

Draft Compatibility Determination

Use(s): Sierrita Natural Gas Pipeline Project – Request for Use of Refuge Access Roads

Refuge Name: Buenos Aires National Wildlife Refuge, Sasabe, Pima County, Arizona (see attachment, “Map of Buenos Aires National Wildlife Refuge”).

Establishing and Acquisition Authority(ies):

The Buenos Aires Ranch, located in Pima County, Arizona, was recommended for purchase in the 1977 Recovery Plan for protection and recovery of the endangered masked bobwhite quail (*Colinus virginianus ridgwayi*). Congress approved funding for purchase of the central part of the ranch under authority of the Endangered Species Act of 1973, as amended, and the Fish and Wildlife Act of 1956, as amended, authorizing expenditure of funds for habitat acquisition.

Refuge Purpose(s):

The Refuge was established on August 1, 1985 “...to conserve (A) fish or wildlife which are listed as endangered species or threatened species or (B) plants” 16 U.S.C. 1534 (Endangered Species Act of 1973) and for the “...development, advancement, management, conservation, and protection of fish and wildlife resources...” 16 U.S.C. 742f (a) (4) (Fish and Wildlife Act of 1956). Congressional records and other pertinent files show that conservation of the masked bobwhite quail was the major impetus behind establishment of the Buenos Aires NWR. Habitat restoration and the existence of a self-sustaining population of masked bobwhite quail remains a primary goal of the Refuge.

National Wildlife Refuge System (Refuge System or NWRs) Mission:

“The mission of the [National Wildlife Refuge] System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” (National Wildlife Refuge System Administration Act) (16 U.S.C. 668dd-668ee).

Description of Use(s):

Sierrita Gas Pipeline L.L.C. (Sierrita) has proposed the construction and operation of a 60 mile-long, 36inch-diameter, high-pressure, natural gas pipeline (Pipeline) from Tucson, AZ to the border of Sasabe, AZ. Sierrita has proposed initiating construction of the Pipeline in May 2014 with the intention of delivering natural gas to customers in Mexico beginning in Fall 2014 (U.S. Federal Energy Regulatory Commission Oct. 2013).

The southern part of the Pipeline route travels approximately 100 feet west of the Buenos Aires National Wildlife Refuge (Refuge) boundary. Along most of its length, the Pipeline would be buried. During construction, Sierrita would create a 100 to 150 foot-wide right-of-way. Following construction, that portion of the right-of-way no longer needed would be restored. Restoration success would be monitored for at least 5 years. Inspectors and monitors would be employed to help ensure that Pipeline construction and mitigation satisfied all requirements of applicable certificates, permits, other approvals, and

Draft Compatibility Determination

agreements. Sierrita would maintain a 50-foot-wide permanent right-of-way along the Pipeline for operations purposes, including maintenance, inspection, repair, cleaning, and emergency response.

Sierrita has requested permission from the U.S. Fish and Wildlife Service (Service) to use some Refuge roads on Buenos Aires NWR to construct and maintain their proposed Pipeline. It is expected that Sierrita would use these roads during July through September 2014 for the construction phase and then continue after that for the habitat restoration phase and Pipeline maintenance. These dates may change depending on if and when Sierrita receives full Federal approval to proceed with the Project. Short and long term road use would be for purposes of transporting people, supplies, and equipment for construction, mitigation, operation, inspection, cleaning, maintenance, emergency response, repair, and/or termination. Sierrita proposes to cross Refuge roads with a diversity of vehicles, from conventional pickup trucks (a fleet of almost 90) to large and heavy stringing trucks (10), contractor buses (3), water trucks (13), fuel trucks (3), welding rigs (35), mechanic/fuel trucks (9), trucks using flatbed and lowboy trailers (4), hydro-testing equipment/dryers and compressors (2), and motor graders (1). Prior to the start of construction (during April, May, and June), light passenger vehicles would travel Refuge roads in preparation for construction (e.g., flagging, marking). During construction (July-September), these vehicles would travel Refuge roads 1-2 times per day for 2 to 190 days, for a total trip count of almost 500. Following construction (after September), light passenger vehicles would travel Refuge roads to access the Pipeline alignment for restoration.

Sierrita has proposed use of approximately 12 miles (62,790ft) of the following Refuge roads for these purposes:

Road Name	Road ID	Road length(ft)	Road Width(ft)
Las Delicias,#230	AR-15	8,400	16
Brown Canyon, #10	AR-16	13,815	24
Thomas Canyon	AR-18	35	10
Stillwood Ranch	AR-19	300	23
Santa Margarita	AR-20	200	25
Presumido, #212	AR-21	980	25
Aros Wash,#210	AR-22	13,850	22
Unnamed	AR-25	615	10
Sierra Vista,#208	AR-26	10,740	22
#205	AR-26A-B	11,985	12
El Mirador,#207	AR-27	1,870	22
Total		62,790	

Draft Compatibility Determination

The Refuge's roads vary considerably in quality and their capacity to accommodate large, long, or heavy vehicles. Sierrita has proposed some road improvements to facilitate travel and avoid or minimize adverse impacts to the Refuge's roads and adjacent lands and waters. These improvements include: blading, rocking/graveling the roadbed, and matting water crossings. Sierrita would also erect cautionary road signs and restrict traffic to a single direction on some roads at selected times. Sierrita will use the least intrusive road improvements necessary to support their use of Refuge roads. All site-specific roadway modifications would be subject to approval by Refuge staff (see Stipulations Necessary to Ensure Compatibility). Considering there are 11 Refuge access roads proposed for use and the varying locations and conditions of each road, this document will consider each access road individually which may result in some roads being compatible and others not.

The majority of Sierrita's use would occur on Highway 286, a two-lane highway. The Service has full jurisdiction over all roads and routes of travel (including two-tracks) across the Refuge including Highway 286, for which the Arizona Department of Transportation has a right-of-way granting it authority to construct and operate the road for highway purposes. Sierrita proposes no changes to Hwy 286 but proposes to adopt measures to ensure safety for the duration of the project. As a result of property ownership and consistent with Title 50 of the Code of Federal Regulations, the Service has jurisdiction over all secondary uses on the Refuge. For the roads referred to as county roads, Pima County has been issued legal rights-of-way to maintain portions of some of these roads through the Refuge. The Service has coordinated and will continue to coordinate with the county regarding Sierrita's proposed use or maintenance of, and any proposed significant modifications to these roads.

Road 26B has some sections that are rough, winding, narrow, and has hairpin curves. All roads cross potentially wet swales, are worn-down to native rock in some areas, and pass through or adjacent to sensitive wildlife habitats. Sierrita proposes to blade all roads and lay down rock road base in ruts, and compact the road in areas with loose material (gravel), as needed. Sierrita would install caution signs at blind corners and gravel any roads it used, as needed. Sierrita has also proposed that traffic be restricted to a single direction when larger, longer, and/or heavier vehicles would be traveling on the Refuge's smaller roads. See the attached map, "Buenos Aires NWR Access Roads Overview, Sierrita Pipeline Project August 2013".

In October 2013, the U.S. Federal Regulatory Commission (FERC) issued a draft Environmental Impact Statement (EIS) that addressed the many aspects of the proposed Sierrita Pipeline Project. The public comment period closed December 16, 2013 and a final EIS is scheduled to be issued in April 2014. Much of the information and some of the analyses contained in this compatibility determination are addressed in greater detail in the draft EIS. The draft EIS is incorporated through reference into this compatibility determination.

The FERC-proposed route for the Sierrita Pipeline will not cross Buenos Aires NWR. However, because of the close proximity of the proposed route to the Refuge's western boundary, Sierrita has requested access to the Pipeline through the Refuge. Granting Sierrita access to the Pipeline through the Refuge would not require acquisition of an interest in Refuge real property and would not require issuance of a right-of-way. The Mineral Leasing Act of 1920 states, in part, that, "A right-of-way may be supplemented by such temporary permits for the use of Federal lands in the vicinity of the Pipeline as the

Draft Compatibility Determination

Secretary or agency head finds are necessary in connection with construction, operation, maintenance, or termination of the Pipeline, or to protect the natural environment or public safety.” This is also consistent with relevant Service policy which states, in part, that, “...short term and temporary use of an existing road...can best be accommodated through special use permits” (340 FW 3).

Because it would constitute a, “...privilege...provided at refuge expense and not usually available to the general public...,” Sierrita’s proposed use of Refuge roads fits the definition of a “specialized use” in Refuge System policy (5 RM 17). Additionally, because it would involve, “An organization that has monetary gain (profit) as a primary objective,” and “...the use of a refuge or its resources for profit,” it would qualify as an economic use undertaken by a commercial organization (5 RM 17). Except in unusual situations which don’t apply here, the Service has no obligation to grant such a use. Assuming it was allowed, a Special Use Permit (SUP) would be the authorization instrument and an administrative fee would be assessed by the Refuge (5 RM 17). This is also consistent with the above-cited Service policy on rights-of-way (340 FW 3).

This proposed use is not a wildlife-dependent general public use. Instead, because the proposed use would be for the commercial transport of natural gas and include, “...developing lands within a refuge...graveling areas... [and an action that] disturbs the soil, displaces vegetation, or otherwise changes the natural biological or ecological functions or aesthetic values of the land...,” it would be an economic use for purposes of Refuge System regulations on economic uses (50 C.F.R. 29.1). Therefore, prior to authorization of this use and in addition to being found appropriate (603 FW 1) and determined compatible (603 FW 2), a determination would need to be made that the proposed use contributed to the, “...achievement of the [Buenos Aires] national wildlife refuge purposes or the National Wildlife Refuge System mission.”

If approved, Sierrita’s proposed access to their Pipeline through Buenos Aires NWR would qualify as a refuge use and would therefore require a positive compatibility determination prior to being authorized (see 16 U.S.C. 668dd-668ee; 50 C.F.R. 25, 26, and 29; and 603 FW 2).

Availability of Resources:

The Service may seek to recover its costs associated with administration of this SUP and use, and/or require a fee equal to the fair market value of the benefit received by Sierrita (5 RM 17).

Applicable administrative costs may include both direct and indirect costs such as:

- Salaries and associated employee expenses related to evaluation of the proposed use (including appropriateness finding, compatibility determination, and compliance with the National Environmental Policy Act of 1969, as amended [42 U.S.C. 4321-4347]) and development of the SUP;
- Salaries and associated employee expenses related to on-the-ground oversight of the use to ensure that SUP requirements (including general and special SUP conditions, and compatibility stipulations) are followed and the use remains compatible;
- Salaries and associated employee expenses related to traffic control and law enforcement;
- Salaries and associated employee expenses related to monitoring of the actual effects of the use on natural and cultural resources, and general public use;
- Travel;

Draft Compatibility Determination

- Supplies and equipment; and
- An applicable portion of Refuge overhead costs.

To the extent that Sierrita may provide some of these services (e.g., through contracts with independent third parties acceptable to the Service), these costs and associated fees would be reduced. Consistent with the Refuge Revenue Sharing Act (16 U.S.C. 715s) any fee revenues collected from this use would be deposited into the U.S. Treasury Department's National Wildlife Refuge Fund for redistribution to refuges to help offset the costs of administering specialized uses (Expenses for Sales) and for payments in-lieu of taxes to counties or other local governments (Refuge Revenue Sharing).

Sierrita has agreed to fund the FERC full-time, third-party compliance program in addition to its own environmental compliance/inspection program for the Project. The third-party monitors would ensure compliance with FERC and Agency permitting conditions including this on-the-ground oversight of the use of the access roads.

The Refuge currently has inadequate budget and staff to conduct the work listed above. So, if this use was permitted, one condition would be a requirement that Sierrita assume responsibility for the work listed above and other related costs, as appropriate. This could occur directly (i.e., Sierrita could pay the Service to perform the work) or indirectly (e.g., Sierrita could contract with an independent third party - which was acceptable to the Service - to conduct the work). Sierrita has already paid for consultants to conduct much of the listed work via a Special Use Permit issued by the Refuge in 2012.

Anticipated Impacts of the Use(s):

Refuge Goal and NWRS Mission

In 2003, the Service completed the Buenos Aires National Wildlife Refuge Comprehensive Conservation Plan (CCP) to guide long-term management of the Refuge's fish, wildlife, plants, and their habitats (USFWS, Sept. 2003). The CCP contains the following goal, "...to restore, conserve, and manage the natural abundance and diversity of wildlife and habitat utilizing strategies that focus on environmental and biological integrity". The Refuge's management goal nicely complements the Refuge System's statutory mission, "...to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans" (16 U.S.C. 668dd-668ee). For the reasons discussed in more detail elsewhere in this section, Sierrita's proposed use of roads on the Refuge would have a modest amount of both negative and positive effects upon achievement of the Refuge's goal and the NWRS' mission.

