BOD<sub>5</sub> and TSS values, by concentration, for effluent samples collected over a calendar month shall not exceed 15 percent of the arithmetic mean, by concentration, for influent samples collected at approximately the same times during the same period (i.e. 85% BOD<sub>5</sub> removal; 85% TSS removal).
- (5) See Part II.C, Special Conditions – Chronic WET Requirements, of this permit for details of the chronic WET test requirement. All chronic WET tests must be “Pass,” and no test may be “Fail.” “Pass” constitutes a rejection of the null hypothesis. Testing shall be conducted concurrent with testing for all other parameters.

## **VI. DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS**

EPA has developed effluent limitations and monitoring requirements in the permit based on an evaluation of the technology used to treat the pollutant (e.g., “technology-based effluent limits”) and the water quality standards applicable to the receiving water (e.g., “water quality-based effluent limits”). EPA has established the most stringent of applicable technology-based or water quality-based standards in the proposed permit, as described below.

### **A. Applicable Technology-Based Effluent Limitations**

EPA developed technology-based treatment standards for wastewater treatment plants in accordance with Section 301(b)(1)(B) of the Clean Water Act. The minimum levels of effluent quality attainable by secondary treatment for BOD<sub>5</sub>, TSS, and pH, as defined in 40 CFR § 133.102, are listed below. Mass limits, as required by 40 CFR § 122.45(f), are included for BOD<sub>5</sub> and TSS in the permit.

#### ***BOD<sub>5</sub> and TSS:***

##### **Concentration-based Limits**

30-day average: 30 mg/L

7-day average: 45 mg/L

Minimum of 85% Removal Efficiency

##### **Mass-based Limits**

30-day average:

$$\frac{0.076 \text{ MG}}{\text{day}} \times \frac{30 \text{ mg}}{1} \times \frac{8.345 \text{ lb/MG}}{\text{mg/l}} = 19.0 \text{ lbs per day}$$

7-day average:

$$\frac{0.076 \text{ MG}}{\text{day}} \times \frac{45 \text{ mg}}{1} \times \frac{8.345 \text{ lb/MG}}{\text{mg/l}} = 28.5 \text{ lbs per day}$$

#### ***pH:***

Instantaneous Measurement: 6.0 – 9.0 standard units (S.U.)

#### ***Priority Pollutant Scan:***

The proposed permit includes a monitoring requirement for the full list of priority pollutants as listed in 40 CFR § 423, Appendix A during Year 5 of the permit cycle.

### **B. Water Quality-Based Effluent Limitations (WQBELs)**

Water quality-based effluent limitations, or WQBELs, are required in NPDES permits when the permitting authority determines a discharge causes, has the reasonable potential to cause, or contributes to an excursion above any water quality standard (40 CFR § 122.44(d)(1)).



When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria, the permitting authority shall use procedures that account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water (40 CFR § 122.44(d)(1)(ii)).

EPA evaluated the reasonable potential to discharge toxic pollutants according to guidance provided in the *Technical Support Document for Water Quality-Based Toxics Control* (TSD) (Office of Water Enforcement and Permits, U.S. EPA, March 1991) and the *U.S. EPA NPDES Permit Writers Manual* (Office of Water, U.S. EPA, September 2010). These factors include:

1. Applicable standards, designated uses and impairments of receiving water
2. Dilution in the receiving water
3. Type of industry
4. History of compliance problems and toxic impacts
5. Existing data on toxic pollutants - Reasonable Potential Analysis

**1. Applicable Standards, Designated Uses, and Impairments of Receiving Water**

In order to protect the designated uses of surface waters, the WMAT of the Fort Apache Indian Reservation has adopted water quality standards for different stream segments, depending on the level of protection required. WMAT's 2001 Water Quality Protection Ordinance and 2015 revisions, herein renamed as "Environmental Code", list East Becker Creek as a perennial stream. Designated uses for East Becker Creek include:

- (i) Coldwater habitat,
- (ii) Irrigation,
- (iii) Livestock and wildlife,
- (iv) Secondary contact,
- (v) Gathering of medicinally or otherwise culturally significant plants, and
- (vi) Cultural significance.

Note the standards for the secondary contact recreation use are applied to protect waterbodies designated for gathering of medicinal or otherwise culturally significant plants. There are no known impairments for East Becker Creek or for the White River. In the Nemo-Watershed-Based Plan Salt Watershed, the North Fork of the White River is classified as moderate risk of impairment from metals, sediment, organics, and selenium based on the lack of monitoring data. (See [NEMO Watershed-Based Plan Salt Watershed, August 2008](#)).

The applicable narrative water quality standards are described in section 3.5 of the Environmental Code, and the applicable numeric water quality standards are listed in section 3.6 and Appendix A of the Environmental Code. The standards for all applicable designated uses are

compared, and the limits are developed to protect for all applicable designated uses. Table 4 lists the applicable WMAT water quality standards.

Table 4. Applicable WMAT Water Quality Standards

Pollutant Parameter	Units	Water Quality Standards		
		30-day Average	Daily Maximum	WMAT Environmental Code Reference
Temperature	°C	--	<23	Section 3.6, coldwater habitat
pH	standard units	6.5 to 9.0		Section 3.6, coldwater habitat
Ammonia total (as N) <sup>(1)</sup>	mg/L	Chronic values	Acute values	Section 3.6, coldwater habitat, chronic table in Appendix A <sup>(1)</sup>
Dissolved Oxygen	mg/L	--	>6.0	Section 3.6, coldwater habitat
<i>E. coli</i> <sup>(2)</sup> (May 1 - September 30)	CFU/100 mL	47	88	Section 3.6, primary contact
<i>E. coli</i> <sup>(3)</sup> (October 1 – April 30)	CFU/100 mL	126	410	Updated 2012 EPA's bacteria criteria EPA - 820-F-12-061)
Total Phosphorus	mg/L	--	0.1	Section 3.6, coldwater habitat
Total Residual Chlorine	mg/L	--	0.1	Section 3.5 -- narrative
Turbidity	NTU	--	50	Section 3.6, secondary contact and gathering of medicinal or otherwise culturally significant plants standards

**FOOTNOTES:**

- (1) The tables in the WMAT Environmental Code, Appendix A do not specify the timeframes or averaging periods for the water quality criteria.
- (2) For periods of May 1 through September 30 when primary contact would reasonably be anticipated, the WMAT water quality standards for *E. coli* apply for primary contact use protection.
- (3) For October 1 through April 30, the WMAT Environmental Code relies on fecal coliform standards for secondary contact recreational use. The limits are set based on EPA's updated 2012 criteria guidance entitled "Recreational Water Quality Criteria" recommending the use of *E. coli* and enterococci as indicator bacteria. See section C. Rationale for Numeric Effluent Limits and Monitoring.

