Statement of Basis

Permittee	Southern Ute Indian Tribe (SUIT)
Facility:	Southern Ute Tribe POTW (Town of Ignacio) SIC: 4952 Sewerage System Related NAICS: 221320 Domestic Wastewater, Mechanical Plant
Permit Number:	CO-0022853
Responsible Official:	Bruce Valdez, Executive Director Southern Ute Indian Tribe Growth Fund
Facility Contacts:	Timothy Wichlacz, Lead Operator Southern Ute Tribe POTW 970.563.5507 (fax) 970.563.5510 twichlacz@suitutil.com
Permit Type:	Minor POTW, discharge to surface water, Indian Country, permit renewal
Facility Location:	16364 US HWY 172 Ignacio, CO 81137 La Plata County
Mailing Address	P.O. Box 1137 Ignacio, CO 81137
Discharge Point:	002A, South of POTW into Rock Creek 37.104331° N, 107.629946° W

Section 1.0 – Background Information

1.1 – Purpose

This statement of basis provides justification for the permit limits, conditions, and requirements for the re-issuance of the NPDES permit for the Southern Ute Indian Tribe (SUIT) Publicly Owned Treatment Works (POTW). The Environmental Protection Agency (EPA) is the permitting authority for Indian country in Region 8 and the statement of basis documents EPA's justification using available regulatory and technical bases.

1.2 Permit history

This statement of basis is for the renewal of the NPDES permit# CO-0022853 for the SUIT POTW, which treats wastewater from the Town of Ignacio, Colorado and a tribally owned collection system located within the external boundaries of the Southern Ute Indian Tribe.

The current permit was developed by the EPA Wastewater Unit, signed on December 22, 2010 and was effective on January 1, 2011 with an expiration date of December 31, 2015. SUIT submitted the permit application on June 25, 2015. The Wastewater Unit deemed the permit application on time and complete and issued an administrative extension letter to SUIT on December 18, 2015. All of the limits and conditions of the administratively extended permit remain fully effective until the renewal permit is issued and effective.

According to records maintained for this facility, this is the 4th permit renewal for the original permit issued in 1992. The original permit was issued to the Ignacio Sanitation District, which previously used lagoons to treat wastewater from the service area. The SUIT took control of the wastewater treatment and the collection system in 1999 and replaced the wastewater lagoon with a mechanical POTW.

1.3 – Plant Performance and Compliance History

The data in Table 1 is collected from discharge monitoring report (DMR) data submitted to EPA from 2010 through 2016. Table 1 shows the average and maximum pollutant values calculated from the DMR data. The average and maximum data presented for ammonia was calculated using a regression order statistics program found in Pro UCL. In addition, Table 1 provides a comparison of the 6-year POTW performance history to the previous permit limits.

Table 1 – SUIT POTW Performance History
January 2010 – July 2016

Parameter	Number of Samples	Reported Concentrations Avg/Max (mg/L)	Previous Permit Limit 7D/30D	No. of Excursions
Biochemical Oxygen Demand (BOD_5)	68	2.73/11.2	45/30	0
BOD % Removal	68	99.2%	85 % Removal	0
BOD Loading (Calculated from DMR data)	68	312.3/676.8 (lbs/day)	---- Design Capacity = 1500 lbs day (1)	
Total Suspended Solids (TSS)	68	6.85/4.09	45/30	0

TSS % Removal	68	99.6%	85 % Removal	0
TSS Loading (Calculated from DMR data)	68	585.8/2,846 (lbs/day)	---- Design Capacity = 1500 lbs day (1)	
pH	68	Max – 7.9 Min – 6.8 (Std Units)	Shall not be less than 6.5 or greater than 9.0 at any time	0
Effluent Flow	68	0.36/1.01 (MGD)	0.6 MGD	1
Oil and Grease	68	No visual sheen was reported *Note: Visual Observations only, no analytical data.*	10	0
Ammonia as N	68	0.35 / 1.38 in Sept 2011	Daily Maximum = 4.0mg/L 30 day averages January 2.8 mg/L February 2.6 mg/L March 2.3 mg/L April 2.0 mg/L May 1.7 mg/L June 1.6 mg/L July 1.4 mg/L August 1.4 mg/L September 1.5 mg/L October 1.9 mg/L November 2.3 mg/L December 2.5 mg/L	0
Fecal Coliform	68	68 total samples with 2 non-detect values: (#/100mL) Average is not calculated Maximum value is 3.62	---/200	0

(1) Design Capacity calculated from the Processing Operating Manual developed by Baker Hughes

Effluent Flow: Based on the DMR data in Table 1, the average effluent flow for the past 5 years is 60% of the average daily design capacity. The hydraulic capacity of the SUIT POTW appears to be adequate for the wastewater received from the service area.

BOD_5: The BOD loadings for the SUIT POTW appear to be below the design organic BOD capacity of 1500 lbs/day. The average BOD loading for the 6-year period is 312 lbs/day, which is approximately 21% of the organic design capacity. The 4-year average BOD Removal percentage of 99.2% outperforms the previous permit BOD removal limit of 85%.

An evaluation of the compliance history of the SUIT POTW for BOD indicates that the average effluent BOD level of 2.73 mg/L and the POTW's maximum effluent BOD level of 11.2 mg/L were significantly below the 7-day compliance limit of 45 mg/L and 30-day compliance limit of 30 mg/L.

