



**US Army Corps
of Engineers®
Albuquerque District**

SECTION 593 WATER RESOURCES DEVELOPMENT ACT

AMENDED
ENVIRONMENTAL ASSESSMENT

for the

BLACK MESA STORMWATER DRAINAGE
IMPROVEMENT PROJECT
BERNALILLO COUNTY, NEW MEXICO

Prepared by

U.S. ARMY CORPS OF ENGINEERS
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Finding of No Significant Impact
Section 593, Water Resources Development Act, 1999
Black Mesa Stormwater Drainage Improvement Project
Bernalillo County, New Mexico

The U.S. Army Corps of Engineers (Corps), Albuquerque District, in cooperation with and at the request of Bernalillo County, New Mexico and the Albuquerque Metropolitan Arroyo Flood Control Association (AMAFCA), is planning a project that would consist of improving stormwater drainage and reducing the potential for flooding within the Black Mesa project area, which is located in Bernalillo County, just south of the Albuquerque City limits. The construction work is authorized under Section 593 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 *et seq.*), as amended. The Act authorizes the Corps to provide assistance for design and construction for water-related environmental infrastructure and resource protection and development projects in central New Mexico. Bernalillo County and AMAFCA are the local sponsors. The duration of the proposed construction would be nine months, and is expected to start in the spring of 2008.

The purpose of the proposed project is to improve stormwater drainage and reduce flood damages in the southern portion of the Southwest Valley between Rio Bravo Boulevard and Raymac Road. This would be accomplished by collecting and conveying flood flows originating on the West Mesa through the Valley via a pipeline to an outlet structure within the riparian area, on the west bank of the Rio Grande. The facilities needed for this project will be constructed within the existing right-of-way owned by Bernalillo County, AMAFCA, or the Bureau of Reclamation (BOR).

Three prehistoric archaeological sites (LA19244, LA50273, LA74755) and one historic earthen ditch structure (LA145560) occur in the immediate vicinity of the Black Mesa project's pipeline alignment. All four archaeological sites are potentially or have been previously determined to be eligible for nomination to the National Register of Historic Places. All four archaeological sites have been previously disturbed to unknown extents. Due to the proximity of the three prehistoric sites to the project area, the Corps plans to conduct archaeological monitoring at these locations during construction. It is anticipated that the pipeline project would have no adverse effect to these three prehistoric sites. The pipeline alignment crosses LA145560 diagonally; however, pipeline installation is considered to have a negligible effect on the earthen ditch and therefore no adverse effect. Archaeological monitoring is not planned for the LA145560 location.

The proposed pipeline will cross several segments of the Middle Rio Grande Project's acequia and drain system; specifically the Gun Club Lateral, Isleta Drain, Arenal Main Canal, Los Padillas Drain, Pajarito Ditch, Los Padillas (Acequia) Ditch, and the Atrisco Riverside Drain. While the Middle Rio Grande Conservancy District (MRGCD) irrigation system and its acequia and drain components are considered to be historic, they are rigorously maintained and rehabilitated, and therefore, are essentially modern facilities. The pipeline construction easement is relatively narrow and crosses these acequias and drains in areas that have been significantly disturbed by previous earth moving activities. The proposed project would not affect any significant Middle Rio Grande Project historic structures and therefore, would have no adverse effect to the system.

Upon further investigation, the project area may be considered as eligible for nomination to the National Register as a rural historic landscape. The proposed project would not affect the local landscape. Therefore, there would be “No Adverse Effect to Historic Properties” by the Black Mesa 593 pipeline project.

The potential effects of the proposed action are similar to the No-Action alternative, with the caveat that the No-Action alternative would result in further stormwater drainage problems in the Southwest Valley.

Section 404 of the CWA, (CWA; 33 U.S.C. 1251 *et seq.*) as amended, provides for the protection of waters of the United States through regulation of the discharge of dredged or fill material. The Corps of Engineers requires that a Section 404 evaluation be conducted for all proposed construction that may affect waters of the United States. There are several areas within the project site where the stormwater pipeline are located within waters of the United States. These areas include: San Felipe Dam outlet channel; the Isleta, Los Padillas, Atrisco and Riverside Drains; and the Arenal Main Canal. These areas are regulated under provisions of Section 404 of the Clean Water Act. The installation of the stormwater pipeline in these waters is authorized under a Nationwide Permit No. 12 for Utility Line Activities (Appendix F). All regulations under that permit would be adhered to during construction.

Section 401 of the CWA, (CEA; 33 U.S.C. 1251 *et seq.*) as amended, requires that a Water Quality Certification Permit be obtained for anticipated discharges associated with construction activities or other disturbance within waterways. Section 401 of the CWA does apply to this project, as there would be discharge associated with construction activities or other disturbance within waterways. A Water Quality Certification Permit would be obtained prior to any proposed work.

The majority of the proposed project area is not located within any special flood hazard areas inundated by the 100-year flood. The proposed location for the outlet pipe does lie within the Bosque, which is within the flood plain. The outlet structure would consist of a 32' x 16' concrete pad with five feet of 60-inch RCP coming from the ground. The outlet structure is minor in size and would not constitute any alterations within the historical flood plain and would have no new impacts to the historical or current flood plains. Therefore, the planned action is consistent with Executive Order 11988 (Floodplain Management). The proposed work complies with Executive Order 11990 (Protection of Wetlands) as no wetlands are located within the project area.

A Biological Assessment (BA) was submitted to the U.S. Fish and Wildlife Service (Service) on January 31, 2007 regarding the Corps' determination that the proposed project “may affect, not likely to adversely affect” the bald eagle (*Haliaeetus leucocephalus*), the Rio Grande silvery minnow (*Hybognathus amarus*), and its designated critical habitat, and the Southwestern willow flycatcher (*Empidonax trailli extimus*). A letter concurring with the Corps' determination was received from the Service on March 13, 2007. The BA and the concurrence letter are located in Appendix D.

The following Best Management Practices will be utilized during the construction of the proposed project:

- Equipment with water sprinklers will be used to minimize dust.
- Use of silt fences in areas that will be disturbed to reduce erosion.

- Use of already paved or graveled roads for access to the construction area.
- If the design for the storm water pipeline intersects any part of a remediation system or monitoring well, the Petroleum Storage Tank Bureau will be contacted immediately to coordinate construction with preservation or modification of the remediation equipment.
- Pursuant to the requirements of 20.2.6.1203.A NMAC, if contaminated soil or water is encountered during construction, all monitoring, handling and disposal requirements must be met in order to protect workers, the public and the environment from contaminants.
- All fueling will take place outside the active floodplain and all equipment will undergo cleaning and inspection prior to operation. Equipment will be cleaned between sites in order to avoid transferring seeds of weedy and non-native vegetation.
- Equipment will be parked overnight on predetermined locations outside of the active floodplain.
- Equipment used for construction of an outlet pipe manifold that will operate on the floodplain will not come into contact with aquatic habitats. To protect aquatic habitat from spills or contamination, hydraulic lines will be protected from punctures.
- Construction of the outlet pipe will take place outside of the breeding season for Southwestern Willow Flycatcher. In order to minimize potential effects on nesting birds protected under the Migratory Bird Treaty Act, work within the bosque would only occur between September and April.

Only short-term, minor adverse impacts to land use, aesthetics, soils, air, noise, vegetation, and wildlife, would occur during construction. No long-term impacts would occur to land use, climate, soils, air, wetlands or other waters of the U.S., floodplains, socioeconomics, or cultural resources. No impacts would occur to any special status species, except for potential effects to the Bald Eagle. Environmental justice would be impacted beneficially, although not to a level of significance, and would be long-lasting. The proposed project would not result in any moderate or significant, short-term, long-term, or cumulative adverse effects, and, therefore, is recommended.

The planned action has been fully coordinated with federal, state, tribal, and local agencies with jurisdiction over the ecological, cultural, and hydrological resources of the project area. Based upon these factors and others discussed in detail in the Environmental Assessment, the planned action would not have a significant effect on the human environment. Therefore, an Environment Impact Statement will not be prepared for the proposed Black Mesa stormwater drainage improvements.

28 Feb 08
Date


Bruce Estok
Lieutenant Colonel, U.S. Army
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1.0 INTRODUCTION

1.1 Background and Location

The United States Army Corps of Engineers (USACE), Albuquerque District, in cooperation with and at the request of Bernalillo County, New Mexico, and the Albuquerque Metro Area Flood Control Association (AMAFCA), is planning a project that would improve stormwater drainage and reduce the potential for flooding within the Black Mesa project area, which is located in Bernalillo County, just south of the Albuquerque City limits.

The rehabilitation work would be conducted under Section 593 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 et seq.), as amended. The Act authorizes the United States Army Corps of Engineers to provide assistance in the form of design and construction for water-related environmental infrastructure, resource protection, and development projects in central New Mexico, which is defined within the Act as the counties of Bernalillo, Sandoval, and Valencia. Types of projects included under the Act are: wastewater treatment and related facilities, stormwater retention and remediation, environmental restoration, and surface water resource protection and development.

Provisions under the Act require that the project be publicly owned to receive Federal assistance. As such, the non-Federal project sponsor for the proposed project is Bernalillo County, New Mexico and AMAFCA. The Act further requires that a cooperative agreement be established between the Federal and non-Federal interests. In general, the Federal share of project costs under each cooperative agreement is 75 percent of the total project costs.

The Black Mesa project site is located in Bernalillo County, just south of the Albuquerque City limits (see Figure 1). The proposed project area is bounded by Don Felipe Boulevard to the north, the Rio Grande to the east, Los Padillas Road to the south, and the area generally bounded by the following facilities to the west: Don Felipe Dam, Raymac Dam, and McCoy Dam (see Figure 2). The duration of the proposed construction would be nine months and is expected to start in the spring of 2007.

1.2 Purpose and Need

The southwest valley area is very vulnerable to flooding caused primarily by runoff from intense local thunderstorms. Currently, three existing AMAFCA Dams intercept stormwater runoff from mesa areas that would otherwise drain into the southwest valley of Albuquerque from the west. The purpose of these dams is to reduce the threat of flooding in this area. The three existing dams are Don Felipe, Raymac and McCoy. After intense local thunderstorms, the dams have been insufficient in carrying away enough water to avoid flooding problems. The water from these storms collects in lower areas within the valley prior to reaching the Rio Grande. Residents and businesses in this area have experienced flooding to their properties after these intense thunderstorms. Although the existing dams have provided some flood control, other structures are needed to improve stormwater drainage within the southwest valley.



Figure 1. Location of Proposed Project Area for the Black Mesa Stormwater Drainage Improvements, Southwest Valley, Bernalillo County, New Mexico.

1.3 Regulatory Compliance

This Environmental Assessment (EA) was prepared by the U.S. Army Corps of Engineers, Albuquerque District, in compliance with all applicable Federal Statutes, Regulations, and Executive Orders, including the following:

- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470)
- Clean Water Act of 1972 and Amendments of 1977(CWA)
- Clean Air Act of 1972, as amended (42 U.S.C. 7401 *et seq.*)
- Endangered Species Act of 1973, (ESA) as amended (16 U.S.C. 1531 *et seq.*)
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, 1994
- Farmland Protection Policy Act of 1981, as amended (7 U.S.C. 4201 *et seq.*)
- Fish and Wildlife Coordination Act of 1980 (16 U.S.C 661 *et seq.*)
- Floodplain Management (Executive Order 11988)
- Migratory Bird Conservation Act (16 U.S.C. 715 *et seq.*)
- National Environmental Policy Act of 1969, as amended (42 U.S.C 4321 *et seq.*)
- National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 *et seq.*)
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 *et seq.*)
- Protection and Enhancement of the Cultural Environment (Executive Order 11593)
- Protection of Wetlands (Executive Order 11990)
- Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500 *et seq.*)
- U.S. Army Corps of Engineers' Procedures for Implementing NEPA (33 CFR 230) ER 200-2-2

This EA also reflects compliance with all applicable State of New Mexico and local regulations, statutes, policies, and standards for conserving the environment such as water and air quality, endangered plants and animals, and cultural resources.

1.4 Scoping and Issues

Scoping for this EA is based on potential issues at the proposed project site. They include best management practices, water quality, vegetation and wildlife. Appendix C contains a copy of the scoping letter, dated September 2, 2003, submitted to the government agencies.

2.0 PROPOSED ACTION AND ALTERNATIVES

All Federal agencies that assist or take part in projects that utilize public funding are mandated by the National Environmental Policy Act (NEPA) to evaluate alternative courses of action. Typically, alternatives are a set of different locations that satisfy certain defined project criterion. However, alternatives can also include design considerations and/or attributes that may mitigate or reduce impacts generated by a given action. In general, alternatives, including a No-Action alternative, can provide decision makers with an evaluation on the present and future conditions with regard to the implementation of an action at a given site, time, or including particular design characteristics. Information and knowledge yielded from *alternative*

evaluations can then guide decision-making processes such that they are made in the best interest of the public and environment.

2.1 Proposed Action

The purpose of this project is to improve stormwater drainage in the southern portion of the southwest valley between Rio Bravo Boulevard and Raymac Road (See Figure 2). The proposed work would include the construction of an outlet pipe manifold to collect stormwater flows from three existing Albuquerque Metro Area Flood Control Authority (AMAFCA) dams: Don Felipe, Raymac and Mc Coy. Flow from these dams would be controlled by means of an orifice plate that would be attached to each dam's outlet control structure. Pipes would be placed underground from each dam and connected by a 42-inch pipe that would run along the west side of Coors Boulevard. From this manifold pipe, a 54-inch RCP outlet pipe would be placed east along Raymac Road along the center of the street and continue towards the Rio Grande. This outlet pipe would be located along the center of Raymac Road because existing utilities are located on each side of the street. An outlet structure would be constructed within the Rio Grande Bosque where a duck-billed outlet would be placed at the end of the outlet pipe. This device would be needed on the end of the pipe to reduce the velocity of the water. In addition, this structure would allow the water to be dispersed naturally through the riparian area, on the west bank of the river. Water would flow from the outlet pipe primarily during the months of July, August and early September. In addition, water would flow during snowmelt runoff. Erosion to the bank of the river would be avoided by using an existing channel to transport the water from the outlet pipe. This location within the Bosque has been identified as a proposed restoration site. Restoration would not occur as a part of this project, but is being considered within the Corps' Middle Rio Grande Bosque Feasibility Study. The duration of the proposed construction would be nine months and is expected to start in the spring of 2008.

Traffic on Coors Boulevard would require a minimal diversion as work is occurring on the west side of the street. Construction on Raymac Road would require that one block at a time be shut down. However, the road would be open to residents in the area. Construction on Isleta Boulevard would require a diverted lane during construction. All changes made to traffic in this area would require approval of a traffic control plan from Bernalillo County and the New Mexico Department of Transportation. The total estimated construction cost for this proposed project is \$3.5 million. The non-Federal cost share is approximately \$875,000. The Federal cost share is approximately \$2,625,000.

The proposed work would utilize appropriate Best Management Practices to reduce the quantities of pollutants. Construction access would be from existing paved roads within the project area. All staging areas, including the stockpiling of construction materials, and equipment not in operation, would be above the 100-year floodplain.

Fuel, oil, hydraulic fluids and other similar substances would be appropriately stored out of the floodplain and must have a secondary containment system to prevent spills if the primary storage container leaks. Appropriate erosion control measure would be utilized to prevent surface water drainage and erosion material from leaving the construction areas. Water dispersal equipment would be used to minimize dust during construction activities. Best management practices would be implemented regarding the treatment and disposal of waste material. Proper disposal of all waste material at commercial disposal areas or landfills would occur. Activities

would be limited to the designated or otherwise approved areas and would be shown on the construction drawings for construction areas, staging access, and borrow use. Corps' approval of these areas would be required regardless of their ownership or distance to the construction sites to ensure protection of vegetation, water quality, threatened and endangered species, cultural resources and other significant resources. The Corps' Contracting Officer will coordinate with the Corps Environmental Resources Section to approve any changes in access routes, noncommercial borrow sites, staging areas, and other high-use areas.

The contract specifications for construction of this proposed project would require avoiding damage, where practicable, to vegetation. Disturbed areas would be evaluated for reseeded with native, indigenous plants, insofar as contract activities result in noticeable damage to existing plants and vegetative ground cover. The construction contractor would be required to submit an Environmental Protection Plan acknowledging and incorporating these protections.

2.2 Alternatives Considered

Two other alignments were identified for the outlet pipe from Isleta Boulevard to the Rio Grande Bosque. One alignment was located south of Isleta Indian Road and north of San Pancho Road. However, the property owner could not be reached, and therefore, no further consideration was given. The second alignment was located on Isleta Indian Road. Property owners at this location were not willing to sell their land at a feasible price. Therefore, no further consideration was given.

2.3 The No-Action Alternative

Under the No-Action Alternative, there would not be any construction or modification to the stormwater reduction structures. No federal funding would be expended and there would be no new effects to the project site or surrounding environment. Drainage in proposed construction areas would not improve.

3.0 EXISTING ENVIRONMENT AND FORESEEABLE EFFECTS

3.1 Physical Resources

3.1.1 Physiography, Geology and Soils

The proposed project is in the Middle Rio Grande Valley, a wide floodplain of fertile bottomland (USDA 2006). These fertile soils and shallow water tables support vegetation as well as a variety of resident and migratory wildlife. The Rio Grande Valley is a productive agricultural area that contributes to the quality of life and economies of the urban areas of Albuquerque, Rio Rancho, Bosque Farms, Los Lunas and Belen, New Mexico, as well as several other smaller communities.

The Rio Grande follows a well-defined geologic feature called the Rio Grande graben. The Rio Grande graben contains several thousand feet of poorly consolidated sediment of the Santa Fe Group of the middle Miocene to Pleistocene age.

The terrain in the area is characterized by gently sloping plains from the east to the Rio Grande ranging from about 4,860 feet to 4,875 feet in elevation. Water tables are typically several feet in depth and permeability is moderate (USDA 2006). The general soil conditions are deep, nearly level, well-drained soils that are formed in recent alluvium, on flood plains of the Rio Grande.

The major soil series that occur within the proposed planning area are described below. The information in this section was obtained from the soil survey for Bernalillo County (USDA 2006).

Agua Series

The Agua series consists of deep, well-drained soils that are forming in recent alluvium on the flood plain along the Rio Grande. Slopes are 0 to 1 percent. Agua soils are mainly associated with Brazito, Gila, and Vinton soils. In a representative profile, the surface layer is light brown loam about 10 inches thick. Next is about 14 inches of brown loam and pink very fine sandy loam. Below this to a depth of 60 inches or more is very pale brown fine sand. The soil is moderately alkaline throughout. Permeability is moderate to a depth of about 24 inches and rapid below.

Gila Series

The Gila series consists of deep, well-drained soils that are forming in recent alluvium on the flood plains along the Rio Grande and Rio Puerco. Slopes are 0 to 2 percent. Gila soils are associated with Agua, Anapra, Hantz, Vinton, and Brazito soils. In a representative profile the surface layer is brown loam about 7 inches thick. Next is about 37 inches of stratified brown and light yellowish brown very fine sandy loam and sandy loam. Below this to a depth of 60 inches or more is pale brown sand. The soil is moderately alkaline throughout. Permeability is moderate.

Vinton Series

The Vinton series consists of deep, well-drained soils that form in recent alluvium on the flood plains of the Rio Grande. Slopes are 0 to 3 percent. Vinton soils are associated with Brazito, Bluepoint, Agua, and Gila soils. In a representative profile, the surface layer is brown sandy loam and pinkish gray loamy sand and pinkish gray very fine sand. The soil is moderately alkaline throughout. Permeability is moderately rapid.

Erosion to soil at the west bank of the river would be reduced by using an existing channel to transport the water from the outlet pipe into the Rio Grande.

3.1.2 Climate

The climate in the vicinity of the proposed project is classified as arid (USDA 2006). The temperature occasionally reaches 100 degrees F or falls to zero or below, but not in all years. The average annual precipitation ranges from seven to ten inches. Although an average of only one day a year has more than a half-inch of precipitation, these infrequent, brief, heavy showers may bring one to one-half inches of rain, except in the dry winter season. Occasionally, hail accompanies summer thunderstorms. The average annual snowfall is less than five inches and snowfall seldom exceeds one or two inches and generally melts in a few hours (USDA 2006).

The growing season is about five and a half months long. The last freeze date in spring is May 8, and the first freeze date in fall is October 12 (USDA 2006). Relative humidity averages less than 50 percent and generally less than 20 percent on hot sunny afternoons. In winter the prevailing winds are northerly and in summer the prevailing winds are southerly. Wind speed averages nearly ten miles per hour for the year. There would be no effect to climate by the proposed project.

3.1.3 Water Quality

Section 402 of the Clean Water Act (CWA; 33 U.S.C. 1251 *et seq.*) as amended, regulates point-source discharges of pollutants into waters of the United States and specifies that storm-water discharges associated with construction activities shall be conducted under NPDES guidance. Construction activities associated with storm-water discharges are often characterized by activities such as clearing, grading, and excavation, subjecting the underlying soils to erosion by stormwater. The NPDES general permit guidance will apply to this project because the total project area is approximately twelve acres. Therefore, a Storm-Water Pollution Prevention Plan (SWPPP) is required and would be prepared for this project. Impacts from storm-water are expected to be negligible.

Section 404 of the CWA, (CWA; 33 U.S.C. 1251 *et seq.*) as amended, provides for the protection of waters of the United States through regulation of the discharge of dredged or fill material. The Corps of Engineers requires that a Section 404 evaluation be conducted for all proposed construction that may affect waters of the United States. There are several areas within the project site where the stormwater pipeline are located within waters of the United States. These areas include: San Felipe Dam outlet channel; the Isleta, Los Padillas, Atrisco and Riverside Drains; and the Arenal Main Canal. These areas are regulated under provisions of Section 404 of the Clean Water Act. The installation of the stormwater pipeline in these waters is authorized under a Nationwide Permit No. 12 for Utility Line Activities (Appendix F). All regulations under that permit would be adhered to during construction.

Proposed removal and restoration of the culverts at the Isleta, Los Padillas, Atrisco and Riverside Drains, and Arenal Main Canal are exempt from regulation under exemption No. 3 for construction or maintenance of farm or stock ponds or irrigation ditches and a Department of the Army permit would not be required.

Section 401 of the CWA, (CEA; 33 U.S.C. 1251 *et seq.*) as amended, requires that a Water Quality Certification Permit be obtained for anticipated discharges associated with construction activities or other disturbance within waterways. Section 401 of the CWA does apply to this project, as there would be discharge associated with construction activities or other disturbance within waterways. A Water Quality Certification Permit would be obtained prior to any proposed work.

3.1.4 Flood Plains and Wetlands

Executive Order 11988 (Flood Plain Management) provides Federal guidance for activities within the flood plains of inland and coastal waters. The order requires Federal agencies to take action to reduce the risk of flood loss, to minimize the impact of floods on



Figure 2. Location of Proposed Drainage Improvements for Black Mesa, Bernalillo County, New Mexico.

human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains. The majority of the proposed project area is not located within any special flood hazard areas inundated by the 100-year flood. It is located in Zone X of the floodplain map, which is designated as areas that are outside the 100-year flood (Flood Insurance Rate Map 2003). However, the proposed location for the outlet pipe lies within the Bosque, which is within the flood plain. The outlet structure would consist of a 32' x 16' concrete pad with five feet of 60-inch RCP coming from the ground. The outlet structure is minor in size and would not constitute any alterations within the historical flood plain and would have no new impacts to the historical or current flood plains. The proposed project would help to improve stormwater drainage within the project area.

Executive Order 11990 (Protection of Wetlands) requires the avoidance, to the greatest extent possible, of both long and short-term impacts associated with the destruction, modification, or other disturbance of wetland habitats. Wetlands exist within the riparian area that is adjacent to the river; however none exist within or near the project area. Therefore, no impacts to wetlands would occur. Although most of the water that would be dispersed from the outlet pipe would be directed towards the river, some of the water may create wet areas within the riparian zone.

3.1.5 Air Quality, Noise, and Aesthetics

The Southwest Valley of Bernalillo County is in New Mexico's Air Quality Control Region No.2 for air quality monitoring and Bernalillo County is "in attainment" (does not exceed State and Federal Environmental Protection Agency air quality standards) for all criteria pollutants (NMED/AQB 2005). Air quality in the project area is generally good. The closest Class I area is Bosque del Apache National Wildlife Refuge, approximately 90 kilometers (57 miles) to the south of the project area. Class I areas are special areas of natural wonder and scenic beauty, such as national parks, national monuments, and wilderness areas, where air quality should be given special protection. Class I areas are subject to maximum limits on air quality degradation.

The proposed project would result in a temporary but negligible increase in suspended dust particles from construction activities. Equipment with water sprinklers would be used during construction to minimize dust. A Fugitive Dust Control Permit is needed when there is surface disturbance to three-quarters of an acre or more. An approved permit from the Bernalillo County Office of Environmental Health would be obtained prior to construction for this project. Air quality in the Southwest Valley, Bernalillo County and the National Wildlife Refuge would not be affected by the proposed project or by the no-action alternative.

Background noise levels in the proposed project area are relatively low. According to the Noise Center for the League for the Hard of Hearing (League for the Hard of Hearing, 2004), a typical, quiet residential area has a noise level of 40 decibels. A residential area near heavy traffic has a noise level of 85 decibels. Heavy machinery has a noise level of 120 decibels. During construction, noise would temporarily increase in the vicinity during vehicle and equipment operation. The Noise Center advises that noise levels above 85 decibels will harm hearing over time and noise levels above 140 decibels can cause damage to hearing after just one exposure. However, the increase in noise during construction would be minor and temporary,

ending when construction is complete. Noise impacts would be reduced by putting restrictions on the Contractors' schedule. In order to provide quiet time for residents, the Contractor's schedule would be limited from seven o'clock in the morning to five o'clock in the evening. The restriction on the Contractor's schedule would be a contracting requirement. The proposed project would have no significant effect on noise.

The project area is characterized by both urban and rural lifestyles. Aesthetically, the area consists of residential sections, farmland, streets, etc. The area receives minimal recreation use with the intent of viewing scenery. Most of the proposed construction takes place along previously developed areas. The outlet pipe manifold and the outlet pipe to the river would be placed underground, and therefore would not be visible. The proposed project would have no significant effect on existing aesthetic conditions.

3.2 Biological Resources

3.2.1 Vegetation Communities

This area is typical of the Rio Grande Valley, which includes agricultural areas and development encroaching on irrigated cropland. The crops consist predominantly of corn, hay, and alfalfa. The potential in this area for wildlife and endangered species is minimal due to the soil conditions and the development. The outlet pipe manifold and outlet pipes would be located mostly underground or in well-developed areas where little wildlife exists. A site visit on 12 December 2005 by Corps personnel observed vegetation consisting of Kochia (*Kochia scoparia*), Purple aster (*Machaeranthera canescens*), Hairy goldenaster (*Heterotheca villosa*), Puncturevine (*Tribulus terrestris*), Gray rabbitbush (*Chrysothamnus nauseosus*), Silverleaf nightshade (*Solanum elaeagnifolium*), Russian thistle (*Salsola iberica*), Spreading dogbane (*Apocynum androsaemifolium*), Common ragweed (*Ambrosia artemisiifolia*), Horseweed (*Conyza canadensis*), Corn gromwell (*Lithospermum arvense*), Flixweed (*Descurainia sophia*), Tall fescue (*Festuca arundinacea*), Witchgrass (*Panicum capillare*), Sand dropseed (*Sporobolus cryptandrus*), Oldfield threeawn (*Aristida oligantha*), Indian ricegrass (*Oryzopsis hymenoides*).

The proposed location for the outlet pipe lies within the Bosque. This location was chosen by Corps personnel because it is located within an open area, where little vegetation exists. Vegetation typical of the Bosque includes the following: Rio Grande cottonwood (*Populus merican* var. *wislizenii*), Siberian elm (*Ulmus pumila*), salt cedar (*Tamarix spp.*), Russian olive (*Elaeagnus angustifolia*), coyote willow (*Salix exigua*) and Tree of Heaven (*Ailanthus altissima*). The proposed outlet pipe to the Bosque can be expected to flow any time rain or snow falls in the drainage basins above the three existing AMAFCA dams. This would primarily occur during summer rains in July, August and early September. The outlet pipe could be expected to flow multiple times each year at varied flow rates and durations depending on the volume of water produced by the storms. The increase of water from the outlet pipe is expected to benefit the vegetation within the Bosque.