## **2. Dilution in the Receiving Water**

Discharge from Outfall 001 is to East Becker Creek, for which the permittee did not request a mixing zone. Dilution is not allowed and therefore, not considered by EPA in the development of water-quality-based effluent limits applicable to the discharge. All effluent limits will apply at the outfall.

## **3. Type of Industry**

Typical pollutants of concern in untreated and treated domestic wastewater include ammonia, nitrate, oxygen demand, pathogens, temperature, pH, oil and grease, and solids. Chlorine and turbidity may be of concern due to treatment plant operations.

## **4. History of Compliance Problems and Toxic Impacts**

As noted in Part V, review of June 2014 to June 2019 DMR data showed numerous exceedances and reporting deficiencies in many parameters, including incomplete data sets, and

absence of testing for turbidity and WET testing. Parameters were frequently exceeded, except for pH and temperature. The following summarizes the DMR data for the facility's discharge during this time period:

- **Flow:** The WWTP has a stated design flow of 0.076 MGD and experiences peak flows during the ski season or special events, and low or no flows during off-season. The highest flows reported were 0.6912 MGD (December 2014), 0.0778 MGD (January 2015), and 0.075 MGD (March 2015) for daily maximum flow and 0.079 MGD (February 2015) for average monthly.

- **BOD<sub>5</sub>:** There were numerous missing data. The permittee reported mass-based values but did not consistently report concentration-based values every month. No weekly average concentration values were reported. The reported monthly average concentrations were between 5.2 mg/L to 18 mg/L.

- **E. coli:** The permittee did not consistently report every month. Among the highest values reported, which exceeded the limit, were 510 CFU/100 mL (July 2015), 620 CFU/100 mL (October 2015), 740 CFU/100 mL (January 2017), and 570 CFU/100 mL (June 2019). These fluctuations suggested that disinfection was not always effective and insufficient chlorine disinfection dose or inadequate contact time.

- **pH:** Reported pH values were from 5.4 to 7.8 standard units. The permit requires that values be no lower than 6.5 S.U.

- **TSS:** There were numerous missing data. The permittee did not consistently report concentration and mass-based values every month. No weekly average concentration values were reported. Among the highest reported monthly average values, which exceeded the limit, were 84 mg/L (July 2015), 37 mg/L (September 2015), 34 mg/L (May 2016), 37 mg/L (January 2017), and 37 mg/L (April 2018).

- **Turbidity:** Reported values were from 3.1 to 97 NTU. Among the highest values reported, which exceeded the limit, were 97 NTU (October 2015), 78 NTU (December 2015), 53.9 NTU (February 2017), and 59.2 NTU (June 2019).

- **Total Ammonia:** The reported values for the average monthly concentration ranged from 0.22 to 90.7 mg/L and daily maximum values from less than 0.1 to 48 mg/L. The WMAT ammonia standards depend on temperature and pH. Where the permittee reported an average monthly value for ammonia, temperature, and pH, the permit limit was frequently exceeded.

- **Total Residual Chlorine:** The permittee reported both daily maximum and monthly average values.

- **Total Recoverable Oil and Grease:** No daily maximum was reported, and no monthly average was reported, except for one reported value of 8.6 mg/L (September 2014).

- **Total Phosphorus:** Monthly averages and daily maximum concentrations for total phosphorus were reported. All except two (2) daily values exceeded the 0.16 mg/L daily maximum limit. EPA's compliance inspections in 2013 and 2019 noted that the treatment systems were not designed to treat phosphorus, which is one of the driving factors behind designs for treatment improvements required by the AOC.

- **Whole Effluent Toxicity Testing:** The permittee did not report any WET data during the reporting period although testing was required once during the permit. No test results were submitted during the previous 2008 permit cycle either. Due the lack of data during the past 12-15 years, EPA has been unable to evaluate toxic impacts at the facility.

## 5. Reasonable Potential Analysis using Existing Data

For pollutants with effluent data available, EPA conducted a reasonable potential analysis based on statistical procedures outlined in EPA's TSD (EPA 1991). These statistical procedures calculate the projected maximum effluent concentration based on available monitoring data to account for effluent variability and a limited data set. EPA estimated the projected maximum effluent concentrations assuming a coefficient of variation of 0.6 and the 95% confidence interval (EPA 1991). EPA calculated the projected maximum effluent concentration for each pollutant using the following equation:

$$\text{Projected maximum concentration} = C_e \times \text{reasonable potential multiplier factor}$$

Where, "C<sub>e</sub>" is the reported maximum effluent value and the multiplier factor is obtained from Table 3-1 of the TSD. (EPA 1991).