TSS: The TSS loadings for the SUIT POTW appear to be below the design TSS capacity of 1500 lbs/day. The average TSS loading for the 6-year period is 585.8 lbs/day, which is approximately 39% of the solids design capacity. The 6-year average TSS removal percentage of 99.6% outperforms the previous permit removal limit of 85%.

An evaluation of the compliance history of the SUIT POTW for TSS indicates that the average effluent TSS level of 6.85 mg/L and the POTW's maximum effluent TSS level of 4.09 mg/L were significantly below the 7-day compliance limit of 45 mg/L and 30-day compliance limit of 30 mg/L.

pH: The minimum pH value of 6.8 and maximum pH value of 7.9 are within the compliance limits of between 6.5 and 9.0 in any single analysis. The previous compliance limits will be maintained in the reissued permit.

Oil and Grease: The SUIT POTW did not collect and analyze sampling events for oil and grease, the daily observations, as required in the previous permit indicated that there was not an observed visual sheen in the evaluated time period.

Ammonia: Approximately 72% of the ammonia dataset consisted of non-detect data indicating that the SUIT POTW has discharged treated effluent significantly below the daily maximum and 30-day average NPDES permit limits established for the SUIT POTW in 2010.

Fecal Coliforms: There were 50 samples taken for fecal coliforms from 2004 through 2008. two of these samples indicate non-detect concentrations. In addition, the maximum of the dataset showed a value of 3.6 colonies/100 mL, significantly below the permit limit of 415 colonies/100 mL.

1.3.1 – Biosolids Data

The SUIT land applied biosolids in 2014 and provided data from this event. The samples of the biosolids to be land applied are collected prior to the land application. Approximately 27 grab samples were collected from the biosolids stockpile and then composited. The biosolids

samples were collected on February 18, 2014 and are shown in Table 2. The biosolids compliance limits for land application found in 40 CFR Part 503.13 are shown in Table 3.

During the permit development, the biosolids data was evaluated as an indicator of long term averages for metals due to pollutant partitioning of metals within the POTW and the detention time. It appears that based on the 2014 data, metals are partitioning to the biosolids below the compliance limits.

Table 2 – Biosolids Monitoring Data for the SUIT POTW in 2014				
Pollutant	**Result (mg/kg)**		**Pollutant**	**Result**
Arsenic	<10.0		Zinc	685
Cadmium	<5.00		Total Solids	58.9%
Chromium	18.7		pH	7.16 std units
Copper	900		Total Phosphorus	19,500
Lead	23.0		Volatile Solids	3.57%
Mercury	2.63		Ammonia as N	4,240
Molybdenum	8.22		Nitrate/Nitrite as N	478
Nickel	34.0		Nitrite as N	5.24
Potassium	2,760		Total Kjeldahl Nitrogen	45,500
Selenium	52.2			

Table 3 – Table 3 of § 503.13 – Pollutant Concentrations		
Pollutant	**Monthly Average Concentrations (mg/kg)**	**Percentage of Biosolids data to the §503.13 compliance limits**
Arsenic	41	<24%
Cadmium	39	<13%
Copper	1500	60%
Lead	300	8%
Mercury	17	15%
Molybdenum (Table 1 of §503.13)	75	11%
Nickel	420	8%
Selenium	100	52%
Zinc	2800	24%

1.3.2 – Data Submitted on the Permit Application

The SUIT POTW submitted effluent data as a requirement of the NPDES permit application, as shown in Table 4.

Table 4 – Permit Application Data - 2016	
Pollutant	**Result (mg/L) Avg/Max**
Nitrate/Nitrite as N	5.96/26.4
Oil and Grease	<5.0/<5.0
Phosphorus, total	2.09/7.44
Total Kjedahl Nitrogen	1.36/4.18
Ammonia	0.076/0.567
Dissolved Oxygen	6.24/7.38
Total Dissolved Solids	325.4/380.0

In addition to the permit application data, the data generated from the discharge monitoring reports and biosolids were evaluated to determine the compliance history of the SUIT POTW and identify pollutants of concern. Based on the data evaluation, it appears that the SUIT POTW is maintaining compliance with the permit standards.

Section 2.0 – Service Area

2.1 – Domestic Wastewater Contribution

The collection system for the SUIT POTW consists of a tribally owned collection system and the Ignacio Sanitation District. The collection systems are separate storm/sanitary sewers and there are two sanitary sewers that contribute to the POTW; a tribally owned sanitary sewer system and a sanitary sewer system owned and operated by the Town of Ignacio. According to the permit application, the Town of Ignacio has a population of 710, and the SUIT population serviced by the POTW is about 1,206 for a total population of 1,916.

2.2 – Industrial and Commercial Wastewater Sources

It does not appear that the service area of the SUIT POTW contain industrial facilities that would be categorized as categorical under Pretreatment Standards promulgated by EPA and found in 40 CFR Chapter I, Subchapter N, Parts 403-471. In addition, it does not appear the service area contain commercial or industrial facilities that would be considered Significant Industrial Users under the definition found in 40 CFR 403.3(v).

It appears that there are no other significant commercial sources in the service area of the SUIT POTW. According to the permit application, the Inflow and Infiltration in the collection system is approximately 5,000 to 15,000 gallons per day. The collection system is in good condition and it appears that there are no significant improvements needed at the time of permit renewal.