3.2.2 Wildlife

Wildlife species in the adjacent riparian areas are typical for the Middle Rio Grande Valley. Neotropical migrants and resident avian species frequent the area and live within the

Bosque. These species would include: Cooper's Hawk (*Accipiter cooperii*), Red-tailed Hawk (*Buteo jamaicensis*), Great-horned Owl (*Bubo virginianus*), Turkey Vulture (*Cathartes aura*), Greater Roadrunner (*Geococcyx californianus*), Downy Woodpecker (*Picoides pubescens*), Belted Kingfisher (*Ceryle alcyon*), White-crowned Sparrow (*Zonotrichia leucophrys*), American Crow (*Corvus brachyrhynchos*), White-breasted Nuthatch (*Sitta carolinensis*), Summer Tanager (*Piranga rubra*), Black-headed Grosbeak (*Pheucticus melanocephalus*), House Finch (*Carpodacus mexicanus*), American Robin (*Turdus migratorius*), Black-crowned Night Heron (*Nycticorax nycticorax*), Black-chinned Hummingbird (*Archilochus alexandri*), Rufous Hummingbird (*Selasphorus rufus*), Pied-billed Grebe (*Podilymbus podiceps*), Common Merganser (*Mergus merganser*), Canada Goose (*Branta canadensis*), and various waterfowl (*Anas spp.*, *Aythya spp.*, *Aix sponsa*). In addition, various mammals and reptiles such as mice, rabbits, skunks, coyote and lizards, also inhabit and transit the project area.

Most of the proposed construction takes place along previously developed areas. The outlet pipe manifold and other outlet pipes would be placed underground. Therefore, wildlife displaced during installation would be minimal.

The Rio Grande is a major migratory corridor for songbirds (Yong and Finch 2002), waterfowl, and shorebirds. At various times of the year, riparian areas support the highest bird densities and species numbers in the Middle Rio Grande. Both the river channel and the drains adjacent to the bosque provide habitat for species such as Mallards, Wood Ducks, Great Blue Herons, Snowy Egrets, Green Herons, Belted Kingfishers and Black Phoebes. Agricultural fields and grassy areas with little woody vegetation are important food sources for Sparrows and other songbirds during migration and winter.

The peak nesting season for birds is April through August. The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703, et seq.) is the primary legislation in the United States established to conserve migratory birds (USFWS, 2004). The list of the species protected by the MBTA appears in title 50, section 10.13, of the Code of Federal Regulations (50 CFR 10.13). The MBTA prohibits taking, killing, or possessing of migratory birds unless permitted by regulations promulgated by the Secretary of the Interior. The U. S. Fish and Wildlife Service (USFWS) and the Department of Justice are the Federal agencies responsible for administering and enforcing the statute. In order to minimize potential effects on nesting birds in the project area, work within the bosque would only occur between September and April.

No significant adverse affects would occur to wildlife as a result of the proposed project or the no-action alternative.

3.2.3 Special Status Species

Three agencies have primary responsibility for protecting and conserving plant and animal species within the proposed project area. The United States Fish and Wildlife Service (USFWS), under authority of the Endangered Species Act of 1973 (16 U.S.C. 1531), as amended, has the responsibility for Federal listed species. The New Mexico Department of Game and Fish (NMDGF) has the responsibility for state-listed wildlife species. The New Mexico State Forestry Division (Energy, Minerals, and Natural Resources Department) has the responsibility for state-listed plant species. Each agency maintains a continually updated list of species that are classified, or are candidates for classification, as protected based on their present status and potential threats to future survival and recruitment into viable breeding

populations. These types of status rankings represent an expression of threat level to a given species survival as a whole and/or within local or discrete populations. Special status species that potentially occur in Bernalillo County and may occur near the proposed project area are listed in Table 1.

Special status animal species listed by USFWS (USFWS 2002) and New Mexico Department of Game and Fish for Bernalillo County (NMDGF 2002) that might occur in or near the project area but are not anticipated to occur include the following:

The American Peregrine Falcon is a Federal delisted species with an approved recovery plan, and a State threatened species. The peregrine falcon may fly over the construction area during spring and fall migrations. The peregrine prefers breeding habitat that is in isolated wooded areas with cliffs that create “gulfs” of air in which the peregrine may forage. The Peregrine’s preferred wooded-forested habitat does not occur in or near the project area. Due to the ease of mobility of the peregrine and the limited disturbance of the proposed project, there would be no effect to the American Peregrine Falcon.

Baird’s Sparrow, a State Threatened species, favors shrubby short-grass habitats. The sparrow is a migrant to New Mexico, occurring mainly in autumn primarily in the eastern plains and southern lowlands, but is considered rare to uncommon and a vagrant. The sparrow may fly over the construction area during migration; however, due to the ease of mobility and the limited disturbance of the proposed project, there would be no effect to Baird’s sparrow.

The Black-footed Ferret, a Federal listed Endangered species, prefers mixed shrub habitat. The distribution of the Black-footed Ferret is closely sympatric with that of prairie dogs and all viable breeding populations have been associated with prairie dog colonies, which they use for food and shelter. There were no prairie dog towns observed at or near the proposed project area during the site visit. Most of the project area occurs within previously developed or disturbed land. Due to lack of preferred habitat and no presence of prairie dog towns, there would be no effect to this species by the proposed project.

The Bald Eagle was removed from the Department of the Interior’s list of threatened and endangered species on June 28, 2007. However, the Bald Eagle is a State Threatened species and is protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The Bald Eagle is normally found near major waterways and larger lakes where adequate food supplies may be found. It is known to occur in New Mexico primarily during the late fall and winter months. The Bald Eagle utilized large trees for perching and forages primarily for fish, ducks, and carrion along river and at local reservoirs. Although the preferred habitat of the Bald Eagle is not present at the project site, the Bald Eagle may fly over the construction area.

To minimize the potential for disturbing Bald Eagles that may be present during construction, efforts would be made to schedule all work outside of the Bald Eagle high use months of December, January, and February. The following protocol will be followed and included in all construction contracts, “If a Bald Eagle is present within 0.25 mile of the construction sites in the morning before project activity starts, or following breaks in work, the contractor would be required to suspend all activity until the bird leaves of its own volition, or a Corps biologist, in consultation with the U.S. Fish and Wildlife Service, determines that the

Table 1. Special Status Species Listed for Bernalillo County, New Mexico, that have the Potential to Occur in the Vicinity of the Proposed Project Area (list obtained on 2 May 2007).

Common Name	Scientific Name	Federal Status (USFWS) ^a	State of New Mexico status (NMDGF) ^b
Animals			
Bald Eagle	<i>Haliaeetus leucocephalus</i>	-	T
Black-footed Ferret	<i>Mustela nigripes</i>	E	-
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	T	-
Rio Grande Silvery Minnow	<i>Hybognathus amarus</i>	E	E
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E	E
Whooping Crane	<i>Grus Americana</i>	E	E
Neotropic Cormorant	<i>Phalacrocorax brasilianus</i>	-	T
Common Black-Hawk	<i>Buteogallus anthracinus</i>	-	T
Brown Pelican	<i>Pelecanus occidentalis carolinensis</i>	-	E
Aplomado Falcon	<i>Falco femoralis septentrionalis</i>	E	E
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	-	T
White-eared Hummingbird	<i>Hylocharis leucotis borealis</i>	-	T
Broad-billed Hummingbird	<i>Cynanthus latirostris magicus</i>	-	T
Bell's Vireo	<i>Vireo bellii</i>	-	T
Gray Vireo	<i>Vireo vicinior</i>	-	T
Baird's Sparrow	<i>Ammodramus bairdii</i>	-	T
Spotted Bat	<i>Euderma maculatum</i>	-	T
New Mexican Jumping Mouse	<i>Zapus hudsonius luteus</i>	-	T
Plants			
Santa Fe Milkvetch	<i>Astragalus feensis</i>	-	R
La Jolla Prairie Clover	<i>Dalea scariosa</i>	-	R
Sapello Canyon Larkspur	<i>Delphinium sapellonis</i>	-	R
Sandia Alumroot	<i>Heuchera pulchella</i>	-	R
Plank's Campion	<i>Silene plankii</i>	-	R

^a **Endangered Species Act (ESA)** (as prepared by U.S. Fish and Wildlife Services) **status:** Only Endangered and Threatened species are protected by the ESA.

E= Endangered: any species that is in danger of extinction throughout all or a significant portion of its range.

T= Threatened: any species that is likely to become and endangered species within the foreseeable future throughout all or a significant portion of its range.

^b **State of New Mexico status:**

E= Endangered Animal species whose prospects of survival or recruitment within the state are in jeopardy.

T= Threatened Animal species whose prospects of survival or recruitment within the state are likely to become jeopardized in the foreseeable future.

R=Rare

potential for harassment is minimal. However, if an Eagle arrives during construction activities, or if an Eagle is beyond 0.25 mile from the site, construction would not be interrupted. If Bald Eagles are found consistently in the immediate project areas during the construction period, the Corps will contact the U.S. Fish and Wildlife Service to determine whether formal consultation under the Endangered Species Act is necessary". Therefore, the determination has been made that the proposed project "may affect, is not likely to adversely affect" the Bald Eagle.

The Southwestern Willow Flycatcher, a Federal and State Endangered species, occurs in riparian habitats along rivers, streams, or other wetlands, where dense growths of willows, Baccharis, arrowweed, tamarisk or other plants are present, often with a scattered overstory of cottonwood (NMDGF 2006). Although the above vegetation exists within the Bosque, the proposed outlet pipe would occur within an open area, where little to no vegetation exists.

The additional water provided by the outlet pipe would be beneficial to the vegetation within this area and could produce more habitat for the Southwestern Willow Flycatcher. Beneficial impacts to the above species are expected from the proposed project. Although the Southwestern Willow Flycatcher was designated critical habitat within the Middle Rio Grande, the project boundaries do not lie within this area. Project construction would take place outside of the breeding season for Flycatcher and therefore, direct effects on individuals are not anticipated. USFWS concurrence has been received (see Appendix D).

The Rio Grande Silvery Minnow, a Federal and State Endangered species, was listed in 1994; and 157 river miles were designated as critical habitat in 2003. The middle reach of the Rio Grande, from Cochiti Dam to the utility line in Socorro County (marked on the USGS Paraje Well 7.5 minute quadrangle (1980)), is considered critical habitat to the fish's survival.

The proposed outlet structure would be located within the Bosque, adjacent to this part of the Rio Grande. When storms produce enough water to flow from the outlet pipe, this water will enter the Rio Grande. Currently, stormwater also enters the Rio Grande, just further downstream. It would be beneficial to the Rio Grande Silvery Minnow to return stormwater to the Rio Grande further upstream than the current discharge point. Therefore, negative effects on minnow and its critical habitat are expected to be insignificant and discountable. USFWS concurrence has been received (see Appendix D).

The Whooping Crane (*Grus americana*) was listed as endangered with critical habitat by the U.S. Fish and Wildlife Service in 1978 (43 FR 20938) due to the destruction of wintering and breeding habitat, hunting, collisions with power lines and fences, specimen collecting and other human disturbance. The bird once ranged over most of North America, but probably never occurred in large numbers. By the 19th century, only a few thousand birds survived. Whooping Cranes were not sighted in New Mexico after 1938 until an experimental reintroduction was initiated in 1975.

The Middle Rio Grande was the wintering area of the experimental Rocky Mountain population. Within the Bosque del Apache National Wildlife Refuge, all areas at or below 4,600 feet in elevation have been designated critical habitat for the whooping crane. This designation includes most of the floodplain including the riverine and riparian zone. During the winter months, Whooping Cranes will use sandbars in the Rio Grande near the refuge and isolated areas outside the refuge for night roosting.

Since there are no longer any birds in the experimental Rocky Mountain Population in the Middle Rio Grande, the proposed work would have no effect on the Whooping Crane.

The State species list indicates that there are five status plants species that occur in Bernalillo County, the Santa Fe milkvetch (*Astragalus feenis*), La Jolla prairie clover (*Dalea scariosa*), Sapello Canyon larkspur (*Delphinium sapellonis*), Sandia alumroot (*Heuchera pulchella*), and Plank's campion (*Silene plankii*). They are each listed by the State of New Mexico Division of Forestry as an endangered plant on the New Mexico Rare Plants Technical Council 2002 Website (<http://nmrareplants.unm.edu/>). Although these plants are known to occur in Bernalillo County, they are not likely to occur within the project area. The preferred habitat of two of these plants, Sandia alumroot and Plank's campion, is limestone cliffs and igneous cliffs, respectfully. Santa Fe milkvetch is known to occur on sandy benches and gravelly hillsides in piñon-juniper woodland or plains-mesa grassland. The Sapello Canyon larkspur is often associated with canyon bottoms and aspen groves in lower and upper montane coniferous forest. The La Jolla prairie clover's preferred habitat is open sandy clay banks and bluffs, often along roadsides. Although the construction work would take place along roads sides, the La Jolla prairie clover was not seen during the Corps site visit on 12 December 2005. Most of the vegetation that exists within the street rights-of-way is disturbed. All other preferred habitat mentioned above is not located within the project area, and therefore there would be no effect to these endangered plants.

3.3 Cultural Resources

Portions of the following cultural resources text have been adapted from (Everhart 2004b:15). Prior to the arrival of the Spaniards in the Southwest, there were many American Indian Tribes had occupied numerous pueblos in the Albuquerque area, some for hundreds of years. Numerous archaeological investigations have been conducted and histories written regarding the long human occupation of the Albuquerque area. The local environment and culture history have been extensively documented in numerous other references, overviews, and reports; therefore, the information is not duplicated here. Some general archaeological and historic references and overviews include: Ackerly *et al.* (1997), Biebel (1986), Cordell (1979), Crawford *et al.* (1993), Holmes (1998), Judge (1973), Kelley (1974), Ortiz (1979, 1983), Marshall and Marshall (1990), Polk *et al.* (1999), Poore and Montgomery (1987), Sargeant and Davis (1986), Schmader (1990, 1994), Scurlock (1998, 1982), Simmons *et al.* (1989), Simmons (1982), and Wozniak (1987). Several accessible references on the local environment and general aspects of the area include Scurlock (1998), Finch and Tainter (1995), Robert (2005), Crawford *et al.* (1993), Williams (1986), and Bauer *et al.* (2003) as well as the original planning document for the Rio Grande Valley State Park (Chambers and Campbell 1969).

Most of the recent archaeological work in the Albuquerque area has primarily been associated with cultural resources compliance and management requirements, and for specific projects such as highway construction and maintenance and the installation of utility lines. A general history on Middle Rio Grande Flood Protection Projects between Corrales and San Marcial was prepared by Berry and Lewis (1997). Information regarding the history of U.S. Army Corps of Engineers' Albuquerque District and local flood control projects is found in Welsh (1985, 1997). The Ackerly *et al.* (1997) and Wozniak (1987) reports, prepared for the Bureau of Reclamation and the New Mexico Historic Preservation Division provide significant overviews regarding the development of the Middle Rio Grande valley and both include a substantial list of references. Burkholder (1928) provides information regarding the initial flood control, drainage, and irrigation work by the Middle Rio Grande Conservancy District.

Generally, very few cultural resources surveys have been conducted within the riverine/bosque areas between the Rio Grande flood control levees in the Albuquerque area. Two recent survey reports for bosque habitat restoration projects include Everhart (2004a) and M. Marshall (2003[b]) and one report for Corrales flood control levee rehabilitation and an addendum is by Kneebone (1993) and Kneebone and Everhart (1997), respectively. Recent surveys conducted for the Corps for the Bosque Wildfire Project included Estes (2005) and Everhart (2004b, 2004c, 2004d, and 2004e).

The project area, located in what is now known as Albuquerque's South Valley, is a conglomeration of several historic Hispanic communities including Atrisco, Armijo, Barelás, Arenal, Pajarito, and Los Padillas that date to Spanish Colonial times. A few of these communities are derived from early haciendas or ranchos that date prior to the Pueblo Revolt of 1680 and that were reestablished after the Revolt (Simmons 1982; Sánchez 1998). The project area lies within the historic Pajarito Land Grant that dates prior to 1746 and that was confirmed by Congress in 1894 and patented in 1914 (GAO 2001:14, 26). Immediately to the north of the project area, the Town of Atrisco Community Land Grant dates to 1692 and was also confirmed by Congress in 1894 and was patented in 1905 (GAO 2001:9, 22).

One historical account of the Southwest that includes local information regarding the communities of Atrisco, Barelás (Varelas), Pajarito, Albuquerque, and nearby Isleta Pueblo is the 1776 account by Fray Dominguez, translated and annotated by Adams and Chavez (1956:145-154, 202-208, 253-254). A subsequent reference on New Mexico's missions is Kessell (1980). Other references that generally cover the local project area include Ayers (1965), Kessell (2002), Sánchez (1996, 1998), Weber (1992), and Riley (1995). Brief, modern descriptions of the South Valley and its history and nearby Isleta Pueblo are provided in Chilton *et al.* (1984:261-264) and Fugate and Fugate (1989:84-96) as well as in the listings for Arenal, Atrisco, Barelás, Isleta Pueblo, Los Padillas, and Pajarito provided in Julyan (1996:21, 24-25, 30, 174, 210, 255, respectively).

Early archaeological documentation in the project vicinity include reports and notes by Bandelier (1892) and H. P. Mera (1940, and numerous other reports), and one of the earliest archaeological surveys that included the South Valley was conducted by Fisher (1931). More recently, Marshall and Marshall (1990) conducted a survey of the irrigation and drainage system managed by the Middle Rio Grande Conservancy District. This survey of acequia (irrigation canals and primary ditches) and drainage ditch alignments covered an area from Bernalillo south to Isleta Pueblo and was conducted for the Bureau of Reclamation. In the project area, Marshall and Marshall (1990) surveyed the Gun Club Lateral, the Isleta Drain, the Arenal Main Canal, the Los Padillas Drain, the Pajarito Ditch, the Los Padillas Acequia (Feeder)/Ditch, and the Atrisco Riverside Drain. Archaeological surveys along or adjacent to the S. Coors Blvd. and Raymac Road alignments include Condie (2001), Parker *et al.* (2005), Rodgers (1979), Berry (1997a), Johnson and Kemrer (1994), Mumford (1997), Bertram *et al.* (1989), and Marshall (1993a, 2003a). A recent survey north of the current project area conducted for the Corps of Engineers for another flood drainage investigation was conducted by Vaughan and Chapman (2004). Other recent surveys in the South Valley include those by Taschek Environmental Consulting: K. Parker (2005), N. Parker (2005), Parker *et al.* (2005a, 2005b), and Hurt *et al.* (2005).

Prior to the cultural resources survey of the project area, the Corps conducted a literature review and searches of the New Mexico Historic Preservation Division's Archaeological Records Management Section (ARMS) database and of the National Register of Historic Places and State Register of Cultural Properties for archaeological sites and historic properties that may occur in the vicinity. Cultural resources surveys of the project area were conducted by Corps' archaeologists in 2003 and 2006, covering a total of approximately 10.4 hectares (25.6 acres) and reported by Everhart (2006; Appendix A). During the cultural resources survey, eleven isolated occurrences that include prehistoric sherds and historic artifacts and trash were documented; these IO's are not likely to provide additional significant information. IO's No. 1, 2, 7, 8, and 11 will be affected by the project; however, they are all located in disturbed areas and no longer retain their provenience. IO's No. 3, 4, 5, 6, 9, and 10 would not be affected by the project.

The ARMS database search found that five archaeological sites, LA723, LA19244, LA50273, LA74755, and LA145560, occur in proximity to the project area. The first four archaeological sites are prehistoric Puebloan ruins; LA723 (Pueblo Pajarito, a Late Pueblo III to Early Pueblo IV period ruin [ca. A.D. 1200 to 1400]), LA19244 (a Pueblo III period pueblo ruin [ca. A.D. 1100 to 1300]), LA50273 (Pueblo los Padillas, a Coalition period ruin [ca. A.D. 1200 to 1325]), and LA74755 (a Pueblo III period pueblo ruin [ca. A.D. 1100 to 1300]). LA145560, a historic earthen ditch/structure, is an abandoned segment of the Los Padillas Acequia/Drain.

It was subsequently determined that LA723 was of sufficient distance from the project area that it would not be affected by the project. During the field survey, Corps' archaeologists verified the locations of LA50273 and LA74755 in relation to the project area; surface artifacts were observed adjacent to the project area at both sites. No artifacts or cultural resources manifestations were observed in the project area near LA19244 although it is reported to be adjacent to S. Coors Blvd. Since these three archaeological sites are located or are reported to occur adjacent to the project area, the Corps will contract for archaeological monitoring during construction in the project areas adjacent to these archaeological sites. All three of these archaeological sites have been disturbed to some extent in the past. It is anticipated that the pipeline project would have no adverse effect to LA19244, LA50273, and LA74755. While LA145560 is within the project area, located in the Rio Grande bosque, it has been previously disturbed and subjected to flooding, and is in a deflated condition. It is anticipated that the pipeline project would have no adverse effect to LA145560. The Corps does not plan to conduct monitoring at LA145560 during construction.

The proposed pipeline project crosses several segments of the Middle Rio Grande Project's irrigation ditch and drain system. Some of the historic acequias in the project area may date to the 1700s. The acequias were organized into components of the MRGCD system and with the valleys' flood control levees were initially constructed and/or reconfigured in the 1930s and portions of these adjacent to the Rio Grande were extensively rehabilitated in the 1950s and 1960s by the U.S. Bureau of Reclamation and the U.S. Army Corps of Engineers. While the irrigation/drain system is considered to be historic, the acequia ditches/canals and drains and associated structures have been maintained and in many cases extensively rehabilitated in the past. The proposed pipeline will cross a small portion of previously disturbed areas of these ditches/drains and may affect the existing modern culverts at the Gun Club Lateral, Isleta Drain, Arenal Main Canal, Los Padillas Drain, Pajarito Ditch, the Los Padillas Ditch, and the Atrisco Riverside Drain as well as the flood control levee. No historic Middle Rio Grande Project structures would be affected. These proposed crossing excavations are considered to have a negligible, and therefore, no adverse effect to these ditches/drains culvert and levee structures.

While the South Valley is rapidly becoming urbanized, it still has a unique character and retains a historic feeling and aesthetic quality. Although it is beyond the scope of this project, upon further investigation the South Valley with its old, narrow, and in some cases winding road (wagon road) alignments; small historic and largely Hispanic communities, churches and cemeteries; old Puebloan ruins; winding acequias and small agricultural fields; may generally be considered to be potentially eligible for nomination to the National Register of Historic Places as a rural historic landscape. The proposed project would have no effect to the local landscape.

Consistent with the Department of Defense's American Indian and Alaska Native Policy, signed by Secretary of Defense William S. Cohen on October 28, 1998, and based on the State of New Mexico Indian Affairs Department's 2003 Native American Consultations List, American Indian Tribes/Pueblos that have indicated they have concerns in Bernalillo County have been contacted regarding the proposed Black Mesa 593 project; these include the Hopi Tribe, Isleta Pueblo, Laguna Pueblo, Navajo Nation, Ohkay Owingeh (San Juan) Pueblo, Sandia Pueblo, White Mountain Apache Tribe, and Ysleta de Sur Pueblo. The original informal consultation (scoping) letters were mailed to the Bernalillo County Tribal list on September 25, 2003, with a single response from Isleta Pueblo indicating that they had no cultural resources concerns. As planning and design work progressed, a second informal consultation letter was mailed to the 2005 Bernalillo County Tribal list on July 13, 2005, with a single response from Laguna Pueblo indicating that they had no cultural resources concerns. In March 2006, the Jicarilla Apache Tribe informed the Corps that they wanted to be included on the Tribal consultation list for projects occurring in Bernalillo County. Subsequent to the cultural resources survey of the project area, informational letters regarding the proximity of three prehistoric archaeological sites located adjacent to the proposed pipeline alignment and that the Corps planned to conduct archaeological monitoring during construction at these locations, were mailed to the 2006 Bernalillo County Tribal list, as indicated above, on June 28, 2006. Replies were received from the Hopi Tribe indicating that they concurred with the Corps determination of no adverse effect and from the Jicarilla Apache Tribe indicating that they had no known cultural concerns regarding the project.

No cultural resources concerns have been brought to the attention of the Corps and no traditional cultural properties are known to occur in the immediate vicinity of the project area. No other artifacts, new archaeological sites, historic properties, nor other cultural resources manifestations were observed during the cultural resources survey.

Subsequent to the completion of the original cultural resources survey work and report (Everhart 2006), problems arose in acquiring real estate rights-of-way for the downstream end of the original alignment; east of Isleta Blvd. to the bosque outfall. An alternative segment/alignment was recently selected. The new alignment is only about 740 feet north of the originally proposed alignment. On 18 January 2007, a Corps archaeologist conducted an intensive pedestrian survey of the alternative pipeline alignment. The Corps' addendum survey report entitled **A Cultural Resources Inventory of 6.6 Acres for Realignment of a Pipeline Segment: Addendum to A Cultural Resources Inventory of 25.6 Acres for the Black Mesa Section 593 Surface Water Drainage Project, in Bernalillo County, New Mexico** (Everhart 2007, COE-2007-002; NMCRIIS No. 103390) is part of the permanent part of the project record (Appendix A).

On June 29, 2006, the New Mexico State Historic Preservation Officer had concurred with the Corps determination of No Adverse Effect to Historic Properties for the original alignment (HPD Consultation No. 078294; Appendix B). Like the original alignment, pipeline excavations will diagonally cross LA145560, the Los Padillas Ditch, the Atrisco Riverside Drain and the flood control levee. LA145560 is the abandoned and deflated segment of the historic Los Padillas Acequia/Drain within the bosque. The Los Padillas (Acequia) Ditch and the Atrisco Riverside Drain are active, historic components of the Middle Rio Grande Conservancy District's irrigation ditch and drainage canal system. Like the original alignment, the negligible effects to cultural resources would be the same for the new alignment. The Corps finds that the pipeline project would again have no adverse effect to LA145560. During the survey, no other artifacts or other cultural resource manifestations were observed in the vicinity of the new alignment and no traditional cultural properties are known to occur in the immediate vicinity of the project area.

Based on the information provided in the original cultural resources survey report and in the addendum report, the Corps is of the opinion that there will be "No Adverse Effect to Historic Properties" by pipeline installation for the Black Mesa Section 593 Surface Water Drainage Project or for utilizing the new alternative pipeline alignment. The project's cultural resources survey report is documented in the New Mexico Cultural Resources Information System (NMCRIS) under No. 99706. Documentation regarding cultural resources compliance activities is documented in Appendix B.

3.4 Hazardous, Toxic and Radioactive Wastes

Review of the draft Black Mesa-Phase I construction plans indicate that there are concerns regarding the presence of asbestos cement pipe, also known as transite pipe. However, conversations with the various managers and engineers on the Project Delivery Team indicate that the presence of existing transite pipe has not been verified, and that the reference was precautionary in nature. In any event, the intent of the engineers is to circumvent existing utilities rather than remove asbestos materials, if possible. In the event that asbestos-containing materials are encountered, the contractor would be required to immediately notify the Contracting Officer, and specifications for addressing asbestos concerns would be developed at that time.

Solid, hazardous or special wastes encountered or generated at the project site as a result of site activities would be handled in accordance with State of New Mexico regulations and guidelines.

3.5 Petroleum Storage Tanks

According to the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau, there are twenty-five known former or current tank facilities, six of which have experienced releases within the proposed project area. The Corps has been in coordination with NMED to locate these sites. NMED advised the Corps, and any contractors working on this project, to remain alert for indications of soil or groundwater contamination in the vicinity of any of the listed sites. NMED stated that there may be wells or remediation equipment installed at the leak sites. They advised that if the design for the proposed storm water drainage improvement project intersects any part of a remediation system or monitoring well, that the

Corps contact the Petroleum Storage Tank Bureau to coordinated construction with preservation or modification of the remediation equipment. Pursuant to the requirements of 20.2.6.1203.A NMAC, if contaminated soil or water is encountered during construction, all monitoring, handling and disposal requirements must be met in order to protect workers, the public and the environment, from contaminants.

3.6 Land Use and Socioeconomic Considerations

The Black Mesa project area is located within the Los Padillas community, which is considered the southern most community in the Southwest Valley. The Southwest Valley makes up more than one third of the greater Albuquerque Metropolitan area. The total population of Albuquerque, New Mexico in 2002 was estimated to be 737,324. Within the community of Los Padillas, the ethnic background is: Hispanic, 76.9%; White, 16.4%; Native American, 4.9%; African American, 0.2%; and Other, 0.4%. The annual average wage/salary per job was \$38,788 (U.S. Department of Commerce, Bureau of Economic, 2002). The unemployment rate for Bernalillo County in 2002 was 5.1% (New Mexico Department of Labor, 2004). Within the Los Padillas community, farming is still a major land use. Small truck farms grow chile, corn, squash, tomatoes and fruit. Alfalfa is a main crop. Dairies and feedlots are also present. There is limited grazing, which is usually confined to families raising 1 or 2 cattle for their own use.