Table 5. Reasonable Potential Statistical Analysis using Data from 2014-2019

Pollutant Parameter <sup>(1)</sup>	Maximum Observed Concentration	<i>n</i>	RP Multiplier <sup>(2)</sup>	Projected Maximum Effluent Concentration	Most Stringent Water Quality Criterion	Statistical Reasonable Potential?
<i>E. Coli</i>	740 MPN/100 mL	3	3.0	7,259.0 MPN/100 mL	47 CFU/100 mL	Yes
Ammonia	29.5 mg/L	34	1.4	127.0 mg/L	0.16 mg/L <sup>(3)</sup>	Yes
Total Phosphorus	8 mg/L	39	1.4	39.2 mg/L	0.16 mg/L	Yes
Total Residual Chlorine	0.18 mg/L	89	1.4	3.4 mg/L	0.1 mg/L	Yes
Total Recoverable Oil and Grease	8.6 mg/L	2	3.8	380.0 mg/L	10 mg/L	Yes

FOOTNOTES:

- (1) For purposes of RP analysis, parameters measured as Non-Detect are considered to be zeroes. Only parameters with Maximum Observed Concentration >0 were included in this analysis. Parameters considered for RP analysis were parameters found in the previous permit. The permit requires a priority pollutant scan, and the permit may be reopened to incorporate additional effluent limits, as necessary.
- (2) RP multiplier is based on 95% probability using the number of available data points (n) and the coefficient of variation (CV). When (n) is less than 10, the CV is assumed to be 0.6. Because of data variability, EPA used a CV of 0.6 for all parameters. The multiplier of 1.4 was used when  $n > 20$ .
- (3) The ammonia water quality criterion was determined by using Appendix A, acute and chronic standards, from the WMAT Environmental Code. The pH and temperature reported for the same time period as the 90.7 mg/L total ammonia were 8.2 to 9 S.U. and 4.3 to 6.1 °C. These temperatures and pH are not the highest reported values. Therefore, the projected maximum value is underestimated and still exceeds the chronic (0.16 mg/L) and acute (0.68 mg/L) water quality standards. See rationale for ammonia below.

In addition to using the TSD approach, the exceedances of the previous permit limits, as explained above, indicate the facility may cause or contribute to an excursion above the WMAT's water quality standards.<sup>2</sup> With reliable data over the course of the next permit term, the permittee may demonstrate that there is not reasonable potential for some of these parameters.

### C. Rationale for Numeric Effluent Limits and Monitoring

EPA evaluated the typical pollutants expected to be present in the effluent and selected the most stringent of applicable technology-based standards or water quality-based effluent limitations. Where effluent concentrations of toxic parameters are unknown or are not reasonably expected to be discharged in concentration that have the reasonable potential to cause or contribute to water quality violations, EPA may establish monitoring requirements in the permit. Where monitoring is required, data will be re-evaluated, and the permit may be re-opened to incorporate effluent limitations as necessary. EPA's rationale for each effluent limit in the permit is below.

- **Flow:** No limits established for flow, but flow rates must be monitored and reported. The permit retains the weekly monitoring requirement.

- **BOD<sub>5</sub> and TSS:** The BOD<sub>5</sub> and TSS technology-based limits are described above, and the permit retains these limits. Under 40 CFR § 122.45(f), mass limits are required for BOD<sub>5</sub> and TSS. The mass-based limits included in the permit are calculated based on the 0.076 MGD design flow

- **E. coli:** There is statistical reasonable potential to impact the waterbody, and the effluent limits are retained in the permit. The permittee must report *E. coli* values in units of CFU/100 mL. The WMAT Environmental Code established water quality standards for *E. coli* to protect primary contact uses applicable to periods from May 1 through September 30 when primary contact would reasonably be anticipated. For the other period from October 1 to April 30, the Environmental Code applies the standards for fecal coliform to protect secondary contact recreational uses. Therefore, EPA proposes seasonal *E. coli* permit limits applicable to when the

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<sup>2</sup> The discharge has reasonable potential to exceed the receiving water quality standard for East Becker Creek because it cannot be demonstrated with a high confidence level that the upper bound of the lognormal distribution of effluent concentration is below the receiving water criteria.

effluent discharge occurs. For discharges from May 1 through September 30, the permit retains the current *E. coli* permit limits. For discharges from October 1 through April 30, the permit requires *E. coli* limits based on EPA's 2012 Recreational Water Quality Criteria ("2012 RWQC"), as opposed to the WMAT standards for fecal coliform. The epidemiological data, upon which the criteria guidance is based, indicate the *E. coli* and enterococci are better correlated to health effects related to water-contact recreation than fecal coliform. See 2012 RWQC (EPA Office of Water 820-F-12-058, December 2012) <https://www.epa.gov/wqc/2012-recreational-water-quality-criteria-documents>.

- **pH:** The WMAT Environmental Code requires pH of 6.5-9 S.U. to be met at all times and not fluctuate in excess of 1.0 pH S.U. over a period of 24 hours. This is more stringent than the technology-based requirements for pH, and therefore, this limit is retained in the permit. EPA is retaining weekly pH monitoring in the permit.

- **Temperature:** To support the Tribe's ammonia standards and their dependence on temperature, EPA is retaining the temperature limit. The facility has reasonable potential to exceed the temperature water quality standard based on the existing controls at the facility and past compliance issues. The previous permit contained a temperature limit, and maintaining this limit will minimize the difference between the ambient receiving water temperature and the representative effluent temperature. Adhering to the maximum temperature established for the designated use of coldwater habitat also will minimize the potential impacts to listed threatened or endangered species. An average monthly limit is not needed because the limit implements the standard that waters with a cold water habitat use shall not exceed 23 degrees Celsius.

- **Turbidity:** There is reasonable potential to impact the waterbody, and the effluent limits are retained in the permit. EPA is retaining the turbidity limit with the weekly monitoring requirement, in order to implement the Tribal standard for protecting the secondary contact recreational use in the receiving water.

- **Total Ammonia:** Treated and untreated domestic wastewater may contain levels of ammonia that are toxic to aquatic organisms. There is reasonable potential to impact the waterbody due to the high concentrations of ammonia reported in the facility's DMRs. EPA is establishing an ammonia effluent limit using the Ammonia Impact Ratio ("AIR") and monthly monitoring reporting for ammonia concentrations in the effluent. The permittee may sample more frequently, and report any additional sampling results on the DMR, in order to ensure compliance.

