

**STATEMENT OF BASIS FOR THE CROSSFIRE-BONDS GRAVEL PIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEMS (NPDES)
PERMIT CO-0035024**

May 2015

Purpose of this Statement of Basis

This statement of basis (SoB) is for the first issuance of a NPDES permit to Crossfire Aggregate Services, LLC for the Crossfire-Bonds Gravel Pit. The permit establishes discharge limitations for any discharge of water from the gravel pit. The SoB explains the nature of the discharges, and the EPA's decisions for limiting the pollutants in the wastewater, as well as the regulatory and technical basis for these decisions.

EPA Region 8 is the permitting authority for facilities located in Indian country located within Region 8 states and supports implementation of federal environmental laws consistent with the federal trust responsibility, the government-to-government relationship, and EPA's 1984 Indian Policy.

Summary

On January 13, 2015, the EPA received a complete application from Crossfire Aggregate Services, LLC requesting a NPDES permit for the Crossfire-Bonds Gravel Pit. The Crossfire Bonds Gravel Pit, will be located on the Southern Ute Indian Reservation in the southwest ¼ of Section 36, Township 33 North, and north ½ of Section 1, Township 32 North, Range 10 West, La Plata County, Colorado. The facility will be a new aggregate mining and concrete production operation consisting of a portable and seasonal rock crushing plant (onsite approximately three (3) months of every year, generally summer months) and a fixed concrete batch production plant. The pit will be mined in 10 phases with the estimated lifespan of the pit being 35 years. Initial production at the pit is expected to ramp up over three years to 250,000 tons per year with possible maximum output of 300,000 tons annually. The deposits will be dry mined with diversion berms constructed around the perimeter of each mining phase prior to commencing mining operations. Discharges to the ephemeral Deer Canyon are anticipated to occur in conjunction with spring runoff and high precipitation events to ensure minimal impact to the receiving stream.

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES) of permits, which is administered by the Environmental Protection Agency (EPA).