The proposed project mostly occurs within previously developed or disturbed land. Pipes used to collect stormwater flows would be placed in areas adjacent to the three existing dams, or along street rights-of way. The outlet pipe to the river would be placed under the riverside drain. Property adjacent to the project area includes residential and mobile homes, streets, farmland, and three existing dams. The proposed project would not adversely affect land use or socioeconomic resources in the project area. Southwest Valley residents would be beneficially affected due to the stormwater drainage improvements.

3.7 Environmental Justice

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority and Low-Income Populations; February 11, 1994) was designed to focus the attention of Federal Agencies on the human health and environmental conditions of minority and low-income communities. It requires Federal agencies to adopt strategies to address environmental justice concerns within the context of agency operations and proposed actions. In an accompanying memorandum, President Clinton emphasized that existing laws, such as the National Environmental Policy Act (NEPA), should provide an opportunity for federal agencies to assess the environmental hazards and socioeconomic impacts associated with any given agency action upon minority and low-income communities. In April of 1995, the EPA released a guidance document entitled *Environmental Justice Strategy: Executive Order 12898*. In short, this document defines the approaches by which the EPA will ensure that disproportionately high environmental and/or socioeconomic effects on minority and low-income communities are identified and addressed. Further, it establishes agency wide goals for all Native Americans with regard to Environmental Justice issues and concerns.

The Black Mesa Stormwater Drainage Improvement Project would be conducted under Section 593 of the Water Resources Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 et seq.) as amended. This program is largely intended to provide needed assistance (technical, financial, etc.) to communities in which water resources are degrading and in need of improvement. As such, this project would benefit an area within a minority and low-income community. No adverse impacts on minority and low-income populations are expected. Under the definition of Executive Order 12898, there would be no adverse environmental justice impacts under the proposed action.

3.8 Cumulative Impacts

NEPA defines cumulative effects as “...the impact on the environment which results from the incremental impact of the action when added to other, past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.”

The footprint of the proposed project lies within an urban/semi-urban residential area that has little resemblance to what was present prior to urbanization. Since the construction work primarily involves the addition of an outlet pipe manifold and other outlet pipes, most environmental impacts associated with the proposed project would have occurred from previous development activities. These impacts have stabilized and have been considered the baseline against which impacts of the proposed project have been compared. Most of the proposed construction takes place along previously developed areas. The outlet pipe manifold and outlet pipes would be placed underground, and therefore would not be visible. This would not significantly impact the current conditions of the local environment. Positive stormwater drainage improvements are anticipated to occur from the proposed project that would enhance the quality of life for residents in the area. For these reasons, the proposed project when combined with past, present, or future activities in the southwest valley would not significantly add to or raise local cumulative environmental impacts to a level of significance.

Most of the proposed construction takes place along previously developed areas. The outlet pipe manifold and other outlet pipes would be placed underground, and therefore would not be visible.

Within the Albuquerque Reach of the Middle Rio Grande, a number of projects are underway to restore riparian and riverine habitat:

- Bosque Wildfire Project – Corps. Under this project the Corps has completed burn restoration, fuel reduction, exotic removal, jetty jack removal, and emergency access features such as bridges and levee repair. This project is documented in the “Environmental Assessment for the Bosque Wildfire Project, Bernalillo and Sandoval Counties, New Mexico, September 2004” (USACE, 2004).
- Middle Rio Grande Riverine Habitat Restoration Project – Interstate Stream Commission (ISC). This project is another Collaborative Program project where the ISC is restoring aquatic habitat for the benefit of the RGSM in the river in the Albuquerque Reach by manipulating islands, bars and banks to mobilize sediments. This project constructed potential RGSM habitat on a riverine bar just south of I-40 on the east side of the river (downstream from the proposed project). This project is documented in the “Middle Rio Grande Riverine Habitat Restoration Project Environmental Assessment, March 2005” (ISC and BOR, 2005).

- Rio Grande Silvery Minnow Sanctuary – BOR. This project proposes to construct a Sanctuary near downtown Albuquerque in the bosque that would contribute to the enhancement and recovery of RGSM in the Middle Rio Grande. This project is documented in the “Rio Grande Silvery Minnow Sanctuary Environmental Assessment – DRAFT, July 2005” (BOR, 2005).
- Albuquerque BioPark Project – The Albuquerque BioPark project is a Corps 1135 Ecosystem Restoration project that consists of approximately 15 acres of pond reconstruction, 9 acres of wetland restoration, and 48 acres of riparian woodland (bosque) restoration in the bosque south of Central Ave. on the east side of the river in Albuquerque. The bosque was restored by enhancing hydrology and native vegetation. Non-native saltcedar and Russian olive were removed through brush cutting, root plowing and localized herbicide application. Project construction is complete and the wetlands are currently being planted with native vegetation.
- Middle Rio Grande Bosque Feasibility Study – The Middle Rio Grande Bosque Feasibility Study is a Study undertaken by the Corps Albuquerque District regarding the long-term restoration of the Middle Rio Grande in the Albuquerque Reach. A 905(b) Reconnaissance study was completed as well as a Supplemental Planning Document. The Feasibility Study is currently in its second year of three. Implementation would take place over a 10-year period.

Additional non-Federal efforts under the same purpose of habitat restoration are underway by the City of Albuquerque Open Space Division (OSD) in terms of thinning of dead wood and non-natives in order to prevent fires during the 2004 fire season. OSD also constructed a Collaborative Program project for potential RGSM habitat within the bosque across from Harrison Middle School. The Ciudad Soil and Water Conservation District (SWCD) has also completed some thinning at locations near the Rio Grande Nature Center, the west side of the river south of Montaña Bridge and near the National Hispanic Cultural Center.

4.0 CONCLUSION AND SUMMARY

The proposed action evaluated in this FEA addresses the method and potential effects for the construction of the stormwater drainage improvement system.

Due to the previously disturbed and semi-urban nature of the proposed project area, impacts to the environment would be insignificant and short-term. This proposed project would reduce flood damages in the southern portion of the Southwest Valley between Rio Bravo and Raymac Road. The proposed project would not result in any moderate or significant, short-term, long-term, or cumulative adverse effects. Therefore, construction of the proposed project would not significantly affect the quality of the human environment and is recommended for implementation.

5.0 PREPARATION, QUALITY CONTROL, CONSULTATION AND COORDINATION

5.1 Preparation

This FEA was prepared for the Bernalillo County and AMAFCA by the U.S. Army Corps of Engineers, Albuquerque District (USACE). Personnel primarily responsible for preparation include:

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5.2 Quality Control

This FEA has been reviewed for quality control purposes. Personnel who reviewed this FEA include:

William R. DeRagon	Biologist, USACE, Albuquerque District
Ondrea Hummel	Chief, Environmental Resources Section, USACE, Albuquerque District

5.3 General Consultation and Coordination

Agencies and entities contacted formally or informally in preparation of this Environmental Assessment include:

US Fish and Wildlife Service
New Mexico Ecological Services Field Office
Albuquerque, New Mexico

US Environmental Protection Agency, Region 6
Office of Planning and Coordination
Dallas, Texas

US Bureau of Reclamation
Albuquerque, New Mexico

U.S. Army Corps of Engineers
Albuquerque District
Regulatory Branch

Middle Rio Grande Conservancy District
Albuquerque, New Mexico

NM Forestry and Resources Conservation Division
Energy, Minerals, and Natural Resources Department
Santa Fe, New Mexico

NM Department of Game and Fish
Conservations and Services Division
Albuquerque, New Mexico

Water and Waste Management Division
NM Environmental Department
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NM State Engineer
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Rio Grande Valley Library
Albuquerque, New Mexico

Albuquerque Metro Area Flood Control Association
Albuquerque, New Mexico

Pueblo of Isleta

Polk Middle School
Albuquerque, New Mexico

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Appendix A
Cultural Resources Report

NMCRIS No. 103390

**A CULTURAL RESOURCES INVENTORY OF 6.6 ACRES
FOR REALIGNMENT OF A PIPELINE SEGMENT:**

ADDENDUM TO

**A CULTURAL RESOURCES INVENTORY OF 25.6 ACRES
FOR THE
BLACK MESA SECTION 593 SURFACE WATER DRAINAGE PROJECT
IN BERNALILLO COUNTY, NEW MEXICO**

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New Mexico Annual Survey Permit No. NM-07-193

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ABSTRACT

In 2003 and 2006, U.S. Army Corps of Engineers (Corps), Albuquerque District, archaeologists conducted cultural resources inventory surveys of the Black Mesa Section 593 Project area that covered a total of approximately 10.4 hectares (25.6 acres). The proposed project calls for the installation of pressurized, underground pipeline for a surface water drainage system in an area known as Albuquerque's South Valley. The Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) and Bernalillo County are the project sponsors. The cultural surveys, in Bernalillo County, New Mexico, were conducted in anticipation of the proposed pipeline project that would deliver surface water run-off from AMAFCA's three West Mesa dams, the Don Felipe, Raymac and McCoy Dams to the Rio Grande. The Corps' cultural resources survey report, Report No. COE-2006-003 (NMCRIS No. 99706) was submitted to the New Mexico State Historic Preservation Officer (SHPO) in June, 2006. The SHPO concurred with the Corps determination that the Black Mesa 593 Surface Water Drainage Project would have "No Adverse Effect to Historic Properties." Scoping letters were sent to Native American tribes that have concerns in Bernalillo County; tribal responses were received from the Jicarilla Apache Nation, the Hopi Tribe, the Pueblo of Isleta, and the Pueblo of Laguna, all of whom had no cultural resources concerns with the project.

Subsequent to the completion of the cultural resources survey work and report submittal, the project sponsors have been unable to obtain the planned real estate rights-of-way east of Isleta Boulevard. On January 18, 2007, a Corps' archaeologist conducted an intensive pedestrian cultural resources survey of an alternate pipeline alignment, covering a total of approximately 2.7 hectares (6.6 acres); from the eastern end of the Raymac Road, then north along Isleta Blvd. and east to the Rio Grande. This alignment is only 740 feet north of the originally proposed alignment. This alignment, like the original, diagonally crosses the Los Padillas Ditch, the Atrisco Riverside Drain and LA145560, an abandoned segment of the Los Padillas Acequia/Drain located east of the flood control levee and within the Rio Grande bosque. No artifacts or other cultural resources manifestations were observed during the pedestrian survey. The Corps is of the opinion that there will be "No Adverse Effect to Historic Properties" by pipeline installation in the newly proposed segments alignment. This cultural resources inventory survey has been documented in the New Mexico Cultural Resources Information System (NMCRIS) under No. 103390.

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CHAPTER 1

INTRODUCTION AND PROJECT DESCRIPTION

Purpose of the Survey and Project Background

The U.S. Army Corps of Engineers (Corps), Albuquerque District, at the request of the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) and Bernalillo County, is planning for the installation of an underground pipeline for surface water drainage in Albuquerque's South Valley. The project is funded under Section 593 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 *et seq.*), as amended. The Act authorizes the Corps to provide assistance in the form of planning, design and construction for water-related environmental infrastructure and resource protection and development projects in central New Mexico.

In 2003 and 2006, U.S. Army Corps of Engineers (Corps), Albuquerque District, archaeologists conducted cultural resources inventory surveys of the project area that covered a total of approximately 10.4 hectares (25.6 acres). The proposed project calls for the installation of pressurized, underground pipeline for a surface water drainage system in an area known as Albuquerque's South Valley. AMAFCA and Bernalillo County are the project sponsors. The cultural surveys, in Bernalillo County, New Mexico, were conducted in anticipation of the proposed pipeline project that would deliver surface water run-off from AMAFCA's three West Mesa dams, the Don Felipe, Raymac and McCoy Dams to the Rio Grande. The Corps' cultural resources survey report, Report No. COE-2006-003 (NMCRIS No. 99706, Everhart 2006) was submitted to the New Mexico State Historic Preservation Officer (SHPO) in June, 2006. The SHPO concurred with the Corps determination that the Black Mesa 593 Surface Water Drainage Project would have "No Adverse Effect of Historic Properties" (HPD Consultation No. 078294, for this project's original survey report/submittal). Scoping letters were sent to Native American tribes that have concerns in Bernalillo County; tribal responses were received from the Jicarilla Apache Nation, the Hopi Tribe, the Pueblo of Isleta, and the Pueblo of Laguna, all of whom had no cultural resources concerns with the project.

Subsequent to the completion of the cultural resources survey work and report submittal, the project sponsors have been unable to obtain the planned real estate rights-of-way for the pipeline segment located east of Isleta Boulevard. On January 18, 2007, a Corps' archaeologist conducted an intensive pedestrian cultural resources survey of an alternate pipeline alignment with a buffer area, covering a total of approximately 2.7 hectares (6.6 acres); from the eastern end of the Raymac Road, north along Isleta Blvd. and then east to the Rio Grande. This alignment is only a short distance north of the originally proposed alignment. This alignment, like the original, will have pipeline excavations that diagonally cross the Los Padillas Ditch, the Atrisco Riverside Drain and LA145560, an abandoned segment of the Los Padillas Acequia/Drain located east of the flood control levee and within the Rio Grande bosque. This cultural resources inventory survey has been documented in the New Mexico Cultural Resources Information System (NMCRIS) under No. 103390.

Since this report is an addendum to the original cultural resources survey report, the following documentation will be directed more specifically to the new pipeline alignment for the project segment, from the eastern end of the Raymac Road, then proceeding a short distance north along Isleta Blvd. and then east to the Rio Grande.

Project Description and Location

The Black Mesa Section 593 Project is located within Bernalillo County, New Mexico, west of the Rio Grande and south of the Albuquerque City limits. The project area is generally known as Albuquerque's South Valley and more specifically is below (downhill of) the West Mesa, south of Gun Club Road and north of the location where Interstate Highway 25 crosses the Rio Grande (Figure 1.1). Figure 1.1 is adapted from the original cultural resources reports Figure 2.

The proposed project calls for the installation of pressurized, underground pipeline for a surface water drainage system. The proposed pipeline would deliver surface water run-off from AMAFCA's three West Mesa dams, the Don Felipe, Raymac, and McCoy Dams, and deliver the water to the Rio Grande where it will disperse through the bosque. Installation of the underground pipeline will utilize the same construction practices as described in the original cultural resources report (Everhart 2006) and the project's environmental assessment (USACE 2007).

Due to problems in gaining real estate rights-of-way for the downstream end of the original alignment, an alternative segment/alignment was recently selected. This new alignment/segment is only a short distance north of the original, with the new, alternate alignment outfall location being approximately 225 meters (740 feet) north of the old outfall location. Similar to the original, the new alignment/segment diagonally crosses the Los Padillas Ditch, the Atrisco Riverside Drain and LA145560, an abandoned segment of the Los Padillas Acequia/Drain located east of the flood control levee and within the Rio Grande bosque (Figure 1.2). Figure 1.2, an aerial image of the project area, is adapted from the original cultural resources reports Figure 7. Figure 1.2 shows that part of the new alignment crosses private property, from Isleta Blvd. to the Los Padillas Ditch on the east, then onto lands under the joint jurisdiction of Federal, State and City agencies.

The proposed pipeline outfall structure, termed a duckbill bladder outlet, has the potential to release surface water drainage up to 100-cubic-feet per-second (cfs). The outlet structure would be located in the immediate vicinity of the old LA145560 ditch alignment. Therefore, a small segment of LA145560 will be re-utilized to disperse storm water flows through the bosque; i.e., used for drainage similar to its historic use (Estes 2005:69). Figure 1.3 is an overview photograph in the Rio Grande bosque looking south. In the photograph, the Rio Grande is located to the left (east) and the Atrisco Riverside Drain is located on the right (west). Corps' project personnel in the photograph are standing in the old LA145560 ditch alignment, approximately at the location where the pipeline outfall structure will be located (see Figure 1.1 and Figure 1.2).

Figure 1.4 is an overview photograph of the farm field looking west from the Los Padillas Ditch bank (photograph foreground; see Figure 1.1 and Figure 1.2). The photograph shows the general

location where the alternate pipeline alignment would cross the farm field, from the north (right side) of the house/structures shown in the center of the photograph. Isleta Blvd. is located further west, behind the house/structures. The Rio Grande bosque, where the pipeline would outlet, is located behind the photographer.

Land Ownership

The project area is located along State Highway and Bernalillo County roads rights-of-way as well as crossing private property located in Bernalillo County, New Mexico. Figure 1.2 shows that part of the new alignment crosses private property, from Isleta Blvd. to the Los Padillas Ditch on the east, then onto lands under the joint jurisdiction of Federal, State and City agencies. Most of the land is managed by the Middle Rio Grande Conservancy District (MRGCD) under permit from the U.S. Bureau of Reclamation (BOR). Project land is also within the Rio Grande Valley State Park that is jointly managed by the City of Albuquerque's Open Space Division (City) and New Mexico State Parks Division.

Project Personnel and Schedule

On January 18, 2007, Corps archaeologist Lance Lundquist conducted an intensive pedestrian cultural survey of the new pipeline alignment. On January 25, 2007, Corps archaeologist Gregory D. Everhart attended a site visit with other Corps personnel to the bosque project area. Corps archaeologist Gregory D. Everhart wrote and produced the report with assistance from Lance Lundquist. John D. Schelberg, Corps senior archaeologist, peer reviewed this document.

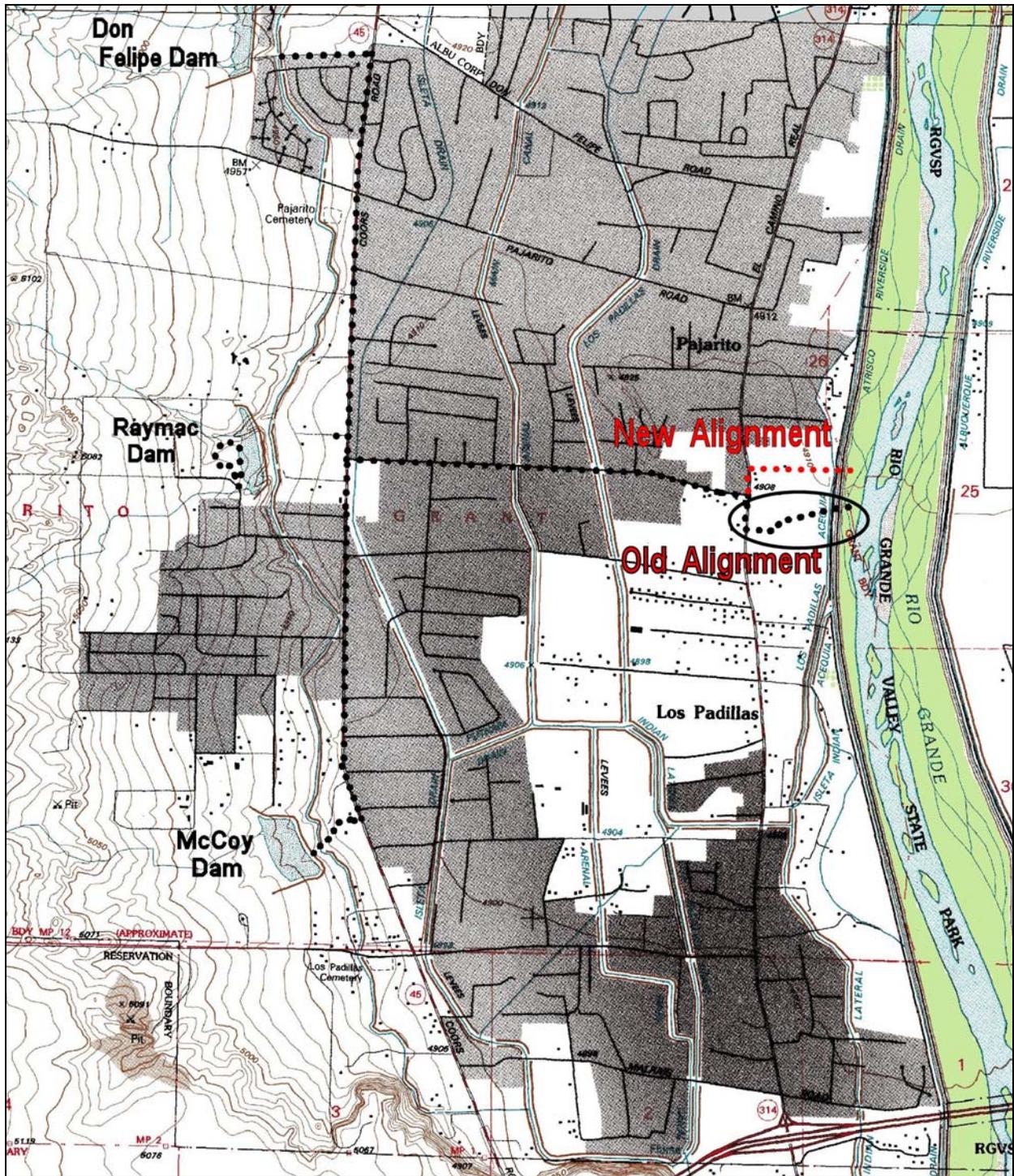


Figure 1.1 Project Location, USGS Quad Map, New Mexico.

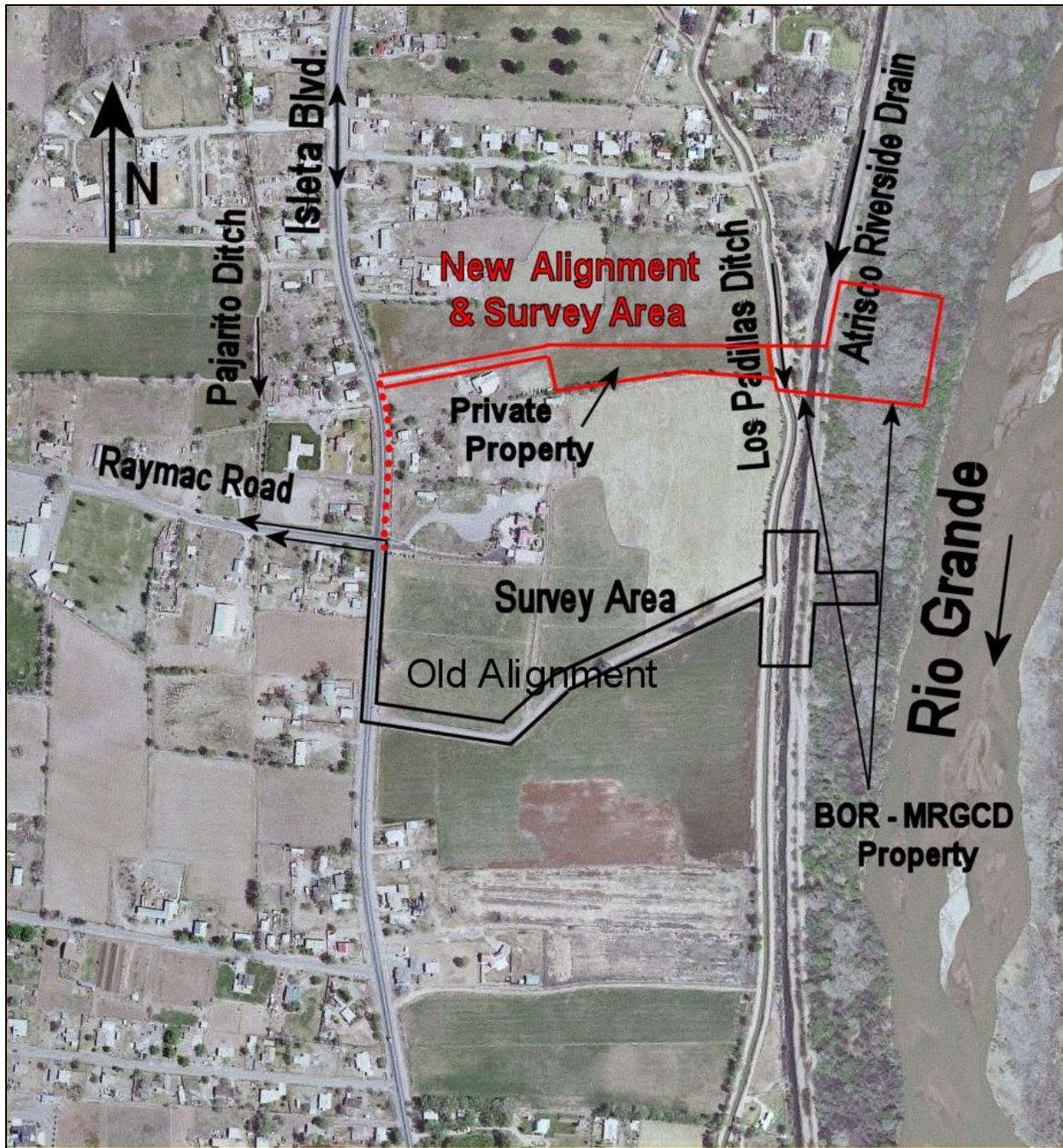


Figure 1.2 Project Location, Aerial Image Map, New Mexico.



Figure 1.3 Overview Photograph of Bosque



Figure 1.4 Overview Photograph of Farm Field

CHAPTER 2

ENVIRONMENTAL SETTING

Natural and Cultural Environment

Please refer to the original cultural resources survey report (Everhart 2006) and to the Corps' environmental assessment (USACE 2007) for the Black Mesa Section 593 Project for further description of the local environment.

Results of Records Check

Prior to the field survey, an on-line file search of the New Mexico Historic Preservation Division's (NMHPD), Archaeological Records Management Section (ARMS) map server was conducted on January 18, 2007, by Corps archaeologist Lance Lundquist (copy attached, APPENDIX A). The Corps also checked Corps records for the previous Black Mesa 593 cultural surveys as well as documentation from the Corps' Bosque Wildfire, New Mexico project files. The new, alternate alignment's outfall location in the Rio Grande bosque is approximately 740 feet (225 meters) north of the originally proposed outfall location. No properties listed on the National Register of Historic Places occur in the vicinity of the project area.

No prehistoric archaeological sites or cultural resources are known to occur within or adjacent to the project area. LA145560, a segment of the historic Los Padillas Acequia/Drain that was abandoned in the 1930s and MRGCD's historic Los Padillas Ditch and Atrisco Riverside Drain are known to occur in the project area. Documentation for LA145560 indicates that it may date to the early part of the New Mexico Territorial Period (1846-1912; Estes 2005:63-69, 75-76). The Los Padillas Ditch and Atrisco Riverside Drain were constructed in the 1930s and are still in use today.

Culture History and Literature Review

Literature reviewed specifically for this project area included Bob Estes's (2005) Bosque Wildfire survey report. The Estes (2005:63-69) report covered the bosque portion of this project area and LA145560, the segment of the Los Padillas Acequia/Drain that was abandoned at least by the early 1930s. The Middle Rio Grande Conservancy District (MRGCD) was formed in 1925 and started consolidating the numerous individual acequias in the valley into the MRGCD irrigation ditch and drainage system (Everhart 2004:10-11). Please refer to the original cultural resources survey report (Everhart 2006) and its reference list.

CHAPTER 3

FIELD METHODS

Size of the Survey Crew, Transect Interval(s) and Transect Method

On January 18, 2007, a Corps' archaeologist conducted an intensive Class III cultural resources pedestrian survey of the alternate pipeline project area; the survey covered approximately 2.7 hectares (6.6 acres; see Figure 1.1 and Figure 1.2). The pedestrian survey was conducted by walking linear transects spaced less than or equal to 15 meters apart. On January 25, 2007, a Corps' archaeologist attended a site visit with other Corps personnel.

Field Conditions

Field conditions during the survey included high overcast clouds, a slight breeze with an afternoon temperature of about 34°F. Ground surface visibility was about 85 percent with almost all areas being level. Some areas within the riparian floodplain (bosque) were covered with wood chips resulting from recent vegetation thinning and removal activities conducted after portions of the project area (Bosque Wildfire project areas No. 51 and 52) were burned by wildfire in 2004 (Estes 2005:iii, 1, 11, 31). The area along the existing residence/farm access road has been previously disturbed by original construction and maintenance and the farm field has been disturbed by numerous years of agricultural activities. The Los Padillas Ditch and Atrisco Riverside Drain are actively operated and maintained by the MRGCD.