The AIR is calculated as the ratio of the ammonia value in the effluent and the applicable ammonia standard as determined by using the chronic tables in the WMAT Environmental Code, Appendix A. Appendix A is dependent on pH and temperature at the time of sampling. Therefore, pH, temperature, and ammonia sampling must be concurrent. EPA is using the water quality criterion from the chronic tables in Appendix A because these criteria are more protective. See Attachment F for a sample log to help calculate and record the AIR values.

The permit contains an AIR value of one (1.0) as the enforceable effluent limit. The permittee also must monitor and report ammonia effluent values in addition to the AIR value.

AIR provides more flexibility than a specific, fixed effluent concentration and is protective of water quality standards since the value (1.0) is set at the water quality standard. If the reported value exceeds 1.0, then the effluent ammonia concentration exceeded the ammonia water quality criterion. With an AIR value exceeding 1.0, the permittee would be in violation of the permit.

- **Total Residual Chlorine (TRC):** There is reasonable potential to impact the waterbody, and the effluent limits are retained in the permit. The effluent limits are derived from the Tribal narrative standard. The daily maximum limit is EPA's interpretation of the Tribal narrative standard and will ensure that the water quality standard is not exceeded. EPA is establishing an average monthly limit of 0.1 mg/L at end of pipe, in addition to the daily maximum limit using the approach discussed in the TSD, consistent with the previous permit. The permit requires weekly monitoring for TRC in the effluent, and the sample must be taken at the outfall.

- **Total Recoverable Oil and Grease:** There is reasonable potential to impact the waterbody, and the effluent limits are retained in the permit. The effluent limits are EPA's interpretation of the Tribal narrative standard that all waters be free from visible oils, scum, foam, grease, and other floating materials and suspended substances of a persistent nature resulting from other than natural causes.

Similar domestic wastewater treatment facilities have shown that a maximum daily limit of 15 mg/L and an average monthly limit of 10 mg/L can be easily achieved. Therefore, EPA is retaining effluent limits for oil and grease based on best professional judgment ("BPJ"), since there are no applicable guidelines and performance standards for oil and grease, no numeric values in the Tribal standards, and the existing permit limit is consistent with other POTW limits. In addition to these effluent limits, the narrative water quality-based limits for oil and grease, such as prohibiting visible sheen, are retained in the permit.

- **Total Phosphorus:** There is statistical reasonable potential to impact the waterbody, and the effluent limits are retained in the permit. To protect the designated use of coldwater habitat, a phosphorus limit is retained in the permit, with monthly monitoring requirements. EPA is establishing an average monthly limit of 0.08 mg/L and a daily maximum limit of 0.16 mg/L, consistent with the previous permit.

- **Whole Effluent Toxicity:** WET testing is intended to demonstrate that the discharge is not toxic and prompt a response if toxicity is present. In the continued absence of the WET data required under the previous issuance of this permit, and in recognition of the unpredictability of resort operations, EPA is requiring the permittee to sample for WET monthly and within the first thirty (30) days after the next discharge.

The WET testing is required in the permit to implement the narrative toxic standard in section 3.5 of the Environmental Code. The permit includes new WET requirements based on EPA's 2010 Test of Significant Toxicity. The new method is based on comparing the mean response of the test organism in the control and at the instream waste concentration ("IWC"). The permit limit is a Pass "0" at 100% effluent since no dilution is allowed. Depending on the WET test results, the permit also requires certain follow-up actions, such as additional WET tests

and a toxicity reduction evaluation to identify and correct the cause of any observed toxicity, as indicated by a Fail “1” result. The previous permit required WET testing with the traditional hypothesis testing approach outlined in EPA’s TSD. (EPA 1991).

#### **D. Anti-Backsliding**

Sections 402(o) and 303(d)(4) of the CWA and 40 CFR § 122.44(l) prohibit the renewal or reissuance of an NPDES permit that contains effluent limits and permit conditions less stringent than those established in the previous permit, except as provided in the statute and regulation.

The proposed permit establishes revised monthly average and daily maximum effluent limits for *E. coli* to reflect the EPA’s 2012 Recreational Water Quality Criteria (“2012 RWQC”) recommendations. These limits are less stringent than those in the previous permit, which were based on EPA’s 1986 ambient water quality criteria recommendations for recreational waters. The 2012 RWQC rely on the latest research and science, including studies that show a link between illness and fecal contamination in recreational waters. 40 CFR § 122.44(l)(2)(i) provides exceptions for anti-backsliding to effluent limitations in the permit based on updated regulations or guidance, which was not available at the time of permit issuance and would have justified the application of a less stringent effluent limitation at the time of permit issuance. And under section 303(d)(4)(B) of the CWA, a limitation based on a TMDL, WLA, other water quality standard, or any other permitting standard may be relaxed where the action is consistent with tribal antidegradation policy. The revised effluent limits for *E. coli* are consistent with federal and tribal antidegradation policies.

#### **E. Antidegradation Policy**

EPA’s antidegradation policy at 40 CFR § 131.12 and the WMAT Environmental Code specifies existing water uses and the level of water quality necessary to protect these existing uses.

As described in this document, the permit contains effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. The permit does not include a mixing zone, and therefore, all effluent limits will apply at the end of pipe without consideration of dilution in the receiving water. Furthermore, the waterbody is not listed as an impaired waterbody for BOD<sub>5</sub>, *E. coli*, temperature, total ammonia, TSS, turbidity, or oil and grease under section 303(d) of the CWA.

Since the permittee is expected to comply with all limits in the permit, the effluent should not have a negative, degrading effect, on the receiving waterbody. EPA is requiring a priority pollutant scan and re-opener provisions. EPA is requiring the facility to sample and submit a priority pollutant scan within 30 days of the next discharge. While no limits are set at this time, the permittee is required to monitor for the full list of priority pollutants as listed at 40 CFR Part 423 Appendix A. The permittee only needs to sample the discharge once during the permit term.

In addition to these permit conditions, EPA has entered into an Administrative Order on Consent (“AOC”, Docket No. CWA-309(a)-15-003]) with the permittee in December 2014.