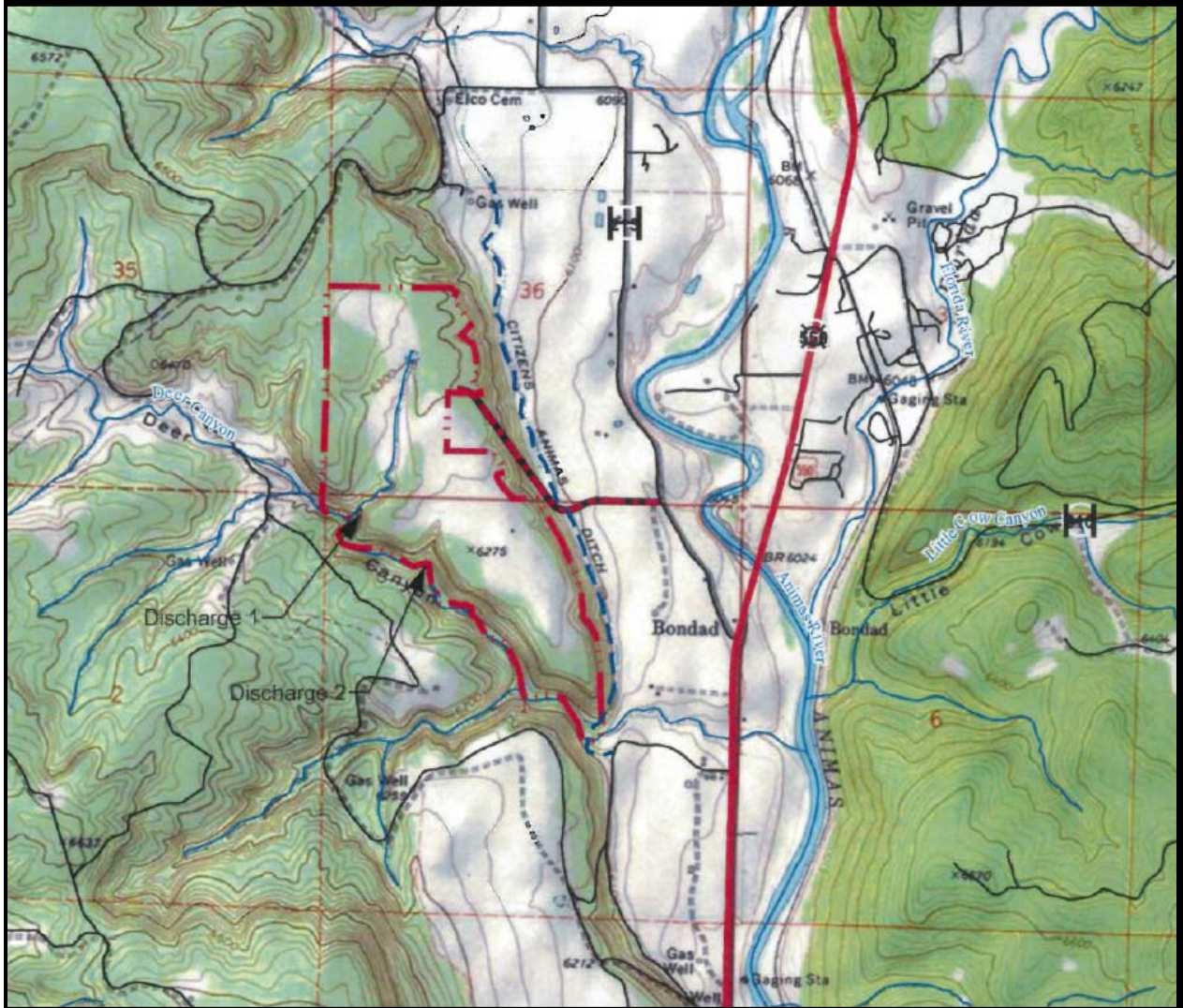
The discharge of impounded water and dewatering of process generated wastewater from gravel pits to waters of the U.S. requires a NPDES permit. No pollutants may be discharged from a point source into waters of the U.S. except as authorized under a NPDES wastewater discharge permit. The Code of Federal Regulations, Title 40, Part 436, Subpart C – Construction Sand and Gravel Subcategory apply to the mining of sand and gravel for construction or fill uses.

BACKGROUND INFORMATION

Facility Information	
Applicant	Crossfire Aggregate Services, LLC
Facility Name and Address	Crossfire Aggregate Services, LLC 820 Airport Road Durango, Colorado 81303
Contact at Facility	Deb Koenig, Regulatory Manager 970-884-4869 (office) info@crossfire-llc.com
Responsible Official	Deb Koenig, Regulatory Manager
Type of Permit	Minor Industrial Sand & Gravel/Concrete, Indian Country, New Permit
Type of Treatment	Entrapment pond/settling pond for gravel pit operations, infiltration/evaporation
Facility location	Section 36 of Township 33 N, Range 10 & Section 1 of Township 32 N Range 10W N.M.P.M., La Plata County, Colorado
Outfall Locations	Lat/Long 37° 3' 5.72" N, 107° 53' 36.4" W Lat/Long 37° 3' 2.37" N, 107° 53' 23.45" W
Discharge Waterbody Name and Location	Deer Canyon, a tributary to the Animas River