The SUIT POTW is required in the permit to "properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed and used by the permittee to achieve compliance with the conditions of the permit. This includes collections systems that contribute to the POTW. The POTW is required to evaluate maintenance schedules for all contributing collection systems to ensure adequate maintenance and minimize the potential for sanitary sewer overflows to occur.

Section 3.0 – SUIT POTW Process Information

The SUIT POTW is located in the tribally owned reservation and discharges within the tribally boundaries. The POTW is located approximately ¼ mile south of the southern edge of the Town of Ignacio and about ¾ mile south of the intersection of highways 151 and 172 at 16364 Hwy 174 (Figure 2). The latitude and longitude coordinates for the SUIT POTW are 37° 6' 12.67"N, 107° 37' 51.14"W.

The discharge point for the SUIT POTW, designated 002A is located at 37° 6' 16.42"N, 107° 37' 51.31"W. The POTW currently treats tribally generated wastewater and wastewater from the Town of Ignacio. The POTW is designed for 0.80 MGD and is currently treating and average of 0.255 to 0.309 MGD from 2013-2015. An aerial view generated from Google Earth of the SUIT POTW is shown in Figure 1. A process flow schematic diagram of the SUIT POTW is shown in Figure 2.

Figure 1 - Southern Ute Indian Tribe (SUIT) POTW

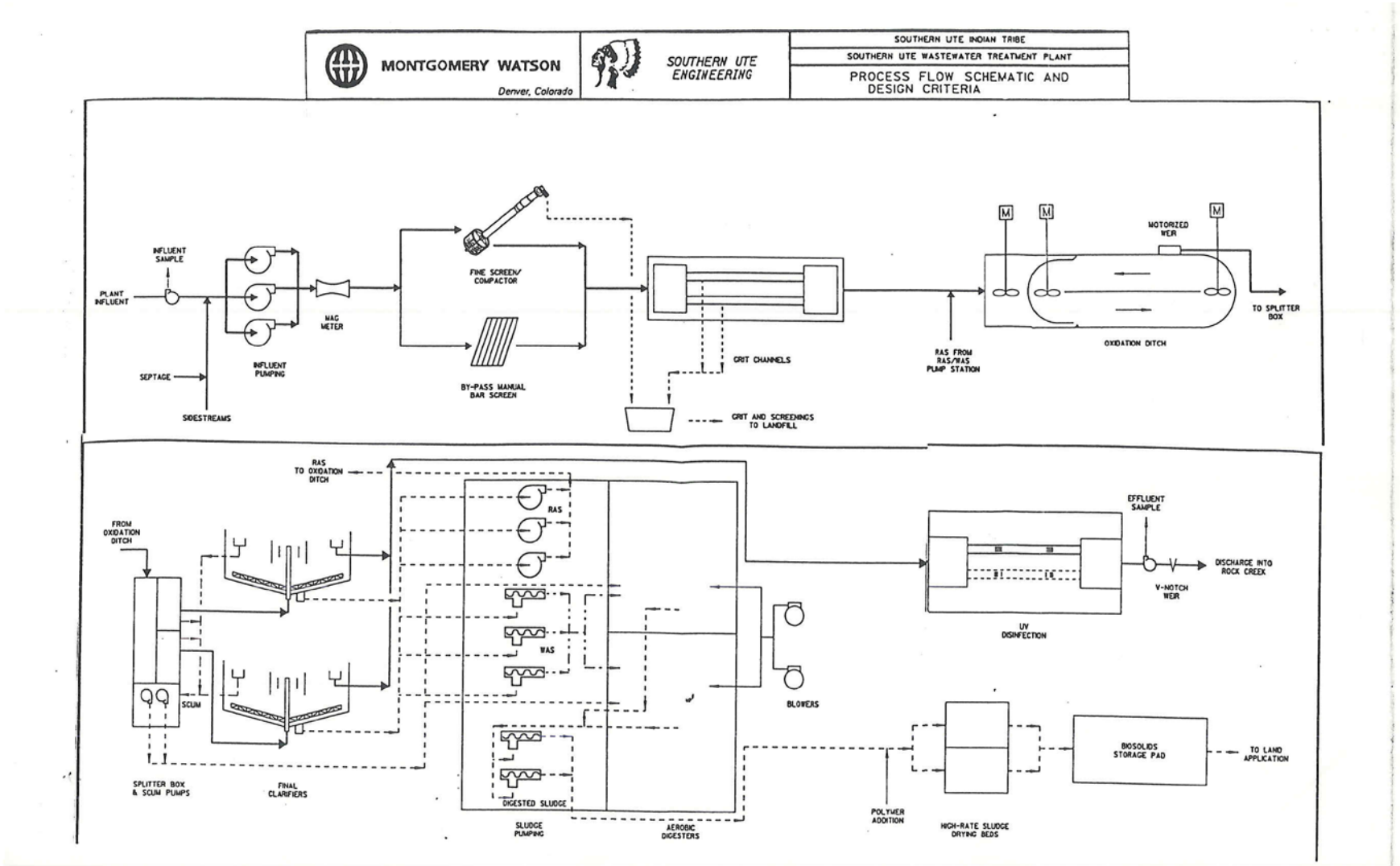

Figure 2 - SUIT POTW Process Flow Schematic

3.1 – Wastewater

Note: Photos of the SUIT POTW processes are enclosed in the attached Southern Ute POTW-2016 Permit Renewal Photo Log.