The AOC will include milestone deadlines for specific actions which both parties believe will help bring the facility into compliance with the permit. The AOC also includes a final deadline for full compliance. Due to these factors, EPA expects the quality of the effluent will match or exceed the current water quality and will have no negative, or *de minimis* negative effect, on the receiving waterbody.

## **VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS**

Section 3.5 of the WMAT Environmental Code contains narrative water quality standards applicable to the receiving water. EPA is retaining the narrative effluent limits in order to implement these water quality standards.

## **VIII. MONITORING AND REPORTING REQUIREMENTS**

The proposed permit requires the permittee to conduct monitoring for all pollutants or parameters where effluent limits have been established, at the minimum frequency specified. The permit also requires reporting of discharge data obtained during the previous three months to be summarized on monthly DMR forms and reported quarterly. If no discharge occurs during the reporting period, the permittee must specify “No discharge” on the DMRs and submit them on an annual basis, due on January 28th of each year.

Additionally, where effluent concentrations of toxic parameters are unknown or where data are insufficient to determine reasonable potential, monitoring may be required for pollutants or parameters where effluent limits have not been established by EPA. This data may be re-evaluated, and the permit re-opened to incorporate effluent limitations, if necessary.

### **A. Monitoring and Reporting for Effluent Limits**

The permittee is required to conduct effluent monitoring to evaluate compliance with the permit conditions. The permittee must perform all monitoring, sampling and analyses in accordance with the methods described in the most recently edition of 40 CFR Part 136, unless otherwise specified in the permit. All monitoring data must be reported on monthly DMRs and submitted quarterly as specified in the permit. All DMRs are to be submitted electronically to EPA using NetDMR. The permittee may sample more frequently than the required frequency in order to ensure compliance with monthly average limits.

### **B. Whole Effluent Toxicity Testing**

EPA is retaining the WET test requirement and limit for increased monitoring if the test does not reject the null hypothesis. Chronic toxicity testing evaluates reduced growth/reproduction at 100 percent effluent concentration since no dilution is allowed. The presence of chronic toxicity shall be determined as specified by the methods in the 40 CFR Part 136 as amended on November 19, 2002.

### **C. Priority Pollutant Scan**

A priority toxic pollutants scan shall be conducted once during year 5 of the permit cycle. The information may be used to assess the need and specifications for possible effluent limits or monitoring in the future.

The permittee shall perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR Part 136, unless otherwise specified in the permit or by EPA. 40 CFR § 131.36 provides a complete list of Priority Toxic Pollutants.

## **IX. SPECIAL CONDITIONS**

### **A. Biosolids Requirements**

Standard requirements for the monitoring, reporting, recordkeeping, and handling of biosolids, in accordance with 40 CFR Part 503, are contained in the permit. If the permittee changes the management of its biosolids, the permittee must notify EPA of any changes.

### **B. Development and Implementation of Best Management Practices**

Pursuant to 40 CFR § 122.44(k)(4), EPA may impose Best Management Practices (“BMPs”) which are “*reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the Act.*” The pollution prevention requirements or BMPs retained in the permit operate as technology-based limitations on effluent discharges that reflect the application of Best Available Technology and Best Control Technology. Therefore, the permit requires the permittee to develop (or update) and implement BMPs designed to prevent pollutants from entering East Becker Creek and other surface waters while performing normal processing operations at the facility.

Specifically, the permittee shall develop and implement BMPs necessary to control or abate the discharge of pollutants, including installing a system to measure effluent flow rate, preparing and then adhering to an Operation & Maintenance manual, schedule and standard operating procedures (“SOPs”) for measuring and controlling operational parameters including aeration rate, return activated sludge rate and sludge wasting, procedures to maintain optimal treatment for the full range of flows and parameters likely to be experienced at the WWTP and providing training and certification for appropriate staff, including contractors, who are responsible for plant operation and maintenance. These requirements are consistent with those in the AOC.

### **C. Development of an Initial Investigation Toxics Reduction Evaluation Workplan for Whole Effluent Toxicity**

The permit requires the permittee to develop and implement a TRE Workplan. The Workplan would be followed if the effluent sample “fails” the toxicity test. Within 90 days of the

permit effective date, the permittee shall prepare and submit a copy of its Initial Investigation TRE Workplan (1-2 pages) for chronic toxicity to EPA for review.

#### **D. Additional Special Conditions**

Additional special conditions contained in the permit are conditions required by the Tribal 401 certification process. (CWA § 401; 33 U.S.C. § 1341). The conditions include, among others, provisions related to spill containment and notification as well as obtaining any and all other necessary permits.

### **X. OTHER CONSIDERATIONS UNDER FEDERAL LAW**

#### **A. Consideration of Environmental Justice**

EPA's Environmental Justice policy establishes fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. EPA conducted a screening level evaluation of vulnerabilities in the community posed to local residents near the vicinity of the permitted Sunrise Day Lodge WWTP using EPA's EJSCREEN tool. The purpose of the screening is to identify areas disproportionately burdened by pollutant loadings and to consider demographic characteristics of the population living in the vicinity of the discharge when drafting permit conditions.

EPA conducted an EJSCREEN analysis of the community near the vicinity of the outfall on November 13, 2019. Of the 11 environmental indicators screened through EJSCREEN, the results showed an elevated indicator score for ozone, and small hints on wastewater discharge and lead paint indicators. The EJSCREEN analysis of demographic characteristics of the community living near the facility indicates the local population may be at relatively higher risk if exposed to environmental contaminants than the general population. Demographic characteristics that showed potentially sensitive scores were a high proportion of population over the age of 64 and under the age 5.

EPA also considered the characteristics of the Sunrise Day Lodge facility's operation and discharges, and whether those discharges pose exposure risks that the NPDES permit needs to further address. Wastewater discharge facilities are unlikely ozone or lead paint contributors. This permit will serve as the Tribe's primary wastewater regulatory mechanism and has been written to streamline regulatory requirements while ensuring discharged treated wastewater is protective of beneficial uses for the impacted environment and community. As a result of the analysis, EPA is aware of the potential for cumulative burden of the permitted discharge on the impacted community and will issue this permit in consideration of the Tribe and consistent with the Clean Water Act, which is protective of all beneficial uses of the receiving water, including human health.