Facility Description

Aerial Image – Crossfire-Bonds Gravel Pit



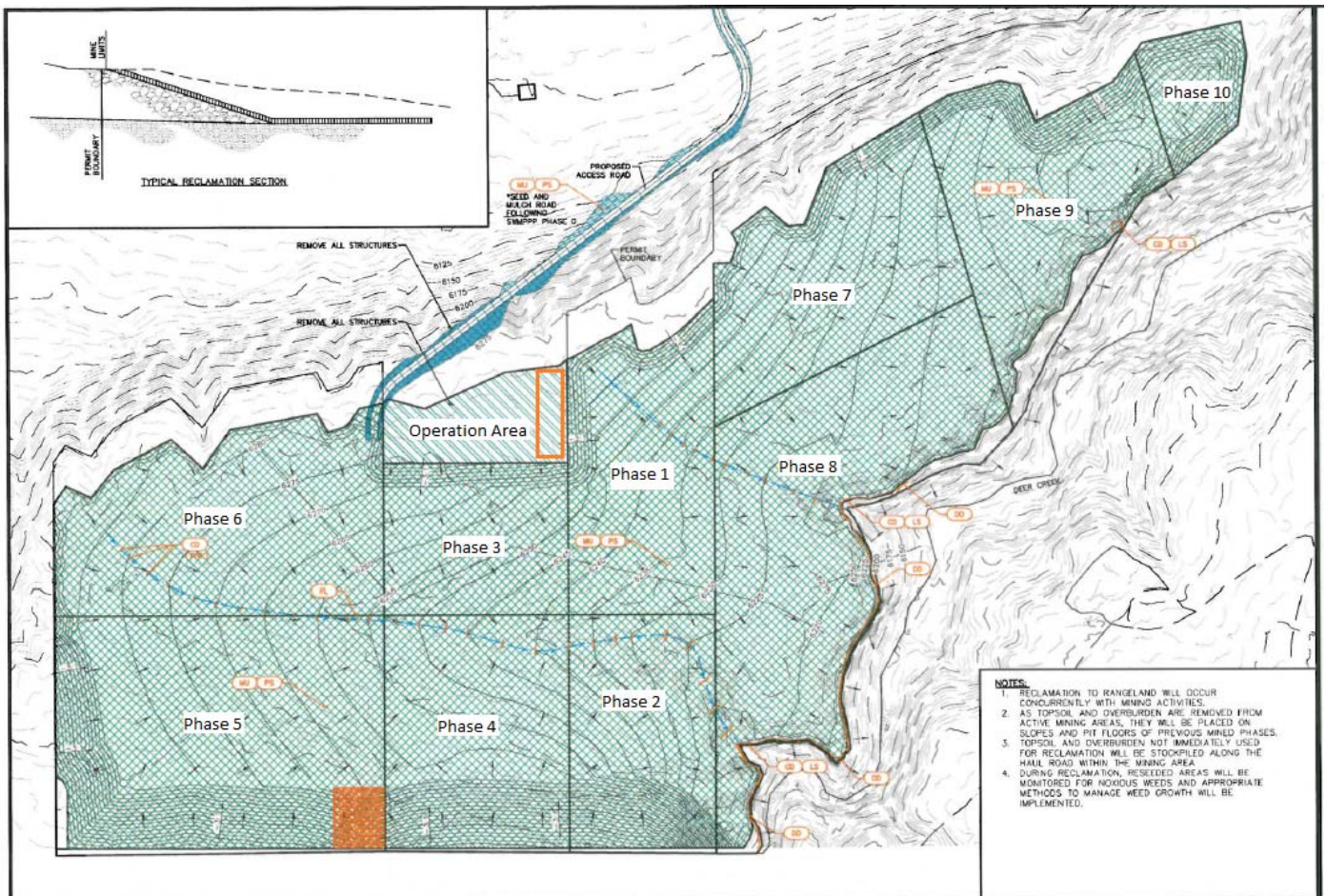
Crossfire Aggregate Services, LLC is located in Ignacio, Colorado. The company was founded in 2001 and provides services in the following areas: oil/gas construction and commercial construction; well servicing, staffing services, hauling services, reclamation services, commercial construction and professional services.

The proposed Crossfire Bonds Gravel Pit will be located on approximately 220 acres of rangeland located about 1 mile northwest of the intersection of US Hwy 550 and La Plata County Road 213 near Bondad, Colorado. The facility will be located at an elevation of approximately 6,300 feet above mean sea level on a bluff above the Animas River valley, with no substantially higher hills in its immediate vicinity. It is located in a rural area used primarily for livestock grazing and other agricultural and industrial uses.