The wastewater generated from the Town of Ignacio and the Tribe arrives to the POTW through gravity flow into the influent pit at the facility and is pumped into the Headworks. The Headworks consists of an automated Rotomat Fine Screen and two grit channels. The screenings are washed and collected into a dumpster. Grit channels are cleaned by hand and the grit also is placed in the dumpster. Sewage from Headworks flows by gravity into the anoxic zone of the oxidation ditch. The ditch is a race track design with two vertical mixer aerators. Mixed liquors flow over an adjustable slide gate and into one of two secondary clarifiers. Each clarifier is designed to accommodate the full flow from the oxidation ditch. The overflow from the clarifiers is plumbed to an ultraviolet (UV) channel that has two 10-bank four lamp units. The treated wastewater effluent flows to the discharge point 002A, located southeast of the POTW, where it discharges into Rock Creek.

Description of 002 A: Wastewater discharged from the final UV disinfection system through the v-notch weir and into the effluent outfall pipe. The effluent outfall pipe terminates 5 feet from Rock Creek and spills onto rockworks leading to Rock Creek (Figure 3).

Figure 3 - Discharge Point 002A into Rock Creek

3.2 – Solids

Waste activated sludge from the clarifier is pumped into the northern aerobic digester where it overflows into the southern digester. The total residence time in these open digesters exceeds 20 days. The solids are treated to meet Class B vector attraction requirements in the digester process by ensuring the specific oxygen uptake rate (SOUR) is equal or less than 1.5 mg of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius.

When supernatant can no longer be decanted from the sludge, the digested liquid solids in the southern digester are mixed with polymer solution as they are pumped onto one of the two perforated plastic dewater beds. During the winter months, the solids are pumped onto the eastern dewatering bed, which is enclosed within a heated building to prevent freezing of the solids. Approximately 20,000 to 40,000 gallons of digested solids are pumped onto the dewatering bed every two weeks.

The solids, approximately 9% dried on average, are removed with a small tractor with a squeegee bucket and placed on a concrete drying pad. The concrete pad is approximately 0.55 acres with a usable drying surface of approximately 0.5 acres. The pad has a concrete curb on its east, south, and west sides and is sloped to allow liquid to collect in the southwest corner of the pad. The collected liquid is pumped back to the influent pit of the wastewater treatment plant. The dried solids are windrowed with a composter mixer to air/wind/sunlight treat until dry and crumbly. The solids meet Class B pathogen requirements by using the Air Drying Process to Significantly Reduce Pathogens (PSRP).

The solids are stockpiled on the east side of the drying pad. Typically, the treated sludge is land applied every two years. The concrete pad is designed to accommodate three years of sludge production of 30 metric tons/year. The solids are land applied to Tribal agricultural land associated with their bison herd. The types of agricultural land to which the sludge has been applied to includes land currently used for pasture and hay production and unimproved rangeland being converted to pasture or hay production. Crops grown include grass, alfalfa and oats. The treated sludge has also been applied at a mine reclamation site located on Tribal land to revegetate with grasses.

Section 4.0 – Receiving Waters

The Southern Ute Indian Tribe is in the San Juan Watershed. The San Juan Watershed is located within the upper basin of the Colorado River Watershed and is defined by the San Juan River and its tributaries, including the Los Pinos River.

The treated effluent from the SUIT POTW is discharged to Rock Creek, which is a tributary of the Los Pinos River. The Ignacio Stream and two other unnamed streams are tributaries of Rock Creek and are located upstream of the SUIT POTW discharge. According to Mr. Sal Valdez, Water Quality for the Southern Ute Indian Tribe, the Ignacio Stream is used mostly for agricultural and there are no municipal sources upstream of the SUIT POTW. The Los Pinos River flows through the reservation where it exits the SUIT boundary and enters the state waters of New Mexico.

4.1 – Salinity Control

The Colorado River Basin Salinity Control Forum policy was established in 1973 to develop salinity water quality standards. (http://www.nrcs.usda.gov/programs/salinity) The developed standards include numeric salinity standards and a basin-wide plan of implementation for salinity control.

Previous permits required quarterly monitoring of total dissolved solids in the effluent and the intake water. The objective of this monitoring requirement was to determine if the effluent contains a concentration of TDS in excess of 400 mg/L of the raw intake water, indicating a significant contribution of salinity to the watershed. The only data available for evaluating the intake water was from the early 2000's. The data for the SUIT POTW was from the 2011 through 2016-time period, as shown in Table 5.

The data history for TDS did not indicate a significant contribution of salinity to the watershed. This was to be expected for a small town with limited industrial development. It appears that the town of Ignacio has not experienced significant industrial development since the last permit issuance; however, a monitoring requirement will be included in the permit to gather current TDS data.

Table 5 – Total Dissolved Solids Data History

Date	Avg. Intake water (mg/L)	POTW Effluent (mg/L)	Difference
2001 – 2003	70		---
2011 – 2016		329	---
Averages (using paired data only in last column)	**70**	**329**	**261**

Section 5.0 – Technology and Water Quality Standards

Effluent limitations for the SUIT POTW were derived through a three step process. The Secondary Treatment Technology standards found in 40 CFR Part 133 are applicable to the POTW owned and managed by the SUIT. The secondary treatment technology-based standards and limitations define the minimum level of treatment that must be met by all facilities and establish a level of effluent quality attainable through the application of secondary or equivalent treatment.