Fish, Wildlife, Plants, and Their Habitats

Buenos Aires NWR is one of the largest, contiguous pieces of semi-desert grassland in the Southwest that is not grazed by domestic livestock. The various habitats throughout the Refuge are home to over 330 bird species, 53 species of reptiles and amphibians, 58 mammal species as well as 787 species of plants. Some of the threatened and endangered species on the Refuge include: masked bobwhite quail, southwestern willow flycatcher (*Empidonax traillii extimus*), lesser long-nosed bat (*Leptonycteris curasoae yerbabuena*), Chiricahua leopard frog (*Lithobates chiricahuensis*), Pima pineapple cactus (*Coryphantha*

Draft Compatibility Determination

scheeri var *robustispina*), and the Kearney's bluestar (*Amsonia kearneyana*). Jaguars (*Panthera onca*), have been reported on or near the Refuge, and with the recently proposed critical habitat, efforts will be taken to protect them as required under the Endangered Species Act. Candidate species for listing include the yellow-billed cuckoo (*Coccyzus americanus*), the small-flowered agave (*Agave parviflora*) and the Northern Mexican gartersnake (*Thamnophis eques megalops*). The cactus ferruginous pygmy owl (*Glaucidium brasilianum cactorum*), although not currently listed, still remains a species of concern. Resident wildlife managed in cooperation with Arizona Game and Fish Department includes mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), pronghorn (*Antilocapra americana*) javelina (*Pecari tajacu*) and mountain lions (*Puma concolor*).

In addition, there are a variety of important bird species which have been designated by the Partners in Flight program, including Baird's Sparrow (*Ammodramus bairdii*), Bendire's thrasher (*Toxostoma bendirei*), and Bell's vireo (*Vireo bellii*). The desert grassland species emphasized that occur on refuge include Botteri's sparrow (*Aimophila botterii*), Cassin's sparrow (*Aimophila cassinii*), rufous-winged sparrow (*Peucaea carpalis*), Baird's sparrow (*Ammodramus bairdii*) and grasshopper sparrow (*Ammodramus savannarum*).

Buenos Aires NWR contains substantial acreage of healthy perennial bunchgrass and forb plant communities which provide valuable habitat for a diversity of native wildlife species. The vegetation, to a large degree, is dominated by velvet mesquite. Other woody plant species commonly found in these areas include snakeweed (*Gutierrezia microcephala*), fairyduster (*Calliandra eriphylla*) and burweed (*Isocoma tenuisecta*) (Geiger 2002, Masters Thesis, Univ. of AZ). Native grass species commonly found include dropseeds (*Sporobolus* spp.), grammas (*Bouteloua* spp.), threeawns (*Aristida* spp.), Arizona cottontop (*Digitaria californica*), plains lovegrass (*Eragrostis intermedia*), and wild buckwheats (*Eriogonum* spp.) (McLaughlin 1990, BANWR unpublished data). Deeper soils of bottomland areas are characterized by a mixture of Johnson grass (*Sorghum halpense*), pigweed (*Amaranthus palmeri*), Russian thistle (*Salsola kali*). A few fragmented small patches of sacaton (*Sporobolus airoides*) remain in the valley today.

The value of the Refuge as a "conservation reserve" continues to increase as the cumulative effects of multiple developments and environmentally damaging land-management practices, destroy or degrade similar ecosystems elsewhere. This is a reflection of the fact that the Refuge encloses an unusually large, contiguous block of healthy wildlife habitat that is not only protected from development, but works through active and adaptive management to restore the native landscape in the Refuge and Altar Valley for the long term. Ongoing management programs, including prescribed burning, and soil aeration, are designed to help ensure that these many native species enjoy a diversity of healthy habitats into the distant future. It is important that the refuge remains focused on the purpose for which it was established and continue to protect it for the enjoyment of future generations.

Sierrita's proposed use and associated actions would occur on roads across the Refuge, but the areas of greatest concern are in the southern and south-western portions of the Refuge where Sierrita's large, long, and/or heavy vehicles would travel lesser-used roads in more remote areas. These include areas used by mule deer, white-tailed deer, breeding birds/nests, many species of reptiles and amphibians, and raptors.

Draft Compatibility Determination

Highway 286 already receives a moderate amount of traffic, and would not be expected to be physically affected by the proposed use. The routes other than Highway 286 are dirt roads of varying quality. Roads AR15, 21, 22, 26, and 27 are county maintained roads and tend to be wider, smooth roads compared to most other Refuge roads. Passage of numerous, heavy vehicles on such roads can degrade the road bed through rutting and can cause erosion and dust, and sedimentation of nearby waterbodies. Sierrita has proposed to address these concerns by laying down and compacting road base, blading, graveling, and matting of a dry washes as needed.

In other locations, the routes proposed for use by Sierrita cross many dry washes. Considering much of Sierrita's road use may occur during the wetter time of year, running large numbers of heavy vehicles through such areas could cause damage to these roads, erode the road materials, and increase sedimentation in the drainages, degrading the roads and valuable habitats. Sierrita would mat the road and drainages, as needed, to address these problems. Additionally, Sierrita has developed a "Reclamation Plan" and an "Upland Erosion Control, Revegetation and Maintenance Plan" for the Pipeline Project that is designed to address these issues. The Refuge will also require significant improvements on some of the proposed roads prior to and after Sierrita's use of them (see stipulations).

Roads occupy habitat areas and vehicle traffic can present a collision hazard for wildlife and people. In addition to these direct effects, roads and associated vehicular traffic can also indirectly affect fish, wildlife, plants, and their habitats. Roads and traffic can create a wildlife migration barrier, reduce the quality of habitat in the road's vicinity, subdivide wildlife populations, and create a disturbing linear feature (Andrews et al., Oct 2006; Forman, R.T., Feb 2000; Forman, R.T. and L.E. Alexander, 1998; and Trombulak, S.C., Feb 2000). Tolerance among species varies; however, vehicular traffic, construction, and other human activities all disturb wildlife and reduce the quality, hence carrying capacity of adjacent habitat. These effects generally decrease with distance from the road. The proposed access roads generally have very little vehicular traffic on them. The increase of traffic before, during and after construction could impact wildlife movements, behavior and/ or survival.

Construction-related activity and noise could disturb raptors and other migratory birds nesting near the roads, possibly causing them to abandon nests. The significant increase in traffic would be expected to exacerbate the direct and indirect effects of the existing roads. Sierrita has proposed to control the speeds of construction vehicles using Refuge roads. None-the-less, with such a large increase in the number of vehicles using the roads, an unknown increase in the number of vehicle-wildlife collisions would be expected. Additionally, for some species, the sights and sounds of this additional traffic would likely increase the barrier effect of the roads and reduce the quality of the habitat in the vicinity of the roads. This most significant increase in traffic would occur over a 4-month period with the greatest increase occurring from July through September. The majority of the use and the effects would occur after the breeding/nesting season for most species and be a single season event. Although animal movements could be influenced during this period, wildlife populations on the Refuge would not be expected to be measurably affected.

As noted earlier, a number of non-native plants and animals already occur on the Refuge. Associated with an increase in traffic across the Refuge's boundary would be an increase in the potential for additional exotic species (both additional individuals of species that already occur and new species) to be brought onto Buenos Aires NWR. The potential for invasive plant species to become established on the

Draft Compatibility Determination

Refuge would increase where the native soil surface was disturbed. Sierrita has developed a “Noxious Weed Control Plan” for the Pipeline Project that is designed to address these issues.

Another effect associated with Sierrita’s use of Refuge roads would be an increased potential for gates to inadvertently be left open or for damage to occur to fences, gates, or cattle guards. These concerns would be greater on less-traveled roads in the Refuge’s more-remote areas. Almost the Refuge’s entire boundary is currently fenced. Except on major routes of travel (where cattle guards are employed) there are gates where roads cross fence lines. These fences, gates, and guards serve as important barriers keeping domestic cattle and horses from entering the Refuge where they may severely degrade healthy wildlife habitats. There are also concerns that construction and other activity associated with the Pipeline immediately west of the Refuge’s main boundary could increase the pressure for cattle and horses to move, including onto the Refuge. Sierrita would address this concern by including monitoring of gates and road use as a task for Environmental Inspectors.

Although Sierrita has maintained that all road use would take place within existing road “footprints”, Sierrita has agreed to mitigate and/or restore Refuge habitats that may be displaced, degraded, or otherwise damaged through their use of roads and associated activities. Restoration of native landscapes in the desert can be a long-term proposition. Ruts from heavy vehicles and soil compaction can cause ecological changes that can require decades or longer to heal. Disturbance of the soil surface facilitates invasion by non-native plant species, a very serious concern on the Refuge. Re-establishing a healthy mix and natural density of native grasses and forbs is difficult enough; re-establishing shrubs is extremely challenging and can take decades or longer. Sierrita has developed a “Restoration and Revegetation Plan” for the Pipeline Project that is designed to address these issues. Regardless of the potential success of restoration efforts, there would remain adverse biological effects as a result of the temporary loss and/or degradation of habitat, and the temporary displacement and disturbance of fish, wildlife, and plants.

Public Use

Sierrita’s proposed use would occur on and near roads that cross the Refuge. Individuals and groups currently using these roads include Refuge staff; Refuge authorized agents (e.g., cooperating agencies, cooperating associations, Refuge support groups, volunteers, and contractors); researchers; residents and wildlife-dependent general public users. Consistent with relevant law and policy, the last group listed - which includes hunters, wildlife watchers, and photographers - are the Refuge’s highest-priority general public users (National Wildlife Refuge System Administration Act, General Guidelines for Wildlife Dependent Recreation policy, and Compatibility policy). The significant increase in traffic, including one-way traffic that would occur with Sierrita’s proposed use, could conflict with and generate safety hazards for Refuge visitors, including visitors on Refuge roads engaging in priority public uses.

As described earlier, Sierrita has proposed a number of modifications to Refuge roads, including installing of caution signs at blind corners, laying down and compacting road base, blading, graveling, and/or matting of a dry washes. Sierrita has also proposed that traffic be restricted to a single direction when larger, longer, and/or heavier vehicles would be traveling on the Refuge’s smaller roads.

Draft Compatibility Determination

General public use of the Refuge is currently constrained by the location and quality of roads and other access routes. Therefore, the road improvements Sierrita is proposing would facilitate overall vehicular use of these roads by other existing and future travelers. Sierrita's proposed changes would enhance driver safety and improve access on these roads during times of the year when road conditions (e.g., as a result of rain and mud) currently challenge travel. Groups and individuals that would benefit include those listed above, most of whom perform work that contributes to achievement of Refuge purposes.

However, these same improvements would make this road system easier to access by more people and for a longer period during the year. Increased access and use by the general public could increase vandalism, poaching, littering, fence cutting, gate opening, spread of invasive species, and wildfires associated with camping, recreation, and other activities. In addition to increasing the Refuge's operating costs; these effects could generate secondary impacts to the Refuge's native wildlife, plants, and their habitats.

Adjacent Landowners

Another objective of this compatibility determination is to evaluate the anticipated impacts on adjacent landowners of the Service permitting Sierrita to use Refuge roads to access off-Refuge lands for pipeline construction. These roads run mostly east/west and travel from Highway 286, through the Refuge and onto either State or private lands. The Refuge has valuable, positive working relations with landowners in the Altar Valley and it is important for the Refuge to maintain these relations and continue to work closely with the community to improve the watershed health of the valley. In analyzing each road proposed for accessing the project, it is important that before the Refuge considers authorizing use of a particular road, each landowner adjacent to that Refuge road provides Sierrita access to their property for Pipeline construction. The majority of the proposed Pipeline right-of-way would be on State land and at the time of conducting this compatibility determination, the AZ State Land Department has authorized Sierrita access for this project. There is a significant portion of private land at the west end of road 26 that leads on to the Sierra Vista Ranch. At the time of this analysis, the landowner has not given Sierrita authorization to access their land. Until such time that Sierrita is able to secure access to the Sierra Vista Ranch by the landowner, the Refuge does not intend to authorize use of roads 26 and 25. However, if Sierrita is able to secure access to the Sierra Vista Ranch by the landowner, the Refuge authorizes use of roads 26 and 25.

Cultural Resources

Sierrita's proposed improvements to Refuge roads would occur on the existing road bed where the potential for cultural resources effects would be minimal. However, there are a few cultural resource sites that are located in the road and have the potential of being adversely affected by the project. If Sierrita receives approval, the FERC would serve as the lead Federal agency for compliance with requirements of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470) as it applies to this project and related activities, including access through the Refuge. Sierrita has developed an "Unanticipated Discovery Plan" for the Pipeline Project that is designed to address some of these issues.

Beginning in March 2013, SWCA Environmental Consultants conducted archaeological surveys for the proposed pipeline right-of-way and associated access roads. During these surveys, SWCA archaeologists identified and recorded 23 archaeological sites on or partially on the Refuge. In August 2013, SWCA

Draft Compatibility Determination

archaeologists revisited the two archaeological sites that would be crossed by proposed access road AR26A to better evaluate the condition of this infrequently-used road and assess potential adverse effects to these sites from proposed grading. During the site revisit, an archaeological feature not documented during the original site recordation, was discovered within the roadway that passes through the site.

Nine archaeological sites were identified along four of the access roads; all are considered eligible for the National Register of Historic Places (NRHP). Five sites are prehistoric artifact scatters, three sites are prehistoric artifact scatters with associated features, and one site is a scatter of both prehistoric and historic-era artifacts. The sites have been affected by road construction to varying degrees, but all remain in fair to good condition. Six of the 11 proposed access roads do not intersect archaeological sites. Therefore, use of these roads by Sierrita would not affect archaeological sites. The five proposed access roads that would affect archaeological sites include: AR-22, AR26, AR-26A, B and AR-27.

