# United States Department of the Interior Bureau of Land Management

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Sullivan Water Pipeline Right-of-Way and Cattle Trailing Permit

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U.S. Department of the Interior Bureau of Land Management Gila District Tucson Field Office 3201 East Universal Way Tucson, AZ 85756 Phone: (520) 258-7200 FAX: (520) 258-7238



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# **List of Acronyms**

**RFAA** 

**ROW** 

ADEQ Arizona Department of Environmental Quality

BMPs Best Management Practices

CAA Clean Air Act

CIAA Cumulative Impact Analysis Area
CCA Candidate Conservation Agreements
CEQ Council of Environmental Quality

CWA Clean Water Act

EA Environmental Assessment
EPA Environmental Protection Agency
ESA Endangered Species Act

FLPMA Federal Land Policy Management Act LCNCA Las Cienegas National Conservation Area

MBTA Migratory Bird Treaty Act
NCA National Conservation Area
NEPA National Environmental Policy Act
NHPA National Historic Preservation Act
NRCS Natural Resource Conservation Service
NRHP National Register of Historic Places

NAGPRA Native American Graves Protection and Repatriation Act

Reasonably Foreseeable Future Activities

Right-of-Way

TES Threatened & Endangered Species

TFO Tucson Field Office U.S. United States

USFWS United States Fish and Wildlife Service

## 1 INTRODUCTION

# 1.1 Background

The Bureau of Land Management (BLM), Gila District, Tucson Field Office, received an application from Mr. John Sullivan to place a 1-inch diameter water pipeline along a portion of a boundary fence in the Las Cienegas National Conservation Area (LCNCA), in Pima County, Arizona. The applicant has requested a 30-year right-of-way (ROW) grant for 1,600 feet long by 10 feet wide, crossing BLM land, totaling approximately 0.37 acres. The water pipeline would be connected to a well owned by the applicant on private property. This water pipeline and related facilities would deliver water to two water troughs located on adjacent State Trust lands, where the applicant has a grazing lease with the State of Arizona. The water pipeline would provide a dependable long-term freshwater source to his livestock and to wildlife in the area. The pipeline would be in operation mainly from February thru October but sometimes year-round, and transport approximately 1 acre-feet of water per year to the water troughs. The total length of the water pipeline is 10,000 feet, with 1,600 feet being on BLM land, the remaining length of the water pipeline lies on Arizona State Land Department (ASLD) land and private land. Construction of the 1,600-foot long, 1" diameter High Density Polyethylene (HDPE) pipe, buried 8 to 16 inches deep consists of excavation of the pipeline trench, 6 inches to 1-foot wide, with a small backhoe, backfilling, grading, compacting the pipe trench, and connecting to the well on private land. Construction is expected to take less than 2 months for the entire pipeline, with less than a month for work on BLM land. A ROW grant would allow the applicant to construct, operate, maintain, and terminate the below ground water pipeline on BLM land.

In addition to the waterline, the BLM is proposing to issue a livestock-crossing permit (cattle-trailing permit) to the applicant, so that the applicant may herd his cattle across BLM land, to the state land, where he holds a grazing lease. The applicant has 20 to 30 head of cattle he wishes to trail across BLM land. The proposed cattle trailing path is approximately 2,500 feet long and would be roughly 100 feet wide. Livestock operators must obtain a crossing permit from the appropriate BLM jurisdiction prior to trailing livestock on BLM-administered lands for which they do not hold a valid grazing lease.

The project area is located in Pima County, Arizona (Figure 1-1). The legal description of the project area is as follows:

Gila and Salt River Meridian, Arizona (Pima County)
T. 19 S., R. 18 E.,
sec. 31, SE1/4SE1/4.

# 1.2 Purpose and Need for Action

The Tucson Field Office BLM needs to respond to a ROW application to authorize a water pipeline and associated facilities on public land. The need for the action is established by the BLM's responsibility under Title V of the Federal Land Policy and Management Act (FLPMA) of 1976, as amended, to respond to requests for ROW grants for pipes, pipelines, and other facilities and systems for the impoundment, storage, transportation, or distribution of water.

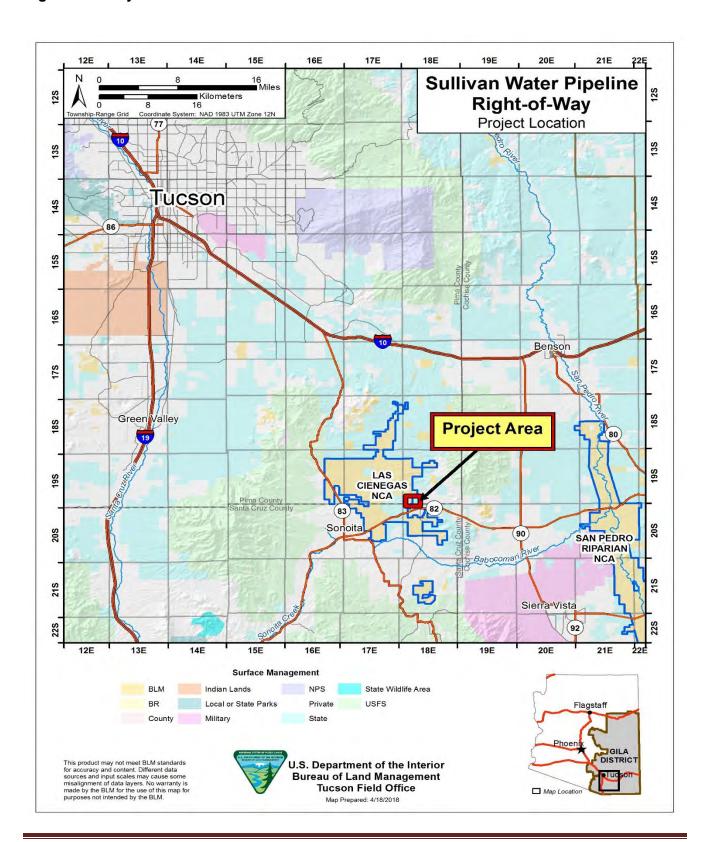
In addition, the purpose of the action is also to respond to an application for a cattle-trailing permit by identifying areas, and terms and conditions for authorizing trailing of livestock across BLM-administered lands, to and from state land. BLM is required, under FLPMA and the Taylor Grazing Act, to respond to requests for livestock trailing/crossing across BLM-administered lands. In many instances, livestock producers must move their livestock across BLM-administered lands to facilitate proper grazing management of BLM grazing allotments; as well as to facilitate movements of livestock to and from private, state, or other federally administered lands. Issuance of crossing permits authorizing trailing of livestock across BLM-administered lands would be in accordance with 43 CFR 4130.6-3 and 4160, and is consistent with the provisions of the Taylor Grazing Act and FLPMA.