Crossfire-Bonds Gravel Pit will be utilized to supply the aggregate and aggregate processing for the company. Crossfire Aggregate Services anticipates mining and reclaiming the Crossfire-Bonds Gravel Pit in 10 phases. Mining phases range from 4-28 acres per phase and mining activity is expected to last approximately 2 years per phase. The estimated lifespan of the pit will be 35 years. Initial production is expected to ramp up over 3 years to 250,000 tons per year with a possible maximum output of 300,000 tons annually depending on demand.

An aggregate processing plant will be located within the mining areas and will contain stockpiles and portable equipment necessary to support the plant operations. Sand and gravel will be the primary products being mined for use in construction aggregate sales and concrete production. The deposit will be dry mined with diversion berms constructed around the perimeter of each mining phase prior to commencing mining operations. Entrapped water from the bermed areas will be routed to constructed drainage ditches eventually discharging to the ephemeral Deer Canyon from Outfalls 001 & 002. Groundwater is not expected to be intercepted in any mining phase.

Overburden will be stockpiled along the southern boundary of mining until a phase is depleted of its gravel resource after which the overburden will be placed back into its respective removal areas and reclamation grading started. Per landowner's request, the reclaimed areas would be seeded with native vegetation with the end use being rangeland for future calving operations.



Treatment Process

The facility will utilize settling for process generated wastewater and stormwater captured during sand and gravel mining, crushing, and washing operations. The facility will utilize diversion dikes and constructed flow lines to contain process generated wastewater¹ and stormwater from the process activities. At full capacity, the operations and processing area activities will consist of a shop area, concrete batch-plant, asphalt hot-plant, scale house, and office. The pit floors will contain the mobile rock crusher and wash plant. Temporary on-site portable toilets will be utilized while a septic system is installed for long-term site use. No septage wastewater release is authorized by this permit to Deer Canyon.

Existing surface drainage in the proposed gravel extraction area is generally to the south and southwest. The project site occupies a mesa top with limited surface flow entering the site. Because of the well-drained soils, infiltration of most precipitation will occur. The natural drainage-ways in the proposed excavation area are swales at the northwest end of the gravel extraction area that eventually outfall to Deer Canyon to the south.

The proposed drainage plan during mining operations is to utilize diversion berms, constructed from overburden material, to divert surface water runoff from the north around the mining phase and return it to its natural pattern. As new mining phases are opened, additional berms will be constructed to continue this strategy. The only water envisioned entering the pit during mining operation will be rainfall occurring within the pit itself. This volume is projected to be minimal and not to be obstructing of mining operations and will be left to infiltrate.

Two discharge outfalls are proposed for the facility. Outfalls 001 and 002 are located immediately to the southwest of the project area. Process generated wastewater and stormwater will flow, via the constructed flow lines, to the diversion dike, where they will be held at a rock check dam. Process generated wastewater is expected to infiltrate and evaporate, with outfalls utilized seasonally for mine dewatering² to Deer Canyon during precipitation and high flow periods.

Where evaporation or infiltration are insufficient, mine dewatering discharges from the facility are expected to occur periodically. Discharges from the facility will be required to meet permit limitations established to ensure water quality standards of the receiving stream are protected. The facility is located within the external boundaries of the Southern Ute Indian Reservation and any tribally adopted water quality standards will be assessed to ensure compliance with standards.

¹ The term “process generated waste water” shall mean any waste water used in the slurry transport of mined material, air emissions control, or processing exclusive of mining. The term shall also include any other water which becomes commingled with such waste water in a pit, pond, lagoon, mine, or other facility used for treatment of such waste water.

² The term “mine dewatering” shall mean any water that is impounded or that collects in the mine and is pumped, drained or otherwise removed from the mine through the efforts of the mine operator. However, if a mine is also used for treatment of process generated waste water, discharges of commingled water from the facilities shall be deemed discharges of process generated waste water.