Methods of Site Location

The review of Corps' project literature and maps and the ARMS map server check found that no prehistoric archaeological sites are known to occur in the immediate vicinity of the proposed project area. However, from these reference sources, LA145560, the abandoned segment of the Los Padillas Acequia/Drain and MRGCD's historic Los Padillas Ditch and Atrisco Riverside Drain are known to occur in the project area. No other archaeological sites or historic properties were observed during the pedestrian survey.

Photography and Documentation Methods

Figure 1.1 is adapted from the original cultural resources reports Figure 2; as adapted by Corps' archaeologist, Gregory D. Evehart, from: USGS 7.5-Minute Quadrangle Map: Isleta, NM (34106-H6; 1991, NAD 1983). Rectified, digital aerial imagery acquired by Bernalillo County in June 1999 (Projection = State Plane – New Mexico [Central], Units = U.S. Feet; Datum, NAD 1983) was utilized for Figure 1.2. Figure 1.2 was adapted by Corps' archaeologist, Gregory D. Evehart, from the original cultural resources reports Figure 7. Mr. SID GeoViewer software with USGS Digital Ortho Quad (DOQ) imagery acquired between 1996-1998 was utilized to determine the acreages surveyed for cultural resources as well as the distance from the old to the new pipeline outfall location. Digital overview-type photographs were taken at different points

during the survey. Two of these photographs have been incorporated into this document; Photograph Figure 1.3 was taken by Corps' archaeologist, Gregory D. Evehart, on January 25, 2007. Photograph Figure 1.4 was taken by Corps' archaeologist, Lance Lundquist, on January 18, 2007.

Strategies Employed for Collection or Limited Tests

No collection of artifacts or limited test excavation was conducted.

CHAPTER 4

RESULTS OF INVESTIGATION AND SURVEY

Location of Cultural Properties

Public disclosure of the location of archaeological sites on state and private lands is prohibited by Section 18-6-11.1 NMSA 1978. Public disclosure of archaeological site locations is federally prohibited by 16 U.S.C. 470hh (36 CFR 296.18).

As discussed in Chapter 2, the location of previously recorded sites based on the remote station ARMS records search at the state is located in APPENDIX A. *This confidential appendix is to be removed for copies intended for public disclosure.*

Description of Archaeological Sites

One historic archaeological site, an earthen structure, and two historic properties were previously known to occur in the project area. LA145560, a segment of the Los Padillas Acequia/Drain, abandoned in the 1930s, was observed during the pedestrian survey. MRGCD's historic Los Padillas Ditch and Atrisco Riverside Drain, constructed in the early 1930s and that are still in use today, are also known to occur in the project area. No new archaeological sites were encountered during this survey. Since LA145560 was only recently documented (Estes 2005) and since there have been no changes to the site, no new site update form was prepared.

Description of Archaeological Sites not Relocated

None.

Description of Isolates

No isolated occurrences were observed during the survey.

Interpretive Summary

As a small survey, it is not surprising that no prehistoric archaeological sites or isolated occurrences were observed during this survey. The project area is very flat and located immediately adjacent to the Rio Grande floodplain. The project area may have flooded annually prior to the 1930s when MRGCD began construction of spoil-bank flood control levees that generally would have protected the area. Land use in the immediate area remains agricultural. Use of the project area for agricultural purposes, i.e., as farm fields, may have begun as early as the mid-1600s by the newly arrived Spanish colonials and perhaps by American Indians prior to that. However, with the exception of the acequias, no prehistoric archaeological sites or historic properties are known to occur in the immediate vicinity of the project area.

CHAPTER 5

SUMMARY AND RECOMMENDATIONS

Evaluation and Statement of Significance

This survey was conducted in anticipation of the construction of a surface water drainage project that will evacuate storm water from three flood control detention dams and deliver it to the Rio Grande. The current project/survey area is an alternative alignment to that originally proposed; therefore this report is an addendum to the original cultural resources survey report for the project.

LA145560, a portion of the historic pre-1930s Los Padillas Acequia/Ditch was previously documented during survey work for the Corps' Bosque Wildfire Project by the University of New Mexico's Office of Contract Archeology (Estes 2005). For that project, the Corps determined and the SHPO concurred that LA145560 is eligible for nomination to the National Register of Historic Places under criteria "a" and "d" of 36 CFR 60.4 (HPD Consultation No. 076136; Everhart 2006:13). Since abandonment in the 1930s, LA145560 is in a deflated condition. LA145560 is located within the Rio Grande riparian floodplain and within the flood control levees and therefore, on numerous occasions in the past has been and in the future will be subjected to the river's overbank flows/flooding (Everhart 2006:17).

The existing Los Padillas Ditch and Atrisco Riverside Drain, as components of the 1930s Middle Rio Grande Conservancy District's irrigation and drainage system are also considered to be historic and the MRGCD system as a whole may be considered to be eligible to the National Register as a historic district (HPD Consultation No. 076136; Everhart 2006:13-14, 20).

Effect Determination

No isolated occurrences or new sites or structures were discovered during the course of survey. The SHPO has previously concurred that there would be "No Adverse Effect to Historic Properties" for pipeline installation for the originally proposed alignment (HPD Consultation No. 078294, for this project's original survey report/submittal). The new, alternate alignment outfall location is approximately 740 feet (225 meters) north of the old outfall location. Therefore, the negligible effects described in the documentation for the original project area are essentially the same as that for the new alignment location. Due to the limited nature of the proposed pipeline installation, with pipeline excavations affecting approximately 20 lineal feet of the LA145560, Los Padillas Ditch and the Atrisco Riverside Drain alignments, the Corps is of the opinion that there would be "No Adverse Effect to Historic Properties" by the proposed installation of underground pipeline in the newly surveyed alternate alignment.

Summary and Recommendations

The proposed pipeline project will diagonally cross LA145560, the Los Padillas Ditch, and the Atrisco Riverside Drain. The pipeline project will affect approximately 20 lineal feet of the

alignments of each of these structures. The Corps is of the opinion that the proposed undertaking would have no adverse effect to historic properties. The Corps recommends that this project be allowed to move forward as planned.

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APPENDIX A CONFIDENTIAL LOCATION DATA

Attached are the results of the ARMS map search for previously recorded sites in the project area.

Public disclosure of the location of archaeological sites on state and private lands is prohibited by Section 18-6-11.1 NMSA 1978. Public disclosure of archaeological site locations is federally prohibited by 16 U.S.C. 470hh (36 CFR 296.18).

**Cultural Resources Inventory of 25.6 Acres
for the
Black Mesa Section 593 Surface Water Drainage Project,
in
Bernalillo County, New Mexico**

Prepared by

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Archaeologist

U.S. Army Corps of Engineers
Albuquerque District
New Mexico State Survey Permit No. NM-06-192

Prepared for

U.S. Army Corps of Engineers
Albuquerque District,

Albuquerque Metropolitan Arroyo Flood Control Authority
Albuquerque, New Mexico,

And

Bernalillo County, New Mexico

June 12, 2006

Report No. COE-2006-003

New Mexico Archaeological Records Management Section
NMCRIS Report No. 99706

Abstract

In October 2003, and February 2006, U.S. Army Corps of Engineers, Albuquerque District, archaeologists conducted cultural resources inventory surveys of the project area that covered a total of approximately 10.4 hectares (25.6 acres). The proposed project calls for the installation of pressurized, underground pipeline for a surface water drainage system in an area known as Albuquerque's South Valley. The cultural surveys, in Bernalillo County, New Mexico, were conducted in anticipation of the proposed pipeline project. A review of existing documentation covering the project area found that five archaeological sites, LA723, LA19244, LA50273, LA74755, and LA145560, occur in the vicinity of the pipeline alignment. It was subsequently determined that LA723 was of sufficient distance from the project area that it would not be affected by the project. The Corps plans to conduct archaeological monitoring during construction in the project areas near LA19244, LA50273, and LA74755, all prehistoric sites. LA145560 is a historic earthen ditch; therefore no monitoring is planned. Eleven isolated occurrences were documented during the field survey. The Corps is of the opinion that there will be "No Adverse Effect to Historic Properties" by the proposed project. This cultural resources inventory survey has been documented in the New Mexico Cultural Resources Information System (NMCRIS) under No. 99706.

Introduction

The U.S. Army Corps of Engineers (Corps), Albuquerque District, at the request of the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) and Bernalillo County, is planning for the installation of an underground pipeline for surface water drainage in Albuquerque's South Valley. The project is funded under Section 593 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 *et seq.*), as amended. The Act authorizes the Corps to provide assistance in the form of planning, design and construction for water-related environmental infrastructure and resource protection and development projects in central New Mexico.

Location and Project Description

The Black Mesa Section 593 Project is located within Bernalillo County, New Mexico, west of the Rio Grande and south of the Albuquerque City limits (Figure 1). The project area is generally known as Albuquerque's South Valley and more specifically is below (downhill of) the West Mesa, south of Gun Club Road and north of the location where Interstate Highway 25 crosses the Rio Grande (Figures 2 and 3). This area of Bernalillo County is part of the historic floodplain, is nearly level (has very little slope) and therefore, is highly vulnerable to flooding caused primarily by surface water run-off from intense local thunderstorms. Currently, the storm water drainage system is insufficient. Three existing AMAFCA flood control dams, the Don Felipe, Raymac, and McCoy Dams, are located on the downhill edge of the West Mesa above the South Valley and provide temporary, controlled releases of surface water drainage from the West Mesa. In addition to the existing flooding problems in the South Valley, these three dams currently do not have downstream drainage channels sufficient enough to carry significant surface water flows, and therefore, the threat of flooding in the South Valley is considered significant.

The proposed project plans to install an underground drainage pipeline system that attaches to the three existing dams outlet works. From the three outlet works, the underground pipelines proceed downhill to the east to S. Coors Blvd. The Don Felipe and Raymac Dams have existing outlet pipelines (Figures 4 and 5). There is no piped outlet at the McCoy Dam; the outlet is a concrete box structure that releases flows into the adjacent Gun Club Lateral irrigation ditch (Figure 6). The McCoy Dam outlet will be reconstructed and the pipeline attached. The existing Don Felipe and Raymac outlet pipelines already pass under the Gun Club Lateral. The three drainage pipelines would connect to a larger underground pipeline that travels along the west side of S. Coors Blvd. connecting to a concrete junction box at Raymac Road. The underground pipeline would then travel east along the south side of Raymac Road to Isleta Blvd. At Isleta Blvd., the pipeline would travel south a short distance along Isleta Blvd. then turn east along the south end of private property, travel to the east with an outlet in the Rio Grande bosque (riparian habitat/floodplain area; Figure 7).

An open trench, with the banks laid back, will be excavated for placement of the pipeline at the crossings of the Gun Club Lateral at McCoy Dam and at the Los Padillas Acequia, the Atrisco Riverside Drain, and the flood control levee (Figures 2, 3, 6, and 7). Along S. Coors Blvd., Raymac Road, and Isleta Blvd., the pipeline trench will be from a 4-foot up to a 7-foot vertical excavation with safety retaining walls. At the ditch/drain crossings at the Isleta Drain, the Arenal Main Canal, the Los Padillas Drain, and the Pajarito Ditch along Raymac Road, the excavation may affect the existing corrugated metal pipe culverts, the ends of which may need to be replaced (Figure 3). The pipeline will be “pipe-jacked” under (drilled under) S. Coors Blvd. and Isleta Blvd. The proposed underground pipeline will include concrete manholes at strategic locations. Existing utility lines will be avoided or relocated as necessary. Staging areas would be located in an upland area upstream (west) of the Raymac Dam and in a wide area immediately east of S. Coors Blvd., north of Raymac Road, and west of the Isleta Drain (Figure 5).

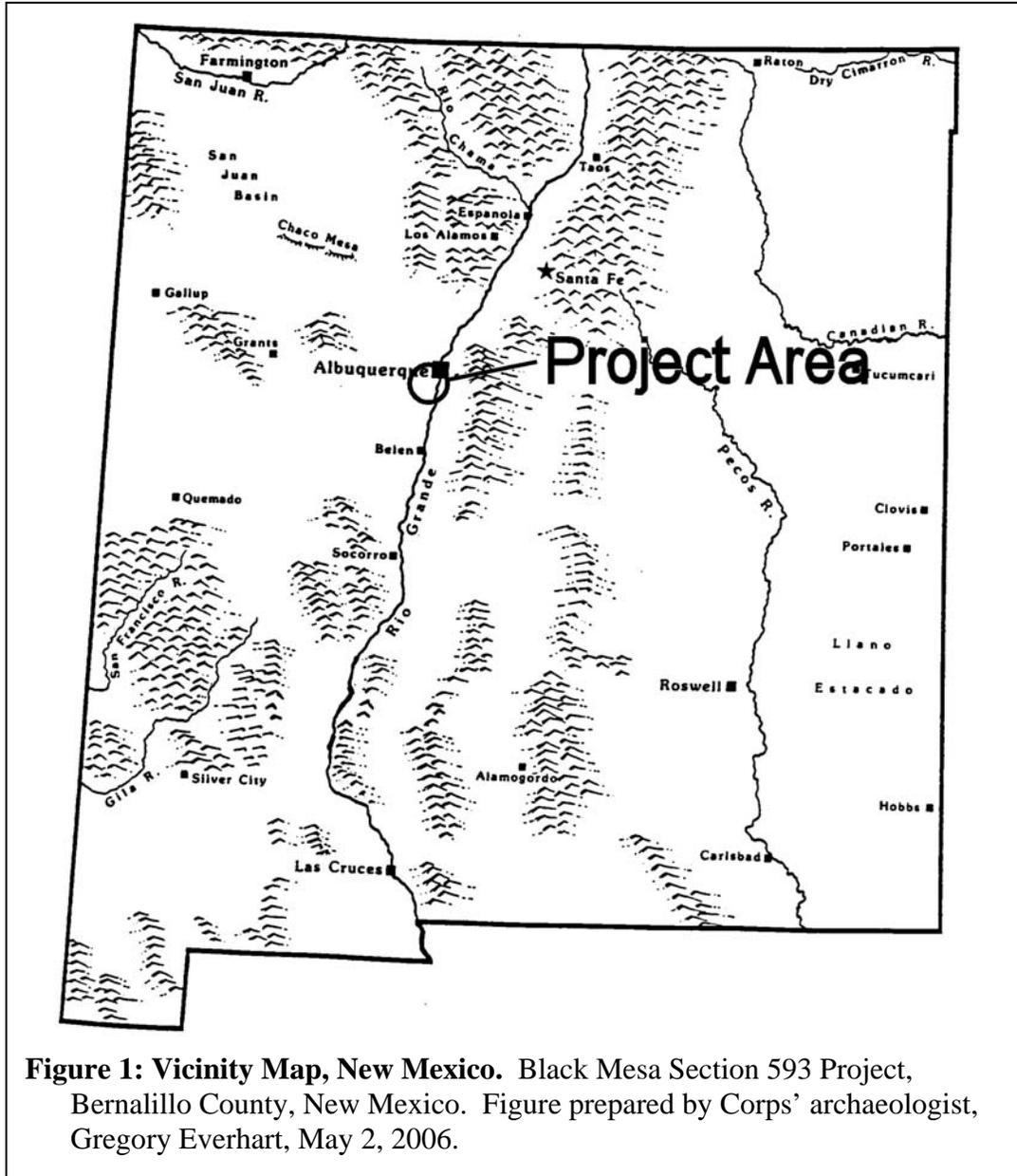


Figure 1: Vicinity Map, New Mexico. Black Mesa Section 593 Project, Bernalillo County, New Mexico. Figure prepared by Corps' archaeologist, Gregory Everhart, May 2, 2006.

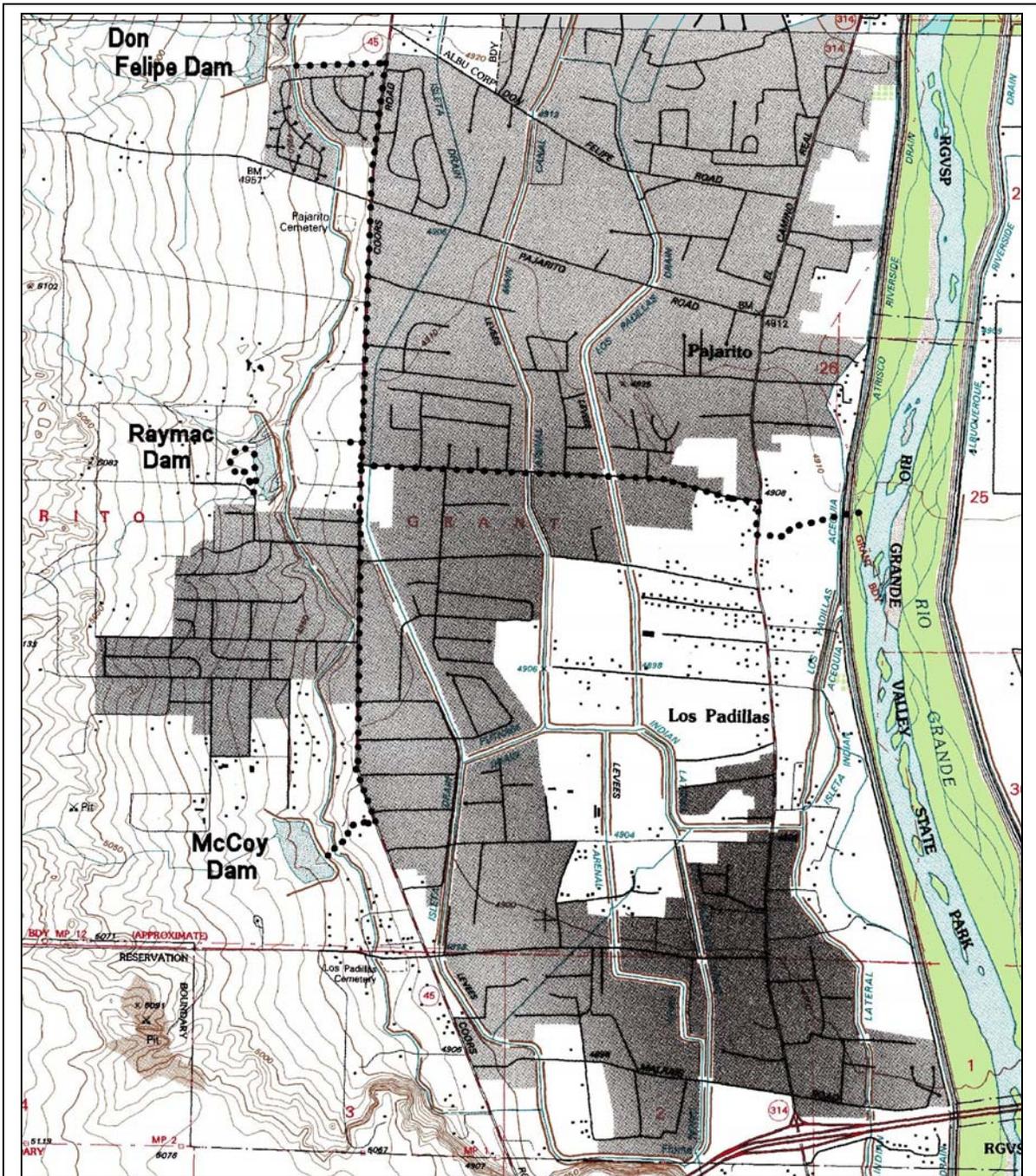


Figure 2: Location Map. Generalized Project Area/Alignment for the Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Black dots indicate project/pipeline alignment and staging area. Adapted from: USGS 7.5-Minute Quadrangle Map: Isleta, NM (34106-H6; 1991, NAD 1983). Prepared by Corps' archaeologist, Gregory Everhart, May 17, 2006.

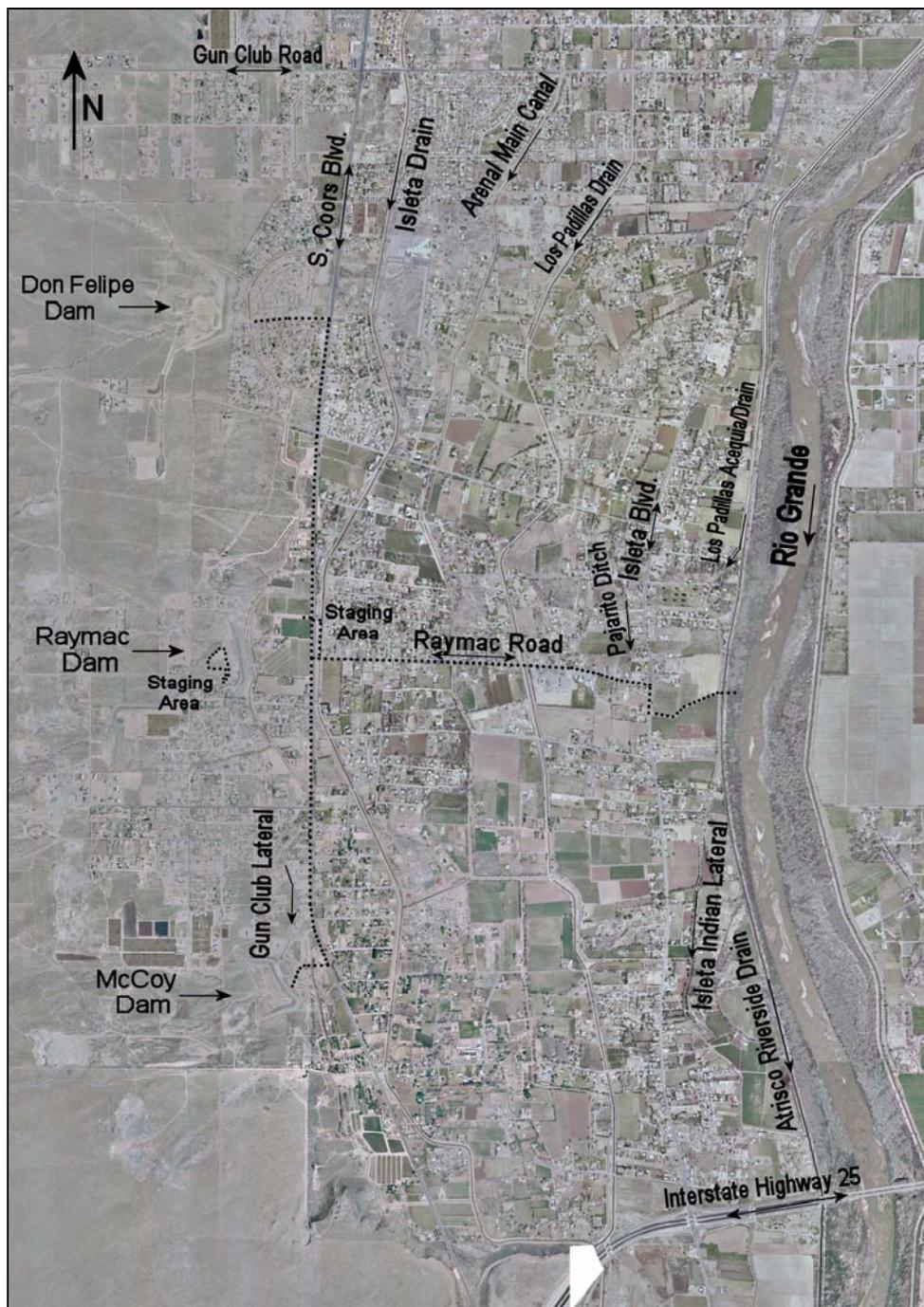


Figure 3: Location Map. Project Area/Alignment for the Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Black dots indicate project/pipeline alignment and staging area. Adapted from: Bernalillo County Mapping, June 1999. Prepared by Corps' archaeologist, Gregory Everhart, May 17, 2006.

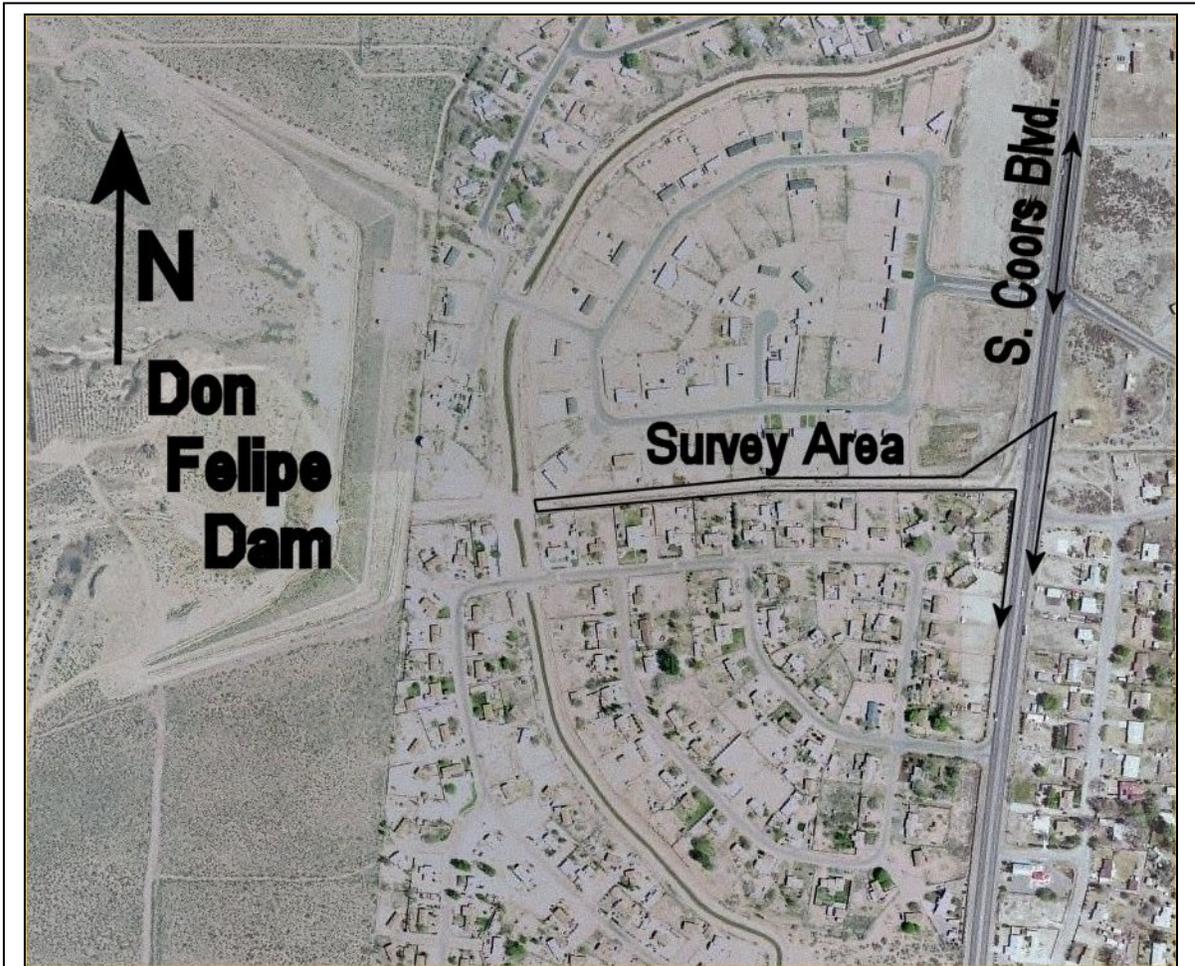


Figure 4: Location Map. Cultural Resources Survey Area starting near Don Felipe Dam; from the dam outlet works east to and south along S. Coors Blvd. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Adapted from: Bernalillo County Imagery, June 1999. Prepared by Corps' archaeologist, Gregory Everhart, May 5, 2006.