# 1.3 Decisions to be Made

Based on the analysis contained in this EA, the BLM would decide whether to deny or approve the ROW grant and the livestock crossing permit, and if so, under what terms and conditions. The Tucson Field Manager is the responsible officer who would decide one of the following:

- To approve the project as submitted;
- To approve the project with additional mitigation added; or
- To deny the project.

Figure 1-1. Project Location



# 1.4 Conformance with Applicable Land Use Plan(s)

The Proposed Actions and alternatives are in conformance with the 2003 Las Cienegas Resource Management Plan (RMP) and Record of Decision. The RMP states: "BLM will continue to consider other new land use authorizations including non-major linear utilities on a case-by-case basis with stipulations attached to any permits or leases to ensure consistency with the plan's goals and objectives (LR05)" pg. 21.

In addition, the RMP authorizes livestock grazing within the grazing allotments of the Las Cienegas National Conservation Area (LCNCA). It is reasonable to assume that livestock trailing is an action connected to livestock grazing management and, therefore, trailing is in conformance with the RMP. The RMP states: "Construct the range improvement projects summarized in Tables 9 and 10, and shown on Map 16. Additional range improvements might be proposed and constructed in the future based on results of ecological monitoring and/or livestock management needs. (GM20)," pg. 57. This action would not result in a change in the scope of resource use or a change in the terms, conditions, and decision of the approved RMP.

# 1.5 Relationship to Statutes, Regulations, or Other Plans

## 1.5.1 Public Law

Congress designated the LCNCA as a national conservation area in 2000. The area was designated under **Public Law 106-538** in order to "...conserve, protect, and enhance the unique and nationally important aquatic, wildlife, vegetative, archaeological, paleontological, scientific, cave, cultural, historical, recreational, educational, scenic, rangeland and riparian resources and values of the public lands within the National Conservation Area (NCA), while allowing livestock grazing and recreation to continue in appropriate areas."

## 1.5.2 Biological Resources

The Endangered Species Act (ESA) of 1973 requires federal agencies that authorize, fund, or carry out actions to avoid jeopardizing the continued existence of endangered or threatened species, and to avoid destroying or adversely modifying their critical habitat (16 USC 1531 et seq.; PL 93-205). Federal agencies must evaluate the effects of their actions on endangered or threatened species of fish, wildlife, and plants, and their critical habitats, and take steps to conserve and protect these species. All potentially adverse impacts to endangered and threatened species must be avoided or mitigated. Non-listed species protected under Candidate Conservation Agreements (CCAs) between the U.S. Fish and Wildlife Service (USFWS) and the BLM are addressed in this analysis.

**The Migratory Bird Treaty Act of 1918** (MBTA), as amended [16 USC 703 et. seq.], provides for the protection of migratory birds and prohibits their unlawful take or possession. In addition, EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, was signed by President Clinton in 2001. This EO directs federal agencies to include impacts to migratory birds in their NEPA analyses.

# 1.5.3 Taylor Grazing Act

BLM manages allotment resources and issues grazing leases, trailing permits and livestock related leases in accordance with applicable land use plans, the Taylor Grazing Act, FLPMA, and the other authorities listed below, and 43 CFR Part 4100. On February 22, 1997, the Arizona Standards for Rangeland Health and Guidelines for Livestock Grazing Management were approved by the Secretary of the Interior. Subsequent livestock management practices must also conform to approved standards and guidelines.

Project Location - Water Pipeline and Cattle Trailing corridor Empire Mountains Whetstone Mountains LAS CIENEGAS NCA Proposed Project Area RAIN VALLEY Project Site Santa Rita Mustang Mountains Mountains SONOITA ELGIN FTHUACHUCA 1:210,000 Miles Sources: Esri, HERE, DeLorme Survey, Esri Japan, METI, Esri United States Department of the Interio Bureau of Land Management Tucson Field Office

Figure 1-2. Map of Proposed Project Area

# 1.6 Scoping and Issues

# 1.6.1 Scoping

The NEPA regulations (40 CFR 1500-1508) require that the BLM use a scoping process to identify potential significant issues for analysis in the EA. The principal goals of scoping are to identify issues, concerns, and potential impacts that require detailed analysis.

An internal scoping meeting was held by the BLM TFO staff on December 14, 2017 and discussion of the project and possible issues were identified. Section 1.6.2 summarizes the issues that were identified and the rationale for the determination.

# 1.6.2 Issues for Detailed Analysis

The following issues were identified during internal scoping as potential issues of concern for the Proposed Action. These issues will be addressed in this EA.

#### **Soil and Water**

**Issue 1**: How would installation of an underground water pipeline, providing a new water source, and issuance of the cattle-trailing permit affect soil compaction and erosion in the project area?

### **Vegetation**

**Issue 2**: How would installation of an underground water pipeline, providing a new water source, and issuance of the cattle-trailing permit affect the semi-desert grassland vegetation community in the project area?

#### Wildlife

**Issue 3:** How would installation of an underground water pipeline, providing a new water source and issuance of the cattle-trailing permit affect the Baird's sparrow and Arizona grasshopper sparrow in the project area?

#### Range Management

**Issue 4**: How would the installation of an underground water pipeline, providing a new water source for cattle, and issuance of the cattle-trailing permit affect range management on Mr. Sullivan's state land grazing lease?

## 1.6.3 Issues Dismissed from Further Analysis

The following issues were dismissed from further analysis in this EA, either because these resources are not located near the Proposed Action area or because issuance of the ROW grant does not have the potential to significantly impact these resources.