However, secondary treatment standards may be insufficient to protect all water quality parameters. Therefore, the 2nd step in the establishment of effluent limitations is to evaluate the water quality standards and the assimilative capacity for the receiving stream and

establish limitations based on these standards to ensure the receiving stream water quality is protected.

The 3rd step is to evaluate narrative standards that may be applicable to this facility to further protect the characteristics and water quality of the receiving stream.

Section 5.1 – Technology Based Standards

The treated effluent from the SUIT POTW is subject to the provisions of the Secondary Treatment Technology Standards found in 40 CFR 122 Part 133. These standards establish the limitations listed in Table 6.

Table 6 – Secondary Treatment – 40 CFR Part 133
Effluent Limitations

Parameter	30-Day Average mg/L	7-Day Average mg/L	Daily Maximum
BOD_5	30	45	---
BOD_5 % Removal	85% Removal	---	
TSS	30	45	
TSS % Removal	85% Removal	---	---
pH	---	---	The effluent values for pH shall be maintained within the limits of 6.0 to 9.0

Section 5.2 – Water Quality Standards

The Southern Ute Indian Tribe has developed and adopted tribal Surface Water Quality Standards that establish water quality requirements (WQR) for waters within the exterior boundaries of the reservation. The Tribe is currently updating these WQR, and has promulgated draft water quality criteria for some pollutants, however, the Tribe's WQR have not been approved by the EPA. Some of these pollutants are present in the discharge for this facility and the EPA included these draft criteria in its analysis when determining reasonable potential and evaluating the need for any water quality based effluent limitations.

This facility discharges to Rock Creek that eventually flows to the Los Pinos River. Under the Tribe's water quality standards, Rock Creek (a tributary of the Los Pinos River) is classified for the following:

- Aquatic Life Cold Class 1,
- Recreation Class 2,
- Water Supply and
- Agriculture.

The Los Pinos River is classified for the following:

- Aquatic Life Cold Class 1,
- Recreation Class 1,
- Water Supply and
- Agriculture.

The water quality criteria established by the SUIT to protect these uses in this segment are included in Table 7.

Table 7 – SUIT Physical and Biological Numeric Criteria

Parameter	Beneficial Use Designation	Water Quality Standard	Units
Fecal Coliform(1)	Recreational Class 2, Secondary Contact	200	#/100 mL (geometric mean)
pH	Recreational Class 2, Secondary Contact	6.5 – 9.0	Std units

(1) Fecal Coliform is an indicator only. It may indicate the presence of pathogenic organisms; however, fecal coliforms counts from agriculture and urban runoff may not indicate organisms detrimental to human health. Where data are sufficient, compliance with the criterion shall be based on the geometric mean of at least five samples taken over a 30-day period. Where less than five samples are available, no single sample may be more than 200 colonies per 100 mL.

Ammonia:

Ammonia is present in the aqueous environment in both ionized and un-ionized forms. It is the un-ionized form which is toxic. The proportion of total ammonia present in un-ionized form in the receiving stream is a function of the combined upstream and effluent ammonia concentrations, as well as pH and temperature measurements in the receiving water. Ammonia is non-conservative (i.e., concentrations are affected by biological processes) and its toxicity is affected by environmental conditions (pH and temperature) in the receiving stream.

AMMTOX Model, version 2 was used to model the processes in 2010 that define the controlling conditions for ammonia toxicity, predict the biological removal of ammonia, and project the downstream effects of ammonia present in the discharge of the SUIT POTW. The NPDES permit limits established in 2010 appear to continue to be protective and the POTW has discharged effluent significantly below the 2010 NPDES permit limits, and therefore, these 30-day average and daily maximum permit limits will be carried forward in this permit renewal.

Table 8– Ammonia as N, mg/L Monthly limits		
Parameter	**30-day average, mg/L**	**Daily Maximum, mg/L**
January	2.8	4.0
February	2.6	4.0
March	2.3	4.0
April	2.0	4.0
May	1.7	4.0
June	1.6	4.0
July	1.4	4.0
August	1.4	4.0
September	1.5	4.0
October	1.9	4.0
November	2.3	4.0
December	2.5	4.0

Nutrients

The Water Quality Control Commission on June 11, 2012, adopted Regulation No. 85, Nutrients Management Control Regulation, with an effective date of September 30, 2012. Section 85.5 includes specific limitations for dischargers of total inorganic nitrogen and total phosphorus, which are to be implemented in permits no sooner than July 1, 2013. The effluent limitations are not to be included into permits for domestic wastewater treatment works (DWWTW) with a design capacity of less than or equal to 1.0 million gallons per day and not to be included in permits for any existing permitted DWWTW with a design capacity of less than or equal to 2.0 million gallons per day prior to May 31, 2022.

Since the SUIT POTW has an approved design capacity of 0.6 million gallons per day, the effluent limitations based on Regulation No. 85 will not be considered for this permit. However, monitoring requirements were established by Control Regulation No. 85 to evaluate the effectiveness of this control regulation and to determine the sources and load of nutrients at selected locations, and eventual implementation of appropriate and necessary source controls. Therefore, monitoring for total phosphorus and total nitrogen will be included in this permit reissuance.