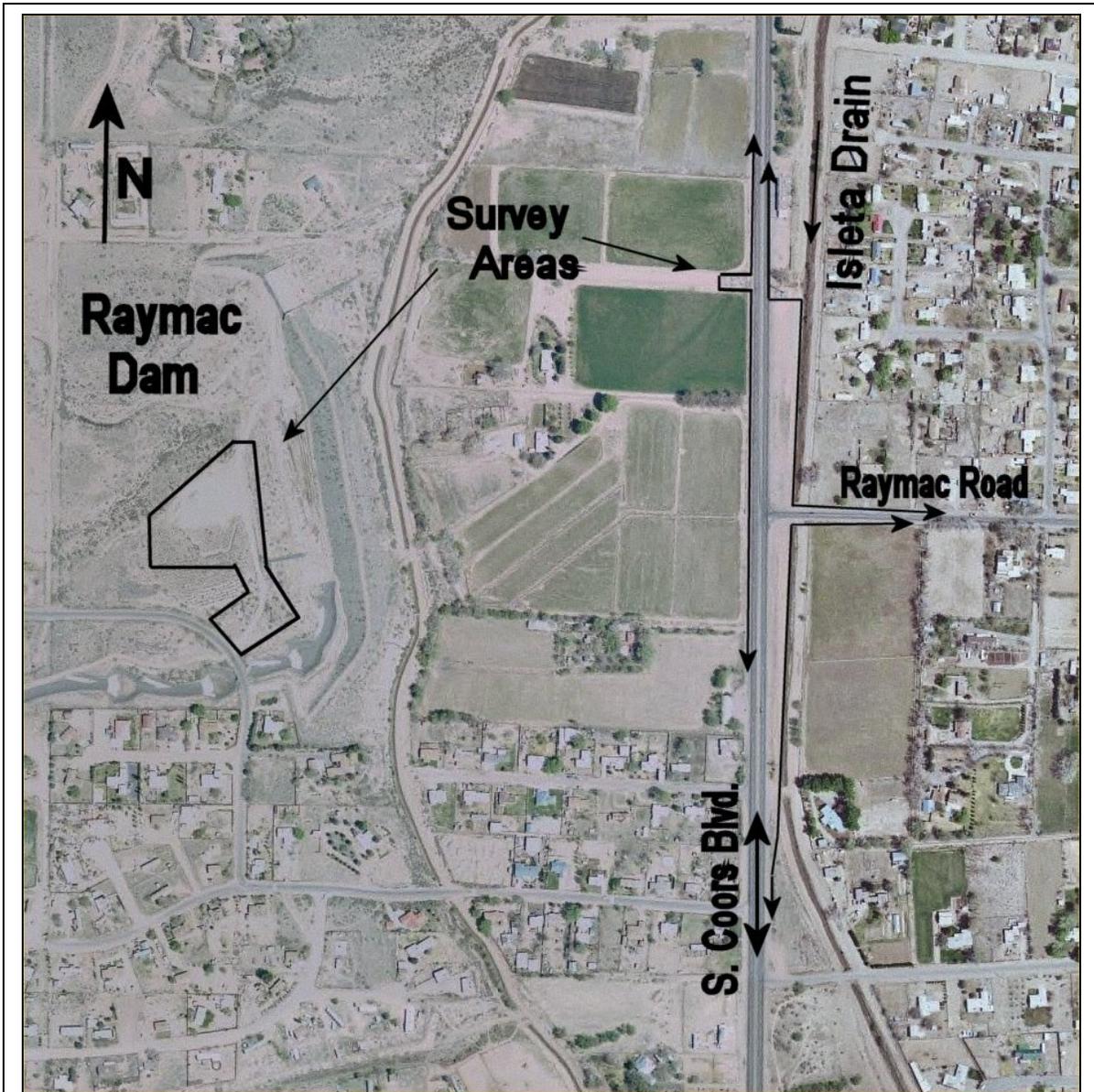


Figure 5: Location Map. Cultural Resources Survey Areas at and near Raymac Dam; from the outlet works at and along S. Coors Blvd. (north and south) and Raymac Road (to the east) and the staging area above the dam (upstream, west) and the staging area immediately east of S. Coors Blvd., north of Raymac Road, and west of the Isleta Drain. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Adapted from: Bernalillo County Imagery, June 1999. Prepared by Corps' archaeologist, Gregory Everhart, May 5, 2006.

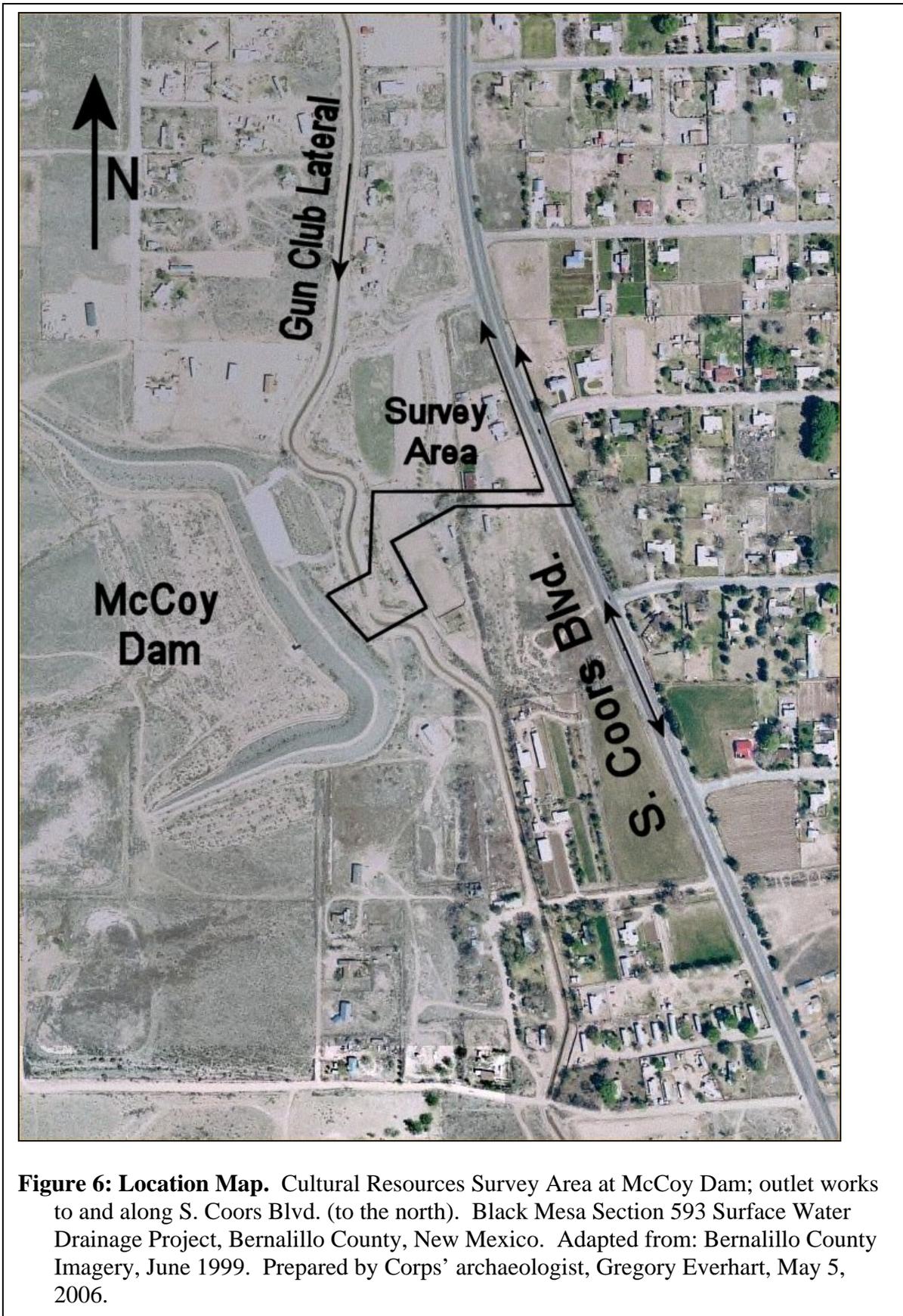


Figure 6: Location Map. Cultural Resources Survey Area at McCoy Dam; outlet works to and along S. Coors Blvd. (to the north). Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Adapted from: Bernalillo County Imagery, June 1999. Prepared by Corps' archaeologist, Gregory Everhart, May 5, 2006.

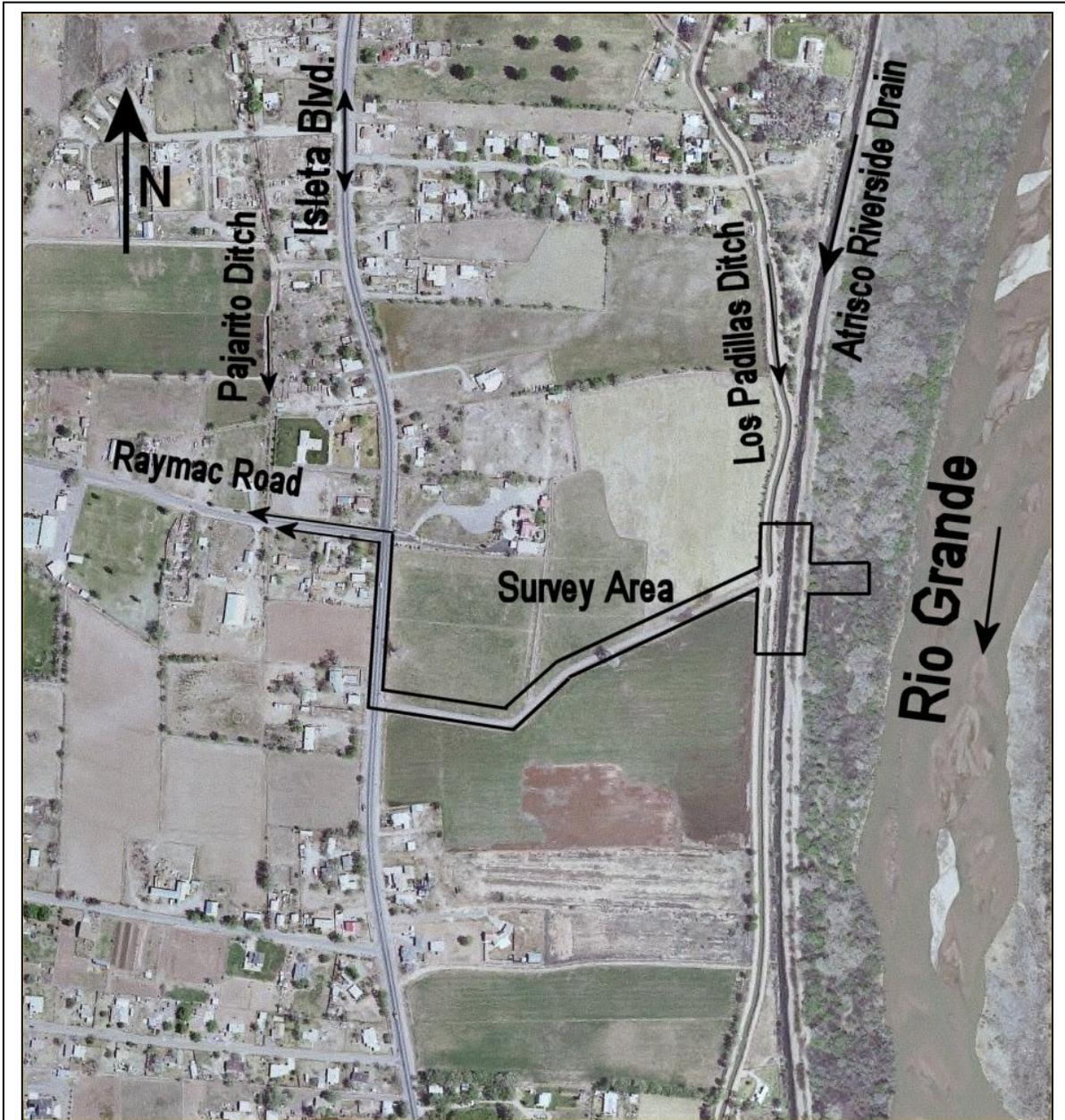


Figure 7: Location Map. Cultural Resources Survey Area along Raymac Road (to the west), south along Isleta Blvd., east and northeast along the southside of private property to the Rio Grande bosque outlet. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Adapted from: Bernalillo County Imagery, June 1999. Prepared by Corps' archaeologist, Gregory Everhart, May 5, 2006.

Table 1: Map and Project Area Location Information:

Black Mesa Section 593 Project, Bernalillo County, New Mexico.

General project area description: The Black Mesa Section 593 Project is located within Bernalillo County, New Mexico; west of the Rio Grande and south of the Albuquerque City limits. The project area is generally known as Albuquerque's South Valley and more specifically is below (downhill of) the West Mesa, south of Gun Club Road and north of the location where Interstate Highway 25 crosses the Rio Grande.

USGS 7.5-Minute Quadrangle Map(s):

Isleta, New Mexico
(34106-H6 [drg]; 1991; NAD 1983)

Project Location Maps (imagery) adapted from:

Bernalillo County Mapping – rectified digital aerial photography (NM State Plane, Central Zone, 4-Foot Datum, NAD 1983; flown June 1999)

PLSS: Unplatted, the project area is located within the Pajarito Land Grant; therefore, there is no Township and Range location.

Area Surveyed for Cultural Resources (approximate area):

TOTAL AREA Surveyed 25.6 acres (10.4 hectares)

Environment and Culture History

The project area, located in what is known as Albuquerque's South Valley, is a grown conglomeration of several historic Hispanic communities including Atrisco, Armijo, Barelás, Arenal, Pajarito, and Los Padillas that date to Spanish Colonial times. A few of these communities were derived from early haciendas or ranchos, dating prior to the Pueblo Revolt of 1680, and were reestablished after the Revolt (Simmons 1982; Sánchez 1998). The project area lies within the historic Pajarito Land Grant dating prior to 1746 and was confirmed by Congress in 1894 and patented in 1914 (GAO 2001:14, 26). Immediately to the north of the project area, the Town of Atrisco Community Land Grant dates to 1692, was also confirmed by Congress in 1894 and was patented in 1905 (GAO 2001:9, 22). The South Valley is fast becoming urbanized but still retains an old, historic, agricultural feeling. The area still has numerous small agricultural fields served by several acequia and drain ditches. Area homes are mostly rural-type adobe and frame structures secluded within the greater Albuquerque area. Vegetation near the

project area includes primarily scattered cottonwood and elm trees and roadside grasses; local yards are comprised of urban vegetation with many introduced species. The project area is essentially a very flat floodplain area and since the area is relatively close to the Rio Grande (now protected by flood control levees), soils are mostly Brazito, Bluepoint, Glendale, and Vinton fine sandy loams, sandy loams, clay loams, and loamy fine sands (Hacker 1977). The project area is approximately 4,900 feet in elevation throughout, therefore, the surface water drainage problems.

The local environment and culture history have been extensively documented in numerous other references, overviews, and reports; therefore, the information is not duplicated here. Several accessible references on the local environment and general aspects of the area include Scurlock (1998), Finch and Tainter (1995), Robert (2005), Crawford *et al.* (1993), Williams (1986), and Bauer *et al.* (2003) as well as the original planning document for the Rio Grande Valley State Park (Chambers and Campbell 1969).

Records Search and Previous Cultural Resources Investigations

The State Register of Cultural Properties and National Register of Historic Places were consulted on October 7, 2003, and prior to cultural resources field surveys for the proposed project, the Corps conducted a search of the New Mexico Historic Preservation Division's Archeological Records Management Section (ARMS) database for archaeological sites that may occur in the vicinity of project area on October 21, 2003. Due to project planning, land acquisition, and funding delays, the ARMS database was re-consulted regarding archaeological sites and archaeological surveys in the vicinity of the project area in early May 2006. Several archaeological sites and historic properties listed on the State Register and/or the National Register are reported to occur in the South Valley. The ARMS database search found that five archaeological sites occur adjacent to the proposed pipeline alignment including LA723, LA19244, LA50273, and LA74755, and one site, LA145560 that the pipeline would cross (see brief descriptions below).

The ARMS database and literature search found that several cultural resources surveys have been conducted in the South Valley. While Bandelier (1892) and H. P. Mera (1940, and numerous other reports) documented several sites in the middle Rio Grande Valley of New Mexico, one of the earliest archaeological surveys that included the South Valley was conducted by Fisher (1931), the report in which he vaguely located and briefly described four sites in the general project area: Site 3 (a historic Tiwa Pueblo ruin [?] covering about an acre), Site 4 (a pre-historic Tiwa Pueblo ruin [?] about 150 feet by 180 feet in size), Site 27 (the original Mexican town of Los Padillas consisting of 10 – 15 old adobe buildings in ruin and associated with the 1718 Lo de Padilla land grant [GAO 2001:25]), and Site 28 (possibly a Tiwa ruin or an early historic Spanish rancho). Two of Fisher's sites, No's. 3 and 27, occur in the vicinity of the project area.

More recently, Marshall and Marshall (1990) conducted a survey of the irrigation and drainage system managed by the Middle Rio Grande Conservancy District (MRGCD). This survey of acequia (irrigation canals and primary ditches) and drainage ditch alignments covered

an area from Bernalillo south to Isleta Pueblo and was conducted for the Bureau of Reclamation. In the project area (Figure 3), from west to east (with the acequias and drains running from north to south), Marshall and Marshall (1990) surveyed the Gun Club Lateral, the Isleta Drain, the Arenal Main Canal, the Los Padillas Drain, the Pajarito Ditch, the Los Padillas Acequia (Feeder)/Ditch, and the Atrisco Riverside Drain; several of these acequias and/or drains have been previously recorded as historic sites (see brief descriptions below). Their survey documented several archaeological sites in the project area including LA723 and LA74755.

Previous surveys along or adjacent to the S. Coors Blvd. and Raymac Road alignments (from north to south) include Condie (2001), Parker *et al.* (2005), Rodgers (1979), Berry (1997a), Johnson and Kemrer (1994), Mumford (1997), Bertram *et al.* (1989), and Marshall (1993a, 2003a). Most of the archaeological surveys in the vicinity of the project area have been for highway and road rehabilitation/construction projects and utilities installations such as underground gas lines, sewer pipelines and communications lines. Two other surveys in the vicinity conducted for the Corps of Engineers include a survey north of the current project area for another flood drainage investigation that was conducted by Vaughan and Chapman (2004) as well as a survey of numerous project areas within the Rio Grande's bosque for the Bosque Wildfire Project conducted by Estes (2005). Other recent surveys in the South Valley include those by Taschek Environmental Consulting: K. Parker (2005), N. Parker (2005), Parker *et al.* (2005a, 2005b), and Hurt *et al.* (2005).

One historical account of the Southwest that includes local information regarding the communities of Atrisco, Barelvas (Varelas), Pajarito, nearby Isleta Pueblo, and Albuquerque is the 1776 account by Fray Dominguez, translated and annotated by Adams and Chavez (1956:145-154, 202-208, 253-254). A subsequent reference on New Mexico's missions is Kessell (1980). Other references that cover the local project area include Ayers (1965), Kessell (2002), Sánchez (1996, 1998), Weber (1992), and Riley (1995). Brief, modern descriptions of the South Valley and its history and nearby Isleta Pueblo are provided in Chilton *et al.* (1984:261-264) and Fugate and Fugate (1989:84-96) as well as in the listings for Arenal, Atrisco, Barelvas, Isleta Pueblo, Los Padillas, and Pajarito provided in Julyan (1996:21, 24-25, 30, 174, 210, 255, respectively).

The following paragraph on local and regional references is as noted in the initial report for the Corps' Bosque Wildfire Project that covers Rio Grande's bosque through the Albuquerque area approximately from Sandia Pueblo on the north, south to Isleta Pueblo and which is adjacent to the project area (Everhart 2004b:15):

Numerous archaeological investigations have been conducted and histories written regarding the long human occupation of the Albuquerque area. Some general archaeological and historic references and overviews include: Ackerly *et al.* (1997), Biebel (1986), Cordell (1979), Crawford *et al.* (1993), Holmes (1998), Judge (1973), Kelley (1974), Ortiz (1979, 1983), Marshall and Marshall (1990), Polk *et al.* (1999), Poore and Montgomery (1987), Sargeant and Davis (1986), Scurlock (1998, 1982), Simmons *et al.* (1989), Simmons (1982), and Wozniak (1987). Recent archaeological work in the [Albuquerque/Bosque Wildfire Project] area has primarily been associated with cultural resources compliance and management requirements, and for specific projects such as

highway construction and maintenance, and installation of utility lines such as Koczan (1991), S. Marshall (1991), and Schmader (1990, 1994). A general history on Middle Rio Grande Flood Protection Projects between Corrales and San Marcial, was prepared by Berry and Lewis (1997). Information regarding Corps of Engineers' history and projects may be found in Welsh (1985, 1997). The Ackerly *et al.* (1997) and Wozniak (1987) reports, prepared for the Bureau of Reclamation and the New Mexico Historic Preservation Division provide significant overviews regarding the development of the Middle Rio Grande valley and both include a substantial list of references. Burkholder (1928) provides information regarding the initial flood control, drainage, and irrigation work by the Middle Rio Grande Conservancy District (MRGCD). Very few cultural resources surveys have been conducted within the riverine/bosque areas, between the Rio Grande flood control levees, in the Albuquerque area. Two recent survey reports for bosque habitat restoration projects include Everhart (2004a) and M. Marshall (2003[b]) and one report for flood control levee rehabilitation and an addendum is by Kneebone (1993) and Kneebone and Everhart (1997), respectively. The above reports and references provide a significant amount of culture history information for the project area; therefore, a culture history section is not included in this report.

Brief Site Descriptions and Previous Cultural Investigations

LA723, also known as Pueblo Pajarito, is a prehistoric adobe ruin with diagnostic artifacts that has been documented by Mera (1940) and by Marshall and Marshall (1990). This significant Puebloan ruin is reportedly of Ancestral Southern Tiwan affiliation and dates to the Late PIII to Early PIV Period (ca. A.D. 1200-1400; Marshall and Marshall 1990:79-81). Marshall and Marshall (1990:79-81) documented the site during their MRGCD Acequia Survey. Although the site has been disturbed by construction of the Gun Club Lateral, it is reported to generally be in good condition. No determination of eligibility for listing on the National Register of Historic Places is documented in the ARMS database.

LA19244 is a prehistoric Puebloan (PIII) site that includes pithouse structures and diagnostic artifacts that date from the ca. A.D. 1100s (Rodgers 1979; Berry 1997a; Marshall 1993b, 1998). The site was originally recorded as three sites, LA19244, LA19245, and LA19246 (Rodgers 1979) but these (four artifact concentrations) were later combined under one site number, LA19244 (Berry 1997a). Marshall (1998) conducted archaeological test excavations at the site with the use of a backhoe in 1998 in anticipation of the construction of a proposed drainage pond. The Marshall (1998) excavation found two pithouse structures and two other possible subsurface structural features within Provenience 3; no subsurface cultural remains were found in Proveniences 1 and 2. The cultural remains were discovered from 50 to 80 centimeters in depth. The site had previously been disturbed by several earth moving activities as well as pot hunting. In 1999, the New Mexico Historic Preservation Division (HPD) determined that LA19244 was eligible for listing on the National Register of Historic Places under criterion d.

LA50273 is documented as Pueblo los Padillas, a Coalition period (ca. A.D. 1200 to 1325) adobe roomblock with diagnostic artifacts (Fisher 1931; Mera 1940; Marshall 1984, 2003a; Schaafsma 1987; Bertram *et al.* 1989; Bertram 1989). Fisher (1931) and Mera (1940) originally noted the site. The site was previously documented as Rio Medio Site No. 218 and it was noted that the site had been disturbed by blading activity and by the construction and widening of S. Coors Blvd. (Marshall 1984, 1985). LA50273 was recently revisited during a survey, testing, and monitoring project conducted by Bertram *et al.* (1989) and Bertram (1989) for a proposed fiber optic line. In 2002, HPD determined that LA50273 was eligible for listing on the National Register of Historic Places under criterion d.

LA74755 is a prehistoric Puebloan (PIII) site that potentially includes buried structures with diagnostic artifacts (Marshall and Marshall 1990). Marshall and Marshall (1990:79-81) documented the site during their MRGCD Acequia Survey. Like LA723, the LA74755 site has been disturbed by the construction of the Gun Club Lateral; Marshall (1990:92) indicated that “The entire eastern edge of the site complex has been impacted by the construction of the Gun Club Lateral Canal.” Marshall (1990:92) also noted that the site had also been disturbed by activities associated with a modern residence (mobile trailer) that once occupied the southern portion of the site; estimating however, that about 75 percent of the site remained intact. The ARMS database indicates that no determination of eligibility has been made for the LA74755 site.

LA145560 is documented as a portion of the historic Los Padillas Acequia/Drain nearest to the Rio Grande channel that was abandoned after the Middle Rio Grande Conservancy District constructed the original flood control levees and riverside drains in the Albuquerque area in the 1930s (Estes 2005:63-69). This abandoned segment of the Los Padillas Acequia is located in the Rio Grande bosque immediately inside (riverside) of the modern flood control levee and is comprised of two earthen ditches and a small foot bridge feature. Estes (2005) documented the earthen structure during survey work for the Corps’ Bosque Wildfire Project, in project survey Area 51. In December 2005, the New Mexico State Historic Preservation Officer concurred with the Corps’ determination that LA145560 was eligible for nomination to the National Register under criteria a and d (HPD Consultation No. 076136).

Through state legislation, the Middle Rio Grande Conservancy District (MRGCD) was formed in 1925 to facilitate the effective management of irrigation water delivery for approximately 70 historic acequias in the valley, to provide for ground water drainage to enhance agricultural production, and provide flood control (Burkholder 1928; Wozniak 1987:130-134, 138; Scurlock 1998:281-282, 316; Everhart 2004a:10-11). Many of the acequias in New Mexico date to the 1700s, and therefore, are generally considered to be historic, the MRGCD system included. The proposed pipeline project crosses several of the acequia and drain components of the MRGCD system including the Gun Club Lateral, the Isleta Drain, the Arenal Main Canal, the Los Padillas Drain, the Pajarito Ditch, the Los Padillas Acequia (Feeder)/Ditch, and the Atrisco Riverside Drain (Figures 2 and 3). Several of these acequias and/or drains have, at some point along their alignments, been previously recorded as historic sites.

In 1997, a concrete and culvert irrigation structure, a feature of the Gun Club Lateral located near the Pajarito Cemetery, was recorded as LA119958 (Berry 1997a). In 1999, HPD

determined that LA119958 was eligible for listing on the National Register under criterion d.

A segment of the Arenal Main Canal was documented in 1993 by the Museum of New Mexico's Office of Archaeological Studies and given the site number of LA100483 (Willmer 1993). It was determined that more documentation was needed in order to make a determination of eligibility.

As noted above, an abandoned segment of the Los Padillas Acequia (Feeder-Ditch/Drain), cut-off by the construction of the riverside drain and flood control levee, has been documented as LA145560 (Estes 2005). This LA145560 segment is located at the eastern end of the currently proposed pipeline project. LA145560 was determined to be eligible for nomination to the National Register under criteria a and d.

Segments of the Atrisco Riverside Drain, at three locations all in the South Valley, have been documented under the Laboratory of Anthropology numbers of LA100485, LA117692, and LA120376 (Willmer 1993; Cunningham *et al.* 1997; Berry 1997b 1997c; Marshall 2002). No determination was made for LA100485 due to the need for further documentation; LA117692 was determined eligible by HPD under criterion d in 1998; and no information regarding eligibility has been documented in ARMS database for LA120376.

Methodology and Survey Results

A site visit to the existing Don Felipe, Raymac, and McCoy Dam outlet structures was conducted on October 8, 2003. The Class III cultural resources survey of the proposed project area was initiated with survey work being conducted by Corps' archaeologists Gregory D. Everhart and Garyald S. Benally on October 24 and 29, 2003. After lengthily planning, real estate acquisition, and funding delays, survey work was completed by Everhart on February 24 and 28, 2006. During the cultural survey eleven isolated occurrences were observed, the locations of two archaeological sites, LA50273 and LA74755, were verified in relation to the project's pipeline alignment, and although one site, LA19244, was reported to be near the project's pipeline alignment, no evidence of the site was observed in the project area. No evidence of LA723 was observed in the project area and it was subsequently determined that LA723 is located of sufficient distance from the project area that it will not be affected by the project.

Cultural survey work covered project areas from the existing dam outlet structures east (downhill) to Coors Blvd. Although previous archaeological survey work had covered portions of the S. Coors Blvd. and Raymac Road alignments, several of the previous surveys were dated and/or did not cover the entire length of the road alignment; therefore, the Corps surveyed the entirety of the project area along both sides of the S. Coors Blvd. and Raymac Road rights-of-way (Figures 2, 3, 4, 5, 6, and 7). The Corps' survey also included both sides of a small portion of Isleta Blvd., the area along the south end of private property, and crossed over the Los Padillas Acequia/Drain, the Atrisco Riverside Drain and into the Rio Grande bosque (Figures 2, 3, and 7).