Table 1-1. Issues Dismissed from Further Analysis

Resource	Present Yes/No	Affected Yes/No	Rationale
How would the proposed project affect Areas of Critical Environmental Concern?	Yes	No	The proposed project area is within the Empire-Cienega Area of Critical Environmental Concern (ACEC). The proposed project would not affect the goals and objectives for which the ACEC was designated, because the affected area is less than one acre.
How would the proposed project affect air quality?	Yes	No	Because the project area and the resource impacts are so small, air quality would not be affected in any quantifiable way.
How would the proposed project affect Invasive, Non-Native Species?	Yes	No	Although the acreage to be disturbed for this project is minimal, there is always the potential for the spread of invasive or non-native species anytime there are surface disturbing activities. Any invasive, non-native species identified would be recorded and treated by the grant holder.
How would the proposed project affect Existing Land Use and Land Use Authorizations?	Yes	No	Existing land uses in the vicinity of the Proposed Action include designated open space, vacant land, agriculture/ranching, and general residential (Pima County 2013). The proposed project area is located on land administered by the BLM within the LCNCA. The Proposed Action would be limited to the proposed ROW and cattle-trailing corridor and there would be no

Resource	Present Yes/No	Affected Yes/No	Rationale
			changes to current land uses or land ownership/jurisdiction.
How would the proposed project affect Cultural Resources?	No	No	Cultural resources would not be affected under the proposed action or the alternative(s). No sites were found in the APE during the class III survey. No further analysis is required.
How would the proposed project affect Native American Religious Concerns?	No	No	No issues or concerns by interested Tribes were brought forward. No further analysis is required.
How would proposed critical habitat for the NMGS be affected by the construction of the pipeline?	Yes	No	Even though the area is within the proposed critical habitat for the Northern Mexican Garter Snake, it is not within 4.5 miles of potential habitat with the primary constituent elements of aquatic or riparian habitat. None of the primary constituent elements exist in the project area, no further analysis is needed.
How would the cattle trailing affect the vegetative community?	Yes	No	The livestock trailing would cause minimal damage to the plants that are stepped on as the cattle move across the land. Due to the small number of cattle, and the short duration of each event, there would not be any noticeable effect on the vegetation as the plants in the grassland ecosystem developed with crushing and grazing and are adapted to recover from those actions.
How installing the pipeline affect soil erosion and sediment transport in the area?	Yes	No	There would be minimal disturbance from initial construction of the trench until the trench digging area revegetates. Water bars placed on the trenched area with steep slopes would act to disperse water and mitigate any excessive soil erosion. (http://cdinfo.fire.ca.gov/resource_mgt/downloads/notes/Note90.pdf)
How would the cattle trailing affect soil erosion?	Yes	No	The impact to soil erosion from trailing cattle between pastures would be negligible since the number of cows and the frequency that cows are trailed would be minimal and the cattle are not expected to walk directly on the trench area. (https://managingwholes.com/animal-impact.htm/)
How would the proposed project affect the recreational opportunities, activities, settings and experiences, and recreation management in the LCNCA?	No	No	The proposed project would not affect the recreational opportunities, activities, settings and experiences, and recreation management in the LCNCA since there are no designated motorized routes or non-motorized routes to attract recreation users to the proposed action location.
How would the installation of the pipeline and the new	Yes	No	There would be minimal disturbance to water drainage from the time of initial construction until the pipeline trench revegetates. Water bars placed on trenched

Resource		Affected Yes/No	Rationale
water troughs affect drainage and water quality?			areas with steep slopes would act to disperse water. There is no anticipated impacts to water quality, as vegetation down slope from disturbance would intercept any excess sediment produced. No further analysis is needed.
How would cattle trailing across LCNCA affect the Empire-Cienega allotment operation?	Yes	No	The cattle trailing across LCNCA would not affect the Empire-Cienega grazing operation. The Empire-Cienega grazing operation would continue its normal business with the approval of the Sullivan pipeline and ROW. The grazing lessee on the Empire-Cienega is aware of the proposed trailing action and has no complaints or concerns. Mr. Sullivan would notify the BLM grazing lessee ahead of time when the trailing would occur. The trailing would last less than an hour and would have no impacts on the BLM grazing allotment.

## 2 DESCRIPTION OF THE ALTERNATIVES

# 2.1 Proposed Action

This section describes the Proposed Action and No Action Alternatives. It also describes alternatives that BLM considered but eliminated from further analysis in this EA.

The Proposed Action is to grant a ROW for installation and maintenance activities related to a below ground, one-inch diameter water pipeline, along a boundary fence in the Empire-Cienega Allotment on the LCNCA; approximately 0.6 miles north of Highway 82, near the community known as Rain Valley, Arizona (see Figure 2-1). The ROW request is for a 10-foot-wide ROW corridor, approximately 1,600 feet long, on BLM land. The total acreage of the BLM lands portion included in the ROW request is approximately 0.370 acres.

In addition to the waterline, the BLM is proposing to issue a livestock-crossing (cattle-trailing) permit to the applicant, so that the applicant may herd his cattle from state land, across BLM land, and back to the state land, where he holds a grazing lease. Livestock operators must obtain a crossing permit from the appropriate BLM jurisdiction prior to trailing livestock on BLM-administered lands for which they do not hold a valid grazing permit.

The Proposed Action is to issue a right-of-way for an underground water pipeline and to issue a permit for cattle trailing in the same area. The details of the Proposed Action are as follows:

#### 1. Pipeline Right of Way (ROW).

The ROW is describe as:

- Location: T. 19 S., R. 18 E., sec. 31, SE1/4SE1/4, G&SRM.
- Below Ground Water Pipeline:
  - Entire length of pipeline would be approximately 10,000 feet, and 10 feet wide, making the entire project area roughly 2.3 acres.
  - The BLM segment is 1,600 feet long by 10 feet wide; totaling 0.370 acres.
  - One pipeline to supply water to two metal water troughs, both on State Land.

- One-inch inside diameter High Density Polyethylene pipe.
- Placed up to 2 feet under the surface of the ground.