Chemicals Used

No chemicals will be used in the gravel and sand extraction process. The manufacture of concrete utilizes; the cement (usually Portland cement), aggregates (such as sand or gravel), admixtures (chemical additives), any necessary fibers, and water, which are mixed together to form concrete. Those chemicals required for concrete production include: plasticizers, retarders, accelerators, corrosion inhibitors, dyes, and Portland cement.

ASTM International defines Portland cement as “hydraulic cement (cement that forms a water-resistant product) produced by pulverizing clinkers consisting essentially of hydraulic calcium silicates, usually containing one or more of the forms of calcium sulfate as an inter-ground addition.”

Description of Receiving Water

The discharge from the holding ponds will be to Deer Canyon, an ephemeral tributary to the Animas River. The distance to the Animas River from the gravel pit is approximately 3/8th of a mile.

Wastewater Effluent Characterization

Estimate of Effluent Characteristics submitted on Form 2E		
Parameter	Maximum Daily Value	Long Term Average Value
Biochemical Oxygen Demand (BOD ₅), mg/L	<u>a/</u>	<u>a/</u>
Total Suspended Solids (TSS), mg/L	50	40
Fecal Coliform	<u>a/</u>	<u>a/</u>
Total Residual Chlorine (TRC), mg/L	<u>a/</u>	<u>a/</u>
Oil and Grease (O&G)	<u>b/</u>	<u>b/</u>
Chemical Oxygen Demand (COD)	<u>a/</u>	<u>a/</u>
Total Organic Carbon (TOC)	<u>a/</u>	<u>a/</u>
Ammonia (as N), mg/L	<u>a/</u>	<u>a/</u>
Discharge Flow, MGD	83.8 cfs	9.3 cfs
pH, Standard Units	6-9	6-9
Temperature, °C (winter)	5.0	3.0
Temperature, °C (summer)	23.8	20.2

a/ Applicant requested waiver for Biochemical Oxygen Demand, Fecal Coliform, Total Residual Chlorine, Chemical Oxygen Demand (COD), Total Organic Carbon (TOC) and Ammonia.

b/ Applicant requested the requirement to collect for disposal after sheen is discovered.

PREVIOUS PERMIT LIMITATIONS

This is the first NPDES permit issuance for the Crossfire Bonds Gravel Pit. Sand and Gravel Effluent Limitations Guidelines (ELG's) are applicable to this facility, 40 CFR Part 436 - Mineral Mining and Processing Point Source Category, subpart – Construction Sand and Gravel. The ELGs for the industry are limited to pH. Additional parameters and limitations were reviewed and are included based upon Best Professional Judgement (BPJ).

PROPOSED PERMIT LIMITS

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. Some of these pollutants are present in the discharge for this facility and 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 the Animas River Segment 3 which is designated in the Tribe's WQR as a WWAL1. This classification includes the following uses: High Quality Warm Water Aquatic Life 1, REC1-Recreation, primary contact, PWS-Potable Water Supply suitable for human consumption AG-Agriculture, irrigation and/or livestock watering. Water quality criteria to protect these uses in this segment include:

D.O.	>5.0
pH	6.6-9.0
<i>Escherichia coli</i>	126 cfu/100 ml

EPA has determined that the discharge has reasonable potential to causes exceedances of D.O. and pH and has included limitations for these pollutants. In addition, EPA is including limitations for Total Suspended Solids (TSS) to protect the Tribe's narrative criterion and prevent adverse effects to aquatic life. The TSS limitations will be 30 mg/L for the 30-day average, and 45 mg/L for the 7-day average. These TSS limitations are based on waste stabilization ponds treatment efficacy.

Effluent Limitations - Outfalls 001 & 002.

Based upon the operation information provided by the applicant and information on the processes associated with commercial gravel pit, gravel washing, and concrete manufacture, the pollutants in the discharge from the Crossfire Bonds Gravel Pit that are likely to be of potential water quality concern are TSS, and pH. The effluent limitations for the Crossfire-Bonds Gravel Pit outfalls are listed in the following table.