The intensive pedestrian surveys were conducted by walking linear transects at the dam outlets and along the existing dam drainage ditches, along both sides of the paved S. Coors Blvd., Raymac Road, and Isleta Blvd. roadways, along the existing farm road and pipeline alignment on the private property, as well as along acequia and drain alignments/crossings. The survey along S. Coors Blvd. was estimated to average about 5 meters in width along both the east and west sides to the road. S. Coors Blvd. from the Don Felipe Dam outlet point on the north, to the McCoy Dam outlet point on the south, measured about 3,957 meters in length (as estimated from USGS aerial imagery) for an area surveyed of approximately 3.95 hectares (9.76 acres). The Raymac Road survey was estimated to be about 2 meters in width on both the north and south sides of the road with a length of about 2,059 meters (as estimated from USGS aerial imagery) covering a total of about 0.82 hectares (2.03 acres). Isleta Blvd. was estimated (as estimated from USGS aerial imagery) to be 1,272 meters in length and about 3 meters in width on both sides of the road, covering a total of about 0.13 hectares (0.32 acres). The project's proposed staging area is located in an upland area, upstream (west) of the Raymac Dam and covers an area of approximately 1.6 hectares (4.0 acres; Figure 5). Approximately 90 percent of the staging area has been previously disturbed by other staging and earth moving activities. In wider areas of the survey area, linear transects were spaced about 5 meters apart. A second staging area is located immediately east of S. Coors Blvd., immediately north of Raymac Road, and immediately west of the Isleta Drain (Figure 5). The total cultural resources survey area was estimated to cover about 10.4 hectares (25.6 acres). No artifact collections were made.

The survey covered 100 percent of the project area and where possible, open areas adjacent to the pipeline alignment, outside of the right-of-way, were also observed (over the fence). The project area is generally highly disturbed by previous earth moving activities during the construction of the existing roads, drainage ditches and acequias, the flood control levee and riverside drain, and from years of subsequent operations and maintenance activities and utilities installations. Ground surface visibility was about 75 to 90 percent overall.

No water was flowing in the Pajarito Ditch or the Los Padillas Acequia during the survey and only small amounts of water were in the Gun Club Lateral, Isleta Drain, Arenal Main Canal, the Los Padillas Drain, and the Atrisco Riverside Drain (Figure 3). At the crossing locations, the banks of these ditches and drains were surveyed to the maximum extent possible. While these ditches and drains are a part of the MRGCD irrigation system and are generally considered to be historic, they are still in active use and are actively maintained and rehabilitated; the existing road crossing/culvert locations having been highly disturbed in the past. The existing corrugated metal pipe culverts at these ditch/drain crossings are essentially modern structures and are not unique, therefore, they were not recorded as LA sites. The modern culverts at the Gun Club Lateral, Isleta Drain, Arenal Main Canal, Los Padillas Drain, Pajarito Ditch, and the Los Padillas Ditch (Figure 3) may be affected and may need to be replaced during pipeline excavation and construction. Pipeline installation that crosses the Atrisco Riverside Drain and the flood control levee would also have a negligible effect to these historic, but essentially modern earthen structures. Therefore, the pipeline construction is considered to have no adverse effect to these segments of the MRGCD system.

During the cultural resources survey, prehistoric lithic and ceramic artifacts were observed adjacent to the proposed pipeline alignment/project area in the vicinity of the LA50273

and LA74755 archaeological sites (Figures 2a, 3a, and 6a; figures designated with an “a” after the figure number are unattached archaeological map figures, “For Official Use Only” – Public Disclosure of Archaeological Site Locations is Prohibited by 16 USC 470hh [36 CFR 296.18]). Since LA74755 is located along and across the Gun Club Lateral, Marshall and Marshall (1990:1, 92-94) had designated the area as a “resource protection area,” i.e., an area where no MRGCD ditch or road maintenance activities are to occur without prior approval. The Corps investigated the LA74755 site location in relation to the project area. Prehistoric lithic and ceramic artifacts occur on the site surface; *in-situ* sherds occur in the earthen bank adjacent to the Gun Club Lateral’s irrigation ditch access road. At the LA74755 site, perhaps at some unknown time prior to the Marshall and Marshall (1990) investigation and designation as a resource protection area, maintenance work on the ditch and access roads (on both sides) such as ditch bank maintenance, excavation of sediments from the ditch, and blading of the ditch roads has carried some of the prehistoric LA74755 artifacts into the project area. Therefore, many of the prehistoric and three historic artifacts no longer retain their provenience. Three historic artifacts, documented as isolated occurrences (IO’s) No. 7 (Artifacts No. 1 and 2) and No. 8 (described below) were observed in the project area in the immediate vicinity of but not within LA74755. It is unlikely that these historic artifacts are associated with the late Pueblo II-Pueblo III period LA74755 site. The historic artifacts include IO No. 7, Artifact No. 1, a highly glazed, manufactured piece of utility ware (Figure 14); IO No. 7, Artifact No. 2, a homemade (Hispanic ?) ceramic sherd with a portion of a name impressed into the clay before firing but unreadable (Figure 15); and IO No. 8, a modern piece of blue and white glazed crock ware with notches on one side that appears to have served some-type of mechanical function (Figure 16). IO NO. 8 may be associated with the private residence that was once located above (uphill) the Gun Club Lateral prior to the construction of McCoy Dam (Marshall and Marshall 1990:92-94). Activities associated with the residence disturbed some of the ground surface in the area (Marshall and Marshall 1990:92-94).

During the current cultural survey, it was observed that some unknown portion of the west side of the LA74755 site may have been destroyed during the construction of the McCoy Dam. McCoy Dam was constructed in about 1992 as a part of the AMAFCA flood control system (Pers. Comm. Mr. Marty Eckert, Real Estate Manager, AMAFCA, October 8, 2003). The project area immediately downhill (east) of the Gun Club Lateral is within Bernalillo County’s Denison Park, the location of a horse/polo arena with associated structures, and further east is private property adjacent to S. Coors Blvd. No prehistoric or historic artifacts or cultural resource manifestations were observed in the project area below the Gun Club Lateral’s east service road extending east to S. Coors Blvd. Therefore, portions of LA74755 have been previously disturbed to some unknown extent by four activities; from the construction and maintenance of the Gun Club Lateral, disturbance from a previous land owner residence in the immediate vicinity of the existing McCoy Dam outlet structure, from pot hunting, and from the subsequent construction of McCoy Dam. Although disturbed, a fairly large portion of LA74755 still remains, however, and is located adjacent to the proposed pipeline alignment. The proposed underground pipeline will be excavated through the Gun Club Lateral to make the connection with the McCoy Dam outlet; it is anticipated that the current project would have no adverse effect to LA74755. The Corps will conduct archaeological monitoring in this project area during construction.

Prehistoric lithic and ceramic artifacts from the LA50273 archaeological site were also observed immediately adjacent to the proposed project's pipeline alignment along S. Coors Blvd. (Figures 2a, 3a, and 6a). In the immediate vicinity of LA50273, the private property west of S. Coors Blvd. remains as described by Marshall in 1985, "...surficially disturbed by blading activity." The site has also been disturbed by the construction and widening of the S. Coors Blvd. roadway/right-of-way that has cut into a raised upland area leaving an earthen bank approximately three to four feet high on the west side of S. Coors Blvd., perhaps cutting into the side of the LA50273 site (Marshall 2002). Underground utility lines also occur along the west side of S. Coors Blvd. (Marshall 2002). Since LA50273 is located adjacent to the proposed pipeline alignment and is thought to perhaps extend under S. Coors Blvd., the Corps will conduct archaeological monitoring in this project area during construction. It is anticipated that the current project would have no adverse effect to LA50273.

No artifacts or cultural resource manifestations were observed within or adjacent to the pipeline alignment in the vicinity of the LA723 archaeological site (Figures 2a, 3a, and 4a). During the investigation, it was determined that LA723 and other area sites including, LA49993, LA74753, LA74754, LA74756, LA 119958, and LA137305 are of sufficient distance from the project area that they would not be affected by the proposed project.

LA19244 is reported to occur immediately adjacent to the west side of S. Coors Blvd. (and see ARMS, Site Visits Entry No. 3, Condition Remarks "Adjacent road construction does not appear to have effected the site."). Although the surface in the highway right-of-way has been disturbed by the installation of underground utility lines that are located along the west side of S. Coors Blvd., no artifacts were observed during the Corps cultural survey along the right-of-way. Aerial imagery flown in 2004 by the Middle Rio Grande Council of Governments indicates that the detention pond, originally proposed for the west-half of the property (Berry 1997a; Marshall 1998), was subsequently placed in the south-half of the property, removing Proveniences 1 and 2. Buried pithouses and other structures are still present at Provenience 3 (Marshall 1998) and are in the immediate proximity of the west side of S. Coors Blvd. The Corps will conduct archaeological monitoring in this project area during construction; it is anticipated that the current project would have no adverse effect to LA19244. A New Mexico Department of Transportation pipeline construction project that will connect to the proposed Corps pipeline project is currently being constructed in the highway right-of-way adjacent to LA19244.

LA145560 is an earthen ditch structure; an abandoned segment of the historic Los Padillas Acequia/Drain (Estes 2005:63-69; Figures 2a, 3a, and 7a). The proposed pipeline alignment (west to east) will be excavated diagonally across the two LA145560 ditch alignments that run north to south (Features 1 and 2; Estes 2005:63-68). Vehicle access to the bosque outflow structure will also travel diagonally across the earthen LA145560 ditches. Feature 3, the remains of a wooden bridge, will not be affected by the pipeline project. The project's pipeline outfall area, in the Rio Grande's bosque, is within the Corps' Bosque Wildfire Project, cultural survey Area No. 51 (Estes 2005:63-68). This area was burned by wildfire in 2004 and was subjected to fire fighting activities; subsequently vegetation mulching and revegetation efforts were conducted by the Corps' Bosque Wildfire Project (for a project description see USACE 2004; Everhart 2004b; and Estes 2005:1). Since abandonment, the LA145560 structure has been

effected to an unknown extent by Rio Grande flood waters and is in a deflated condition. Due to the existing disturbance to LA145560 and the localized nature of the current project in relation to the LA145560 site, it is anticipated that the current project would have no adverse effect to LA145560. The Corps does not plan to conduct monitoring at this project location.

A total of eleven isolated occurrences (IO's) was observed during the cultural resources survey (Table 2 and 2a). Five IO's, No's 1-5, were observed within the area and buffer area surveyed for the proposed staging area upstream (west) of Raymac Dam (Figure 5a). IO No. 6 was observed in an area adjacent to S. Coors Blvd. (Figure 5a). IO's No. 7 and 8 were observed in the project area below the McCoy Dam outlet structure (Figure 6a). IO's No. 9 and 10 were observed in the survey buffer area north of the project area/pipeline alignment on the private property east of Isleta Blvd. (Figure 7a). IO No. 11 is a historic trash dump along the flood control levee (Figure 7a). The location of the isolated occurrences, a brief description and measurements of individual artifacts were recorded and photographed; for IO No. 11, representative, diagnostic, glass bottle artifacts were documented. The IO's information potential is limited and the recorded documentation is considered to be adequate except possibly for the historic homemade ceramic artifact from IO No. 7 (Artifact No. 2).

Table 2: Black Mesa 593 Project; Isolated Occurrences, Dimensions and Artifact Estimate (numbers of artifacts as indicated/estimated)											
Generalized Artifact Descriptions	IO 1 point	IO 2 point	IO 3 point	IO 4 point	IO 5 point	IO 6 point	IO 7 point	IO 8 point	IO 9 point	IO 10 point	IO 11 60 m (n-s) X 8 m (e-w)
prehistoric ceramic	1	1	1	1	1	1					
bottle/jar glass											100s
window glass											10s
historic ceramic							2	1	2	1	10s
metal cans, buckets, barrels											10s
other metal											10s
vehicle parts											1s
building materials											10s

Isolated Occurrence No. 1, a single prehistoric grayware sherd (sherd temper, 27mmL X 25mmW X 5mmT, interior white slip, polished exterior), is located at the edge of the project's proposed staging area (Figure 5a). The proposed staging area is a previously disturbed staging-type, earth moving, activity area upstream (west) of Raymac Dam. IO No. 1 no longer retains provenience and may be disturbed by use of the existing staging area.

Isolated Occurrence No. 2, a single prehistoric Black-on-white sherd (carbon paint, sherd temper, 38mmL X 26mmW X 5mmT, interior white slip, polished exterior), is also located within the project's proposed staging area (Figure 5a). IO No. 2 no longer retains provenience and may be disturbed by use of the existing staging area.

Isolated Occurrence No. 3, a single prehistoric Black-on-white sherd (carbon paint, 28mmL X 19mmW X 5mmT), is located adjacent to the existing staging area access road upstream (west) of Raymac Dam (Figure 5a). IO No. 3 would not be affected by the proposed project.

Isolated Occurrence No. 4, a single prehistoric grayware sherd (utilityware, 41mmL X 36mmW X 5.5mmT with scrape marks), is located adjacent to the existing staging area access road upstream (west) of Raymac Dam (Figure 5a). IO No. 4 would not be affected by the proposed project.

Isolated Occurrence No. 5, a single prehistoric Black-on-white sherd (carbon, 44mmL X 42mmW X 6mmT, bowl fragment), is located adjacent to the existing staging area access road upstream (west) of Raymac Dam (Figure 5a). IO No. 5 would not be affected by the proposed project.

Isolated Occurrence No. 6, a single prehistoric red-ware sherd (carbon, 36mmL X 26mmW X 6mmT), was observed in an area adjacent to S. Coors Blvd. (Figure 5a). IO No. 6 is located in a highly disturbed area adjacent to the Isleta Drain and a new cell-phone tower. IO No. 6 would not be affected by the proposed project.

Isolated Occurrence No. 7 consists of two historic artifacts; a highly glazed, manufactured piece of utility ware (Artifact No. 1; Figure 14) and a homemade (Hispanic ?) ceramic sherd with a portion of a name impressed into the clay before firing but unreadable (Artifact No. 2; Figure 15). Both artifacts were observed within the project area in an area adjacent to the Gun Club Lateral and immediately below (downhill) from the McCoy Dam outlet structure (Figure 6a). Both artifacts no longer retain provenience. IO No. 7 will be affected by excavation to install the pipeline during project construction.

Isolated Occurrence No. 8 is a modern piece of blue and white glazed crock ware with notches on one side that appears to have served some-type of mechanical function (Figure 16). IO NO. 8 may be associated with a private residence that was once located above (uphill) the Gun Club Lateral prior to the construction of McCoy Dam (Marshall and Marshall 1990:92-94). The residence was removed sometime prior to the construction of McCoy Dam in about 1992. IO No. 8 no longer retains provenience. IO No. 8 may be affected by excavation to install the pipeline or by vehicle traffic during construction.

Isolated Occurrence No. 9 consists of two historic artifacts, a single piece of white porcelain perhaps from a bowl (Artifact No. 1; 43mmL X 33.5mmW X 5.5mmT) and a single dark brown piece of rim sherd (the neck finish) from a crock jug (Artifact No. 2; 36mmL X 23mmW X 7mmT). These two artifacts were spaced about 1 meter apart and were

observed in the survey buffer area north of the project area/pipeline alignment on the private property east of Isleta Blvd. (Figure 7a). IO No. 9 is located in an agricultural field where the soil surface has been disturbed numerous times and therefore, no longer retains provenience. It is not likely that IO No. 9 would be affected by the proposed project.

Isolated Occurrence No. 10 was observed in the survey buffer area north of the project area/pipeline alignment on the private property east of Isleta Blvd. (Figure 7a). IO No. 10 is a single, historic piece of white porcelain with two light blue lines, perhaps from a bowl (31mmL X 20.5mmW X 5mmT). The IO No. 10 artifact is located in an agricultural field where the soil surface has been disturbed numerous times and therefore, no longer retains provenience. It is not likely that IO No. 10 would be affected by the proposed project.

Isolated Occurrence No. 11 is a historic trash dump along the existing flood control levee (Figure 7a). There are numerous trash dumps along the flood control levees in the Albuquerque area (Estes 2005; Everhart 2004b; Marshall 2003b). These trash dumps may date as early as the 1930s and 1940s, but most likely were dumped primarily after the extensive flood control levee rehabilitation work constructed by the U.S. Army Corps of Engineers and the Bureau of Reclamation in the 1950s and 1960s during the Rio Grande Floodway Project. Some modern trash has been dumped in recent years, prior to the time when free, public vehicle access to the levee-top roads became controlled and refuse dumping was effectively stopped. For numerous years, the City of Albuquerque and Bernalillo County also dumped construction debris, concrete and asphalt debris, and old house rubble along the levees. At IO No. 11, the dumped historic artifacts occur along both sides of the flood control levee and levee-top road maintenance has distributed the artifacts up and down the levee and along the levee banks. Surface artifacts are distributed over an area of approximately 60 meters in length with a width of about 5 to 6 meters. Artifacts include 100s of pieces of clear, blue, green, pink, and brown bottle glass, pieces of window glass, pieces of ceramics, vehicle parts such as a spark plug and a distributor cap, wire rope (cable), the remains of a galvanized wash tub, construction debris such as asphalt roof shingles and pieces of plaster, as well as modern trash and food remains. Four representative artifacts observed at IO No. 11 include 3 bottle neck finishes including a Brandy-type beverage bottle finish (Artifact No. 1; 22mm bore [28mm exterior], 27mmT finish, entire bottle fragment 90mmL; Figure 17), a small mouth external thread neck finish (Artifact No. 2; 6mm bore [17mm exterior], 15mmT finish, entire bottle fragment 65mmL; Figure 18), and a Crown-type finish (Artifact No. 3; 17.5mm bore [36mm exterior], 16mmT finish, entire bottle fragment 82mmL; Figure 19), as well as a body of a vintage 6.5-oz Coke bottle bottom-stamped from El Paso, Texas (for descriptions of bottle neck finishes, see BLM 2006). A significant portion of IO No. 11 will be affected by the excavation of the pipeline alignment as it crosses the Atrisco Riverside Drain and the flood control levee. IO No. 11 will also be affected by vehicle access to the project area/bosque from the top of the levee.

Summary

This project's cultural resources survey report is documented in the New Mexico Cultural Resources Information System (NMCRIS) under No. 99706. Prior to the field surveys, a literature review and searches of the ARMS database and of the National and State Registers for archaeological sites and historic properties that may occur in the vicinity of the project area was conducted. Cultural resources surveys of the project area were conducted by Corps' archaeologists in 2003 and 2006, covering a total of approximately 10.4 hectares (25.6 acres). During the cultural resources survey, eleven isolated occurrences were documented; these IO's are not likely to provide additional significant information. IO's No. 1, 2, 7, 8, and 11 will be affected by the project; however, they are all located in disturbed areas and no longer retain their provenience. IO's No. 3, 4, 5, 6, 9, and 10 would not be affected by the project.

The ARMS database search found that four archaeological sites, LA19244, LA50273, LA74755, and LA145560, occur in close proximity to the project area. During the field survey, Corps' archaeologists verified the locations of LA50273 and LA74755 in relation to the project area; surface artifacts were observed adjacent to the project area at both sites. No artifacts or cultural resources manifestations were observed in the project area near LA19244 although it is reported to be adjacent to S. Coors Blvd. Since these three archaeological sites are located or are reported to occur adjacent to the project area, the Corps is planning to contract for archaeological monitoring during construction in the project areas adjacent to these archaeological sites. All three of these archaeological sites have been disturbed to some extent in the past. It is anticipated that the pipeline project would have no adverse effect to LA19244, LA50273, and LA74755. While LA145560 is within the project area, it also has been disturbed in the past; it is anticipated that the pipeline project would have no adverse effect to LA145560. The Corps does not plan to conduct monitoring LA145560 during construction.

The proposed pipeline project crosses several segments of the Middle Rio Grande Conservancy District's (MRGCD) irrigation ditch and drain system. Some of the historic acequias in the project area may date to the 1700s. The acequias were organized into components of the MRGCD system and with the valleys' flood control levees were initially constructed and/or reconfigured in the 1930s and portions of these adjacent to the Rio Grande were extensively rehabilitated in the 1950s and 1960s by the U.S. Bureau of Reclamation and the U.S. Army Corps of Engineers. While the system is considered to be historic, the acequia ditches/canals and drains and associated structures have been maintained and in many cases extensively rehabilitated in the past. The proposed pipeline will cross a small portion and/or may affect the existing modern culverts at the Gun Club Lateral, Isleta Drain, Arenal Main Canal, Los Padillas Drain, Pajarito Ditch, the Los Padillas Ditch, and the Atrisco Riverside Drain as well as the flood control levee. No historic MRGCD structures would be affected. These proposed crossings are considered to have a negligible, and therefore, no adverse effect to these ditches/drains/culvert and levee structures.

American Indian Tribes that have indicated they have cultural concerns in Bernalillo County have been contacted; no cultural resources concerns have been brought to the attention of the Corps and no traditional cultural properties are known to occur in the immediate vicinity of

the project area. No other artifacts, new archaeological sites, historic properties, nor other cultural resources manifestations were observed during the cultural resources survey.

While the South Valley is rapidly becoming urbanized, it still has a unique character and retains a historic feeling and aesthetic quality. Although it is beyond the scope of this project, upon further investigation the South Valley with its old, narrow, and in some cases winding road (wagon road) alignments; small historic and largely Hispanic communities, churches and cemeteries; old Puebloan ruins; winding acequias and small agricultural fields; may generally be considered to be potentially eligible for nomination to the National Register of Historic Places as a rural historic landscape. The proposed project would have no effect to the local landscape. Therefore, the Corps is of the opinion that there will be "No Adverse Effect to Historic Properties" by construction of the Black Mesa Section 593 pipeline project.

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Figure 8: Representative Photograph. Example of the cultural resources survey area. View to the south along the west side of S. Coors Blvd. right-of-way between the pavement surface and the private property fenceline. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, October 29, 2003.



Figure 9: Representative Photograph. Example of the cultural resources survey area. View to the northwest along the west side of the access road to the Raymac Dam staging area. Note the previously disturbed area in the right-background and vegetation density. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, October 24, 2003.



Figure 10: Representative Photograph. Approximate pipeline alignment and cultural survey area from McCoy Dam outlet works structure, across the Gun Club Lateral, adjacent to Bernalillo County's Denison Park horse/polo arena, and east along a private drive, to S. Coors Blvd. View to the northeast from the top of the dam. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, October 24, 2003.



Figure 11: Representative Photograph. Example of the cultural resources survey area. View to the west along the south side of Raymac Road right-of-way between the pavement surface and the private property fenceline; both the north and south sides of the roadway right-of-way were surveyed. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, February 28, 2006.



Figure 12: Representative Photograph. Example of the cultural resources survey area. View to the west looking toward Isleta Blvd. and along the existing, graveled private property access road. The proposed pipeline would be placed under the north (right) side of the existing farm field access road. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, February 24, 2006.



Figure 13: Representative Photograph. Example of the cultural resources survey area. View to the east toward the Rio Grande bosque from the flood control levee; the proposed pipeline system's outlet would be placed about 20 to 30 meters east of the individuals standing in the bosque. This bosque area (Bosque Wildfire Project Area 51) was burned by wildfire in the summer of 2004 and the remaining vegetation was mulched. LA145560's Feature 1, an earthen ditch runs from left to right (north to south) in the foreground with the reddish willows-vegetation in it. Feature 2, a second earthen ditch runs from left to right (north to south) approximately where the individuals are standing in the bosque. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, February 24, 2006.



Figure 14: Artifact Photograph. IO No. 7, Artifact No. 1: a highly glazed, manufactured piece of utility ware, observed within the project area near the existing McCoy Dam outlet structure. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, October 24, 2003.



Figure 15: Artifact Photograph. IO No. 7, Artifact No. 2: a homemade (Hispanic ?) ceramic sherd with a portion of a name impressed into the clay before firing but unreadable. IO No. 7 was observed within the project area near the existing McCoy Dam outlet structure. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, October 24, 2003.



Figure 16: Artifact Photograph. IO No. 8 is a modern piece of blue and white glazed crock-type ware with notches on one side that appears to have served some-type of mechanical function. IO No. 8 was observed within the project survey area near the existing McCoy Dam outlet structure. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, October 24, 2003.



Figure 17: Artifact Photograph. IO No. 11, Artifact No. 1: a Brandy-type beverage bottle neck finish. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, February 24, 2006.



Figure 18: Artifact Photograph. IO No. 11, Artifact No. 2: a small mouth, external thread bottle neck finish. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, February 24, 2006.



Figure 19: Artifact Photograph. IO No. 11, Artifact No. 3: a Crown-type beverage bottle neck finish. Black Mesa Section 593 Surface Water Drainage Project, Bernalillo County, New Mexico. Photograph by Corps' archaeologist, Gregory Everhart, February 24, 2006.

Appendix B
Cultural Resources Consultation Letter



DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 JEFFERSON PLAZA NE
ALBUQUERQUE NM 87109-3435

February 2, 2007

Planning, Project and Program Management Division
Planning Branch
Environmental Resources Section



Ms. Katherine Slick
State Historic Preservation Officer
New Mexico Department of Cultural Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, 2nd Floor
Santa Fe, New Mexico 87501

*Rec'd back 2-15-2007
GDE*

Re: HPD Consultation No. 078294

Dear Ms. Slick:

Pursuant to 36 CFR Part 800, the U.S. Army Corps of Engineers (Corps), Albuquerque District, is seeking your concurrence in our determination of "No Adverse Effect to Historic Properties" for an alternative pipeline alignment for the proposed Black Mesa Section 593 Surface Water Drainage Project's Bosque outfall. The Corps, at the request of the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) and Bernalillo County, is planning for the installation of an underground pipeline for a surface water drainage system. The project is being conducted under the authority of Section 593 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 et seq.), as amended.

Subsequent to the completion of the original cultural resources survey work and report submittal, problems arose in gaining real estate rights-of-way for the downstream end of the original alignment; an alternative segment/alignment was recently selected. This new alignment is only 740 feet north of the originally proposed alignment. The enclosed cultural resources survey report, therefore, is an addendum to the project's original report as documented in HPD Consultation No. 078294 (copy enclosed for your convenience).

On 18 January 2007, a Corps archaeologist conducted an intensive cultural resources pedestrian survey of the alternative pipeline alignment for the proposed project's Bosque outfall. Like the original alignment, an abandoned and deflated segment of the historic Los Padillas Acequia/Drain, LA145560, was known to occur in the downstream end of the project area. The Los Padillas (Acequia) Ditch and the Atrisco Riverside Drain, historic components of the Middle Rio Grande Conservancy District's irrigation ditch and drainage canal system also occur in the same area. During the survey, no other artifacts or other cultural resources manifestations were observed in the vicinity of the new alignment.

As with the original plan and alignment, the proposed pipeline excavation will diagonally cross LA145560, the Los Padillas Ditch and the Atrisco Riverside Drain. The Corps finds that the pipeline project would have no adverse effect to LA145560. Since LA145560 was only recently documented (NMCRIS No. 89833, Estes 2005) and since there have been no changes to the site, no new site update form was prepared. No traditional cultural properties are known to occur in the immediate vicinity of the project area.

Please find enclosed for your review a NMCRIS Investigation Abstract Form with attachments and the Corps' addendum report entitled **A Cultural Resources Inventory of 6.6 Acres for Realignment of a Pipeline Segment: Addendum to A Cultural Resources Inventory of 25.6 Acres for the Black Mesa Section 593 Surface Water Drainage Project, in Bernalillo County, New Mexico** (COE-2007-002; NMCRIS No. 103390).

Based on the information provided in the enclosed addendum report, the Corps is of the opinion that there will be "No Adverse Effect to Historic Properties" by pipeline installation utilizing the new pipeline alignment for the Black Mesa Section 593 Surface Water Drainage Project. Pursuant to 36 C.F.R. 800.11, should previously unknown artifacts or cultural resource manifestations be encountered during construction, work would cease in the immediate vicinity of the resource. A determination of significance would be made and a mitigation plan would be formulated in consultation with your office and with American Indian tribes that may have concerns in the project area.

If you have any questions or require additional information regarding the Black Mesa Section 593 Surface Water Drainage Project, please contact Mr. Gregory Everhart, archaeologist, at (505) 342-3352 or Dr. John Schelberg, archaeologist, at (505) 342-3359.