#### a. Construction of Water Pipeline ROW.

Construction of the trench for the project is expected to occur as follows:

- Below surface pipeline construction would include:
  - The pipeline would be buried 8 to 24 inches beneath the surface. The ROW would allow for a width of 10 feet; however, the trench itself is not expected to be wider than 6 inches. It may be wider in places where under surface impediments are encountered, and construction would require slight deviation in alignment.
  - The trench would be dug using a small backhoe, and used for backfilling, grading, and compaction of the soil on top of the pipe after the pipeline is placed in the ground. The proponent may also use his small bulldozer, similar to a ditchwitch, with a pipe laying shank.
  - The total length of the water pipeline is 10,000 feet, with 1,600 feet being on BLM land, the remaining length of the water pipeline lies on ASLD and private land.
     Construction is expected to take less than 2 months for the entire pipeline (a connected action), with less than one month for work on BLM land.
  - The pipeline ROW would be prepared to allow for travel by maintenance vehicles (ATV's, UTV's, small pickup trucks), and horseback. Some vegetation clearing and movement of dirt and rock may be necessary. Disturbance to vegetation and dirt would be minimized.
  - Along the trench, as needed, low water bars or spill ways would be constructed every 250 to 300 feet for grades less than 10% starting at the top of the slopes, with increasing frequency of water bars on steeper grades.

#### b. Operation and Maintenance of the ROW System.

The operation of the water system is intended for year-round use, but may be less and would include:

- Any disturbance required for future operation and maintenance of the system would be contained within the limits of the ROW and be limited to similar disturbance required to install the pipeline. This would include utilizing ATVs, horses or pickups to access and conduct the work.
- Year-round use may become seasonal (and vice-versa) at the applicant's discretion and is dependent on environmental conditions.
- The water pipeline system would get its water from a well on the applicant's private property and would supply water to two metal water troughs, both located on state land.
   One trough is 200-gallon capacity, the other is 260-gallon capacity.
- The pipeline would supply one acre foot of water per year.
- The ROW would be used by appropriate motorized vehicles (ATVs, UTVs, pickups, horses, or other suitable equipment) for operations and maintenance of the water pipeline system. No other motorized vehicle use would occur. The ROW would be maintained for this purpose. Maintenance would include appropriate erosion control.
- To prevent rutting and erosion, motorized vehicles would be operated along the ROW only when the soil is dry.
- The water pipeline system would be inspected regularly for proper operation. Water leaks would be promptly repaired so as not to cause muddy or boggy areas.

No equipment, parts, or other materials would be stored on the ROW.

### c. Relinquishment, Termination and Abandonment of the ROW.

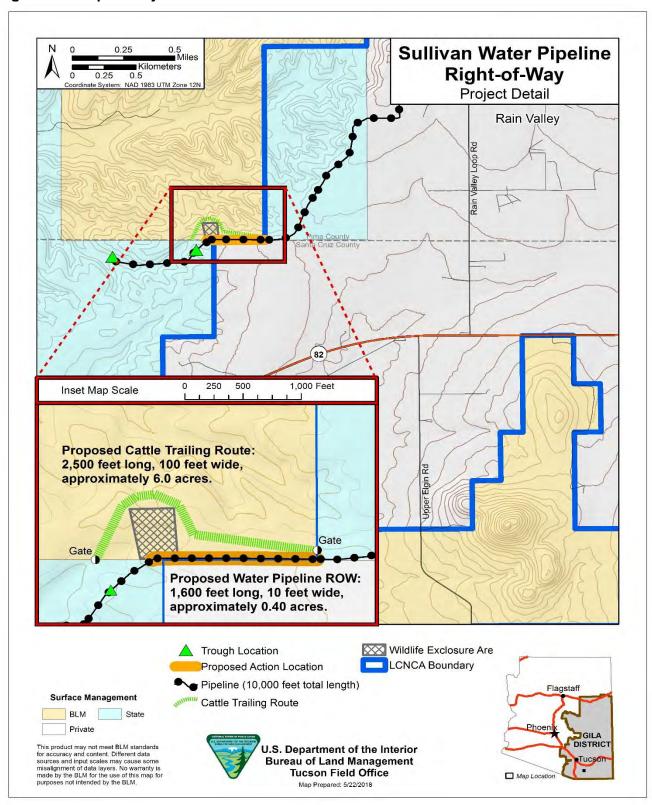
If the holder should no longer need to supply water to cattle, or the holder fails to operate for a five consecutive year period, or if an alternate water supply is developed, the ROW would automatically terminate and the holder shall, within six months, remove water pipeline material and restore and reclaim the ROW area as required by the authorized officer.

#### 2. Cattle Trailing Permit.

The cattle-trailing area is contained by a fence along the LCNCA's southeastern boundary. Entry into the fenced area (from state land) is through a gate located at the southeastern corner of the NCA. A second gate is located 2,000 feet to the west, also on the fence-line boundary of the NCA. These gates will provide ingress and egress from state land, across BLM land, and back onto state land. These gates will be locked at all times and only used when cattle trailing occurs, or when water pipeline maintenance is required.

- a. Permit would be issued for two uses per year, and require the proponent to call the BLM to request use for each time that the cattle-trailing is to occur.
- b. Use is for trailing up to 30 head of cattle across BLM land, to and from the state land allotment.
- c. Length of cattle trailing area is approximately 2,500 feet long and roughly 100 feet wide.
- d. The area subject to the cattle trailing is approximately 6 acres.
- e. Trailing activity would typically take one day and no more than 2 hours.
- f. Activity involves no construction or maintenance activities inside the permitted area.

Figure 2-1. Map of Project Location



**Table 2-1. Design Features for Environmental Protection** 

Feature by Resource	ROW	Construction/ Improvement Phase	Operation and Maintenance
CULTURAL RESOURCES			
Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder or any person working on the holder's behalf, on public or federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery would be made by the Authorized Officer to determine the appropriate actions to prevent the loss of significant cultural or scientific values. The holder would be responsible for the cost of the evaluation, and any decision as to the proper mitigation measures would be made by the Authorized Officer after consulting with the holder.	X	X	X
As required by NAGPRA regulations at 43 CFR 10.4(g), "If in connection with the project operations under this authorization, any human remains, funerary objects, scared objects or objects of cultural patrimony as defined in NAGPRA (P.L. 101-601; 104 Stat. 3048; 25 U.S.C. 3001) are discovered, the ROW holder shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the Authorized Officer of the discovery. The ROW holder shall continue to protect the immediate area of the discovery until notified by the Authorized Officer that operations may resume."	x	X	X
WATER AND SOIL RESOURCES			
Water supply system, tanks, and troughs would be maintained to prevent excessive leaks, which could lead to soil compaction or erosion.	х	Х	х
Along the trench, low water bars or spill ways would be constructed every 250 to 300 feet for grades less than 10% starting at the top of the slopes, with increasing frequency of water bars on steeper grades.		х	х
BIOLOGICAL RESOURCES			
Every effort would be made to minimize vegetation removal and permanent loss at project site to the extent practicable.		Х	
Construction and maintenance activities would be limited to August 2 <sup>nd</sup> to March 31 <sup>st</sup> to avoid impacts to migratory birds. In the event that construction or maintenance needs to take place between April 1 <sup>st</sup> and August 1 <sup>st</sup> , nest surveys conducted by a qualified biologist would take place prior to construction activities.	x	X	Х
The boundaries of construction activities would be predetermined and may be staked or flagged prior to any	Х	Х	