Effluent Limitations - Outfall 001 & 002				
Effluent Characteristic	Effluent Limitation			
	30-Day Average	7-Day Average	Daily Maximum	Basis
Total Suspended Solids (TSS), mg/l	30	45	N/A	BPJ <u>a/</u>
Dissolved Oxygen (DO), mg/L	N/A	N/A	>5.0	WQS <u>a/</u>
Oil and Grease (O&G), mg/L	N/A	N/A	10	BPJ <u>a/</u>
The pH of the effluent shall not be less than 6.5 or greater than 9.0 at any time.				
The Southern Ute Indian Tribe shall be notified prior to any discharge event from any outfall.				
There shall be no discharge of water which contacts solid or liquid wastes which are not required for the mining and processing of sand and gravel.				
Stormwater BMP's shall be implemented to minimize the discharge of water from the redi-mix concrete plant or asphalt batch plant.				
There shall be no discharge of sanitary wastewaters from toilets or related septage facilities.				
No chemicals shall be added to the discharge unless prior written permission for the use of a specific chemical is granted by permit issuing authority. In granting such use, additional limitations and/or monitoring requirements may be imposed.				
There shall be no discharge of floating debris, scum or other surface materials in quantities sufficient to harm existing beneficial uses of the receiving water.				
Bulk storage structures for petroleum products and other chemicals shall have adequate protection so as to prevent any reasonable loss of the material from entering discharged waters or waters of the United States. Depending on the amount of oil stored, the permittee may need to prepare a Spill Prevention Control and Countermeasures Plan as required by 40 CFR Part 112.				

a/ BPJ means best professional judgment, PP means previous permit, and WQS means water quality standards.

MONITORING REQUIREMENTS

Self-Monitoring Requirements - Outfalls 001 & 002

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 unless another method is required under 40 CFR subchapters N or O.

The discharge from Outfall 001 and 002 are expected to be less than one week in length, therefore, monitoring shall be conducted when a discharge is occurring at the frequencies listed below.

Effluent Characteristic	Frequency	Sample Type <u>a/</u>
Total, mgd <u>b/</u>	<u>b/</u>	<u>b/</u>
Total Suspended Solids, mg/L	Weekly	Grab
Dissolved Oxygen	Weekly	Instantaneous
pH, units	Weekly	Instantaneous
Oil and Grease mg/L <u>d/</u>	Daily	Visual <u>c/</u>

a/ See Definitions, Part 1.1., for definition of terms in the permit.

- b/ The approximate volume of wastewater discharged to Deer Canyon shall be reported. Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained. The average flow rate (in million gallons per day) during the reporting period and the maximum flow rate observed (in mgd) shall be reported.
- c/ A daily visual observation is required. If a visible sheen is detected, a grab sample shall be taken and analyzed immediately. The concentration of oil and grease shall not exceed 10 mg/L in any sample.

REPORTING REQUIREMENTS

The facility will be required to report quarterly on a discharge monitoring report (DMR) for discharges from Outfall 001 & 002. If no discharge occurs during the reporting period, the permittee shall note “No Discharge” and submit the DMR to EPA as required.

STORMWATER REQUIREMENTS

The facility is required to develop and implement a stormwater pollution prevention plan as a permit condition. The plan shall be maintained, current, and kept on site at the facility. Requirements for monitoring, recordkeeping, and reporting of stormwater related discharge events have been included in the permit.

INSPECTION REQUIREMENTS

The permit requires the permittee to do weekly inspections of the gravel pit shallow infiltration area near the batch plant operation area, as well as berm inspections. The inspection requirements include checking for leaks in the dikes, dike erosion, indications of animal activity detrimental to the integrity of the dikes and berms.