In addition, Section 85.6(2)(b)(ii) of the Nutrient Management Control Regulation No. 85 includes requirements for receiving water monitoring to determine concentrations of nutrients in the receiving water downstream of the discharge. Regulation No. 85 requires receiving water monitoring to be performed at the closest active Colorado Division of Water Resources or United States Geological Survey (USGS) gaging station with daily flow available throughout the year downstream of the discharge's mixing zone. The nearest downstream USGS gaging station is the USGS 09354500 Los Pinto River at La Boca. The gaging station is located latitude 37°00'34", longitude 107°35'56" in La Plata County, Colorado, Hydrologic Unit 14080101. The receiving water monitoring for nutrients shall occur near this USGS gaging station.

Temperature

The Basic Standards and Methodologies for Surface Waters (Regulation No. 31, 5 CCR 1002-31), as updated in 2007, provides a framework for implementing water quality standards throughout the State of Colorado. This guidance is designed as a framework to provide a documented methodology for implementation and to ensure that the temperature standards are interpreted in a consistent manner in water quality assessments prepared to support issuance of discharge permits.

There is not a temperature dataset to determine whether the facility can meet the Tier 1 or Tier 2 cold water temperature limitations, or whether there is reasonable potential for the facility to cause or contribute to an exceedance of the water quality standard for temperature. Therefore, a monitoring requirement will be included in this permit reissuance. Upon the next permit renewal, the collected temperature data will be used to determine if there is reasonable potential or if the permittee can meet the limitation. Beginning no later than six (6) months after the effective date of the permit, monitoring of the temperature of the effluent with a recorder is required. The six-month time period is to allow time for the permittee to obtain and install the necessary equipment and establish the appropriate sampling protocol.

Section 5.3 – Applicable Narrative Standards

In addition to numeric water quality standards, the SUIT established the following narrative water quality and biological criteria that was evaluated to determine narrative permit limitations in the reissued permit.

5.3.1 Narrative Water Quality Criteria

Reservation surface waters except constructed wetlands shall be free from substances attributable to human caused point source or non-point source discharge in amounts, concentrations or combinations which:

- settle to form bottom deposits detrimental to existing beneficial uses; or
- form floating debris, scum or other surface materials sufficient to harm existing beneficial uses; or
- produce color, odor or other conditions in such a degree as to create a nuisance or harm existing beneficial uses or impart any undesirable taste to significant edible aquatic species or to the water; or

- are harmful to existing beneficial uses or toxic to humans, animals, plants or aquatic life; or
- produce a predominance of undesirable aquatic life or animals which are detrimental to existing beneficial uses; or
- cause a film on the surface or produce a deposit on shorelines which is detrimental to existing beneficial uses.

5.3.2 Narrative Biological Criteria

- Reservation waters shall be free from substances, attributable to human-induced point source discharge or non-point source activities, in concentrations or combinations which would impair the aquatic community.

Section 6.0 – Reasonable Potential

The NPDES regulations in 40 CFR 122.44(d)(1)(*i* - *iii*) require permit writers to assess effluent to evaluate impact of direct dischargers on downstream water quality. This assessment is used to determine permit limitations that are protective of water quality.

Effluent Flow: Based on the DMR data in Table 1, the average effluent flow for the past 5 years is 43% of the average daily design capacity. The hydraulic capacity of the SUIT POTW appears to be adequate for the wastewater received from the service area.

pH: The minimum pH value of 6.8 and maximum pH value of 7.9 are within the compliance limits of between 6.5 and 9.0 in any single analysis. The previous compliance limits will be maintained in the reissued permit.

Oil and Grease: Although there were no sampling events collected and analyzed, the visual observations indicated that there was not an observed visual sheen in the evaluated time period. The previous compliance limits will be maintained in the reissued permit.

Ammonia: Approximately 72% of the ammonia dataset consisted of non-detect data indicating that the SUIT POTW has discharged treated effluent significantly below the daily maximum and 30-day average NPDES permit limits established for the SUIT POTW in 2010. It does not appear that the SUIT POTW has exceeded the 30-day average and daily maximum NPDES permit limits established in 2010 using the Ammtox toxicity models.

***E. coli*:**

The previous permit had monitoring requirements only for *E. coli*. The effluent limitations on *E. coli* are given below and are based on EPA's 2012 recommendations for primary contact recreation ("Recreational Water Quality Criteria", Office of Water 820-F-12-058).

Effluent Characteristics	30-Day Average	Daily Maximum
E. coli, cfu/100 mL	126 (1)	410 (2)

(1) 30-Day Geometric Mean

(2) Not to be exceeded in any sample

The 30-day geometric mean limitation will be based on the geometric mean from the total number of samples collected during the 30-day period. The permittee may collect more samples than the monthly samples specified in the self-monitoring requirements. The maximum limitation in any sample will be 410/100 mL. The above effluent limitations apply at the end of the discharge pipe. A mixing zone will not be allowed for *E. coli* to protect the designated uses, particularly swimming and recreation.