AR-22, known as Aros Wash Trail, is a regularly maintained road. Sierrita's use of this road, including grading and routine maintenance, would have no adverse effect on sites. AR-26, known as Sierra Vista Ranch Road, is a regularly maintained road that passes through four archaeological sites. Sierrita's use of this road, including grading and routine maintenance, would have no adverse effect on these sites. Temporary fencing along the edge of both AR-22 and 26 would be installed and maintained during construction to prevent unanticipated, off-road impacts to any sites.

AR-26A is not routinely maintained and in places, in poor-to-fair condition. Two archaeological sites are crossed by the road. The portion of AR 26A that crosses one site is in fairly good condition and would need minimal improvements, primarily to low areas. During their August 2013 site revisit, SWCA confirmed that artifacts were present in high numbers along both sides of the road and in bermed sediments along the roadway; indicating that previous grading activities had unearthed artifacts. Several artifacts were noted in the roadbed itself. Use of the road in its current condition does not appear to be having an adverse effect on the archaeological site. It is uncertain whether road grading activities would result in adverse effects, such as exposing archaeological features, or if previous grading efforts have effectively destroyed the integrity of the site within the roadbed. The Refuge would require that road grading through the site be minimized to the extent possible. If grading is necessary, it should be kept to a minimum and monitored by an archaeologist for potential discoveries that would require further mitigation. Temporary fencing along the edge of the roadway would be installed and maintained during construction to prevent unanticipated, off-road impacts to the site.

The portion of AR-26A that crosses the second site is in poor condition. Here, the road is narrow, rough and rocky, and it may be difficult to navigate curves. During the March 2013 survey, four archaeological features were identified to the south of the road bed. During the August 2013 site revisit, a rock feature (a probable rock-filled roasting pit) was identified eroding out of the road bed; making it imperiled by the routine, albeit infrequent, use of the road in its current condition. Grading of the road would result in immediate, permanent impacts to this feature; and as a result, adverse effects to the archaeological site. SWCA recommended data recovery excavation of the feature not only to mitigate the adverse effects of project-related road grading activities, but to mitigate the adverse effects to the site from long-term use of the road in its current condition. An archaeologist would monitor road grading activities within the site and any additional features found should be similarly excavated. Temporary fencing along the edge of the

Draft Compatibility Determination

roadway would be installed and maintained during construction to prevent unanticipated, off-road impacts to the site.

Due to the narrowness and poor condition of most of 26A, the refuge requested that 26A be removed from consideration for the project, except for its westernmost portion. Instead, a new access road has been proposed (26B) which runs east/west from Highway 286 south of road 26 and connects with the western part of 26A (See map for 26B). The archaeological survey of additional access roads resulted in the recording of two newly-identified sites. No sites were found in the short segment of AR-25 on the Refuge; although sites have been previously recorded along this road further north on Arizona State Land Department (ASLD) administered land (Hesse et al. 2012; Petersen and Barr 2013). Two newly-identified sites were found along AR-26B. Both sites are Hohokam artifact scatters that are considered eligible for the NRHP. Use of AR-26B in its current condition would not adversely affect these sites. No archaeological features were noted in the dirt roadway which is in relatively good condition through the sites. Grading within the current road footprint would be kept to a minimum and conducted only as needed. An archaeologist would monitor all road grading activities within and near the boundaries of these sites and road edges would be fenced off during construction to prevent accidental impacts to the off-road portions of the sites.

AR-27, also known as La Osa Ranch Road or El Mirador Road, is a regularly-maintained road that passes through some sites. Sierrita's use of this road, including grading and routine maintenance, would have no adverse effect on this site. Temporary fencing along the edge of the roadway would be installed and maintained during construction to prevent unanticipated, off-road impacts to the site.

Air Pollution, Noise, and Aesthetics

Sierrita's vehicular use of Buenos Aires NWR's roads and routes would generate air pollution (dust and internal-combustion-engine emissions) and noise and add unnatural elements to the Refuge's landscape. It would be expected that roadside litter would increase with increase in traffic. These same effects are now created by existing traffic on Refuge roads but to a much lesser extent. The incremental effects created by Sierrita's vehicles would be localized and temporary (over a 4-month period) and Sierrita would employ watering trucks, speed limits, and other means to minimize generation of dust. Even if this proposed use of Refuge roads is denied, the contribution of Sierrita's construction vehicles to regional air pollution would be largely unchanged, because Sierrita would access the Pipeline through more indirect routes in the same general area. Sierrita has developed a "Fugitive Dust Control Plan" for the Pipeline Project that is designed to address these issues.

Wildfire

Vegetation on the Refuge is highly vulnerable to fire and both natural and human-caused wildfires are of serious concern. A substantial increase in construction activity and motor-vehicle use of Refuge roads would present new opportunities to ignite wildfires and unnaturally alter the landscape. Sierrita has developed a "Fire Prevention and Suppression Plan" for the Pipeline Project that is designed to address these issues.

Draft Compatibility Determination

Homeland Security, Wildfire and Public Safety:

The Altar Valley is one of the most heavily-used illegal immigration and smuggling corridors in the U.S. and this traffic continues to impact the Refuge. The resulting trash, trails, illegal roads, fence cutting, abandoned vehicles, arson, trespass livestock, human waste and human disturbance have been, and continue to be, major impediments to effective wildlife conservation on the Refuge. Due to expanded U.S. Border Patrol (USBP) operations border infrastructure, the level of traffic has decreased over the last couple of years; but there continues to be great concern over damage to the Refuge's natural resources due to illegal border activities. In addition, illegal border crossers have stolen Refuge vehicles, burglarize government quarters, and commit vandalism. This has forced the Refuge into a defensive position that has required installation of expensive security infrastructure and hiring of additional law enforcement officers. All of this has created a diversion from wildlife management, requiring staff to coordinate with USBP and address the various natural resource and security risks related to staff and the public.

The cumulative impacts of ongoing border security projects and operations remain a critical concern for the Refuge. Ongoing activities, all of which impact Refuge wildlife, habitats, and infrastructure, include: extensive patrolling (24 hours a day, seven days a week) on and off Refuge roads by USBP agents; recent construction of a seven-mile vehicular and pedestrian barrier along the Refuge's southern boundary; and installation of several rescue beacons and temporary camera towers, a heliport with fueling station, and an equestrian facility. The combination of these activities and the illegal traffic has contributed to deterioration of the Refuge's landscape. Therefore, it is very important that use of access roads by Sierrita does not generate additional impacts to the Refuge and all measures to minimize impacts or restore areas are strictly adhered to.

Public Review and Comment:

This draft compatibility determination was made available for a 30 calendar day public review period beginning March 31, 2014 and ending April 29, 2014

The notice of availability for this compatibility determination was posted in local post offices and libraries; and provided in local newspapers in southern Arizona. Notice was also posted on the USFWS' and Refuge's web sites.

Determination: (check one below):

Use is Not Compatible

Use is Compatible with following Stipulations

Stipulations Necessary to Ensure Compatibility:

For purposes of the stipulations contained herein, a "Refuge official" would include an employee of the Buenos Aires NWR or a special inspector/monitor who has been officially granted written authority by the Service to represent the Refuge and make decisions regarding Sierrita's use of the Refuge in support of the Sierrita Pipeline Project.

Draft Compatibility Determination

To the extent that they were equivalent to or exceeded the Refuge-specific stipulations listed below, FERC- or other Federal Government-approved plans, bonds, monitors, and other formal commitments made by Sierrita for the entire Sierrita Pipeline Project may be determined to satisfy parts or all of one or more of these stipulations. Sierrita would need to present such documents, bonds, or other legal commitments to the Manager of the Buenos Aires National Wildlife Refuge and receive that Refuge official's formal approval prior to moving forward under the assumption that a non-Refuge-specific (i.e., a Project-wide) commitment would satisfy the stipulations listed herein.

General

1. A Refuge official, agency third-party environmental compliance monitor, or Sierrita environmental inspector would have the authority to temporarily suspend any portion or all of Sierrita's use of Refuge roads and associated activities when, in the judgment of the official or inspector/monitor:
 - a. General or special SUP conditions or compatibility determination stipulations were being or were about to be violated,
 - b. This was necessary to avoid unanticipated damage to the Refuge's natural or cultural resources,
 - c. This was necessary to prevent traffic-related conflicts or public-health or safety hazards, or
 - d. This was necessary for Refuge management activities.

Following such a suspension, Sierrita would be required to communicate with the Buenos Aires NWR Manager (or acting) and receive approval prior to reinitiating road use or associated activities.

2. Sierrita would be required to fund a third-party environmental compliance monitor who would be responsible for ensuring that Sierrita's use of Refuge roads and routes satisfied all general and special SUP conditions, and the stipulations listed in this compatibility determination. This compliance monitor could be a Service employee or an independent third-party individual acceptable to the Service and under contract with Sierrita. This inspector/monitor would need to be a GS-12 biologist or individual with equivalent training and experience, arrive on the ground at least one month prior to the initiation of Sierrita's road use (for orientation), and serve full time for the duration of the project.
3. Sierrita would also be required to fund a third-party environmental compliance monitor who would be responsible for ensuring that post road-use mitigation and restoration work were accomplished as specified and that they were demonstrated to be successful. This individual would also be responsible for developing and submitting to the Service annual reports regarding the success of the mitigation and restoration work. As noted above, this special inspector/monitor would be an independent third-party individual who was acceptable to the Service and under contract with Sierrita. This inspector would need to arrive on the ground at least one month prior to termination of Sierrita's road use (for orientation) and serve part-time for at least 5 years.
4. Sierrita would also be required to pay for one Refuge law enforcement officer who would be responsible for patrolling and enforcement of Refuge laws, regulations, and rules associated with Sierrita's road use, associated activities, and actions of Pipeline workers anywhere on the Refuge. Because of the special training and legal authority this individual would require, s/he would need to be a Service employee. This GS-9 law enforcement officer would need to arrive on the ground at least one month prior to the initiation of Sierrita's road use (for orientation) and serve part-time for the duration of the project

Draft Compatibility Determination

5. Sierrita would be required to conduct on-the-ground surveys for federally or State-listed or other special-status species, cultural resources, and paleontological resources. Sierrita would be responsible for securing all appropriate Federal, State, or other permits required to conduct such work. Prior to conducting any on-the-ground work on new surveys, Sierrita would be required to submit the proposed survey protocol to the Service and receive Service approval to proceed. Sierrita would be prohibited from undertaking collection or capture activities in association with these surveys without specific written authorization from a Refuge official. Sierrita would be required to report to a Refuge official all wildlife injuries or mortalities, or flushing of nesting raptors in association with these surveys.

Some of these surveys may have already been completed or partially completed. Once the surveys were complete, Sierrita would need to report their findings and any proposed special courses of action to a Refuge official, and receive approval from a Refuge official prior to initiating on-the-ground work on the road-related projects.

6. In order to minimize the likelihood that Pipeline construction-related activity forced domestic cattle, or horses onto the Refuge, or of Pipeline workers being unsure when they were on the Refuge and when on adjacent lands, Sierrita would be required to inspect, sign (with Buenos Aires NWR boundary signs), and maintain the Refuge's western boundary fence in areas associated with gates or roads.

Additionally, Sierrita would be required to repair, replace, or pay the Service for the cost of repair or replacement of any Refuge property (e.g., gates, fences, cattle guards, road signs, etc.) damaged or destroyed as a result of Sierrita's use of Refuge roads and associated activities.

7. Sierrita would be required to brief all Pipeline construction workers who would access the Refuge about the special status of these lands; their priority management for fish, wildlife, plants, their habitats, and wildlife-dependent recreation; the need to exercise care and caution while on the Refuge to minimize the potential for impacts to biological or cultural resources, or Refuge visitors; and the need to minimize the likelihood that non-native species, including domestic cattle and horses, and noxious weeds or invasive plants are allowed onto the Refuge.
8. Sierrita would be required to ensure that they could satisfy all of the general and special permit conditions and these compatibility stipulations, or pay another party to do so. The Refuge will work closely with the FERC to make sure Sierrita is complying with the stipulations.
9. In addition to the ones specifically listed herein, Sierrita would be required to implement relevant provisions of other appropriate plans included in FERC's final EIS on the Sierrita Pipeline Project (April 2014).
10. Sierrita's supervisor in charge of on-the-ground activities at the Refuge would be required to carry a copy of this compatibility determination and the Refuge SUP on his/her person at all times while any Sierrita staff, representatives, or contractors were on the Refuge.
11. Sierrita would need to take special efforts to minimize generation of roadside litter and to remove all litter that was created.

Draft Compatibility Determination

12. All monitoring and inspection reports created by Sierrita or a third party contractor must be provided to the Refuge Manager throughout the duration of the project

Roads, Traffic, and Public Safety

1. Prior to use of Refuge roads or routes by any large or heavy vehicles associated with the Pipeline, Sierrita would be required to develop, submit to the Service, and receive Service approval of a "Traffic Management Plan." This plan would spell out how Sierrita would propose to ensure that conflicts and safety hazards associated with Pipeline-related traffic were minimized for anyone using these roads, especially Refuge officials, Refuge-authorized agents, researchers, and the general public engaging in wildlife-dependent uses. At a minimum, this Plan would need to address use of cautionary road signs; flaggers; at least one, on-the-ground, traffic-safety manager; and other appropriate roadway safety measures.