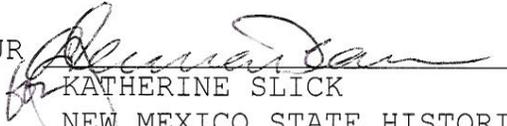
Sincerely,



Julie Hall
Chief, Environmental Resources
Section

8 Feb 2007
Date

I CONCUR



KATHERINE SLICK
NEW MEXICO STATE HISTORIC
PRESERVATION OFFICER

Enclosures

Copy Furnished: (w/o enclosures)

Mr. Don Klima, Director
Office of Federal Agency Programs
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, NW, Suite 809
Washington, DC 20004

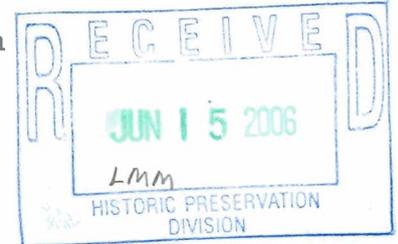


DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 JEFFERSON PLAZA NE
ALBUQUERQUE NM 87109-3435

June 14, 2006

078294

Planning, Project and Program Management Division
Planning Branch
Environmental Resources Section



Ms. Katherine Slick
State Historic Preservation Officer
New Mexico Department of Cultural Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, 2nd Floor
Santa Fe, New Mexico 87501

Rec'd back 7-3-2006
GDE

Dear Ms. Slick:

Pursuant to 36 CFR Part 800, the U.S. Army Corps of Engineers (Corps), Albuquerque District, is seeking your concurrence in our determination of "No Adverse Effect to Historic Properties" for the proposed Black Mesa Section 593 Surface Water Drainage Project. The Corps, at the request of the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) and Bernalillo County, is planning for the installation of an underground pipeline for a surface water drainage system. The project is being conducted under the authority of Section 593 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 *et seq.*), as amended.

The project area is within Bernalillo County, New Mexico, west of the Rio Grande and south of the Albuquerque City limits in an area generally known as Albuquerque's South Valley and more specifically is below (downhill of) the West Mesa, south of Gun Club Road and north of the location where Interstate Highway 25 crosses the Rio Grande. The proposed pressurized, underground pipeline would extend from AMAFCA's Don Felipe, Raymac, and McCoy Dams down to and along S. Coors Blvd, east on Raymac Road, south on Isleta Blvd., and east across private property with an outlet into the Rio Grande bosque.

The Corps began its Class III cultural resources investigation on October 7, 2003, and subsequent to planning, funding, and real estate acquisition delays, the investigation

was completed on May 17, 2006. The Corps' intensive pedestrian survey covered 100-percent of the project area for a total of approximately 25.6 acres (10.4 hectares). Eleven isolated occurrences were documented. The ARMS database search found that five archaeological sites, LA723, LA19244, LA50273, LA74755, and LA145560, occur in close proximity to the project area. It was subsequently determined that LA723 was of sufficient distance from the project area that it would not be affected by the project. During the field survey, Corps' archaeologists verified the locations of LA50273 and LA74755 in relation to the project area; surface artifacts were observed adjacent to the project area at both sites. No artifacts or cultural resources manifestations were observed in the project area near LA19244 although it is reported to be adjacent to S. Coors Blvd. All three of these archaeological sites have been disturbed to some unknown extent in the past. Since these three prehistoric archaeological sites are located or are reported to occur adjacent to the project area, the Corps is planning to contract for archaeological monitoring at these locations during project construction. It is anticipated that the pipeline project would have no adverse effect to LA19244, LA50273, and LA74755. While LA145560, an abandoned and deflated segment of the historic Los Padillas Acequia/Drain, is within the project area, it is anticipated that the pipeline project would have no adverse effect to LA145560. The Corps does not plan to conduct monitoring at LA145560 during construction. Site re-visitation forms were not prepared. No artifacts were collected.

The proposed pipeline will cross several segments of the Middle Rio Grande Conservancy District's acequia and drain system; more specifically from west to east, the Gun Club Lateral, Isleta Drain, Arenal Main Canal, Los Padillas Drain, Pajarito Ditch, Los Padillas (Acequia) Ditch, and the Atrisco Riverside Drain. While the MRGCD irrigation system and its acequia and drain components are considered to be historic, they are rigorously maintained and rehabilitated, and therefore, are essentially modern facilities. In the project area, these acequias and drains have been significantly disturbed by previous earth moving activities. The proposed project would not affect any significant historic structures and therefore, there would be no adverse effect to the MRGCD system.

Please find enclosed for your review a NMCRIS Investigation Abstract Form with attachments and the Corps' cultural survey report entitled **Cultural Resources Inventory of 25.6 Acres for the Black Mesa Section 593 Surface Water Drainage Project, in Bernalillo County, New Mexico** (COE-2006-003; NMCRIS No. 99706).

American Indian Tribes that have indicated they have cultural concerns in Bernalillo County have been contacted; no cultural resources concerns have been brought to the attention of the Corps and no traditional cultural properties are known to occur in the immediate vicinity of the project area.

Based on the information provided in the enclosed cultural resources report, the Corps is of the opinion that there will be "No Adverse Effect to Historic Properties" by construction of the Black Mesa Section 593 Surface Water Drainage Project. Pursuant to 36 C.F.R. 800.11, should previously unknown artifacts or cultural resource manifestations be encountered during construction, work would cease in the immediate vicinity of the resource. A determination of significance would be made and a mitigation plan would be formulated in consultation with your office and with American Indian Tribes that may have concerns in the project area.

If you have any questions or require additional information regarding the Black Mesa Section 593 Project, please contact Mr. Gregory Everhart, archaeologist, at (505) 342-3352 or Dr. John Schelberg, archaeologist, at (505) 342-3359.

Sincerely,



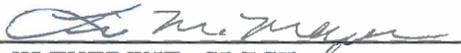
Julie A. Hall
Chief, Environmental Resources
Section

6/29/06

Date

I CONCUR

FAS



KATHERINE SLICK
NEW MEXICO STATE HISTORIC
PRESERVATION OFFICER

Enclosures

Copy Furnished: (w/o enclosures)

Mr. Don Klima, Director
Office of Federal Agency Programs
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, NW, Suite 809
Washington, DC 20004

Appendix C
Scoping Letter

September 2, 2003

Engineering and Construction Division
Environmental Resources Branch

Dear XXXXX:

The U.S. Army Corps of Engineers, Albuquerque District, (Corps) in cooperation with and at the request of Bernalillo County, New Mexico, is planning a project that would reduce the potential for flooding within the Black Mesa Project area. See Figure 1 for the proposed location map. This scoping letter is to solicit issues and comments on the project under the National Environmental Policy Act (NEPA).

The rehabilitation work would be conducted under Section 593 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 *et seq.*) as amended. The Act authorizes the Corps to provide assistance in the form of design and/or construction for water-related environmental infrastructure, resource protection, and developmental projects in central New Mexico, which is defined within the Act as the counties of Bernalillo, Sandoval, and Valencia. Types of projects included under the Act are: wastewater treatment and related facilities, stormwater retention and remediation, environmental restoration, and surface water resource protection and development.

The Black Mesa project site is located within Bernalillo County, just south of the Albuquerque City limits. The proposed project would occur west of the Rio Grande, north of Isleta Pueblo, south of Gun Club Road, and east of Old Coors Road. This area of Bernalillo County is very vulnerable to flooding caused primarily by run off from intense local thunderstorms. After these thunderstorms, the current stormwater drainage system is insufficient in carrying away enough water to avoid flooding problems.

The rehabilitation work would consist of constructing an outlet pipe manifold to collect flows from the existing Albuquerque Metro Area Flood Control Authority (AMAFCA) dams. These existing dams are Don Felipe, Raymac and Mc Coy. The releases would be collected in the pipe and carried east along Raymac Road to Los Padillas Drain. An equalizer siphon would be placed between Isleta Drain and Los Padillas Drain. Los

Padillas Drain would be widened from 42 feet to 100 feet to increase the carrying capacity of flood waters. At the end of Los Padillas Drain, the flows would be collected in a new storage holding pond and a new pump station would pump the water through an outlet to the river. Figure 2 illustrates where these features would be located.

Please send us any comments or concerns you may have for the proposed project. Send your correspondence within 30 days from the date of this letter to:

U.S. Army Corps of Engineers, Albuquerque District
Attn: Ms. Danielle A. Pecastaing
Biologist
Environmental Resources Branch
4101 Jefferson Plaza NE
Albuquerque, NM 87109-4335

If you have any questions or need additional information, please contact Ms. Pecastaing at (505) 342-3661, or e-mail address danielle.pecastaing@spa02.usace.army.mil. Thank you for your time and attention.

Sincerely,

Julie A. Hall
Chief, Environmental Resources Branch

Enclosures, (2)

Scoping Letter Sent to:

U.S. Fish and Wildlife Service (Nicholopoulos)
Natural Resources Conservation Service (Brooks)
Bureau of Reclamation (Hansen)
U.S. Environmental Protection Agency (Lawrence)
U.S. Army Corps of Engineers (Malanchuck)
New Mexico Environmental Department (Kelley)
New Mexico State Engineer (Turney)
New Mexico Natural Heritage Program (Muldavine)
New Mexico Interstate Stream Commission (Gaume)
New Mexico Department of Game and Fish (Stevenson)
Public Works Department/City of Albuquerque (Hogan)
AMAFCA (Kelly)
Open Space Division (Schmader)

Environmental Health Department (Leonard)
Department of Public Works/Bernalillo County (Garcia)
Bernalillo County Manager (Vigil)
Environmental Health (Suozzi)
Middle Rio Grande Conservancy District (Shah)
Polk Middle School (Thomassen)
Pueblo of Isleta (Governor Alvine Lucero)
Energy, Minerals, and Natural Resources Department (Sivinski)

Appendix D
Biological Assessment and Concurrence Letter



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna Road, NE
Albuquerque, New Mexico 87113
Phone: (505) 346-2525; Fax: (505) 346-2542

March 13, 2007

Cons.#22420-2007-I-0006

Lt. Colonel Bruce Estok
(Attn: **Julie A. Hall**) Environmental Resources
U.S. Army Corps of Engineers
4101 Jefferson Plaza NE
Albuquerque, New Mexico 87109-3435

Dear Lt. Colonel Estok:

Thank you for your letter of January 31, 2007, as well as your additional project clarifications of March 7, 2007 requesting concurrence on determinations made in the January 2007 Biological Assessment (BA) for stormwater drainage improvement construction activities at Don Felipe, Raymac, and McCoy dams under section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1534 et seq.). You determined in your BA that the proposed project “may affect, not likely to adversely affect” the bald eagle (*Haliaeetus leucocephalus*) (eagle), the Rio Grande silvery minnow (*Hybognathus amarus*) (minnow), and its designated critical habitat, and the Southwestern willow flycatcher (*Empidonax traillii extimus*) (flycatcher). The Black Mesa project site is located in Bernalillo County, New Mexico just south of the Albuquerque City limits. The proposed project area is bounded by Don Felipe Boulevard to the north, the Rio Grande to the east, Los Padillas Road to the south, and by Don Felipe, Raymac, and McCoy dams to the west.

The U.S. Army Corps of Engineers (Corps) proposes to construct an outlet manifold pipe to collect stormwater flows from three existing Albuquerque Metro Area Flood Control Authority (AMAFCA) dams: Don Felipe, Raymac, and McCoy. The three dams intercept stormwater runoff from mesa areas that would otherwise drain into the southwest valley of Albuquerque. The dams are insufficient in carrying enough water to avoid flooding problems after intense local thunderstorms. The purpose of this project is to improve stormwater drainage in the southern portion of the southwest valley between Rio Bravo Boulevard and Raymac Road. Construction of the outlet pipe includes placing pipes underground from each dam and connecting them to a 42-inch pipe that will run along the west side of Coors Boulevard. From this manifold pipe, a 54-inch RCP outlet pipe will be placed east along the center of Raymac Road and continue toward the Rio Grande. A duck-billed outlet structure will be placed at the end of the outlet pipe within the Rio Grande Bosque. The duck-billed outlet structure will reduce water velocity and

allow water to naturally disperse through the riparian area on the west bank. The proposed construction time is 9 months and is expected to start in spring 2007. Construction will take place outside of the migratory bird nesting season, April 1 through August 30.

We understand your stormwater facility modifications and planning are conducted in conjunction with the development of a storm water management plan under the Section 401 National Pollutant Discharge Elimination System (NPDES) permit for these facilities. The Service recommends the use of green infrastructure in conjunction with the development of a stormwater management plan for these facilities.

Green infrastructure approaches essentially infiltrate, evapotranspire or reuse stormwater, with significant utilization of soils and vegetation rather than traditional hardscape collection, conveyance and storage structures. Common green infrastructure approaches include green roofs, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, vegetated median strips, reforestation, and protection and enhancement of riparian buffers and floodplains. Green infrastructure can be used where soil and vegetation can be worked into the landscape. It is most effective when supplemented with other decentralized storage and infiltration approaches, such as the use of permeable pavement, and rain barrels and cisterns to capture and re-use rainfall for watering plants or flushing toilets. These approaches can be used to keep rainwater out of the sewer system to reduce sewer overflows and to reduce the amount of untreated stormwater discharging to surface waters. Green infrastructure facilitates or mimics natural processes that also recharge groundwater, preserve baseflows, moderate temperature impacts, and protect hydrologic and hydraulic stability.

We concur with your determinations of “may affect, not likely to adversely affect” the eagle, minnow, flycatcher and their critical habitat for the following reasons:

Eagle. If an eagle is observed within 0.25 mile of the proposed project area in the morning when activity starts, or arrives during breaks in activity, the contractor would be required to suspend all construction activity until the bird leaves on its own volition, or the project biologist, in consultation with the U.S. Fish and Wildlife Service (Service), determines that the potential for harassment is minimal. However, if an eagle arrives during construction activities, or is observed more than 0.25 mile from the construction site, activity would not be interrupted. If eagles are found consistently in the immediate project area during the construction period, the Corps should contact the Service to determine whether formal consultation is necessary.

Minnow and minnow critical habitat. Effects on minnows and its critical habitat are expected to insignificant and discountable. Equipment used for construction of an outlet pipe manifold will operate on the floodplain will not come into contact with aquatic habitats. Best Management Practices will be used for construction on the active floodplain. To protect aquatic habitat from spills or contamination, hydraulic lines will be protected from punctures. Additionally, all fueling will take place outside the active floodplain and all equipment will undergo cleaning and

inspection prior to operation. Equipment will be parked overnight on predetermined locations outside of the active floodplain.

Flycatcher. Beneficial effects may include providing additional water to the site that may facilitate future growth of native riparian vegetation. Project construction will take place outside of the breeding season for flycatchers; therefore, direct effects on individuals are not anticipated. Additionally, there is no suitable flycatcher breeding habitat within or near the project site and indirect effects are not anticipated.

Please contact the Service to verify the above determinations are still valid if: 1) Future surveys detect listed, proposed or candidate species in habitats where they have not been previously observed; 2) the project is changed or new information reveals effects of the actions to the listed species or their habitats to an extent not considered in these evaluations; or 3) a new species is listed that may be affected by these projects.

This concludes section 7 informal consultation on the proposed "Black Mesa Stormwater Drainage Improvement Project". Thank you for your concern for endangered species and New Mexico's wildlife habitats. If we can be of further assistance, please contact Michelle Cummer of my staff at the letterhead address, or at 505-761-4715.

Sincerely,



Wally Murphy
Field Supervisor

cc:

Director, New Mexico Department of Game and Fish, Santa Fe, NM



DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 JEFFERSON PLAZA NE
ALBUQUERQUE NM 87109-3435

January 31, 2007

Planning, Projects and Program Management Division
Planning Branch
Environmental Resources Section

Mr. Wally Murphy
Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services Field Office
2105 Osuna NE
Albuquerque, NM 87113

Attention: Mr. Lyle Lewis

Please find enclosed a copy of the **Biological Assessment for the Black Mesa Stormwater Drainage Improvement Project**. The purpose of the proposed project is to improve stormwater drainage and reduce the potential for flooding within the Black Mesa project area, which is located in Bernalillo County, just south of the Albuquerque City limits. The proposed work would include the construction of an outlet pipe manifold to collect stormwater flows from three existing AMAFCA dams: Don Felipe, Raymac and Mc Coy. These flows would be collected in an outlet pipe that would be placed east along Raymac Road and continue towards the Rio Grande. A duck-billed outlet would be placed at the end of this outlet pipe. This device would be needed on the end of the outlet pipe to reduce the velocity of the water. In addition, this structure would allow the water to be undirected and dispersed naturally through the riparian area, on the west bank of the river. The proposed construction would be the first of a two-phase stormwater drainage improvement project. The duration of the proposed construction would be nine months and is expected to start in the spring of 2007.

The Corps is submitting the attached Biological Assessment as part of its ongoing informal consultation. The Corps accompanied Nancy Baczek and Christina Linterman to conduct a site visit of the project area on October 19, 2006.

The Corps has made a final determination that the proposed project may affect, but would not likely adversely affect the Bald Eagle, Southwestern Willow Flycatcher or the Rio Grande Silvery Minnow. The Corps respectfully requests the Service's concurrence with this determination. Environmental commitments have been listed to protect this specie during construction of the proposed project.

Please provide comments to Mrs. Danielle Galloway, Biologist, Environmental Resources Section, at the above address, phone (505) 342-3661, fax (505)342-3668, or email to Danielle.A.Galloway@usace.army.mil.

Sincerely,

Julie A. Hall
Chief, Environmental Resources
Section

Biological Assessment

**for the
Black Mesa Stormwater Drainage Improvement Project**

Prepared by

U.S. Army Corps of Engineers

Albuquerque District

4101 Jefferson Plaza NE

Albuquerque, NM 87109

January 31, 2007



**US Army Corps
of Engineers®
Albuquerque District**

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Site Visit Photos

Background

The Black Mesa project site is located in Bernalillo County, just south of the Albuquerque City limits. The proposed project area is bounded by Don Felipe Boulevard to the north, the Rio Grande to the east, Los Padillas Road to the south, and the area generally bounded by the following facilities to the west: Don Felipe Dam, Raymac Dam, and McCoy Dam (see Figure 1). The duration of the proposed construction would be nine months and is expected to start in the spring of 2007.

The southwest valley area is very vulnerable to flooding caused primarily by runoff from intense local thunderstorms. Currently, three existing AMAFCA Dams intercept stormwater runoff from mesa areas that would otherwise drain into the southwest valley of Albuquerque from the west. The purpose of these dams is to reduce the threat of flooding in this area. The three existing dams are Don Felipe, Raymac and McCoy. After intense local thunderstorms, the dams have been insufficient in carrying away enough water to avoid flooding problems. The water from these storms collects in lower areas within the valley prior to reaching the Rio Grande. Residents and businesses in this area have experienced flooding to their properties after these intense thunderstorms. Although the existing dams have provided some flood control, other structures are needed to improve stormwater drainage within the southwest valley.

Proposed Action

The purpose of this project is to improve stormwater drainage in the southern portion of the southwest valley between Rio Bravo Boulevard and Raymac Road (See Figure 1). The proposed work would include the construction of an outlet pipe manifold to collect stormwater flows from three existing Albuquerque Metro Area Flood Control Authority (AMAFCA) dams: Don Felipe, Raymac and Mc Coy. Flow from these dams would be controlled by means of an orifice plate that would be attached to each dam's outlet control structure. Pipes would be placed underground from each dam and connected by a 42-inch pipe that would run along the west side of Coors Boulevard. From this manifold pipe, a 54-inch RCP outlet pipe would be placed east along Raymac Road along the center of the street and continue towards the Rio Grande. This outlet pipe would be located along the center of Raymac Road because existing utilities are located on each side of the street. An outlet structure would be constructed within the Rio Grande Bosque where a duck-billed outlet would be placed at the end of the outlet pipe (see Figure 2). This device would be needed on the end of the pipe to reduce the velocity of the water. In addition, this structure would allow the water to be dispersed naturally through the riparian area, on the west bank of the river (see photos in Appendix). Some minor excavation may be required in order to direct the water into an existing channel before entering the Rio Grande (see photos in Appendix). Erosion to the bank of the river would be avoided by using the existing channel to transport the water from the outlet pipe. The duration of the proposed construction would be nine months and is expected to start in the spring of 2007.

This location within the riparian zone has been identified as a proposed restoration site. Restoration would not occur as a part of this project, but is being considered within the Corps' Middle Rio Grande Bosque Feasibility Study.

Traffic on Coors Boulevard would require a minimal diversion as work is occurring on the west side of the street. Construction on Raymac Road would require that one block at a time be shut down. However, the road would be open to residents in the area. Construction on Isleta Boulevard would require a diverted lane during construction. All changes made to traffic in this



Figure 1. Location of Proposed Project Area for the Black Mesa Stormwater Drainage Improvements, Southwest Valley, Bernalillo County, New Mexico.

area would require approval of a traffic control plan from Bernalillo County and the New Mexico Department of Transportation. The total estimated construction cost for this proposed project is \$3.5 million. The non-Federal cost share is approximately \$875,000. The Federal cost share is approximately \$2,625,000.

The proposed work would utilize appropriate Best Management Practices to reduce the quantities of pollutants. Construction access would be from existing paved roads within the project area. All staging areas, including the stockpiling of construction materials, and equipment not in operation, would be outside of the riparian zone and above the 100-year floodplain.

Fuel, oil, hydraulic fluids and other similar substances would be appropriately stored out of the floodplain and must have a secondary containment system to prevent spills if the primary storage container leaks. Appropriate erosion control measure would be utilized to prevent surface water drainage and erosion material from leaving the construction areas. Water dispersal equipment would be used to minimize dust during construction activities. Best management practices would be implemented regarding the treatment and disposal of waste material. All waste material would be disposed properly at commercial disposal areas or landfills. Activities would be limited to the designated or otherwise approved areas and would be shown on the construction drawings for construction areas, staging access, and borrow use. Corps' approval of these areas would be required regardless of their ownership or distance to the construction sites to ensure protection of vegetation, water quality, threatened and endangered species, cultural resources and other significant resources. The Corps' Contracting Officer will coordinate with the Corps Environmental Resources Section to approve any changes in access routes, noncommercial borrow sites, staging areas, and other high-use areas.

The contract specifications for construction of this proposed project would require avoiding damage, where practicable, to vegetation. Disturbed areas would be evaluated for reseeded with native, indigenous plants, insofar as contract activities result in noticeable damage to existing plants and vegetative ground cover. The construction contractor would be required to submit an Environmental Protection Plan acknowledging and incorporating these protections.

Construction Period

The duration of the proposed construction would be nine months, and is expected to start in spring 2007. Construction of the outlet pipe would take place outside of the migratory bird nesting season, April 1 through August 30.

Access and Staging

Access and staging areas would be located outside of the Rio Grande Bosque. The primary staging area would be located at the three existing AMAFCA dams: Don Felipe, Raymac and Mc Coy. A secondary staging area would be located near Isleta Boulevard, on Bernalillo County property.

Species Information

Southwestern Willow Flycatcher

The Southwestern Willow Flycatcher (flycatcher) is found in the U.S. from May until September. It winters in southern Mexico, Central America, and northern South America (Unitt, 1987). In

New Mexico, the Southwestern Willow Flycatcher is distributed in nine drainages (Gila, Rio Grande, Rio Chama, Coyote Creek, Nutria Creek, Rio Grande de Ranchos, Zuni, Bluewater Creek, and San Francisco). The flycatcher is an endangered species on the U.S. Fish and Wildlife Service Endangered Species List and critical habitat has been designated in the Middle Rio Grande, though not in the proposed project area. As of 1996, it was estimated that there were only about 400 Southwestern Willow Flycatchers in New Mexico, representing about 42% of the total population of the subspecies (WIFL Recovery Team, 2002). Southwestern Willow Flycatchers occur in riparian habitats along rivers, streams, or other wetlands, where dense growth of willows (*Salix* spp.), *Baccharis*, arrowweed (*Pluchea* sp.), saltcedar or other plants are present, often with a scattered overstory of cottonwood (Unitt 1987; Sogge et al., 1997; Finch and Stoleson, 2000). These riparian communities provide nesting and foraging habitat. Throughout the range of Southwestern Willow Flycatcher, these riparian habitats tend to be rare, widely separated, small and often linear locales, separated by vast expanses of arid lands. The Southwestern Willow Flycatcher is endangered by extensive loss and modification of suitable riparian habitat and other factors, including brood parasitism by the Brown-Headed Cowbird (*Molothrus ater*; Unitt, 1987).

The Southwestern Willow Flycatcher is an obligate riparian species and nests in thickets associated with streams and other wetlands where dense growth of willow, Russian olive, saltcedar, or other shrubs is present. Nests are frequently associated with an overstory of scattered cottonwood. Southwestern Willow Flycatchers nest in thickets of trees and shrubs approximately 6 to 23 feet in height or taller, with a densely vegetated understory approximately 12 feet or more in height. Surface water or saturated soil is usually present beneath or next to occupied thickets (Muiznieks et al. 1994). At some nest sites, surface water may be present early in the breeding season with only damp soil present by late June or early July (Muiznieks et al. 1994). Habitats not selected for nesting include narrow (less than 30 feet wide) riparian strips, small willow patches, and stands with low stem density. Suitable habitat adjacent to high gradient streams does not appear to be used for nesting. Areas not utilized for nesting may still be used during migration.

Breeding pairs have been found within the Middle Rio Grande from Elephant Butte Reservoir upstream to the vicinity of Española. Southwestern Willow Flycatchers begin arriving in New Mexico in early May. Breeding activity begins immediately and young may fledge as soon as late June. Late nests and re-nesting attempts may not fledge young until late summer (Sogge et al. 1997).

Occupied and potential Southwestern Willow Flycatcher nesting habitat occurs within the Middle Rio Grande valley. Occupied and potential habitat is primarily composed of riparian shrubs and trees, chiefly Goodding's willow and peachleaf willow, Rio Grande cottonwood, coyote willow, and saltcedar. The nearest known breeding Southwestern Willow Flycatchers from the project area occurs along the Rio Grande at Isleta Pueblo, which is approximately eight river miles downstream.

In general the Southwestern Willow Flycatcher population of the Middle Rio Grande has increased since regular surveys began in 1994 (Table 1). The San Marcial reach of the Middle Rio Grande has been surveyed for flycatchers regularly since 1994 (Mehlhop and Tonne 1994, Henry et al. 1996, Ahlers and White 1995- 1999, Ahlers et al. 2000-2002, Ahlers and Moore 2003, Moore and Ahlers 2004, 2005). The population in this area has steadily increased and expanded since the initial surveys (Table 1). In 1994, approximately 11 Willow Flycatcher territories were located south of the Bosque del Apache NWR (all near the railroad bridge). The population in this river reach remained between 9-12 territories through 1999. By 2000 the birds

had dispersed and expanded with the development of new riparian vegetation in the receding pool of Elephant Butte Reservoir. Approximately 110 territories were located in the San Marcial area in 2005 with all but three located within and adjacent to the dry delta of Elephant Butte Reservoir.

Table 1. Number of Southwestern Willow Flycatcher territories detected by surveys between 2000 and 2005 at sites on the Middle Rio Grande, New Mexico (U.S. Bureau of Reclamation and U.S. Army Corps of Engineers, 2006).

River Reach	2000	2001	2002	2003	2004	2005^a
Velarde	2	1	0	not surveyed	1	0
San Juan Pueblo	16	not surveyed	not surveyed	not available	not available	not available
Isleta Pueblo	14	not surveyed	not surveyed	6	7	6
Belen reach	2 ^b	not surveyed	not surveyed	not surveyed	0	1
Sevilleta NWR / La Joya State WMA	8	11	13	17	19	20
Bosque del Apache NWR	1	2	4	3	1	0
San Marcial / Tiffany areas	4	3	12	34	16	3
Elephant Butte Reservoir Delta	19	22	51	52	113	107
Total	66	39	80	112	150	131

^a Reclamation unpublished data.

^b Corps unpublished data.

Rio Grande silvery minnow

Rio Grande silvery minnow (*Hybognathus amarus*) historically occurred in the Rio Grande drainage in New Mexico and Texas (Lee et al., 1980; Propst, 1999). The species was historically one of the most abundant and widespread fishes in the Rio Grande drainage (Bestgen and Platania, 1991). In New Mexico, historic range of the species included the Rio Chama from Abiquiu to the Rio Grande confluence, the main stem of the Rio Grande from Velarde downstream to the New Mexico-Texas state line, and the Pecos River downstream from Santa Rosa (Sublette et al., 1990). Rio Grande silvery minnow was extirpated from the Rio Grande downstream of the Pecos River by 1961 and Pecos River proper by the mid-1970s. The species was also extirpated from the Rio Grande upstream from Cochiti Dam and downstream from Elephant Butte Reservoir. One of the greatest threats to its survival is poor water quality (Utton Center, 2004). Currently, Rio Grande silvery minnow is present only in the Rio Grande between

Cochiti Reservoir and the upper end of Elephant Butte Reservoir, which represents less than 10% of its historic distribution (Bestgen and Platania, 1991; Propst, 1999). Abundance of Rio Grande silvery minnow has declined markedly from 1994 to the present time and the population has become concentrated in the reach of the Rio Grande between San Acacia Diversion Dam and the headwaters of Elephant Butte Reservoir. Critical Habitat has been designated for the Rio Grande silvery minnow and is within the project area.