ENDANGERED SPECIES CONSIDERATIONS

The U. S. Fish and Wildlife Information for Planning and Conservation (IPac) website program was utilized to determine federally-Listed Endangered, Threatened, Proposed and Candidate Species for La Plata County, CO. The IPaC Trust Resource Report findings are provided below.

Species	Scientific Name	Status
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	T
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	T
Colorado Pikeminnow	<i>Ptychocheilus lucius</i>	E
Razorback Sucker	<i>Xyrauchen texanus</i>	E
Knowlton’s Cactus	<i>Pediocactus knowltoni</i>	E
New Mexico Meadow Jumping Mouse	<i>Zapus hudsonius luteus</i>	E

Symbols/Acronyms:

T = Threatened

E = Endangered

P = Proposed

C = Candidate

NLAA = Not Likely to Adversely Affect

LAA = Likely to Adversely Affect

Natural Resource Field Survey

Crossfire submitted a report to EPA titled, “Wildlife Information” describing the results of a field survey of the project area that was undertaken in 2014. According to the report, six (6) of the listed species have been eliminated from detailed evaluation as the project area either does not provide habitat for these species, or it is outside of their known range, or no individuals of the species are known to occur, or have been identified within the region. These species are; Colorado pikeminnow (*Ptychocheilus lucius*), razorback sucker (*Xyrauchen texanus*), Mexican spotted owl (*Strix occidentalis lucida*), southwestern willow flycatcher (*Empidonax traillii extimus*), yellow-billed Cuckoo (*Coccyzus americanus*) and New Mexico meadow jumping mouse (*Zapus hudsonius luteus*). A field review of the proposed project area found no potentially suitable habitat for these six (6) species.

According to the FWS official species list, critical habitats for the Southwestern Willow flycatcher and New Mexico meadow jumping mouse may lie fully or partially within the project area.

Within the project area there is a small area (approximately 0.5 acres) of black sagebrush (*Artemisia nova*) on an eastern facing slope. This black sagebrush area has the remote potential for Knowlton’s cactus (*Pediocactus knowltonii*). However, the soil type of the project area is not the same as the soils of known Knowlton’s cactus site. The black sagebrush portion of the project area will be surveyed during the appropriate inspection time in the spring of 2015.

Additionally, effluent limitations on any discharges in the pH range of 6.5-9.0 and limitations on TSS should not create a condition of acute toxicity restricting the migration of sensitive trout species. The Colorado pikeminnow and the Razorback sucker are listed as endangered due to water depletions of the Upper Colorado River and San Juan River Basins. This permit does not contribute to water depletions of these basins.

Conclusion

The EPA has concluded that the proposed NPDES permit actions will have “No effect” on listed species or critical habitat. The natural resource field survey indicated that Federally-listed endangered or threatened species are not found in the proposed project area. Because the EPA has determined that the federal action will have no effect, the agency made a “No effect” determination, and did not initiate consultation with the FWS and its obligations under Section 7 are complete.

NATIONAL HISTORIC PRESERVATION ACT REQUIREMENTS

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. The Southern Ute Tribe currently does not have a Tribal Historic Preservation Office (THPO). Therefore information provided by the National and State Register of Historic Places was researched. The data provided indicated no known Historic Places located in La Plata County at the Crossfire-Bonds Gravel Pit project area. Furthermore, the EPA has evaluated the issuance of the NPDES discharge from the Crossfire-Bonds Gravel Pit, and based upon the information provided, the EPA does not anticipate any impacts on listed/eligible historic properties or cultural resources due to this permit issuance and discharge related activities.

MISCELLANEOUS

The effective date of the permit and the permit expiration date will be determined upon issuance of the permit. The intention is to issue the permit for a period not to exceed 5 years.

PUBLIC NOTICE AND RESPONSE TO COMMENTS

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Permit drafted by VelRey Lozano, Environmental Scientist, 8P-W-WW, May 19, 2015.

Permit reviewed by Amy Clark, Environmental Scientist, 8P-W-WW, May 27 and June 1 2015.