#### **B. Impact to Threatened and Endangered Species**

Section 7 of the Endangered Species Act (“ESA”) of 1973 (16 U.S.C. § 1536) requires federal agencies to ensure that any action authorized, funded, or carried out by the federal agency does not jeopardize the continued existence of a listed or candidate species or result in the destruction or adverse modification of its habitat. Since the issuance of NPDES permits by the EPA is a federal action, EPA needs to consider the effect of the permitted discharge on any listed or candidate species or their critical habitat. On September 13, 2019, EPA sent a request for ESA species listing and informal consultation to WMAT- Game & Fish Department.

To determine whether the discharge would affect any endangered or threatened species, EPA reviewed a list of 27 species associated with habitats in Apache County and consulted the Tribe’s Wildlife and Outdoor Recreation Division. (US FWS 2013a). Based on this review, 7 species may occur within the vicinity of the discharge although there is no specific data or information indicating these species are present in the immediate vicinity of the outfall; nor has critical habitat for these species been identified in the vicinity of the facility. These species include: Southwestern willow flycatcher (*Empidonax traillii extimus*), Mexican spotted owl (*Strix occidentalis lucida*), Apache trout (*Oncorhynchus apache*), Loach Minnow (*Tiaroga cobitis*), Chiricahua leopard frog (*Rana chiricahuensis*), Mexican wolf (*Canis lupus baileyi*), and Jaguar (*Panthera onca*). These species were also identified in the previous permit fact sheet.

The proposed permit authorizes the effluent discharge from the Sunrise Day Lodge WWTP into a receiving water that could be a habitat for the aforementioned threatened and endangered species. Consistent with the existing permit, the proposed permit contains no significant changes that would result in discernable changes in effluent quality. No new construction, land/habitat (physical environment) alterations, water quality changes, or hydrology alterations are associated with the permit reissuance. As required by the previous permit, compliance with the proposed permit will result in attainment of applicable tribal water quality standards. EPA previously consulted with FWS concerning the approval of these water quality standards (on 4/5/2000), and it was determined that implementation of these standards would be protective of ESA-listed species. Therefore, EPA has determined that the discharge under the proposed permit will have “No Effect” on the above listed species. The basis for this determination for each of these species is discussed below.

#### **1. Southwestern Willow Flycatcher**

The Southwestern willow flycatcher is listed as endangered. This migratory bird breeds in riparian habitats along the Colorado River, primarily from May to September, and spends the winter in southern Mexico, Central America, and South America. (US FWS 2013b.). The Southwestern willow flycatcher eats a wide range of invertebrate prey including flying, as well as ground- and vegetation-dwelling, insect species of terrestrial and aquatic origins.

The permittee is discharging during the winter months when the Southwestern willow flycatcher is not breeding and is known to be in other countries. The permitted discharge does not involve physical habitat alteration, change in flow, or change in water quality, and should not impact insect prey. Consequently, EPA is making a “No Effect” determination for the Southwestern willow flycatcher.

## **2. Mexican Spotted Owl**

The Mexican spotted owl is listed as threatened, largely due to habitat destruction or modification. The Fort Apache Indian Reservation is not included in the owl's critical habitat because the U.S. Fish and Wildlife Service ("Service") found that the land was not essential to the conservation of the species. (US FWS 2004). The owl's prey species are woodrats, mice, and voles. Since the permit does not involve physical habitat alteration, change in flow, changes in water quality or impacts to the owl's prey, EPA is making a "No Effect" determination for the Mexican spotted owl.

## **3. Apache Trout**

The Apache trout is listed as threatened. While no critical habitat has been designated, the species has been documented on the Fort Apache Indian Reservation. The threats to Apache trout habitat include sedimentation and increased temperatures. (US FWS 2009).

The new permit retains the temperature and turbidity effluent limits and weekly monitoring requirements as specified in the existing permit in order to protect the coldwater designated use for Becker Creek. The permittee reported temperature values ranging from 4.2 to 21.5°C. The permittee reported 21.5°C as the highest temperature of the discharge, which is below the permit limit of 23°C. The permit limit directly implements the Tribe's water quality standard for water bodies with a coldwater habitat designated use. The permit also contains toxicity testing and a full priority pollutant scan during the first 30 days of the next discharge. There are no physical alterations involved in the permit. Because EPA is retaining effluent limits based on the Tribe's water quality standards, EPA is making a "No Effect" determination for the Apache trout.

## **4. Loach Minnow**

The Loach minnow faces similar threats as the Apache trout, including habitat destruction and modification. The Loach minnow has been documented to occur in the White River and East Fork White River on the Fort Apache Reservation, but these areas were excluded from critical habitat designation. Studies by Northern Arizona University assessed temperature regimes for the Loach minnow. One study concluded that since 100 percent survival of the Loach minnow was observed at 28°C, little juvenile or adult mortality would occur due to thermal stress if peak water temperatures remain at or below that level. (US FWS 2012a).

The permit retains the temperature limit, not to exceed 23°C, in order to protect the coldwater designated use of Becker Creek. This effluent limit is adequately protective of the loach minnow. The permit also retains the turbidity and toxicity effluent limits and monitoring requirements. EPA is requiring a full priority pollutant scan during the first 30 days of the next discharge. In addition to these sampling requirements, there are no physical alterations involved in the permit. Therefore, EPA is making a "No Effect" determination for the Loach minnow.

## **5. Chiricahua Leopard Frog**

The Chiricahua leopard frog is listed as threatened, largely due to predation by nonnative organisms. The Chiricahua leopard frog is known to exist on the Fort Apache Tribe Reservation, and critical habitat has been designated in parts of the reservation, namely Deer Creek. (US FWS 2012b).