Feature by Resource	ROW	Construction/ Improvement Phase	Operation and Maintenance
construction activity. No paint or permanent markings would be applied to rocks or vegetation.			
The operator shall be held responsible if noxious weeds become established within the areas of proposed operations. Weed control shall be required on the disturbed area where noxious weeds may establish, which includes any access roads and adjacent land affected by the establishment of weeds because of this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following U.S. EPA and BLM requirements and policies.	X	X	Х
HAZARDOUS WASTE AND MATERIALS			
The proponent would maintain all vehicles in good working order. Equipment would be properly tuned and maintained to avoid leaks of fluids.	Х	X	х

## 2.2 No Action Alternative

In addition to considering the Proposed Action, as described in Section 2.1, the No Action Alternative "provides a benchmark, enabling decision makers to compare the magnitude of environmental effects of the action alternatives" (CEQ 1981: Question 3). The No Action Alternative provides the environmental baseline against which the other alternatives are compared.

Under the No Action Alternative, the BLM would not grant the ROW for construction, operation and maintenance of the proposed water pipeline project. Additionally, the BLM would not issue the cattle-trailing permit. The proponent would not be granted a ROW, and present activities in the area would continue. The proponent would not be able to utilize the full complement of pastures that his state land grazing lease provides.

# 2.3 Other Alternatives Considered but Eliminated from Detailed Analysis

#### **Pipeline Located on Adjacent Private Property**

Prior to this project proposal, the applicant was using his former neighbor's property to supply water to his cattle, travelling through privately owned property. The applicant did not have legal access but rather a verbal agreement with his former neighbor. It became infeasible for the applicant to acquire legal access from the current private landowner to get water to his cattle, when the former landowner sold the land.

#### Water Tender Delivery of Water from State Route 82, onto State Land

The alternative was cost prohibitive and determined to exceed the purpose and need for the Proposed Action. This proposal would require considerably more financing in order to gain access from the highway, drive to the site to deposit the water and construct a road on state land for access to the allotment. Furthermore, it was determined that lifecycle costs required to maintain the road and the water-delivering truck far exceeded the lifecycle maintenance costs associated with the project as currently proposed.

# 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter identifies and describes the current condition and trend of elements or resources in the human environment which may be affected by the Proposed Action or Alternatives and the environmental consequences or effects of the action(s).

The following resources are present in the area and may be affected by the Proposed Action. The description of the Affected Environment for the No Action Alternative would be the same as that for the Proposed Action.

## 3.1 Soil and Water

**Issue 1**: How would installation of an underground water pipeline, providing a new water source, and issuing a cattle-trailing permit affect soil compaction and erosion in the project area?

## 3.1.1 Affected Environment

The Cienega Creek Watershed Area and the Babocomari Creek Watershed Area are unique, scenic areas of rolling desert grasslands and woodlands in a high-desert basin between the Santa Rita and Whetstone Mountains. The area also includes five of the rarest habitat types in the American Southwest: cienegas, cottonwood-willow riparian areas, sacaton grasslands, mesquite bosques, and semi-desert grasslands. The project area is in the semi-desert grasslands.

The analysis area for soils is the watershed in which the troughs are located and is the Cienega Creek Watershed. That area is approximately 2,826 acres. The following table displays the soils in the analysis area. According to the NRCS National Cooperative Soil Survey, a map unit is an area on a map that can be characterized by one or more dominant soil types. The analysis area covers two different soil surveys; Santa Cruz and Parts of Cochise and Pima County, Arizona, Eastern Part. The two surveys were completed at different times and with different observers and thus have inherent differences in their classifications and ratings. The table below displays the map units in the analysis area and their susceptibility to compaction. Map units representing less than 5% of the analysis are grouped together.

Table 3-1. Soil Composition in the Analysis Area

NRCS Map Units	Acres of Soil Types	Percentage of Area	Soil Suseptabilty to Compaction	Acres affected
Bernardino-Tombstone association, 5 to 16 percent slopes	2,224.1	78.7	Medium	0
Bernardino-Hathaway association, rolling	421.7	14.9	High	0.5
Other	180.7	6.4	Medium to Low	0
TOTALS:	2,826	100%		0.5

The NRCS interprets a soils susceptibility to compaction by weight a number of factors, which include amount of rock fragments, amount of organic matter, and the soils texture, structure, and bulk density.

## 3.1.2 Environmental Consequences – Proposed Action

The proposed action would allow for the congregation of livestock around cattle troughs leading to the potential for soil compaction and erosion. The estimated area that soil would be impacted around the two trough cattle congregating is 0.5 acres (E. Baker personal communication). The addition of water to the congregated area would exacerbate any potential erosion, the use of floats and regular maintenance would mitigate this effect. The 0.5-acre area being impacted is located in a soil map unit interpreted to have a high susceptibility to compaction. Since this acreage represents far less than 1% of the soil map unit, and even less of the analysis area, the impact to soils from congregation around the cattle troughs is considered minimal.

## 3.1.3 Environmental Consequences - No Action Alternative

In the no action alternative, no pipeline would be created and no troughs would be installed, there would be no congregation around water troughs and no additional impact to soils.

# 3.2 Vegetation

**Issue 2**: How would installation of an underground water pipeline, providing a new water source, and issuing the cattle-trailing permit affect the semi-desert grassland vegetation community in the project area?