In order to safely accommodate heavy volumes of traffic and larger, longer, and/or heavier vehicles, Sierrita would be allowed to restrict traffic on the Refuge's smaller roads to a single direction. This traffic restriction could occur mostly during morning and evening periods when heavy traffic would be expected, traveling to and from the Pipeline route (i.e., from 5:00 am to 8:00 am and 3:00 pm to 6:00 pm, daily) during the primary construction period, July 1, 2014 - September 30, 2014 (final dates to be determined). Stringing trucks may operate throughout the day during daylight hours and traffic control may be necessary outside of the hours mentioned above. This unidirectional restriction could only occur as often as actually needed for heavy volumes of traffic or larger, longer, and/or heavier vehicles. The above-mentioned "Traffic Management Plan" would need to include a proposed schedule (actual days of the month and times of the day) for these one-way traffic restrictions. Changes to the proposed schedule would require prior approval from a Refuge official. Sierrita would also be required to place large, easily seen and understood signs at appropriate intersections both on and off the Refuge to alert travelers about the proposed and actual schedule for one-way traffic restrictions. At these signed intersections, Sierrita would also be required to provide multiple copies of easily understood road maps advising other travelers of detour routes to avoid these one-way traffic restrictions.

2. Sierrita would be required to pay the Service for or contract for a traffic-safety manager who would be responsible for ensuring that conflicts and safety hazards associated with Pipeline-related traffic were minimized for others using these roads, especially Refuge officials, Refuge-authorized agents, researchers, and the general public engaged in wildlife-dependent uses. This individual could also serve on adjacent lands, but would need to give due attention to Buenos Aires NWR. This traffic safety manager would need to satisfy typical industry standards (in terms of training and experience), arrive on the ground prior to the initiation of Sierrita's road use, and serve at all times that Sierrita had large or heavy vehicles (not including pickup trucks) using Refuge roads.
3. Some Refuge roads are subject to rutting in the presence of moisture and have cultural resources sites within their path. As a result, prior to use of large, long, or heavy construction vehicles on these roads, Sierrita would be required to gravel selected sections of these roads, as specified by the Service. Otherwise, if damaged, roads would be subject to shut down and/or immediate repair.

Draft Compatibility Determination

4. All roads proposed for use would be inspected prior to use and their condition recorded. A copy of this condition report would be filed with the Service prior to use by any large or heavy vehicles associated with the Pipeline. At the end of the Pipeline construction period, when large, long, or heavy vehicles were no longer in use, all Refuge roads that received use would be inspected again and their condition recorded. A copy of this condition report would be immediately filed with the Service and Sierrita would be responsible for repairing damaged roads and the overlying road materials to the Service's satisfaction.
5. Sierrita would be required to implement – for their proposed Refuge use - the “Fugitive Dust Control Plan” included in FERC's final EIS (Appendix I). This would include application of water, as needed, for dust abatement.
6. Sierrita would need to stake and place temporary fencing along the edges of the roads with identified cultural resource sites, use proper measures to protect sites that fall within a road and receive approval from a Refuge official prior to proceeding with road usage.
7. Construction of the Sierrita Pipeline is scheduled to be completed by the end of September 2014. Thereafter, Sierrita should have no need to travel Refuge roads with large, long, and/or heavy construction vehicles. There would remain inspection, mitigation, restoration, monitoring, and perhaps other work along the Pipeline right-of-way and/or on the Refuge for the life of the project. Sierrita should be able to accomplish this work using standard-sized highway vehicles (e.g., pickup trucks). In the event that Sierrita desires to again use large, long, and/or heavy vehicles on Refuge roads, they would be required to first contact and receive approval for that use from the Buenos Aires NWR Refuge Manager (or acting). Contact would need to be made at least 24 hours in advance of the anticipated use.
8. Sierrita would not be allowed to mow strips or construct pullouts adjacent to, widen, or otherwise alter Refuge roads or routes of travel in any way unless specifically authorized by permit or otherwise approved by the Buenos Aires NWR Refuge Manager (or the acting).
9. Sierrita would not be allowed to use roads 25 and 26 as access for Pipeline construction until such time that it has secured access to the Sierra Vista Ranch via the landowner. Sierrita would be required to sign road 25 and 26 at all access points as “No Access for Sierrita Pipeline Project Traffic,” would be prohibited from making any changes to this road or immediately surrounding area, and would only be allowed to use this road for medical emergencies. If Sierrita secures access to the Sierra Vista Ranch from the landowner, Sierrita would be required to apply the stipulations listed in this Compatibility Determination to roads 25 and 26.
10. Sierrita would be allowed to use road 26B (and west end of 26A) for passage of light-duty construction equipment only (e.g., pickup trucks). Generally, the road would be used as is. Wash crossings could be graveled and if the road became excessively rutted or eroded, the roadbed could be selectively bladed, but only after specific consultation with and approval from a Refuge official.

Draft Compatibility Determination

Fish, Wildlife, Plants, and Their Habitats

1. Since mesquite line many of the refuge roads, Sierrita would be authorized to trim, and possibly remove trees to improve access, but approval must be obtained from the Refuge Manager (or Acting) prior to any tree cutting or removal.
2. As noted earlier, initiation of work on any proposed improvements to Refuge roads that require work outside the current roadbed would require prior, site-specific approval from a Refuge official.

In order to minimize impacts to raptors and other migratory birds nesting near the roads and routes, construction-related activities would need to be initiated prior to the start of the nesting season or otherwise occur consistent with the Migratory Bird Agreement for the Sierrita Pipeline Project.

3. Sierrita would be required to implement – for their proposed Refuge use - the “Noxious and Invasive Weed Control Plan” included in FERC’s draft EIS (Appendix H). This would include training of personnel, monitoring, and vehicle cleaning to minimize the spread of undesirable plants; and post use control actions, as needed.

Application of herbicides or other pesticides on the Refuge would require prior approval from a Refuge Official. Sierrita would need to draft and submit to the Service a Pesticide Use Proposal (PUP) for each pesticide proposed for use. The PUP would need to be submitted in advance of any proposed application (preferably by at least one month) to allow for review and other processing by the Service, including satisfaction of other relevant compliance requirements. Pesticides could only be applied by a certified pesticide applicator and consistent with the approved PUP. Unless specifically approved by a Refuge official, pesticides could not be applied closer than 100 feet from a wetland.

Following their use of Refuge roads, if areas are found to be disturbed as a result of their activities on refuge, Sierrita would be required to re-seed areas with native seed mixes approved by the Service and monitor the success of that re-seeding consistent with the habitat-restoration requirements described below.

4. Potential incursion of domestic cattle or horses onto the Refuge could occur in association with Sierrita’s use of the Refuge (e.g., a gate being left open, or a fence, gate, or cattle guard being cut or otherwise damaged). In such an event, Sierrita would be required to compensate the Service for the cost of rounding up and removing the trespass animals.
5. The Service could determine that the modifications Sierrita may propose to Refuge roads were desirable for public safety, operational, or other reasons. Such modifications would then remain in place. However, in the event the Service determined that some or all of the modifications were not desirable, then Sierrita would be required to remove those changes and restore conditions to their pre-use state, and/or mitigate for damage (e.g., habitat displacement or degradation and disturbance to wildlife as a result of their road use and associated activities).

Draft Compatibility Determination

Restoration would include reshaping surface elevations to approximate pre-construction contours; seeding and/or planting vegetative starts, as appropriate; stabilizing restored surfaces with straw or other acceptable materials; controlling invasive plants; and monitoring of disturbed areas until it was clear that the restoration had been successful.

Using as a guide the “Reclamation Plan” included in FERC’s draft EIS (Appendix F), Sierrita would be required to incorporate a section in their Reclamation Plan about roads. This section would need to include relevant, site-specific descriptions of proposed restoration and an accompanying schedule of action. Sierrita would need to receive Service approval of the Plan, including the seeds and planting stock proposed for use, prior to initiating restoration or mitigation work on the Refuge. Restoration monitoring would be required for at least 5 years, until the monitoring determined it was successful. Habitat restoration would be deemed successful when erosion was found to be minimal and the established mix of healthy and growing native plants was similar between disturbed and adjacent undisturbed areas and invasive plants were absent.

Using as a guide the information contained in the “Riparian Areas affected by Project” included in FERC’s draft EIS (Appendix T), Sierrita would be required to avoid and minimize potential impacts to drainages/washes and, post-use, restore these habitats if damaged.

6. If use of Refuge roads AR 15, 16 and 22 occurs between June 15 and Sept 15, Sierrita would be required to place 4-6 inches of AB road base on all portions of the roads deemed necessary by Refuge management prior to the project. The AB road base may not be required by Refuge management if roads are used during a drier time of year.
7. If use of Refuge roads AR 15, 16 and 22 occurs between June 15 and Sept 15, Sierrita would be required to utilize the technique outlined in, “Water Harvesting from Low-Standard Rural Roads” (Zeedyk 2006) after the project. Refuge management may not require this technique prior to use if roads are used during a drier time of year, but it will be required after the project.
8. All other Refuge roads would not require the road base or the water harvesting method but would need to be graded with proper drainage before and after the project (see 5 above).

Public Use

1. See requirements above under “Roads, Traffic, and Public Safety.”

Cultural Resources

1. Sierrita has conducted on-the-ground cultural resources survey of the areas surrounding the Refuge’s access roads proposed for use. In light of survey results, Sierrita would be required to place temporary fencing along roads in order to avoid known cultural resource sites. Any site that falls within a roadway needs to be protected by laying 3 inches of gravel over the site for the width of the road and at least 5 feet to either side of the site to protect that area from vehicles driving over it.

Draft Compatibility Determination

If construction work or any additional on-the-ground surveys revealed cultural resources potentially at risk of harm from Sierrita's road use or related activities, then measures to protect these resources would need to be evaluated and appropriate actions taken consistent with requirements of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470), as directed by the Service. Sierrita would also be required to implement the "Final Cultural Resources Treatment Plan for the Sierrita Pipeline Project,

Consistent with protection provisions of the Paleontological Resources Preservation Act of 2009 (16 U.S.C. 470aaa et seq.), Sierrita would be required to immediately stop work if unanticipated discoveries were made of paleontological resources. A Refuge official would then need to be immediately informed about those discoveries and consulted regarding the need for appropriate mitigative or other actions. Sierrita would be required to wait until a Refuge official granted them approval to proceed prior to reinitiating work.

Wildfire

1. To minimize the potential for wildfire related to their proposed use of Buenos Aires NWR, Sierrita would be required to implement the "Fire Protection Plan" included in FERC's final EIS (Appendix P).

Justification:

Refuge Purposes and Goal, and the Refuge System Mission. Sierrita's proposed use of Refuge roads and routes to access the Pipeline would temporarily increase disturbance to Refuge wildlife and temporarily conflict with access to and use of the Refuge by visitors, Refuge officials, and others. Following Pipeline construction, the road improvements that the Service chose to retain would be permanent. These improvements would make the roads safer and easier to travel for a greater portion of the year and thereby facilitate access to and use of the Refuge by visitors, and management of Buenos Aires NWR by Refuge officials, Refuge-authorized agents, and researchers. In light of the associated stipulations, this proposed use would both minimally affect, both positively and negatively, achievement of Buenos Aires NWR's purposes and goal, and the Refuge System mission.

Fish, Wildlife, Plants, and Their Habitats. The required stipulations included in this compatibility determination would greatly reduce the potential biological impacts of Sierrita's proposed use of the Refuge. The increased volume, size, and noise of traffic would result in increased disturbance to Refuge wildlife. This disturbance would occur on a temporary (approximately 4 month) and localized basis. Authorization of this use would require Sierrita to undertake a variety of projects benefitting the Refuge's fish, wildlife, plants, and habitats including control of roadside invasive plants; repair and maintenance of the western boundary fence and gates to minimize incursion by cattle, or horses; posting of the western Refuge boundary; and restoration of roadside habitats, including replanting natives in areas currently invaded by exotic plants.

Public Use. Following Pipeline construction, the road improvements made by Sierrita that the Service chose to retain would be permanent. These improvements would make the roads safer and easier to travel for a greater portion of the year and thereby facilitate access to and use of Buenos Aires NWR by priority wildlife-dependent visitors and other users.

Draft Compatibility Determination

Cultural Resources. The stipulations would require on-the-ground surveys for cultural and paleontological resources prior to any earth-moving activities. Discovered sites/resources would need to be avoided or appropriate mitigative action taken, in consultation with the Service. Ongoing monitoring requirements would help ensure protection of un-anticipated discoveries.

Wildfire. Operation of numerous motor vehicles and construction equipment associated with Sierrita's use of Refuge roads would increase the potential for wildfires. However, Sierrita would implement a program specifically designed to prevent and suppress such fires.

Off-Refuge Alternatives. Sierrita could access the proposed Pipeline alignment along other existing or constructed off-Refuge routes but the resulting environmental impacts would be excessive and more damaging than using existing roads on the Refuge.

Administrative Costs, Inspector/Monitor, and Law Enforcement Officer. Sierrita would be responsible for the costs (including overhead costs) associated with evaluation and permitting of the proposed Pipeline and use of Refuge roads, and administration of this use. Additionally, Sierrita would assume the costs for an inspector/monitor and law enforcement officer. The inspector/monitor would help ensure that Sierrita's activities were conducted in compliance with general and special permit conditions and the stipulations listed herein. The law enforcement officer would help ensure that Sierrita's traffic and other activities did not pose safety hazards to the public or Refuge personnel and that the large Pipeline workforce observed applicable laws, regulations, and rules while on the Refuge.