The permit retains the temperature and turbidity effluent limits and weekly monitoring requirements in order to protect the coldwater designated use of Becker Creek. The permit also requires toxicity testing and a full priority pollutant scan during the first 30 days of the next discharge. In addition to these sampling requirements, there are no physical alterations involved in the permit. Therefore, EPA is making a “No Effect” determination for the Chiricahua leopard frog.

#### **6. *Mexican Wolf***

The Service has proposed to remove the gray wolf from the list of threatened and endangered species and maintain protection and expand recovery efforts for the Mexican wolf, a subspecies of the gray wolf. (US FWS 2013c). In 2002, the WMAT became one of the lead agencies for reintroduction and allowed wolves on their lands. This effectively expanded the experimental nonessential population into Apache, Gila, and Navajo counties on WMAT lands. (US FWS 2013a). The discharge will not affect the habitat or prey of the Mexican wolf. Therefore, EPA is making a “No Effect” determination for the Mexican wolf.

#### **7. *Jaguar***

The Jaguar is listed as endangered. There are no known breeding pairs of jaguars within the borders of the U.S., and no female jaguars have been detected in the U.S. since 1963. Jaguars found in the U.S. are part of a population or populations that occur in Mexico. While historical records show that jaguars have or may have occurred as far north as Grand Canyon, Arizona, their numbers were few throughout the Southwest, and sightings in the United States from 1996 to the present have occurred mainly within approximately 40 miles (64.4 kilometers) of the United States–Mexico border.

The Service proposed revised critical habitat in 2013 to support individuals during dispersal movements and expansion by providing small patches of habitat (US FWS 2013d). Apache County is not included in the proposed critical habitat, and as stated above, the permit does not involve physical habitat alteration. The discharge will not affect the jaguar’s prey. Therefore, EPA is making a “No Effect” determination for the jaguar.

On November 7, 2019, the Service sent a listing of Sensitive Species Addressed on the Fort Apache Indian Reservation dated June 2019. On November 18, 2019, the Service provided a concurrence with EPA’s No Effect determination. Because of the reasons stated above, EPA has determined that reissuance of this permit will have no effect on threatened or endangered species. Therefore, consultation is not required for this action. Re-opener clauses have been included in the permit should new information indicate a need for additional, or a change to, permit conditions.

### **C. Impact to Coastal Zones**

The Coastal Zone Management Act (“CZMA”) requires that federal activities and licenses, including federally permitted activities, must be consistent with an approved state Coastal Management Plan (CZMA Sections 307(c)(1) through (3)). Section 307(c) of the CZMA and

implementing regulations at 40 CFR Part 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification.

The proposed permit does not affect land or water use in the coastal zone, thus CZMA does not apply to this federally-issued permit.

#### **D. Impact to Essential Fish Habitat**

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (“MSA”) set forth new mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat (“EFH”).

The proposed permit contains technology-based effluent limits and numerical and narrative water quality-based effluent limits as necessary for the protection of applicable aquatic life uses. The proposed permit does not directly discharge to areas of essential fish habitat. Therefore, EPA has determined that the proposed permit will not adversely affect essential fish habitat.

#### **E. Impact to National Historic Properties**

Section 106 of the National Historic Preservation Act (“NHPA”) requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. Pursuant to the NHPA and 36 CFR §800.3(a)(1), EPA is making a determination that re-issuing this NPDES permit does not have the potential to affect any historic properties or cultural properties. As a result, Section 106 does not require EPA to undertake additional consulting on this permit reissuance.

### **XI. STANDARD CONDITIONS**

#### **A. Reopener Provisions**

In accordance with 40 CFR Parts 122 and 124, the proposed permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved Tribal water quality standards; to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards; or, to incorporate new or altered conditions to meet the requirements of the ongoing Administrative Order.

#### **B. Standard Provisions**

The proposed permit requires the permittee to comply with USEPA Region 9’s *Standard Federal NPDES Permit Conditions* found at Attachment A.

## **XII. ADMINISTRATIVE INFORMATION**

### **A. Public Notice (40 CFR § 124.10)**

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a NPDES permit or other significant action with respect to an NPDES permit or application.

### **B. Public Comment Period (40 CFR § 124.10)**

Notice of the permit will be placed on EPA Region 9's website at: <https://www.epa.gov/aboutepa/public-notice-meetings-and-events-pacific-southwest>, with a minimum of 30 days provided for interested parties to respond in writing to EPA. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

### **C. Public Hearing (40 CFR § 124.12(c))**

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if EPA determines there is a significant amount of interest expressed during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

### **D. Water Quality Certification Requirements (40 CFR § 124.53 and § 124.54)**

As WMAT has approved water quality standards, EPA is requesting certification from the Tribe to ensure that the proposed permit will meet all applicable water quality standards. EPA is forwarding the draft permit and fact sheet to WMAT's Water Resources Programs and requesting certification under section 401 of the CWA. Such certification shall be in writing and include the conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of Tribal law. EPA cannot issue the permit until the certifying State, Territory, or Tribe has granted certification under 40 CFR § 124.53 or waived its right to certify. If the Tribe does not respond within 60 days of **<Provide date>**, it will be deemed to have waived certification.