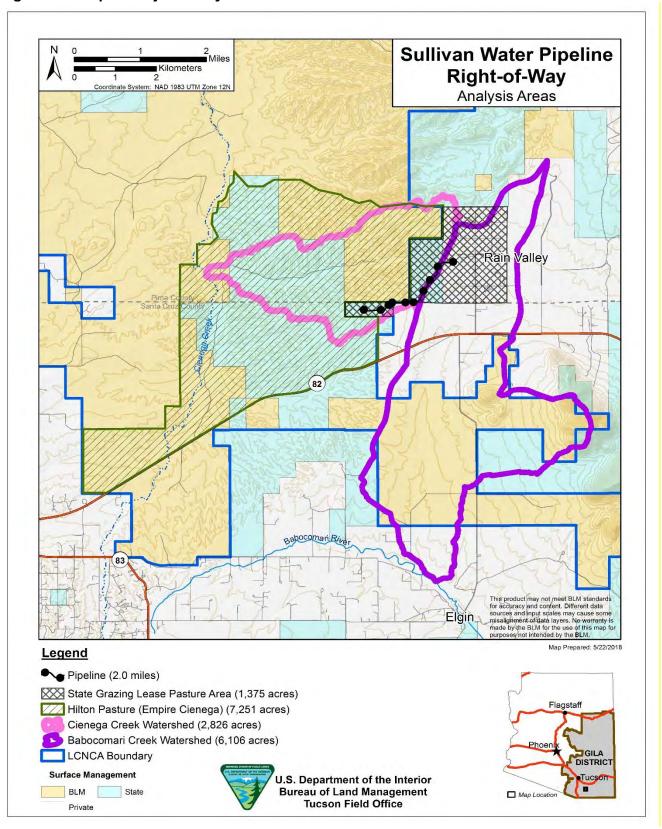
## 3.2.1 Affected Environment

The Cienega Creek Area is a unique, scenic area of rolling desert grasslands and woodlands in a high-desert basin between the Santa Rita and Whetstone Mountains. The area also includes five of the rarest habitat types in the American Southwest: cienegas, cottonwood-willow riparian areas, sacaton grasslands, mesquite bosques, and semi-desert grasslands. Warm season perennial grasses dominate the potential plant community on this ecological site. Most of the major perennial grass species on the site are well dispersed throughout their plant community. However, tobosa, vine mesquite, and curly mesquite tend to occur in patches on this site. These patches appear to be well dispersed and are variable in size. Perennial forbs are well represented on the site, as well as a few species of low shrubs. Perennial grasses represented on the site include, plains lovegrass, blue, black and sideoats grama. Mesquite, when present on the site, tends to be shrubby due to the presence of clay horizons at shallow depths. The aspect is open grassland (NRCS 2017). The project area is in the semi-desert grasslands. The total area of analysis for vegetation is 8,916 acres.

Table 3-2. Vegetation in the Analysis Area

Vegetation Communities in the Analysis Area	Acres of Vegetation in Analysis Area	Percent of Vegetation in Analysis Area	Acres of Disturbed Vegetation in Project Area	Percent of Vegetation in Project Area Disturbed
Desert Grassland	7,701	86.21%	2.36	0.031%
Desert Shrub	829	9.28%	0.14	0.017%
Woodland	385	4.31%	0.11	0.029%
Riparian	2	0.03%	0.00	0%
Rock Outcrop	15	0.17%	0.00	0%
TOTALS:	8,932	100%	2.61	0.077%

Figure 3-1. Map of Project Analysis Area



## 3.2.2 Environmental Consequences – Proposed Action

The Proposed Action would result in some ground disturbance and removal of native plants including blue gramma, sideoats gramma, tobosa, creeping muhly, and vine mesquite. It appears that most ground disturbance would occur within the footprint of the existing two-track road and in the area immediately surrounding proposed water trough sites. As such, direct impacts to vegetative resources would be minimal and discountable as to the persistence of plants represented in the current plant community. Indirect impacts would be trampling and grazing use of forage plants by livestock. Native grasses developed under grazing pressures and are tolerant of low to moderate impacts presented by cattle walking.

## 3.2.3 Environmental Consequences – No Action Alternative

Under the No Action Alternative, there would not be the temporary disturbance of digging the trench for the pipeline, but grazing use and trampling of vegetation (on state land) would still continue as they are activities that currently occur on the site. As such, direct and indirect impacts to vegetative resources would be minimal and discountable as to the persistence of plants represented in the current plant community.

## 3.3 Wildlife

**Issue 3**: How would installation of an underground water pipeline, providing a new water source, and issuing a cattle-trailing permit affect the Baird's sparrow and Arizona grasshopper sparrow in the project area?

#### 3.3.1 Effected Environment

The Smith Canyon-Cienega Creek Area (Figure 3-1. Map of Project Analysis Area) is a unique, scenic area of rolling desert grasslands and woodlands in a high-desert basin between the Santa Rita and Whetstone Mountains. The Baird sparrow uses this area for its wintering habitat. The Grasshopper sparrow on a year round basis also uses the habitat. There is some concern about the conservation status of two sparrows; their numbers are reduced compared to historic numbers.

## 3.3.2 Environmental Consequences – Proposed Action

The proposed action would allow for the congregation of livestock around cattle troughs leading to the potential for increased bare ground cover from soil compaction and erosion. The estimated area of bare ground exposed from the estimated 20 to 30 cattle congregating near the area is about 0.5 acres. This is 0.00005% of the total analysis area and would be minimal and discountable as to the effects on the environment. The possibility of the disturbance of ground nesting bird is also so insignificant that it is discountable. The proposed project does not include the purposeful take of any migratory birds or their eggs, so any losses would not be a violation of the Migratory Bird Treaty Act.

# 3.3.3 Environmental Consequences – No Action Alternative

There would not be 0.5 acres of land disturbed by placement of the two livestock watering troughs. There would not be a noticeable difference between the Proposed Action and the No Action Alternative.

# 3.4 Range Management

**Issue 4**: How would the installation of an underground water pipeline, providing a new water source for cattle, and the cattle-trailing permit affect range management on Mr. Sullivan's state land grazing lease?