Refuge System Mission. Together, the proposed use and stipulations contained herein would result in a set of actions that generated minor adverse effects and modest beneficial effects. On net, the proposed use would contribute to achievement of the Refuge's purposes and the Refuge System mission.

Increased use of Refuge roads would adversely affect the Refuge's biological resources over a 4-month period. However, in association with authorization of this use, Sierrita would be required to undertake a variety of projects benefitting the Refuge's natural resources. These include control of roadside invasive plants; repair and maintenance of the western boundary fence and gates to minimize incursion by cattle and horses; posting of the western Refuge boundary; and restoration of roadside habitats, including replanting natives in areas currently invaded by exotic plants. In total, these actions would generate positive benefits for Refuge habitats and biota near roads in the southwest and southern areas of the Refuge.

As noted earlier, Sierrita has proposed to prepare the Refuge's roads for vehicular access by grading, blading, graveling cultural sites, and graveling or matting of a dry washes. These changes would enhance driver safety and improve access on these roads during times of the year when road conditions currently pose a challenge to travel. These changes would facilitate access to and management of Buenos Aires NWR by Refuge officials, Refuge-authorized agents, and researchers and thereby directly and indirectly contribute to achievement of Refuge purposes, goal, objectives, and the Refuge System mission. Additionally, these road improvements would facilitate access to and use of the Refuge by visitors, including the Refuge's highest priority wildlife-dependent users (i.e., hunters, wildlife observers, and photographers).

Draft Compatibility Determination

Materially Interfere with or Detract From. Sierrita's proposed use of Refuge roads, routes, and related actions to support the transport of natural gas is an economic use. In light of the above stipulations, this use would have a combination of minor and modest effects. The adverse effects would not handicap the Refuge's ability to achieve its purposes and the beneficial effects would modestly facilitate achievement of those purposes. Considering the above stipulations, Sierrita's proposed use of Refuge roads to access the Pipeline would not materially interfere with or detract from achievement of the purposes for which Buenos Aires NWR was established or the Refuge System mission.

_____ Mandatory 10- or 15-Year Re-evaluation Date: (provide month and year for "allowed" uses only)

_____ Mandatory 15-year reevaluation date (for wildlife-dependent public uses)

X Mandatory 10-year reevaluation date (for all uses other than wildlife-dependent public uses)

NEPA Compliance for Refuge Use Decision: (check one below)

___ Categorical Exclusion without Environmental Action Statement

___ Categorical Exclusion and Environmental Action Statement

___ Environmental Assessment and Finding of No Significant Impact

X Draft Environmental Impact Statement and Record of Decision

In November 2013, the FERC issued a draft EIS that addressed almost all aspects of the proposed Sierrita Pipeline Project. The Service is a cooperating agency on that EIS but has yet to adopt it or issue a Record of Decision for the proposed Pipeline access through Buenos Aires NWR. Much of the information and some of the analyses contained in this compatibility determination are addressed in greater detail in the draft EIS.

References Cited:

Andrews, K.M., J.W. Gibbons, and D.M. Jochimsen. Oct 2006. Literature Synthesis of the Effects of Roads and Vehicles on Amphibians and Reptiles. Federal Highway Administration, U.S. Department of Transportation, Report No. FHWA-HEP-08-005. Washington, DC.

Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1544).

Forman, R.T. Feb 2000. Estimate of the Area Affected Ecologically by the Road System in the United States. Conservation Biology, Vol 14, No. 1.

Forman, R.T. and L.E. Alexander. 1998. Roads and their Major Ecological Effects. Annual Review of Ecology and Systematics, Vol. 29.

Geiger, E.L. 2002. Can we restore grasslands dominated by *Eragrostis lehmannii*? Masters Thesis, The University of Arizona. 74 pp.

Hesse, S. Jerome, David M. R. Barr, Paul Rawson, India S. Hesse, and Eric S. Petersen. 2012. *Archaeological Survey for El Paso Natural Gas Company's Sasabe Lateral Project, Pima*

Draft Compatibility Determination

County, Arizona. Cultural Resources Report No. 12-407. SWCA Environmental Consultants, Tucson.

McLaughlin 1990, Plant List of Buenos Aires NWR, BANWR unpublished data

Migratory Bird Conservation Act of 1929, as amended (16 U.S.C. 715-715r).

(MLA) Mineral Leasing Act of 1920, as amended (30 U.S.C. 181-263).

National Environment Policy Act of 1969, as amended (42 U.S.C. 4321-4347).

National Historic Preservation Act of 1966, as amended (16 U.S.C. 470).

National Wildlife Refuge System Administration Act of 1966, as amended (16 U.S.C. 668dd- 668ee), including the Game Range Act of 1976 (P.L. 94-223, 90 Stat. 199).

Public Lands: Interior; Rights of Way under the Mineral Leasing Act (43 C.F.R. 2880).

Real Property; Real Property Management; Rights-of-Way and Road Closings (340 FW 3).

Refuge Management; National Wildlife Refuge System Uses; Appropriate Refuge Uses (603 FW 1).

Refuge Management; National Wildlife Refuge System Uses; Biological Integrity, Diversity, and Environmental Health policy (601 FW 3).

Refuge Management; National Wildlife Refuge System Uses; Compatibility policy (603 FW 2).

Refuge Revenue Sharing Act of 1935, as amended (16 U.S.C. 715s)

Trombulak, S.C. and C.A. Frissell. Feb 2000. Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities. *Conservation Biology*, Vol. 14, No. 1.

U.S. Fish and Wildlife Service. Refuge Manual (5RM17)

U.S. Federal Regulatory Commission, Draft Environmental Impact Statement, 2013

U.S. Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), as amended

U.S. Fish and Wildlife Service. 2003. Buenos Aires National Wildlife Refuge Final Comprehensive Conservation Plan, September, 2003. U.S. Fish and Wildlife Service, Southwest Region, Albuquerque, New Mexico.

Wildlife and Fisheries; Land Use Management; Rights-of-Way General Regulations (50 C.F.R. 29.21).

Draft Compatibility Determination

Wildlife and Fisheries; Land Use Management; May we allow economic uses on national wildlife refuges? (50 C.F.R. 29.1).

Zeedyk, B. April 2006. Water Harvesting from Low-Standard Rural Roads. Quivira Coalition, 46 pp.

Attachments:

Map of Buenos Aires National Wildlife Refuge (December 2012).
Map of Sasabe Lateral Pipeline - East and West Alternative (September 2012).
Map of Proposed Access Roads

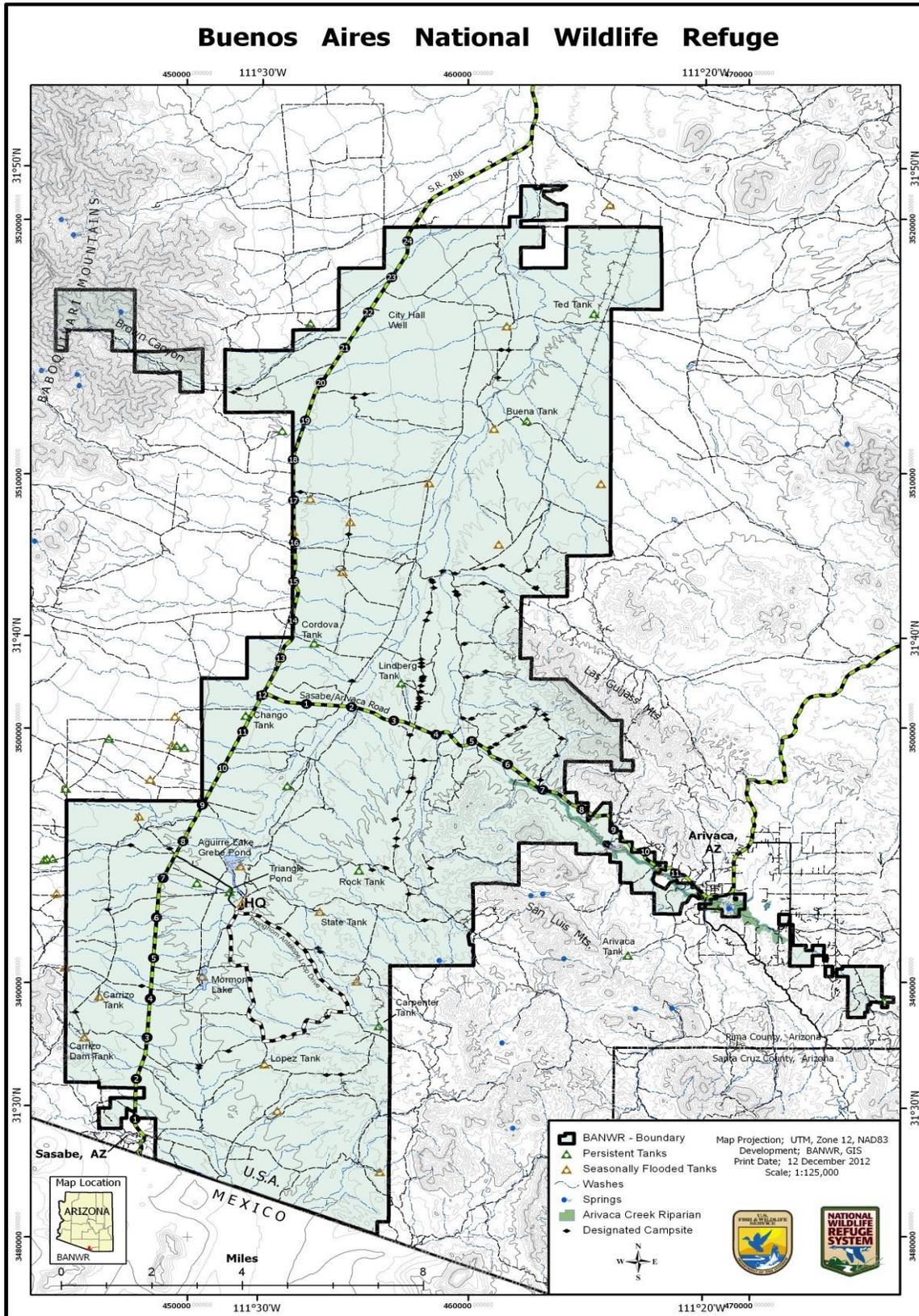
Refuge Determination: To be signed upon completion of final determination

Prepared and Approved by
Project Leader
Buenos Aires NWR: _____ (Signature)
(Date)

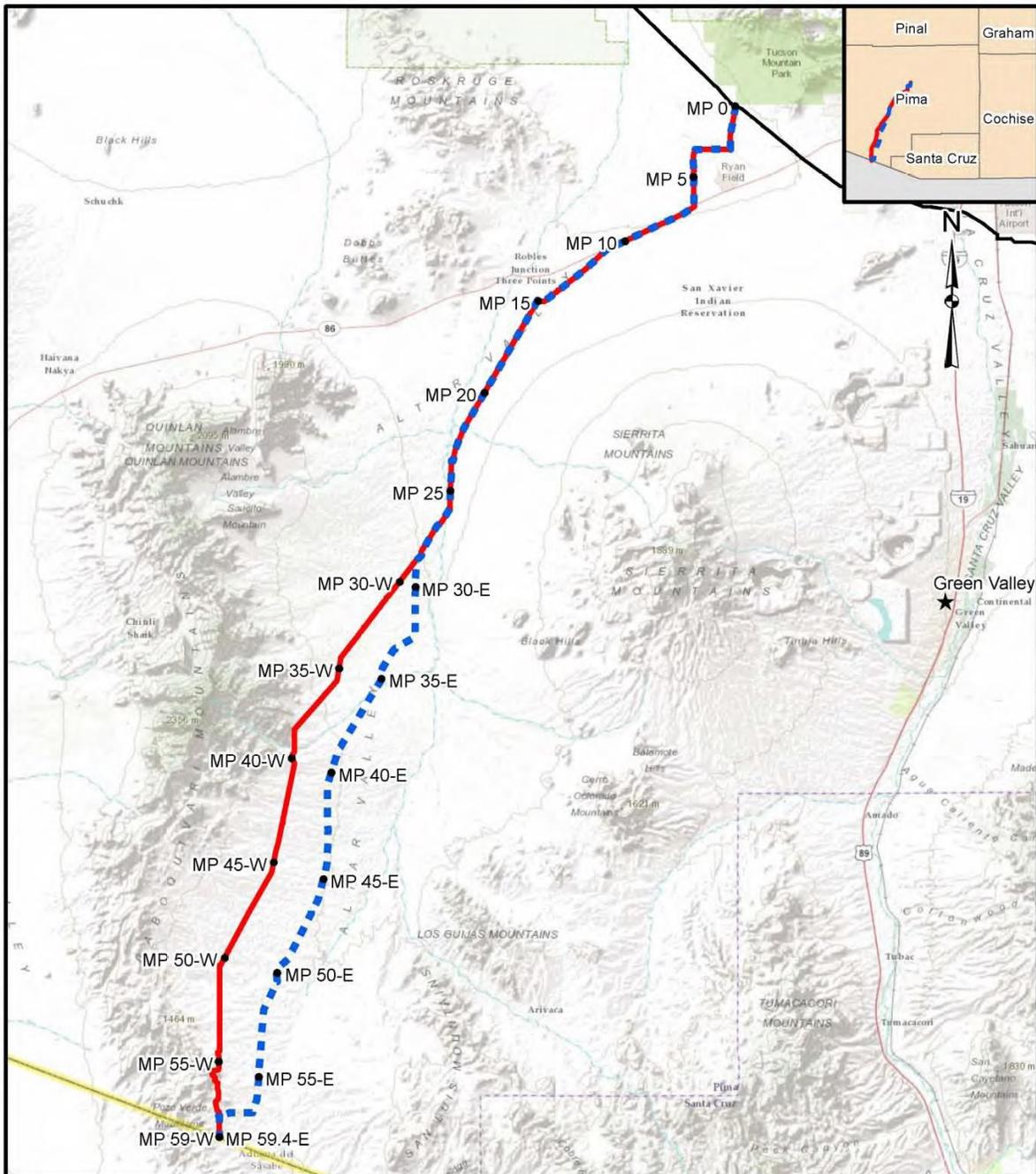
Concurrence:
Refuge Supervisor
National Wildlife
Refuge System
Southwest Region: _____ (Signature)
(Date)