Fecal coliforms are included in the Tribe's water quality requirements, however, fecal coliform is an indicator pollutant only. It may indicate the presence of pathogenic organisms; however, fecal coliforms counts from agriculture and urban runoff may not indicate organisms detrimental to human health. Therefore, a permit limit for Escherichia Coli was established in this permit.

Narrative Water Quality Standards: The narrative standards adopted by the SUIT (Section 5.3) were evaluated qualitatively to determine potential for these standards to be violated. The service area of the SUIT POTW is not highly industrialized and based on the evaluation of compliance history data and data submitted in the permit application (Section 1.2), it appears that the SUIT POTW does not have the potential to exceed the narrative water quality standards. However, the following narrative water quality standard will be included in the permit to ensure adequate and complete treatment at the POTW:

- The effluent shall be free from floating debris, oil, scum or other surface materials in quantities sufficient to harm existing beneficial uses of the receiving water.

Section 7.0 – Permit Limitations

The final effluent limitations included in the permit renewal for SUIT were based on a combination of Secondary Treatment Technology standards, found in 40 CFR Part 133 and water quality requirements adopted by the SUIT, and AMMTOX modeling software for ammonia monthly limits. The effluent limitations are included in Table 9.

Table 9 – Effluent Limitations

Parameter	30-Day Average mg/L	7-Day Average mg/L	Daily Maximum mg/L
Biochemical Oxygen Demand (BOD_5) a/	30	45	N/A
Total Suspended Solids (TSS) a/	30	45	N/A
E. coli, cfu/100mL	126 b/	---	410 c/
Total Dissolved Solids (TDS), mg/L	Report	N/A	Report
Oil and Grease	N/A	N/A	10
Ammonia as N, mg/L, Monthly limits			
January	2.8	N/A	4.0
February	2.6	N/A	4.0

March	2.3	N/A	4.0
April	2.0	N/A	4.0
May	1.7	N/A	4.0
June	1.6	N/A	4.0
July	1.4	N/A	4.0
August	1.4	N/A	4.0
September	1.5	N/A	4.0
October	1.9	N/A	4.0
November	2.3	N/A	4.0
December	2.5	N/A	4.0
Total Nitrogen (TN), mg/L	Report	N/A	Report
Total Phosphorus (TP), mg/L	Report	N/A	Report
Temperature, ºC	N/A	Report (MWAT) d/	Report (DM) e/
Receiving Water, Total Nitrogen (TN), mg/L f/	Report	N/A	Report
Receiving Water, Total Phosphorus (TP), mg/L f/	Report	N/A	Report
The pH of the discharge shall not be less than 6.5 or greater than 9.0 at any time.			
The effluent shall be free from floating debris, oil, scum or other surface materials in quantities sufficient to harm existing beneficial uses of the receiving water.			

a/ Percentage Removal Requirements - Total Suspended Solids and Biochemical Oxygen Demand The 30-day average percent removal shall not be less than 85 percent.

b/ 30-day geometric mean

c/ Not to be exceeded in any sample

d/ The Maximum Weekly Average Temperature (MWAT), is determined by a seven day rolling average, using at least 3 equally spaced temperature readings in a 24-hour day (at least every 8 hours for a total of at least 21 data points).

e/ The Daily Maximum Temperature (DM) means the highest two-hour average water temperature recorded during a given 24-hour period.

f/ The receiving water monitoring shall occur near the USGS gaging station located at the Los Pinos River at La Boca, latitude 37°00'34", longitude 107°35'56" in La Plata County, Colorado.

7.1 – Justification of Permit Limitations

- The permit limits for BOD, TSS and pH are technology based and are found in the secondary treatment requirements found at 40 CFR Part 133.
- Total Residual Chlorine is not included as a pollutant of concern because the SUIT POTW uses ultraviolet disinfection technology.
- Monitoring for nitrogen and phosphorus will be required with this Permit issuance to determine if there is reasonable potential to exceed State water quality standards and the need for permit limitations in the next permit cycle.

Section 8.0 – Self-Monitoring Requirements

Sampling and test procedures for pollutants listed in this part shall be in accordance with guidelines promulgated by the Administrator in 40 CFR part 136, as required in 40 CFR Part 133.104(a). The self-monitoring requirements are shown in Table 10.

Table 10– Monitoring Requirements

Parameter	Frequency	Sample Type
Flow, MGD	Daily	Continuous
Biochemical Oxygen Demand (BOD_5), mg/L a/	Weekly	Composite
Total Suspended Solid (TSS), mg/L a/	Weekly	Composite
E. Coli, No./100 mL	Monthly	Grab
Total Dissolved Solids (TDS), mg/L	Quarterly	Composite
Oil and Grease	Daily	Visual
Total Ammonia as N, mg/L	Monthly	Grab
Total Nitrogen (N), mg/L	Quarterly	Grab
Total Phosphorus (P), mg/L	Quarterly	Grab
Temperature, °C	Continuous	Continuous recorder
Receiving Water, Total Nitrogen (TN), mg/L b/	Quarterly	Grab
Receiving Water, Total Phosphorus (TP), mg/L b/	Quarterly	Grab
pH, std units	Weekly	Field measurement

a/ In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.

b/ The receiving water monitoring shall occur near the USGS gaging station located at the Los Pinos River at La Boca, latitude 37°00'34", longitude 107°35'56" in La Plata County, Colorado.