## **XIV. CONTACT INFORMATION**

Comments, submittals, and additional information relating to this proposal may be directed to Linh Tran, NPDES Permits Office at:



Email: [Tran.Linh@epa.gov](mailto:Tran.Linh@epa.gov)  
Phone: (415) 972-3511

Or Mail:  
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EPA Region 9  
75 Hawthorne Street (WTR 2-3)  
San Francisco, California 94105

## **XV. REFERENCES**

- EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control*. Office of Water, EPA. EPA/505/2-90-001.
- EPA. 1996. *Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs*, Interim Final, May 31, 1996.
- EPA. 2001. Letter to Chairman Mr. Dallas Massey, Sr. regarding adoption of the White Mountain Apache Tribe's water quality standards. (letter dated 9/27/2001).
- EPA. 2002a. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms - Fifth Edition*. Office of Water, EPA. EPA-821-R-02-012.
- EPA. 2010. *U.S. EPA NPDES Permit Writers' Manual*. Office of Water, EPA. EPA-833-K-10-001.
- EPA. 2012 *Recreational Water Quality Criteria* (2012 RWQC). Office of Water, EPA 820-F-12-058. <https://www.epa.gov/wqc/2012-recreational-water-quality-criteria-documents>
- EPA. 2013. *National Recommended Water Quality Criteria*. Office of Water, EPA. Aquatic Life Criteria Table. <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table#table>
- EPA. 2015. *National Recommended Water Quality Criteria*. Office of Water, EPA. Human Health Criteria Table. <https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table>
- U.S. Fish and Wildlife Service (US FWS). 2013a. *Apache County Species List*. <http://www.fws.gov/southwest/es/arizona/Documents/CountyLists/Apache.pdf>
- U.S. Fish and Wildlife Service (US FWS). 2013b. *Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Southwestern Willow Flycatcher; Final Rule*. <http://www.gpo.gov/fdsys/pkg/FR-2013-01-03/pdf/2012-30634.pdf>

- U.S. Fish and Wildlife Service (US FWS). 2013c. Successful Recovery Efforts Prompt Service Proposal to Delist Gray Wolf and Focus ESA Protection on Mexican Wolf.  
<http://www.fws.gov/home/wolfrecovery/>
- U.S. Fish and Wildlife Service (US FWS). 2013d. Questions and Answers: Jaguar Critical Habitat Proposal (Revision and Supporting Analyses).  
[http://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/Jaguar/Jaguar\\_dEA%20FAQs\\_7-1-13\\_final.pdf](http://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/Jaguar/Jaguar_dEA%20FAQs_7-1-13_final.pdf)
- U.S. Fish and Wildlife Service (US FWS). 2012a. *Endangered Status and Designations of Critical Habitat for Spikedace and Loach Minnow: Final rule.*  
<http://www.gpo.gov/fdsys/pkg/FR-2012-02-23/pdf/2012-3591.pdf>
- U.S. Fish and Wildlife Service (US FWS). 2012b. *Listing and Designation of Critical Habitat for the Chiricahua Leopard Frog; Final Rule*  
[http://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/CLF/CLF\\_2012\\_fCH\\_rule\\_Fed-Reg.pdf](http://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/CLF/CLF_2012_fCH_rule_Fed-Reg.pdf)
- U.S. Fish and Wildlife Service (US FWS). 2009. *Apache Trout (Oncorhynchus apache) Recovery Plan, Second Revision.* <http://www.gpo.gov/fdsys/pkg/FR-2009-09-03/pdf/E9-21292.pdf#page=1>
- U.S. Fish and Wildlife Service (US FWS). 2007. *Endangered and Threatened Wildlife and Plants; Removing the Bald Eagle in the Lower 48 States From the List of Endangered and Threatened Wildlife.*  
<http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=B008>
- U.S. Fish and Wildlife Service (US FWS). 2004. *Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for the Mexican Spotted Owl.*  
[http://ecos.fws.gov/docs/federal\\_register/fr4341.pdf](http://ecos.fws.gov/docs/federal_register/fr4341.pdf)
- White Mountain Apache Tribe (WMAT). 2014. *Water Quality Protection Ordinance of the White Mountain Apache Tribe of the Fort Apache Indian Reservation.*  
<https://www.epa.gov/sites/production/files/2014-12/documents/white-mountain-tribe.pdf>
- White Mountain Apache Tribe (WMAT). 2015. *White Mountain Apache Environmental Code*  
<http://wmat.nsn.us/Legal/Environmental%20Code%20--%20051815%20IN%20EFFECT.pdf>

## **ATTACHMENT A. WQBEL Calculations for Total Residual Chlorine and Total Phosphorus**

<b>Total Chlorine Residual using Two-value, Steady-state Model</b>	<b>Chronic <sup>(1)</sup></b>
Tribe's Chlorine Water Quality Criterion, mg/L	0.1
No Dilution Credit Authorized	0
Background Concentration, mg/L	0
WLA, mg/L	0.1
Coefficient of Variation	0.6
WLA Multiplier (99 <sup>th</sup> %)	0.527
LTA, mg/L	0.0527
LTA <sub>MDL</sub> Multiplier (99 <sup>th</sup> %)	3.11
MDL, mg/L	0.16
LTA <sub>AML</sub> Multiplier (95 <sup>th</sup> %) <sup>(2)</sup>	1.55
AML, mg/L	0.08

<sup>(1)</sup> The Tribe expresses the chlorine water quality criteria as a single value. EPA interpreted the criterion as "chlorine concentration must not exceed 0.1 mg/L." Where there is only one water quality criterion, and therefore, only one WLA, permit limits can be derived by considering the single WLA to be the chronic WLA. Derivation of permit limit based on Section 5.4.1 of EPA's TSD. (EPA 1991).

<sup>(2)</sup> LTA multiplier based on sampling frequency of four times per month per Section 5.5.3 of EPA's TSD.

<b>Total Phosphorus using Single, Steady-state Model</b>	<b>Chronic</b>
Water Quality Criterion, mg/L	0.10
No Dilution Credit Authorized	0
Background Concentration, mg/L	0
WLA, mg/L	0.10
WLA Multiplier (99 <sup>th</sup> %)	0.527
LTA, mg/L	0.0527
LTA <sub>MDL</sub> Multiplier (99 <sup>th</sup> %)	3.11
MDL, mg/L	0.16
LTA <sub>AML</sub> Multiplier (95 <sup>th</sup> %) <sup>(1)</sup>	1.55
AML, mg/L	0.08

<sup>(1)</sup> LTA multiplier based on sampling frequency of four times per month per section 5.5.3 of EPA's TSD (in situations where monitoring frequency is once per month or less, a higher value of n must be assumed for AML derivation purposes...using an assumed number of samples of at least four).