Regional Chief,
National Wildlife
Refuge System
Southwest Region: _____

Draft Compatibility Determination



Draft Compatibility Determination



Pima County, Arizona
Source: ESRI, 2010

Legend

- Milepost
- ★ City
- East Alternative
- West Alternative
- U.S. - Mexico Border
- Existing EPNG South Mainline System

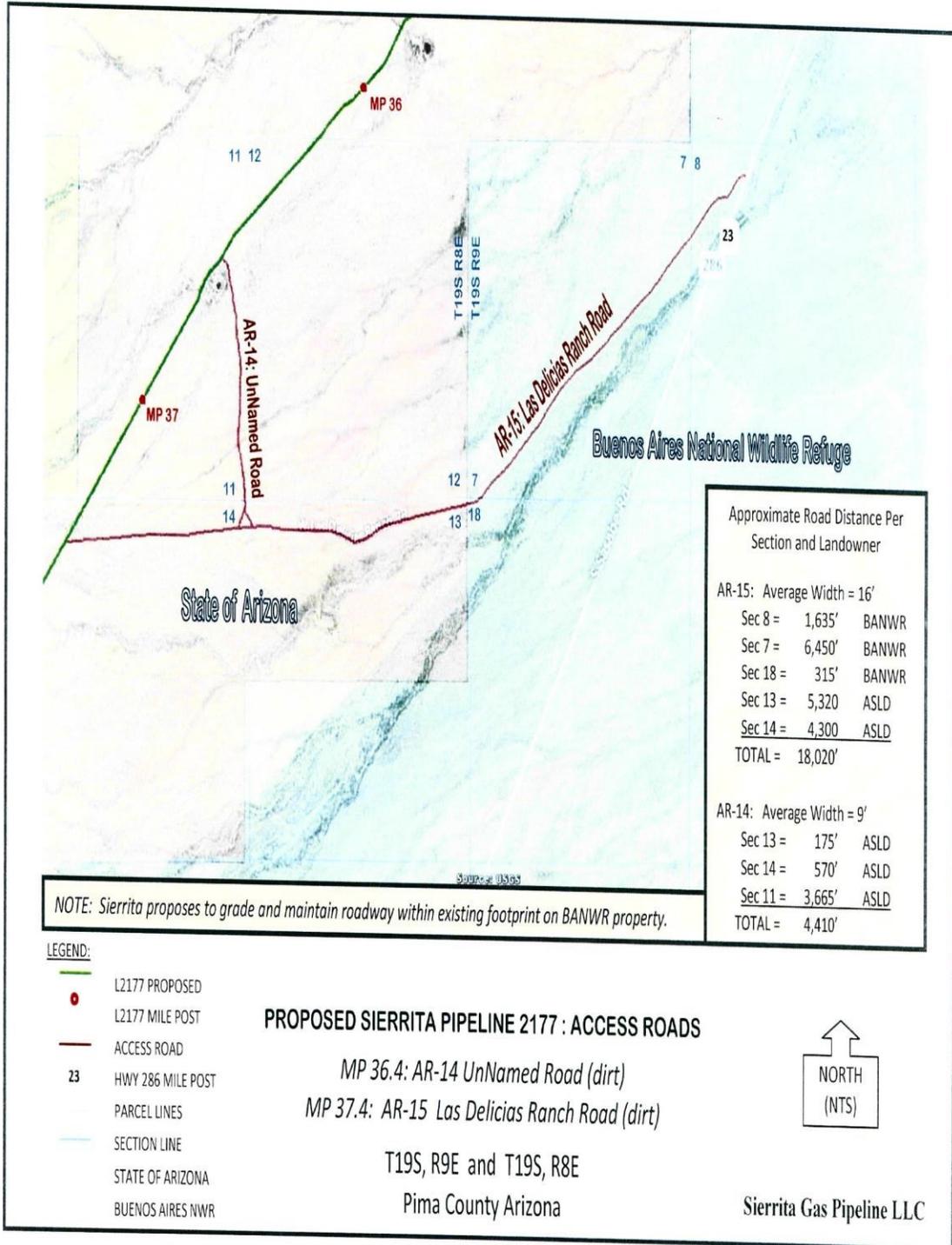


CH2MHILL

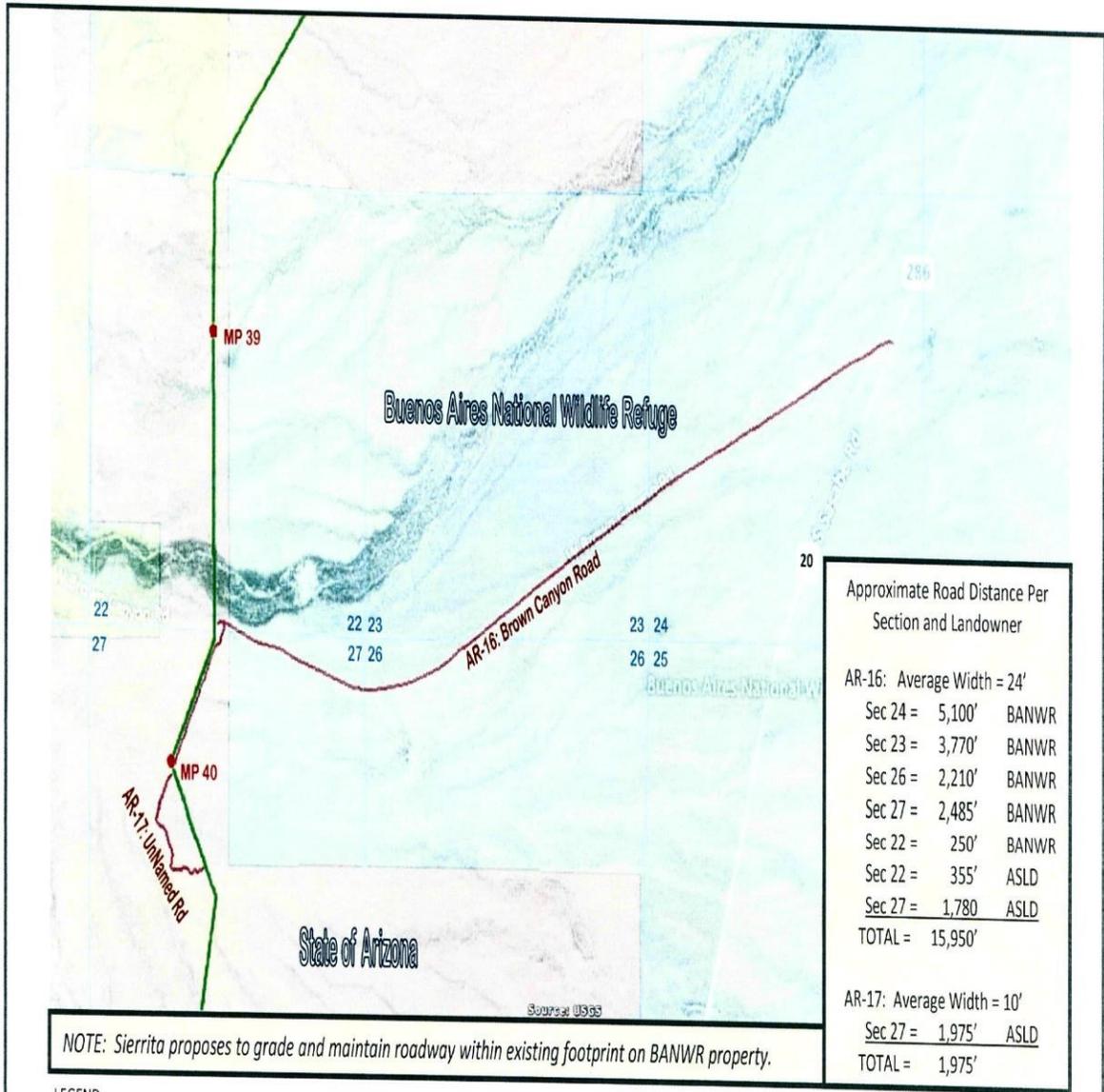
 El Paso Natural Gas Company, L.L.C.
a Kinder Morgan company
Sasabe Lateral Project
**Figure 1-1
Project Location Map**

Sheet 1 of 1 | September 2012

Draft Compatibility Determination



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NOTE: Sierrita proposes to grade and maintain roadway within existing footprint on BANWR property.

LEGEND:

- L2177 PROPOSED
- L2177 MILE POST
- ACCESS ROAD
- 20 HWY 286 MILE POST
- PARCEL LINES
- SECTION LINE
- STATE OF ARIZONA
- BUENOS AIRES NWR

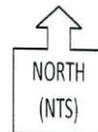
PROPOSED SIERRITA PIPELINE 2177 : ACCESS ROADS

MP 39.6: AR-16 Brown Canyon Road (dirt)

MP 40.0: AR-17 UnNamed Road (dirt)