Changes to Monitoring Requirements:

1. The monitoring requirement for fecal coliforms were deleted.
2. Monitoring for total nitrogen and total phosphorus was added.
3. Receiving water monitoring for total nitrogen and total phosphorus was added.
4. Temperature monitoring was added.

Section 9.0 – Reporting

Reporting of Monitoring Results: With the effective date of this Permit, the Permittee must electronically report all data at the frequencies listed in table 10 with quarterly discharge monitoring report (DMR) submittal required, using NetDMR. Electronic submissions by permittees must be sent to EPA Region 8 no later than the 28th of the month following the completed reporting period. The Permittee must sign and certify all electronic submissions in accordance with the signatory requirements of the Permit. NetDMR is accessed from the internet at https://netdmr.zendesk.com/home.

In addition, the Permittee must submit a copy of the DMR to the Southern Ute Indian Tribe. Currently, the Permittee may submit a copy to the Southern Ute Indian Tribe by one of three ways: 1. a paper copy may be mailed. 2. The email address for Southern Ute Indian Tribe may be added to the electronic submittal through NetDMR, or 3. The Permittee may provide Southern Ute Indian Tribe viewing rights through NetDMR.

The DMRs are due quarterly and are due by the dates listed below and shall not be submitted until the reporting period is complete.

Compliance Monitoring Period	Due Date
January through March	April 28
April through June	July 28
July through September	October 28
October through December	January 28

Section 10.0 – Miscellaneous

10.1 – Southern Ute Indian Tribe Land Jurisdiction

This permit actions performed by EPA Region 8 will require a concurrence from the Office of Region Council and Tribal Assistance Program to ensure the permit is appropriate and the Tribal sovereignty is protected. Based on a search of Google Earth, the latitude and longitude for the SUIT POTW discharge is 37°6'16.42"N by 107°37'51.31"W. The latitude and longitude of the discharge point from the SUIT POTW has been mapped and is included in the permit records.

10.2 – SUIT POTW Impacts to the Endangered Species Act

Section 7(a) of the Endangered Species Act requires federal agencies to insure that any actions authorized, funded, or carried out by an Agency are not likely to jeopardize the continued existence of any federally-listed endangered or threatened species or adversely modify or destroy critical habitat of such species.

The U. S. Fish and Wildlife (FWS) Information for Planning and Conservation (IPac) website program was utilized to determine Federally-Listed Endangered, Threatened, Proposed and Candidate Species. The IPCA assigned the following consultation code: 06E24100-2017-SLI-0122 and event code: 06E24100-2017-E-00213 for this project. The federally listed threatened and endangered species found in La Plata County, Colorado include:

Table 11 – Federally-Listed Endangered, Threatened, Proposed and Candidate Species for La Plata County, CO

Species	Scientific Name	Status
Mexican Spotted Owl	*Strix occidentails lucida*	Threatened
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	Endangered
Yellow-billed Cuckoo	*Coccyzus americanus*	Threatened
Colorado Pikeminnow	*Ptychocheilus Lucius*	Endangered
Razorback Sucker	*Xyrauchen texanus*	Endangered
Knowlton's Cactus	*Pediocactus knowltoinii*	Endangered
New Mexico Meadow Jumping Mouse	*Zapus hudsonius luteus*	Endangered
North American Wolverine	*Gulo gulo luscus*	Proposed Threatened

The EPA is utilizing the information provided by the U.S. FWS IPaC system and the public notice period of the Permit to inform of this permit action. The U.S. FWS has the federal responsibility to oversee the Southern Ute POTW and to meet regulations pertaining to U.S. FWS threatened and endangered species.

The SUIT POTW discharges into Rock Creek. Rock Creek is a tributary of the Los Pinos River, located within the Upper Colorado River Basin. The Tribe developed their water quality requirements to be protective of the Cold Water Aquatic Life, Recreation, Water Supply, and Agriculture uses for this receiving water. Limits established in this permit are established to be protective of Tribe's water quality requirements and aquatic life because the

limits are based on a reasonable potential to exceed these water quality requirements. As a result, the EPA determines this Permit is "Not Likely to Adversely Affect" any of the species listed by the US Fish and Wildlife Service under the Endangered Species Act.

A request to the U.S. Fish and Wildlife Service for concurrence that reissuance of this permit is "not likely to adversely affect" any of the species or critical habitats was sent on January 20, 2017. Copies of the pre-public notice permit and statement of basis was attached to the request.

10.3 – SUIT POTW Impacts to the Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470(f) requires that federal agencies consider the effects of federal undertakings on historic properties. EPA has evaluated its planned reissuance of the NPDES permit for the SUIT POTW to assess this action's potential effects on any listed or eligible historic properties or cultural resources. In a review of properties on the National Register of Historic Places, there are no listed properties in the project vicinity.

EPA does not anticipate any impacts on listed/eligible historic or cultural properties because this permit is a renewal and will not be associated with any new ground disturbance or changes to the volume or point of discharge. During the public comment period, EPA will notify the Tribal Historic Preservation Offices (THPOs) of the Southern Ute Tribes of the planned issuance of this NPDES permit and request their input on potential effects on historic properties and EPA's preliminary determination of no effect.

Permit Drafted by Al Garcia, Environmental Scientist, NPDES Wastewater Unit, EPA Region 8, January 26, 2017

Permit Reviewed by, NPDES Wastewater Unit, EPA Region 8