### 3.4.1 Affected Environment

Mr. Sullivan holds a grazing lease with the Arizona State Land Department. He has divided the state leased land area into 7 pastures. The proposed pipeline and two new troughs would occur in a pasture of approximately 120 acres. This pasture typically holds 15-25 head of cattle for 30-60 days at one time and then the cattle are rotated to another pasture. They are rotated onto his private land in a pasture rotation system that allows each pasture

to rest after it is grazed for about one growing season. This allows the grasses time to recover and grow. The state land pastures do not have vegetation monitoring data or Land Health Evaluation data available.

## 3.4.2 Environmental Consequences – Proposed Action

The applicant proposes to place a pipeline across BLM land and state land, place two new water troughs on state land. He would also conduct cattle trailing across BLM land that would allow for a more even distribution of cattle on his state land pastures. The acres of impact involved in these activities would be minimal when compared to the analysis area of 8,832 acres for the watershed areas and the impact of the proposed action would be less than 1%

## 3.4.3 Environmental Consequences - No Action Alternative

The No Action Alternative would allow Mr. Sullivan to continue to graze the state land leased pastures as they are currently being grazed and managed. This could ultimately have cumulative impacts to the area that is currently being used for the cattle to graze. Ultimately, if the proponent were not allowed to install the water pipeline on BLM land and was not allowed to acquire a cattle-trailing permit to trail cattle across BLM land, he would be unable to efficiently utilize the pastures available to him through his state land grazing lease. He would likely need to shrink the size of the pastures he currently uses and rotate the cattle use in those areas more frequently. This could cause the pastures to go to an unusable state quicker, as they would not be able to recover in a timely manner. Additionally, the proponent would likely need to use supplemental feed for his cattle to help get them though any drought or dry seasons, or reduce the number of cattle in his herd.

## 4 CUMULATIVE IMPACT ANALYSIS

## 4.1 Past, Present, and Reasonably Foreseeable Future Actions

Livestock grazing, water development maintenance and construction, fence construction and maintenance and public recreation (mostly hunting) are the primary activities that have taken place in the past in this area, and is expected to continue to be used for those purposes in the future. Cattle grazing and its associated components (providing water, cattle-trailing) that are limited to land use capacity and managed as a monitored rotational process is expected to reduce impacts and improve the grasslands habitat.

# 4.2 Cumulative Impacts by Resource

### 4.2.1 Soil and Water

Because of the small number of cattle involved in this project and the frequency of the rotation to the pastures on state land, the impacts to soil compaction would remain minimal, on BLM land and the state leased land. The project area has been under controlled rotation grazing for many years and is currently in fair to good condition (42-77% similarity to Potential Natural Condition) LCNCA RMP. The Proposed Action of installing the underground water pipeline would not be impacted by the cattle-trailing activity, as the cattle would not likely walk on the trench area when the cattle-trailing occurs. The likelihood of soil erosion on or near the trench area would be minimized by the installation of water-bars and the impacted area is expected to recover within one rainy season and would not result in a net loss of habitat availability to livestock or wildlife over time. Cumulative impacts to the surface, including identified soils, in the cattle-trailing area and the state land pastures will be minimal provided the proper rotational grazing system is applied. Research has indicated that moderate grazing and hoof action is beneficial for not only soil augmentation but it also increases soil nutrients and can improve water infiltration.

# 4.2.2 Vegetation

Because livestock grazing played a major role in defining the present ecological states of the grasslands and in some areas, grazing has resulted in undue intensity and frequency of defoliation of some vegetative species

placing them at a disadvantage in plant competition. Livestock can select for unpalatable species, such as various forbs and shrubs, by reducing competition through consumption of desirable species. Under the Proposed Action, the overall effect from rotational grazing would achieve the desired successional stage of plant communities and would create a more stratified age structure for wildlife habitat improvement and ungulate grazing. Grazing by domestic animals can have small to large effects on plant communities, however, the activity of moving the cattle from one pasture to another, across BLM land, does not present concern from a cumulative aspect, as the activities would be temporary and short term in nature.

### 4.2.3 Wildlife

The right of way and the cattle-trailing permit would not have a cumulative impact on the migratory birds, as they are merely the result of moving existing actions from state and private lands across public lands, back to state lands. Grazing by domestic animals can have small to large effects on plant communities, however, the activity of moving the cattle from one pasture to another, across BLM land, does not present concern from a cumulative aspect. Additionally, the trench construction area is small, the activity would be short-term, and the area is expected to recover within one rainy season and would not result in a net loss of habitat availability to livestock or wildlife.

## 4.2.4 Range Management

The Proposed Action of approving a pipeline ROW and issuing a cattle-trailing permit would not have cumulative impacts on range management resources within the analysis area. Cattle grazing and the disturbances that come with that activity have occurred in the analysis area for years and will continue to occur well into the future with no expected change. In the long term, the proposed action could benefit the lands used in the analysis area, as it would allow the cattle to more evenly distribute their grazing due to better access to water. This is an effort to ensure less congregation of the cattle in one location and to more evenly graze the pasture. This would allow for more even consumption of the forage available to the cattle and allow for quicker recovery of the forage, as the cattle would have more opportunity to spread out in the pastures.

# 5 SUPPORTING INFORMATION

# 5.1 List of Preparers

Table 5-1. List of Preparers - Bureau of Land Management

NAME	TITLE	Project Expertise
Leslie Uhr	Realty Specialist	Project Lead, Introduction, Purpose and Need, Scoping, Lands, Maps, Realty Authorizations
Darrell Tersey	Natural Resource Specialist	Fish & Wildlife, Migratory Birds, Threatened, Endangered, and Sensitive Species, Invasive Species, Vegetation
Robert Walter	Outdoor Recreation Planner	Recreation, Lands with Wilderness Characteristics, Access and Transportation, Visual Resources, Scenic Byways
Dave Murray	Hydrologist	Floodplains, Hydrologic Conditions, Riparian/Wetlands, Soils, Water Resources/Quality, Air Quality

Amy Markstein	Planning and Environmental Coordinator	NEPA Compliance, Social and Economic Conditions and Environmental Justice, EA Review
Amy Sobiech	Archaeologist	Cultural Resources, Native American Religious Concerns, Paleontological Resources
Kristen Duarte	Rangeland Management Specialist	Range Management Resources

# 5.2 Tribes, Individuals, Organizations, or Agencies Consulted

- U.S. Fish and Wildlife Service
- Arizona Department of Environmental Quality
- Arizona State Land Department
- Mr. John Sullivan, the project proponent

Table 5-2. Summary of Required Authorizations

Regulatory Agency	Role/Required Authorization
Bureau of Land Management	NEPA lead; Issuance of Right-of-Way Grant
Arizona State Historic Preservation Office	Compliance with NHPA Section 106 consultation and determination
Arizona Department of Environmental Quality	Compliance with Clean Water Act Section 402
Arizona State Land Department	Issuance of Grazing Lease
U.S. Fish and Wildlife Service	Compliance with Section 7 of the Endangered Species Act

## **6 REFERENCES**

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- U.S. Fish and Wildlife Service. 2017. IPaC Information for Planning and Conservation. Last modified August 10, 2016. Available at: https://ecos.fws.gov/ipac/. Accessed February 9, 2017.