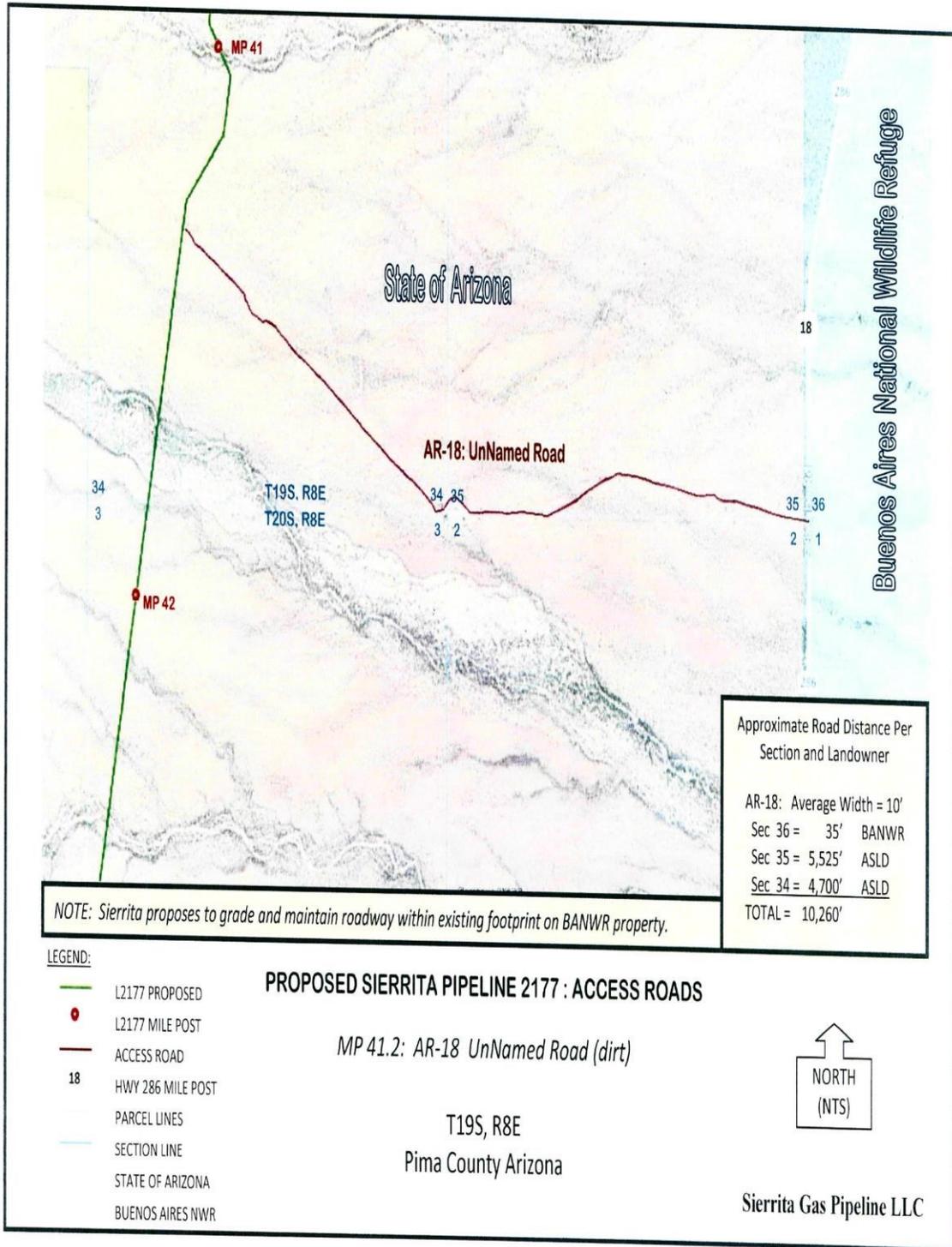
T19S, R8E

Pima County Arizona

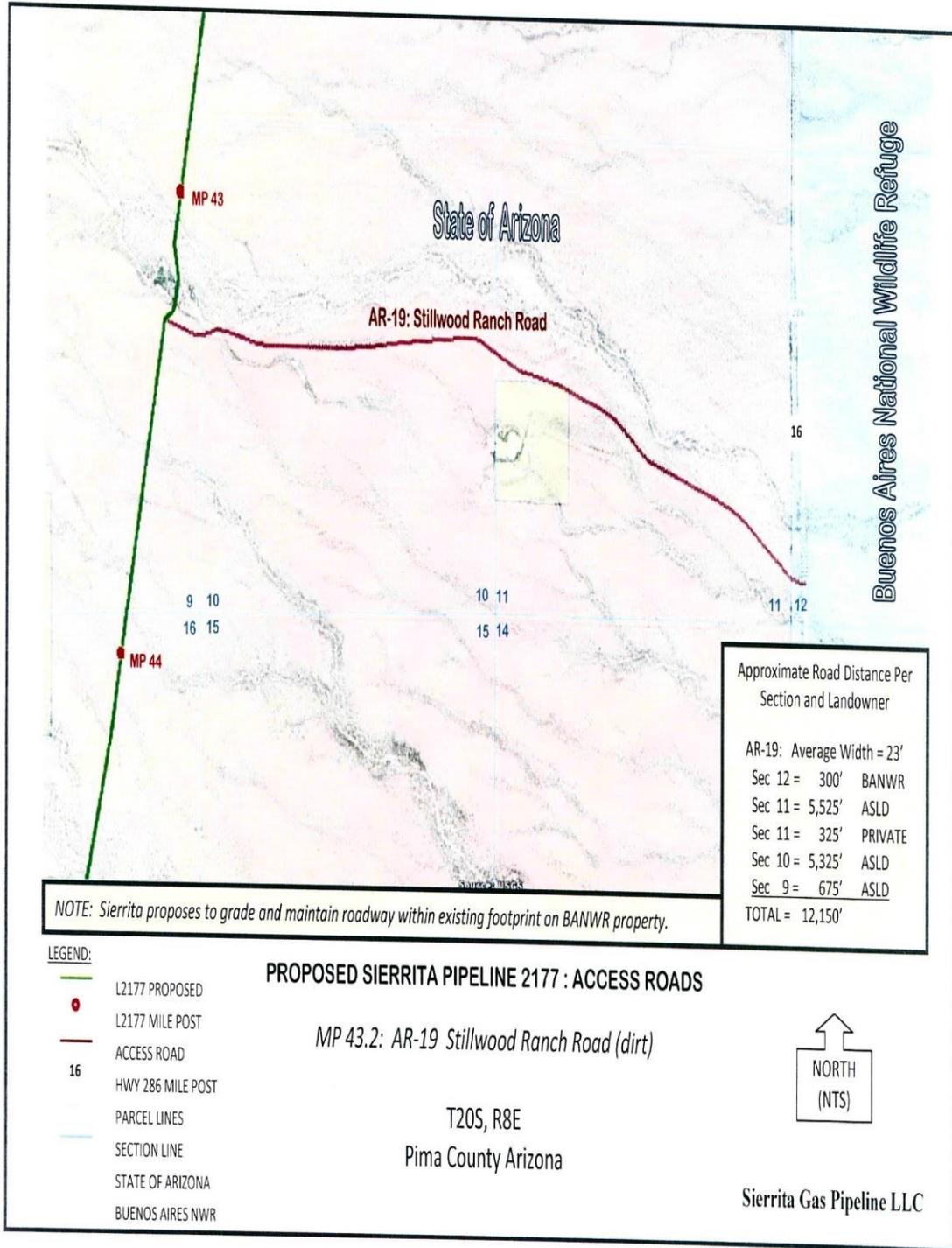


Sierrita Gas Pipeline LLC

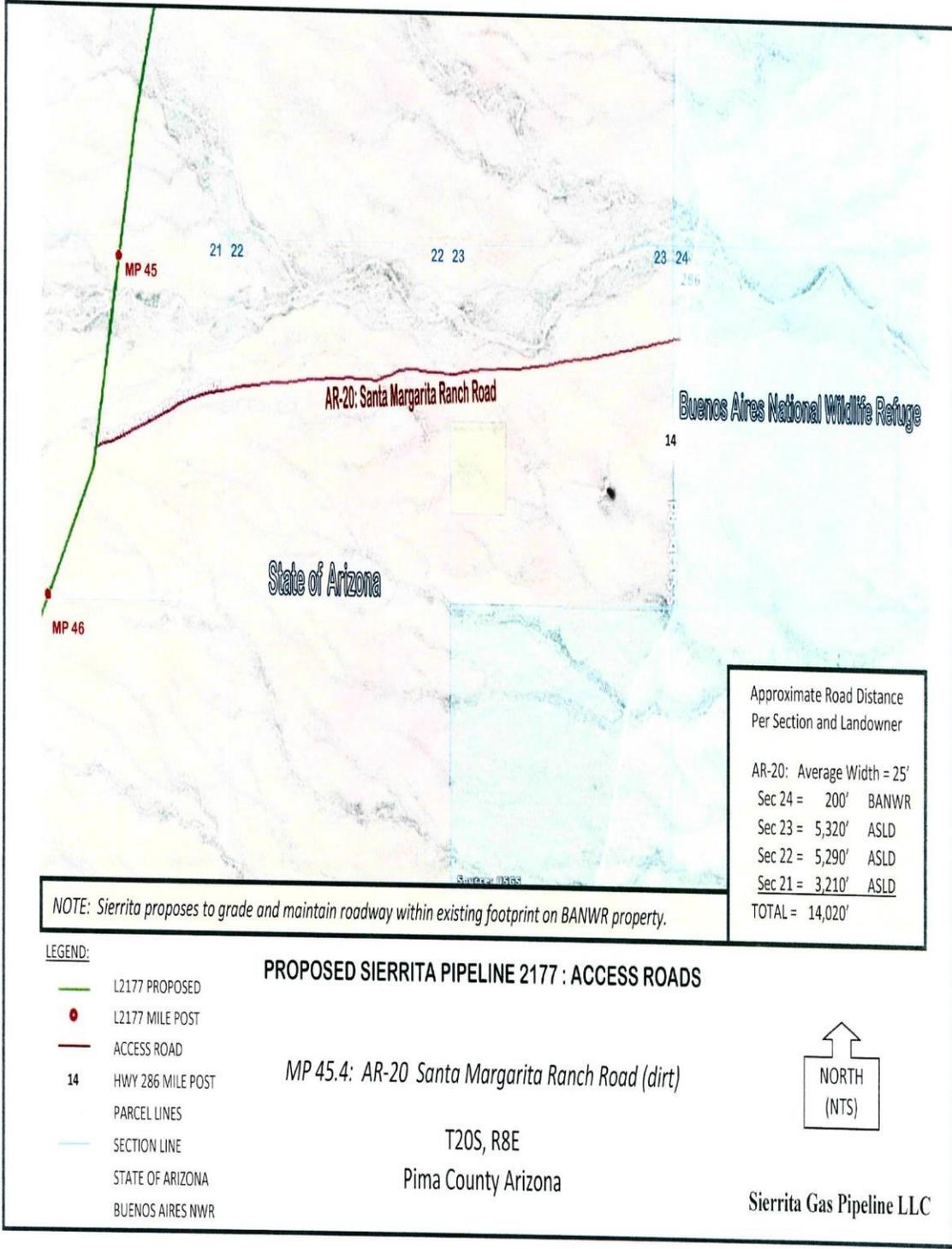
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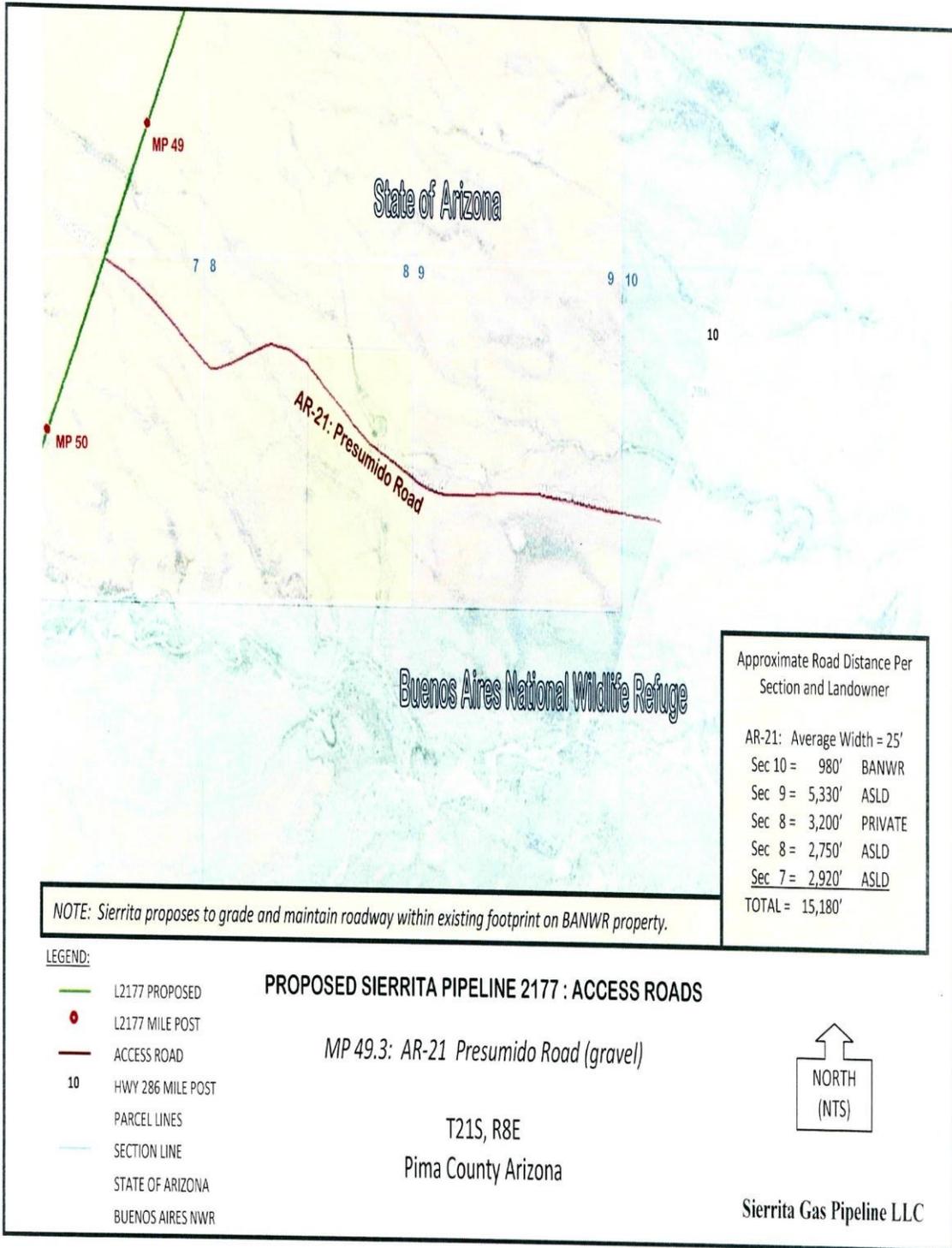
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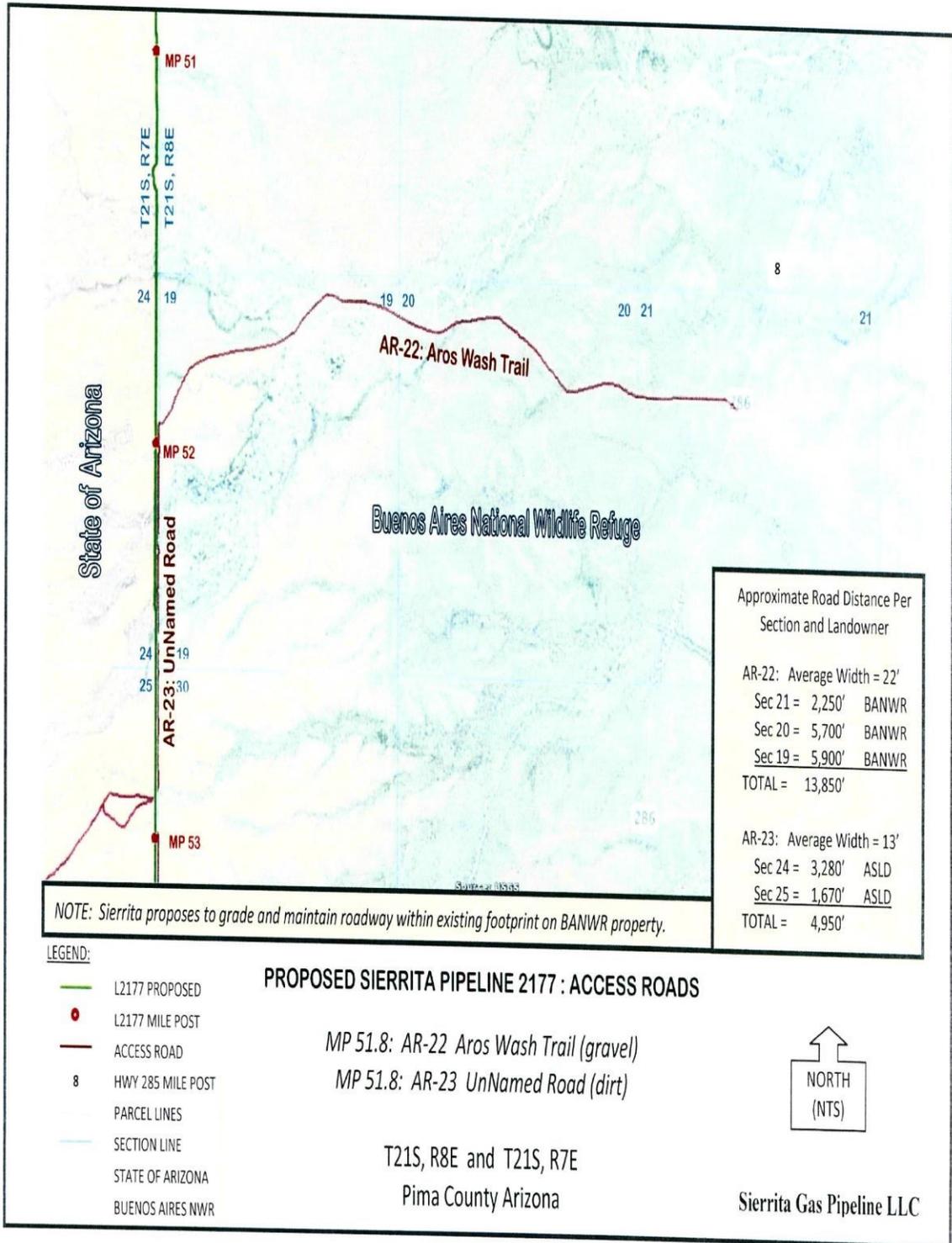
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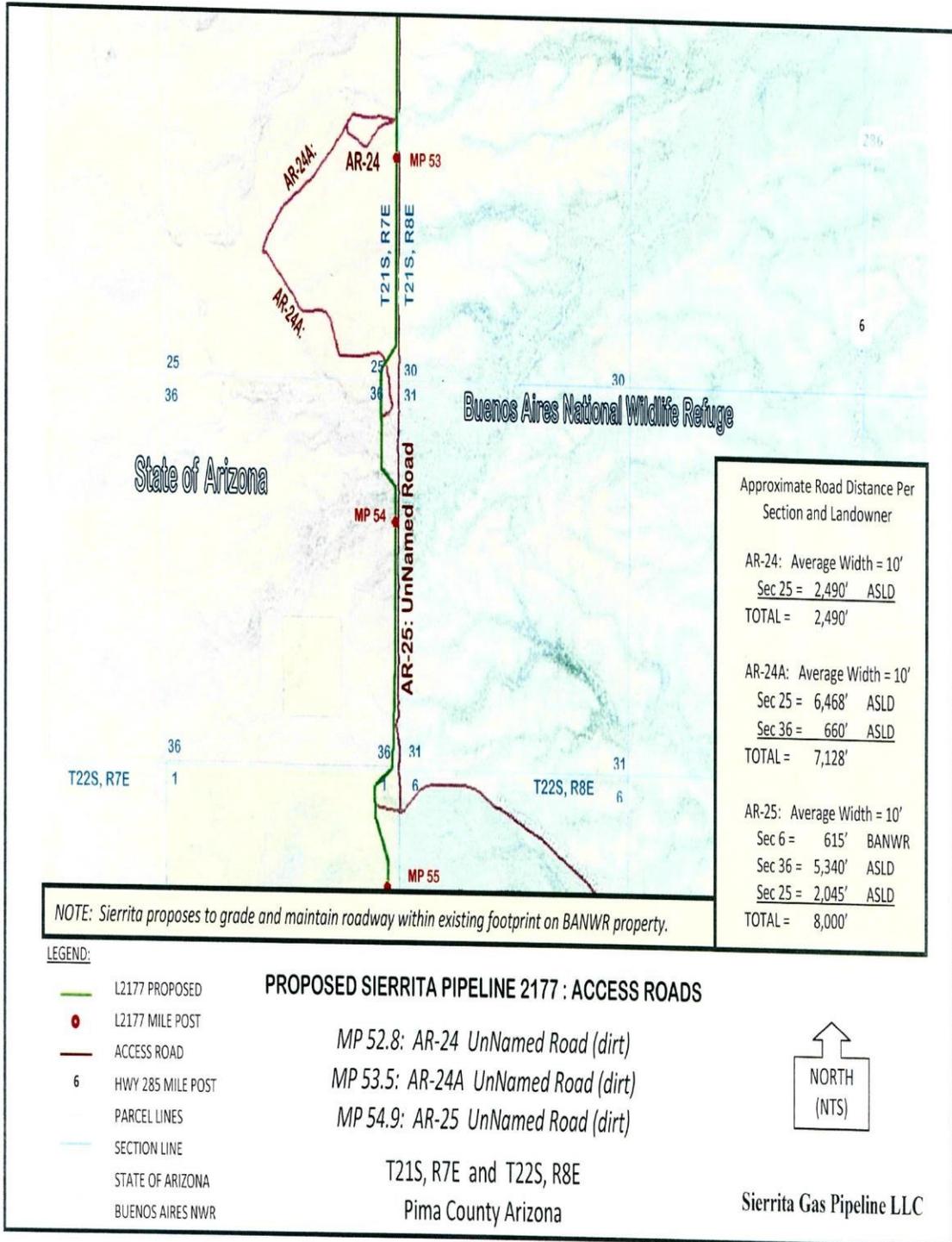
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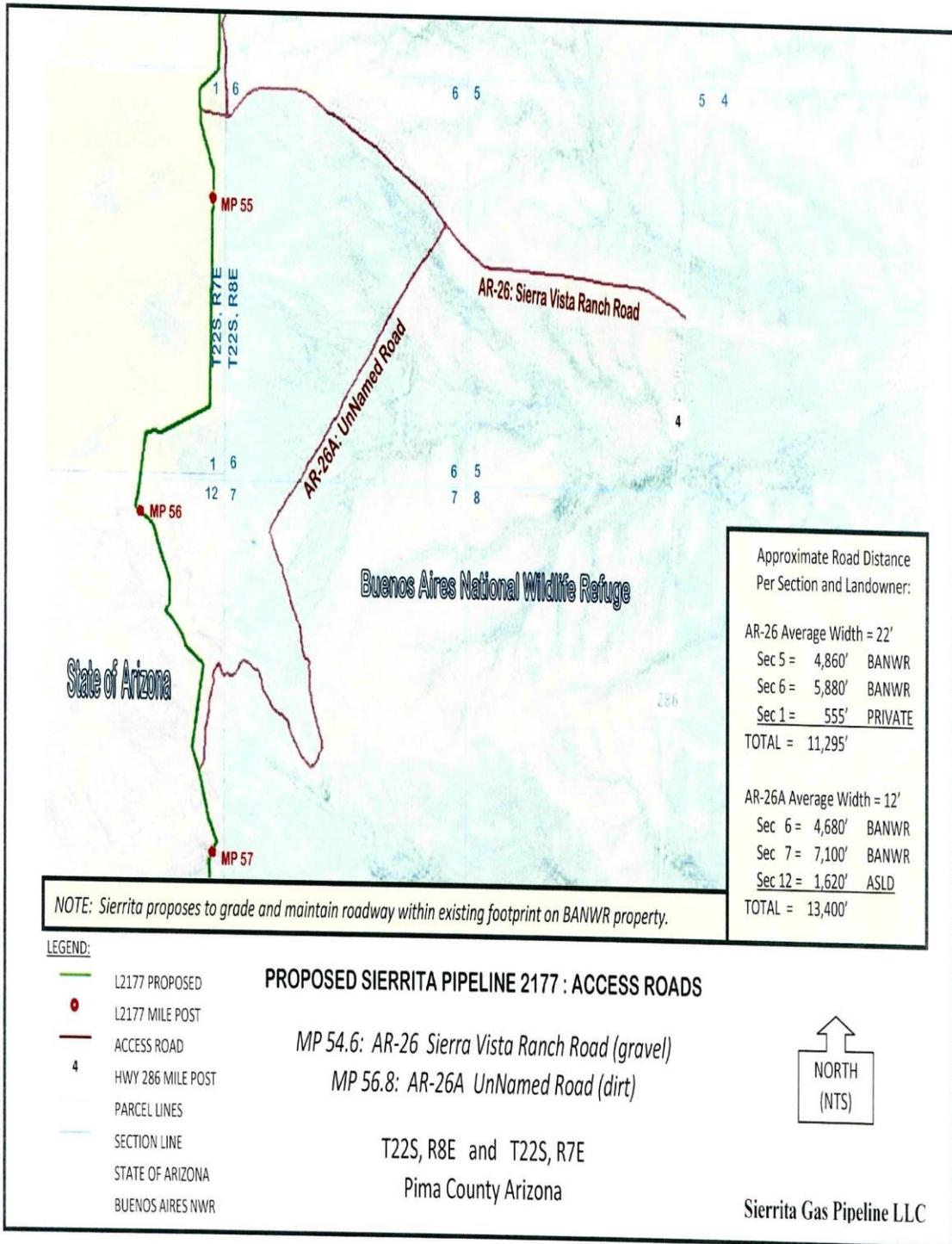
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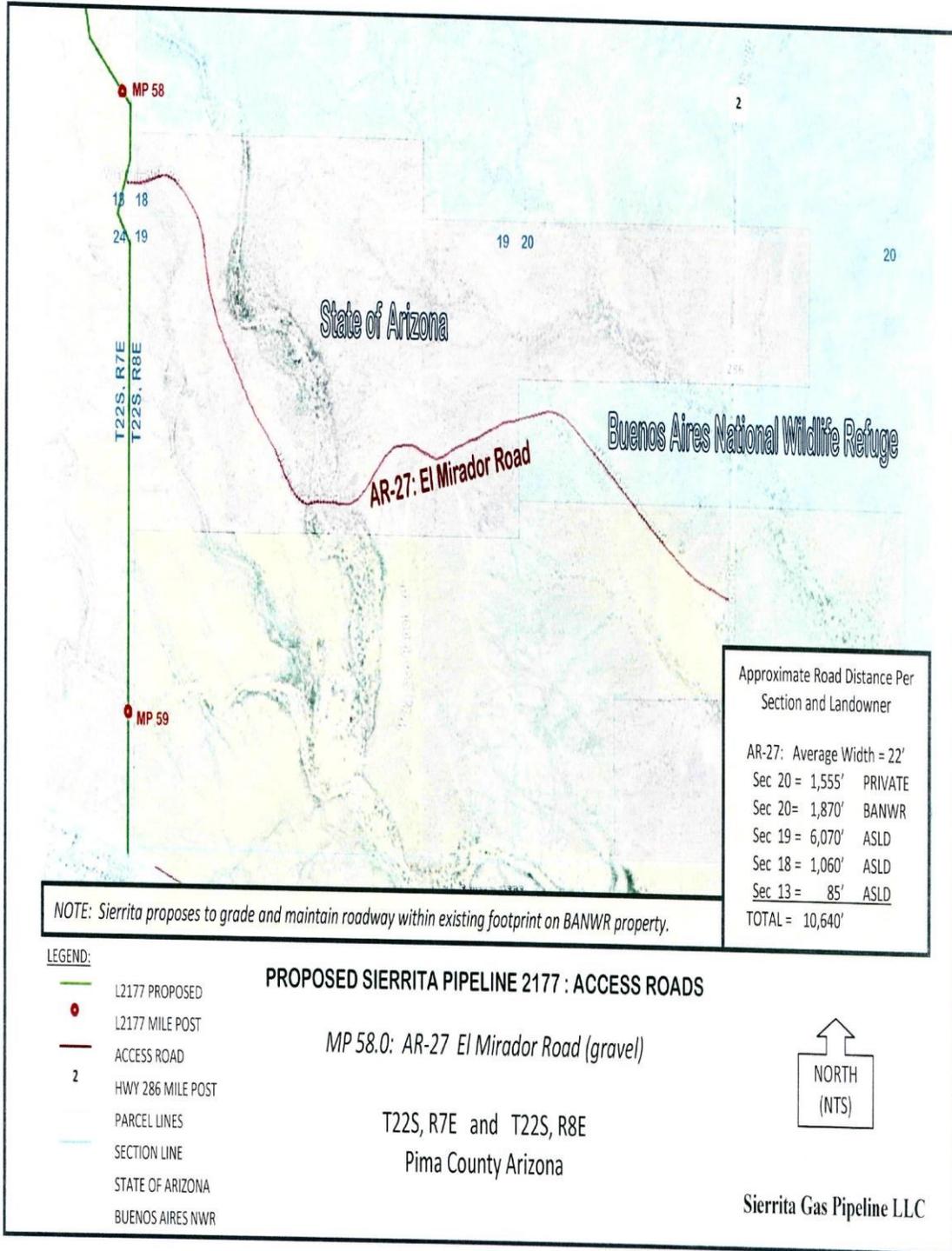
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