## **APPENDIX A. STIPULATIONS**

## A.1. Standard ROW Stipulations

#### **Definitions**

- The Tucson Field Manager or its designee is the Authorized Officer (AO), as defined by 43 CFR 2920.0-5(c).
- "Grantee," or "holder," means Mr. John Sullivan, and any and all assignees that may be of record, including all agents, contractors, sub-contractors, and employees.
- "Grant," means the Right-of-Way (ROW), license, lease, permit, or other permission granted by the United States to the grantee for the use of public lands and resources.

#### **General**

- The ROW reserves to the Secretary of the Interior, or lawful delegates, the right to grant additional rightsof-way, leases, or easements for compatible uses over, under, within or adjacent to the lands involved in this grant.
- The ROW grant herein granted shall be subject to the express covenant that it will be modified, adapted, or discontinued if found by the Secretary to be necessary, without liability or expense to the United States, so as not to conflict with the use and occupancy of the land for any authorized works which may be hereafter constructed thereon under the authority of the United States.
- The holder shall comply with all State and Federal laws applicable to the authorized use and such additional state and Federal laws, along with the implementing regulations, that may be enacted and issued during the term of the grant.

#### **Maintenance**

- The holder shall notify the AO prior to commencement of emergency maintenance outside of the Rightof-Way to discuss repair and construction activities.
- Grant holder shall operate and maintain its facilities, improvements, and structures within the ROW limits
  in a safe, usable, clean and attractive condition. This ROW does not allow for any surface-disturbing
  activities outside the ROW area.
- Grant holder shall conduct all maintenance activities in a manner that will minimize disturbance to vegetation and drainage channels. Grant Holder shall take resource conservation and protection measures on the ROW, as the AO deems reasonably necessary.
- Maintenance and any associated costs will be the responsibility of the Grantee and any other existing or
  future Grantees associated with the issued ROW. The Grantee will maintain the ROW in a safe, usable
  condition, as directed by the AO.
- Any modification to the ROW initiated by the holder may require the submission of an environmental assessment, cultural resource survey and biological evaluation to the Bureau of Land Management's AO.

#### **Environmental**

- All waste material resulting from construction or use of the site by holder shall be removed from the site
  and shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded
  matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products,
  ashes, and equipment.
- The holder will maintain the pipeline area in a good and safe condition and also do mitigation for erosion control.

- Use of pesticides or herbicides shall comply with the applicable Federal and State laws. Pesticides and herbicides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides or herbicides, the grantee shall obtain from the AO written approval of a plan showing the type and quantity of materials to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the AO. Emergency use of pesticides or herbicides shall be approved in writing by the AO prior to such use.
- The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes any access roads and adjacent land affected by the establishment of weeds because of this action. The operator shall consult with the AO for acceptable weed control methods, which include following U.S. Environmental Protection Agency (EPA) and BLM requirements and policies.
- Any vehicles and equipment that are brought in from outside the area would be power-washed, including
  the undercarriage, prior to entering the ROW area and afterward before moving vehicles and equipment
  onto any other public lands, to prevent the introduction and spread of noxious weeds and/or invasive
  species.
- Construction and maintenance activities would be limited to August 2<sup>nd</sup> to March 31<sup>st</sup> to avoid impacts to migratory birds. In the event that construction or maintenance needs to take place between April 1<sup>st</sup> and August 1<sup>st</sup>, nest surveys conducted by a qualified biologist would take place prior to construction activities.

#### Cultural

- If in connection with operations under this authorization, any human remains, funerary objects, sacred
  objects or objects of cultural patrimony as defined in the Native American Graves Protection and
  Repatriation Act are discovered, the project proponent shall stop operations in the area of the discovery,
  protect the remains and objects, and immediately notify the Tucson BLM Field Office Manager of the
  discovery. The project proponent would need permission from the Tucson BLM Field Office Manager to
  resume all project operations.
- If any paleontological resources are discovered as a result of construction operations or maintenance activities under this authorization, the applicant or any of his agents must stop work immediately at that site, immediately contact the appropriate BLM representative, and make every effort to protect the site from further impacts, including looting, erosion, or other human or natural damage. Work may not resume at that location until approved by the AO. The BLM or designated paleontologist would evaluate the discovery and take action to protect or remove the resource within 10 working days. Within 10 days, the operator would be allowed to continue construction through the site, or would be given the choice of either (a) following the BLM's Paleontology Coordinator's instructions for stabilizing the fossil resource in place and avoiding further disturbance to the fossil resource, or (b) following the BLM's Paleontology Coordinator's instructions for mitigating impacts to the fossil resource prior to continuing construction through the project area.

#### **Hazardous Materials**

- No hazardous materials will be transported to or kept on the ROW site.
- The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et.seq.) with regard to any toxic substances that are used, generated by or stored on the ROW or on facilities authorized under this ROW grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release

- of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the AO concurrent with the filing of the reports to the involved Federal agency or State government.
- The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et.seq., or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901, et.seq.) on the ROW (unless the release or threatened release is wholly unrelated to the ROW holder's activity on the ROW). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third party.

#### **Termination / Renewal**

- Prior to termination of the ROW, the holder shall contact the AO 180 days prior to arrange a pretermination conference. This conference will be held to review the termination provisions of the grant.
- This ROW may be renewed. If renewed, the ROW will be subject to regulations existing at the time of renewal, and such other terms and conditions deemed necessary to protect the public interest.
- If the grant is to be renewed, an application for renewal must be received 180 days prior to the expiration of the grant.