Rio Grande silvery minnow is a pelagic-broadcast spawner, producing nonadhesive, semi-buoyant eggs (Platania and Altenbach, 1998). Spawning is initiated by elevated stream discharge and occurs primarily in the late spring and early summer, when water temperatures are 68°F to 75°F (Propst, 1999). Females may produce three to 18 clutches of eggs, each clutch numbering from 200 to 300 eggs. Growth to maturation occurs in about two months. Rio Grande silvery minnow typically live only about one year, with less than 10% of the adult population surviving to up to two years (Platania and Altenbach, 1998; Propst, 1999). Habitat used by adult Rio Grande silvery minnow is characterized by silty to sandy substrate, depths of 8 in to 2.6 ft, and slow to moderate current velocity, 0 ft/sec to 0.98 ft/sec; (Dudley and Platania, 1997). Habitats with slow current velocity and associated cover are used in winter. Rio Grande silvery minnow feeds on algae and detritus (Propst, 1999; USFWS, 1999). Major threats to persistence of Rio Grande silvery minnow include diminution of river flows and dewatering by surface water diversions and dam regulation, modification of aquatic habitats that result in faster current velocities and narrower channels, and introduction of nonnative fishes (USFWS, 1999). Recovery of Rio Grande silvery minnow requires stabilizing the population in the Middle Rio Grande and reestablishing the species in suitable habitats within its historic range (USFWS, 1999). Over the 2004 and 2005 monitoring season, a large population of Rio Grande silvery minnow was found in the Albuquerque Reach of the Middle Rio Grande.

Bald Eagle

The Bald Eagle is a winter resident along rivers and at reservoirs in the Southwestern United States. This species was listed as federally endangered in 1967 (32 Federal Register 4001) and again in 1978 (43 Federal Register 6233), but was reclassified as threatened due to breeding population increases throughout the country (USFWS, 1995). USFWS proposed removing the Bald Eagle from the list of endangered and threatened wildlife in July 1999 (USFWS, 1999); however, final delisting of the species has not yet occurred.

In New Mexico the Bald Eagle is a winter migrant from the northern border, and southward to the Gila, lower Rio Grande, middle Pecos, and Canadian valleys. The Middle Rio Grande is a key habitat area that includes winter roost and a foraging area. The Bald Eagle is associated with aquatic ecosystems throughout most of its range. The typical diet of Bald Eagles is fish, with many other types of prey such as waterfowl and small mammals, depending on location, time of year, and population cycles of the prey species (USFWS, 1995). In New Mexico, these birds typically roost in groups in trees at night, usually in protected areas such as canyons (New Mexico Department of Game and Fish, 1988).

The general daily routine for a wintering Bald Eagle is to leave its roost at dawn for its foraging ground, feed until midmorning, perch for most of the midday, and possibly feed again in late afternoon before returning to its roost site (Hawkwatch International, Inc. 1993). Both adult and juvenile birds may be present in and around the Middle Rio Grande between late November and early March.

Bald Eagle may occur in winter along the Rio Grande, particularly in the north and south ends of the Rio Grande Valley State Park (Stahlecker and Cox, 1997). Winter roost locations are known north and south from the project area, including areas between Rio Bravo and I-25 on both sides of the river (Stahlecker and Cox, 1997), and north of the Alameda Bridge (Hawkwatch International, 1993).

Analysis of the Effects of the Action

Southwestern Willow Flycatcher

Suitable breeding habitat of the Southwestern Willow Flycatcher does not occur within or near the proposed location for the outlet pipe. This area within the riparian zone is relatively open, with little existing vegetation. The only construction that would take place within the Bosque is the construction of the outlet pipe. Additionally, this location has been identified as a proposed restoration site. Restoration would not occur as a part of this project, but is being considered within the Corps' Middle Rio Grande Bosque Feasibility Study. The additional water provided by the outlet pipe would help facilitate future planting of native riparian/wetland vegetation.

During the migration season, the Southwestern Willow Flycatcher is known to use a variety of vegetation types within the riparian zone. Although the project area is relatively open, the Southwestern Willow Flycatcher may use sites directly adjacent to area. Also, the Southwestern Willow Flycatcher could fly through the project area, traveling between areas within the riparian zone. However, construction within the riparian zone would occur outside the migration season.

Designated Critical Habitat was determined for flycatcher in November 2005 but is not located within the project area.

Rio Grande silvery minnow

Rio Grande silvery minnow occurs in the Rio Grande in the project area. Fish obtained from 2005 salvage operations conducted during river drying events and captive propagation have been stocked in the Albuquerque area in an attempt to restore the population in that reach (J. Brooks, personal communication). Releases of captive-reared Rio Grande silvery minnow have been made at Alameda Bridge, north of the project area. No work is proposed to take place directly in the channel.

Designated critical habitat for the species (68 Federal Register 8087: 8135) is adjacent to the project area. The outlet pipe would return stormwater to the Rio Grande eight river miles further upstream than the current discharge point and therefore would be somewhat beneficial to the Rio Grande silvery minnow.

Bald Eagle

Bald Eagle may occur in winter along the Rio Grande, particularly in the north and south ends of the Rio Grande Valley State Park (Stahlecker and Cox, 1997). Winter roost locations are known north and south from the project area, including areas between Rio Bravo and I-25 on both sides of the river (Stahlecker and Cox, 1997), and north of the Alameda Bridge (Hawkwatch International, 1993). The proposed work would occur during the winter, which is when Bald Eagles may be in or near the project area. In order to minimize the potential for disturbing Bald Eagles utilizing adjacent habitat, guidelines discussed below and under the Environmental Commitments would be employed.

If a Bald Eagle is present within 0.25 mile of the project area in the morning before activity starts, or arrives during breaks in project activity, the contractor would be required to suspend all activity until the bird leaves of its own volition, or a Corps biologist, in consultation with the USFWS, determines that the potential for harassment is minimal. However, if an eagle arrives once activity is underway, or if an eagle were beyond 0.25 mile of the site, activity would not be interrupted.

Effects Determination

Southwestern Willow Flycatcher

No suitable habitat would be disturbed due to the installation of the outlet pipe or other construction activities. Also, the outlet pipe would provide additional water, which would facilitate future planting of native riparian/wetland vegetation. Therefore, the Corps has determined that the proposed work may affect but is not likely to adversely affect, the Southwestern Willow Flycatcher.

Rio Grande silvery minnow

The Rio Grande silvery minnow is found in proximity to the project area. However, no work would occur in the river channel. When storms produce enough water to flow from the outlet pipe, this water will eventually enter the Rio Grande. Currently, stormwater enters the Rio Grande at a discharge point located eight river miles downstream. AMAFCA has a program that monitors all of their outlet pipes for water quality and would therefore monitor the water quality from this outlet pipe in the riparian zone. Therefore, this proposed action may affect but is not likely to adversely affect the Rio Grande silvery minnow; and would not adversely modify designated critical habitat.

Bald Eagle

The proposed action would have no adverse effects on the bald eagle. Potential roosting and perching structures would not be impacted by the proposed action, since existing native vegetation would be protected. Implementation of the measures listed in the Environmental Commitments would minimize disturbance to Bald Eagle roost, foraging and perching sites in adjacent areas to the project location. For these reasons, the Proposed Action may affect but is not likely to adversely affect the Bald Eagle.

Environmental Commitments

- 1) If a Bald Eagle is present within 0.25 mile of the project area in the morning before activity starts, or arrives during breaks in project activity, the contractor would be required to suspend all activity until the bird leaves of its own volition, or a Corps biologist, in consultation with the USFWS, determines that the potential for harassment is minimal. However, if an eagle arrives once activity is underway, or if an eagle were beyond 0.25 mile of the site, activity would not be interrupted.
- 2) Cleaning of all equipment is required prior to entering the site.
- 3) Construction access would be from existing paved roads within the project area.
- 4) All staging areas, including the stockpiling of construction materials, and equipment not in operation, would be outside of the riparian zone and the active floodplain.

- 5) Construction of the outlet pipe would take place outside of the migratory bird nesting season, April 1 through August 30.

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Personal Communications

Brooks, Jim. USFWS Fisheries Resources Office.

Appendix E
Public Review Letter, Comments and Responses

February 28, 2007

Planning, Project and Program Management Division
Planning Branch
Environmental Resources Section

XXXXXX

Dear :

The U.S. Army Corps of Engineers (Corps), Albuquerque District, sent out a Draft Environmental Assessment (DEA), entitled "Black Mesa Stormwater Drainage Improvement Project, Bernalillo County, New Mexico" on August 24th, 2006 for a 30-day public review. Since that time, there has been a change to the alignment of the stormwater pipe from Isleta Boulevard to the Rio Grande Bosque. The only changes in the amended DEA are the location of the new alignment and the alternative locations considered. The duration of the proposed construction would be nine months and is expected to start in the spring of 2007.

Enclosed for your review is the amended DEA, entitled **"Amended Draft Environmental Assessment for the Black Mesa Stormwater Drainage Improvement Project, Bernalillo County, New Mexico"**. Please see sections 2.1 Proposed Action and 2.2 Alternatives Considered for these amendments and the map below to see the old and new alignment. The Corps is expediting the amended DEA and sending copies of it to solicit comments from Federal, State, and local interests to comply with the National Environmental Policy Act (NEPA).

Please review the amended DEA and provide any written comments to the above address, Attn: Mrs. Danielle Galloway, Environmental Resources Section. Written comments must be received **no later than March 29, 2007**, so that comments can be addressed and revisions made to the DEA in a timely manner. If we do not receive comments by this date, we will assume you have no concerns or have no objections to the project. You may facsimile your correspondence to (505) 342-3668. If you have any questions or need additional information, please contact Mrs. Danielle Galloway at (505) 342-3661 or e-mail at

danielle.a.galloway@spa02.usace.army.mil.

Sincerely,

Julie Hall
Chief, Environmental Resources Section

Copies Furnished:

U.S. Fish and Wildlife (Murphy)
U.S. Environmental Protection Agency (Lawrence)
U.S. Bureau of Reclamation (Hansen)
New Mexico State Forestry Division (Sivinski)
New Mexico Department of Game and Fish (Stevenson)
New Mexico Environmental Department (Kelley)
New Mexico State Engineer (D'Antonio)
New Mexico Interstate Stream Commission (Lopez)
Middle Rio Grande Conservancy District (Shah)
Bernalillo County (Lucero)
Bernalillo County Public Works Division (West)
Albuquerque Metro Area Flood Control Association (Kelly)
Pueblo of Isleta (Lucero)
Polk Middle School (Baca)
Adjacent Property Owners for New Alignment (Rieffer, Briggs,
Paterson, Y'Barra, Schmidt)



Locations of the old and new alignment for the stormwater pipe from Isleta Boulevard to the Rio Grande Bosque.

County of Bernalillo

State of New Mexico

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DARREN P. WHITE, SHERIFF

PATRICK J. PADILLA, TREASURER

March 19, 2007

Danielle Galloway
Environmental Resources Section
U.S. Army Corps of Engineers
4101 Jefferson Plaza, NE
Albuquerque, NM 87109-3435

RE: Amended Draft Environmental Assessment for the Black Mesa Storm Drainage Project, Phase I.

Dear Mrs. Galloway:

Bernalillo County Public Works has reviewed the amended draft Environmental Assessment (EA) Report dated March 2, 2007. Below are comments for the project report and EA:

1. Figures 2 and 3 still show the old alignment down Isleta Indian Road on the maps. Please show the new alignment on these maps. Page 3 does not clearly show where the new alignment is on the map, other than being close to Le Avenue. If the alignment is on Le Avenue, then please notify Brad Catanach, Engineering Manager, to coordinate the location to miss the proposed waterline that will be constructed on Le Avenue. Le Avenue road section will need to be rebuilt with a minimum of 3-inches of asphalt on 6-inches of basecourse or per the design engineer's recommendation.
2. The County's previous comment #1 on the EA report was not incorporated into the EA. This comment stated that "the pipe alignment on Raymac Road should be in the center of the east bound driving lane. This will allow for a minimum of one way traffic on the road, which would avoid a complete shut down of the road".

The County is looking forward to the start of construction and a determination if the project will be advertised for construction based on a competitive bid. If you have any questions in regards to the above comments please contact Mr. Catanach at (505) 848-1518 or email at bradc@bernco.gov.

Sincerely,

Thaddeus Lucero
County Manager

Cc: Tim West, Deputy County Manager for Public Works
Roger Paul, P.E., Director Technical Services
Brad Catanach, P.E., Engineering Manager

Public Review Comments Submitted by the County of Bernalillo

Comment:

Figures 2 and 3 still show the old alignment down Isleta Indian Road on the maps. Please show the new alignment on these maps.

Corps' Response:

All maps have been updated to show the new alignment from Isleta Boulevard.

Comment:

Page 3 does not clearly show where the new alignment is on the map, other than being close to Le Avenue. If the alignment is on Le Avenue, then please notify Brad Catanach to coordinate the location to miss the proposed waterline that will be constructed on Le Avenue.

Corps Response:

Corps' biologist, Danielle Galloway, contacted Brad Catanach to identify exactly where the new alignment is located. The alignment is south of Le Avenue, and therefore will not impact the proposed waterline.

Comment:

The pipe alignment on Raymac Road should be in the center of the east bound driving lane. This will allow for a minimum of one way traffic on the road, which would avoid a complete shut down of the road.

Corps' Response:

The pipe alignment on Raymac Road will be in the center of the east bound driving lane in order to allow for a minimum of one way traffic on the road.



IN REPLY REFER TO:

United States Department of the Interior

BUREAU OF RECLAMATION

Albuquerque Area Office
555 Broadway Blvd. NE, Suite 100
Albuquerque, NM 87102-2352



ALB-185
ENV-7.00

MAR 26 2007

Ms. Danielle Galloway
Planning, Projects and Program Management Division
Planning Branch – Environmental Resources Section
Army Corps of Engineers
4101 Jefferson Plaza NE
Albuquerque, NM 87109-3435

Subject: Amended Draft Finding of No Significant Impact (FONSI) and Environmental Assessment (DEA) for the Black Mesa Stormwater Drainage Improvement Project; Bernalillo County, New Mexico

Dear Ms. Galloway:

The Bureau of Reclamation reviewed the subject document and has these comments to offer your agency:

- We submitted comments to your earlier DEA (see our letter dated September 28, 2006) and noted that our comments had been addressed with the exception of providing engineering sketches or drawings showing the crossings under the drains/irrigation facilities and the pipe outlet (which would outfall into the Rio Grande floodplain). To address our concerns, my staff (Mr. Frank Montoya and Ms. Nancy Umbreit) contacted you directly on March 21, 2007, and you agreed to provide our agency with engineering drawings and information earlier requested for our review.

- Last paragraph, page 1 of FONSI:

"The proposed pipeline will cross several segments of the **Middle Rio Grande Project's** acequia and drain system; specifically the Gun Club Lateral, Isleta Drain . . . While the irrigation system and its acequia and drain components are . . . " And the last sentence in this paragraph: " The proposed project would not affect any significant **Middle Rio Grande Project** historic structures and there would be no adverse effect to the system."

NOTE: Please change any reference to Middle Rio Grande Conservancy District ownership. The corrections above and below are in accordance with the July 2005 Judicial Decision.

- Under 1.2 Purpose and Need, page 1, last sentence:

"Although the existing (versus exiting) dams have provided"

•Under 2.1 Proposed Action, page 4, last paragraph, last sentence, consider changing to:
"Proper disposal of all waste material at commercial disposal areas or landfills would occur."

•Page 17, 2nd paragraph:

"The proposed pipeline project crosses several segments of the Middle Rio Grande Project irrigation ditch and drain system. . . (next to last sentence) No historic Middle Rio Grande Project structures would be affected." And, last sentence, replace excavations with excavations.

If you have any questions or need to further discuss the matters mentioned above, please contact Ms. Nancy Umbreit, of my staff, at 505-462-3599.

Sincerely,



Connie L. Rupp
Area Manager

cc: ALB-150, ALB-210, ALB-422

Public Review Comments Submitted by the Bureau of Reclamation

Comment:

Provide engineering sketches or drawing showing the crossing under drains/irrigation facilities and the pipe outlet.

Corps' Response:

Once the engineering drawings are complete, the Corps will provide them to Mr. Frank Montoya.



BILL RICHARDSON
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Office of the Secretary
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502-6110
Telephone (505) 827-2855



RON CURRY
SECRETARY

CINDY PADILLA
DEPUTY SECRETARY

April 2, 2007

Danielle Galloway
Environmental Resources Section
DOA
Albuquerque District, Corps of Engineers
4101 Jefferson Plaza NE
Albuquerque, NM 87109-3435

Fax: 505.342.3668

Dear Ms. Galloway:

RE: AMENDED DEA FOR THE BLACK MESA STORMWATER DRAINAGE IMPROVEMENT PROJECT

The New Mexico Environment Department (NMED) staff reviewed the information on the above-referenced project included in your March 2, 2007, correspondence to the Department. The review is based on the received correspondence.

SURFACE WATER QUALITY

The DEA in Section 3.1.3, Water Quality, notes that since this project will disturb more than 1-acre, it is subject to National Pollutant Discharge Elimination System (NPDES) regulations and the contractor will be required to prepare a Storm Water Pollution Prevention Plan (SWPPP). The DEA did not appear to indicate the total amount of disturbed acreage that would ultimately result from this project. The applicable NPDES permit for this project is the General Permit for Storm Water Discharges from Construction Activities (a.k.a. Construction General Permit (CGP)) and is issued by the U.S. Environmental Protection Agency (USEPA). Coverage under the CGP is required for storm water discharges from construction projects (common plans of development) that will result in the disturbance (or re-disturbance) of one (1) or more acres (including expansions, staging areas, material support areas, etc.) of total land area. [Note: one to five acre construction projects may be able to qualify for a small construction waiver in lieu of permit coverage – for information on this option see Appendix D in the CGP and USEPA's website below]. However, if a project disturbs less than one acre but it is part of a "larger common plan of development" that disturbs greater than one acre (such as a commercial plaza, school, subdivision, etc.), then permit coverage would still be required.]

Danielle Galloway
April 2, 2007
Page 2

The ACOE should also be aware that USEPA requires all "operators" (see definition in Appendix A in CGP) obtain permit coverage for construction projects (i.e., each operator must submit their own Notice of Intent (NOI)). Typically, this means that at least two parties will require permit coverage, the owner/developer and general contractor; however, for the Black Mesa project, there may be more than one owner/developer involved. The following types of operators will require appropriate NPDES permit coverage for this project: 1) the owner/developer(s) of this construction project, who has operational control over project specifications (in this case, probably ACOE and possibly AMAFCA and Bernalillo County as well); 2) the general contractor, who has day-to-day operational control of those activities at the site which are necessary to ensure compliance with the SWPPP and other permit conditions; and 3) possibly other "operators" who meet the permit definition.

The CGP requires, among other things, that a SWPPP be prepared for the site and that appropriate Best Management Practices (BMPs) and structural controls be installed and maintained both during and after construction to prevent, to the extent practicable, pollutants (primarily sediment, oil & grease and construction materials from construction sites) in storm water runoff from entering waters of the U.S. Some of the potential pollutant sources that are typically associated with construction sites include disturbed soils, heavy equipment, portable toilets, material storage areas, concrete handling areas, and waste collection areas (e.g., trash, debris). This permit also requires that permanent stabilization measures (revegetation, paving, etc.), and permanent storm water management measures (storm water detention/retention structures, velocity dissipation devices, etc.) be implemented post-construction to minimize, in the long term, pollutants in storm water runoff from entering these waters. In addition, permittees must ensure that there is no increase in sediment yield and flow velocity from the construction site (both during and after construction) compared to pre-construction, undisturbed conditions (see Subpart 9.C.1 in CGP).

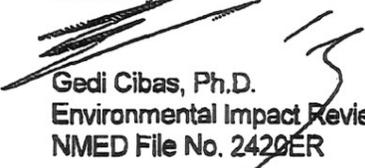
The CGP was re-issued effective July 1, 2003 (see Federal Register/Vol. 68, No. 126/Tuesday, July 1, 2003 pg. 39087). The CGP, Notice of Intent (NOI), Fact Sheet, Federal Register notice, and information on the Small Construction Waiver can be downloaded at: <http://cfpub.epa.gov/npdes/stormwater/cgp.cfm>.

PETROLEUM STORAGE TANKS (PST)

Please note that additional information is needed to properly process this project regarding PSTs. No street addresses were provided in the enclosed document. Since there are numerous tank locations along Isleta Boulevard SW, the exact range of street addresses affected by this project is necessary in order to effectively process this request.

We appreciate the opportunity to comment on this project.

Sincerely,



Gedi Cibas, Ph.D.
Environmental Impact Review Coordinator
NMED File No. 2420ER



BILL RICHARDSON
Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT

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RON CURRY
Secretary
CINDY PADILLA
Deputy Secretary

December 17, 2007

Danielle Galloway
Department of the Army
Albuquerque District, Corps of Engineers
Environmental Resources Section
4101 Jefferson Plaza, NE
Albuquerque, NM 87109-3435

Dear Ms. Galloway:

The New Mexico Environment Department (NMED) received a letter from Ms. Julie Alcon dated December 5, 2007, regarding the presence of petroleum storage tanks in the proposed Black Mesa Storm Water Drainage Improvement Project, Bernalillo County, New Mexico. Ms. Alcon requested we send our response to you.

According to the NMED Petroleum Storage Tank Bureau, there are twenty-five (25) known former or current tank facilities, six (6) of which have experienced releases within the proposed project area mentioned above. Attached is a table listing the 25 tank sites. Some of the sites listed on the table may not be affected by the proposed project. Please check the local street address to see if this information applies. Anyone, including contractors working on this project, should remain alert for indications of soil or groundwater contamination in the vicinity of any of the listed sites.

There may be wells or remediation equipment installed at the leak sites. If the design for the proposed storm water drainage improvement project intersects any part of a remediation system or monitoring well, please contact the Petroleum Storage Tank Bureau at 505 - 984-1741 to coordinate construction with preservation or modification of the remediation equipment. Pursuant to the requirements of 20.2.6.1203.A NMAC, if contaminated soil or water is encountered during construction, all monitoring, handling and disposal requirements must be met in order to protect workers, the public and the environment, from contaminants.

Danielle Galloway
December 17, 2007
Page 2

If you have any additional questions concerning this letter, please contact Tom Leck, Petroleum Storage Tank Bureau, at 505 - 222-9564.

Sincerely,

Georgia Cleverley

Attachment

Facility ID	Facility Name	Address1	Address2	City	Zip	Owner ID	Owner Name
1054	CHURCHILL CHEVRON	514 COORS SW		ALBUQUERQUE	87121	17012	EVER READY OIL COMPANY
1104	CIRCLE K 610	4400 COORS SW		ALBUQUERQUE	87105	353	CIRCLE K STORES INC
1347	GIANT SERVICE STATION 626	1897 COORS BLVD SW		ALBUQUERQUE	87105	354	GIANT INDUSTRIES ARIZONA INC
1688	PHILLIPS 66	4321 COORS SW		ALBUQUERQUE	87105	366	ROBERTS OIL CO INC
1746	ROBERTS OIL INC J	1001 COORS BLVD SW		ALBUQUERQUE	87105	366	ROBERTS OIL CO INC
26498	ALLSUPS - NO152	2801 COORS SW		ALBUQUERQUE	87105	16400	ALLSUPS CONVENIENCE STORES INC
27037	BRACKEN MOTOR CO	2615 COORS SW		ALBUQUERQUE	87105	14803	BRACKEN MOTOR CO
27554	COYOTE CONCRETE PRODUCTS	2518 COORS SW		ALBUQUERQUE	87105	15142	COYOTE CONCRETE PRODUCTS VILLEGAS RALPH
27702	DIAMOND SHAMROCK NO1212	361 COORS RD		ALBUQUERQUE	87107	16164	DIAMOND SHAMROCK REFINING AND MARKETING
27703	DIAMOND SHAMROCK NO1213	1100 COORS BLVD SW		ALBUQUERQUE	87121	16164	DIAMOND SHAMROCK REFINING AND MARKETING
27893	ELOY'S PHILLIPS 66	1010 COORS SW		ALBUQUERQUE	87105	15041	GABALDON RICK
28106	FORMER CIRCLE K 613	801 COORS SW		ALBUQUERQUE	87105	16437	CIRCLE K JOINT VENTURE ALBUQUERQUE FEDERAL

28604	HOSSEIN GIAHI	3109 COORS		ALBUQUERQUE	87105	15884	HOSSEIN GIAHI
28709	JACKS TREE SERVICE	1504 COORS SW		ALBUQUERQUE	87105	15343	JACKS TREE SERVICE
28744	JERRYS WOOD AND FEED CO	522 COORS SW		ALBUQUERQUE	87105	14973	JACQUES JERRY
29776	OLD TIMBERMAN TRAILER MANUFACTURING	1500 COORS BLVD SW		ALBUQUERQUE	87121	340	NEW MEXICO (STATE OF) NMSHD DISTRICT III
30081	QUALITY LATH AND PLASTER	2508 COORS SW		ALBUQUERQUE	87121	16394	GROSSETETE RICHARD
30496	SAVADRA NICK	1917 COORS SW		ALBUQUERQUE	87121	14173	SAVADRA NICK
31051	GIANT #840	1524 COORS BLVD		ALBUQUERQUE	87104	354	GIANT INDUSTRIES ARIZONA INC
31136	TIW FABRICATION AND MACHINING INC	1255 COORS DR SW		ALBUQUERQUE	87105	16065	TIW FABRICATION AND MACHINING INC
31272	UDELL MARTIN	3700 COORS BLVD		ALBUQUERQUE	87198	15595	UDELL MARTIN
31403	US WEST CORRALES	10155 COORS RD		ALBUQUERQUE	87114	14976	QWEST COMMUNICATION
31660	WOODARD EXPLOSIVES INC	3305 S COORS		ALBUQUERQUE	87105	14197	WOODARD EXPLOSIVES INC
51153	COYOTE GRAVEL PRODUCTS INC	2124 COORS SW		ALBUQUERQUE	87195	45531	VALLEJOS ANTHONY
51677	L H WOODARD AND SONS INC	2627 COORS BLVD SW		ALBUQUERQUE	87121	45970	L H WOODARD AND SONS INC

Public Review Comments Submitted by the State of New Mexico Environment Department:

Comment:

The Draft EA did not appear to indicate the total amount of disturbed acreage that would ultimately result from this project. The applicable NPDES permit for this project is the General Permit for Storm Water Discharges from Construction Activities and is issued by the U.S. Environmental Protection Agency. Coverage under the Construction General Permit is required for storm water discharges from construction projects that will result in the disturbance of one or more acres of total land use.

Corps' Response:

The total amount of disturbed acreage has been added to the Final EA. The project is expected to disturb approximately twelve acres. The Corps is aware that the NPDES general permit guidance will apply to this project because the total project area is greater than one acre.

Comment:

The Corps of Engineers should also be aware that USEPA requires all "operators" obtain permit coverage for construction projects.

Corps' Response:

The Corps is aware that all "operators" for this project are required to obtain permit coverage and will submit a Notice of Intent.

Comment:

The Construction General Permit requires, among other things, that a SWPPP be prepared for the site and that appropriate Best Management Practices (BMPs) and structural controls be installed and maintained both during and after construction to prevent, to the extent practicable, pollutants in storm water runoff from entering waters of the U.S.

Corps' Response:

A SWPPP will be prepared for the proposed project.

Comment:

Please note that additional information is needed to properly process this project regarding petroleum storage tanks. No street addresses were provided in the enclosed document. Since there are numerous tank locations along Isleta Boulevard SW, the exact range of street addresses affected by this project is necessary in order to effectively process this request.

Corps' Response:

Please refer to Section 3.5 of the Environmental Assessment.

GOVERNOR
Bill Richardson



DIRECTOR AND SECRETARY
TO THE COMMISSION
Bruce C. Thompson, Ph.D.

Tod Stevenson, Deputy Director

STATE OF NEW MEXICO DEPARTMENT OF GAME & FISH

One Wildlife Way
Post Office Box 25112
Santa Fe, NM 87504
Phone: (505) 476-8101
Fax: (505) 476-8128

Visit our website at www.wildlife.state.nm.us
For basic information or to order free publications: 1-800-862-9310.

STATE GAME COMMISSION

Alfredo Montoya, Chairman
Alcalde, NM

Dr. Tom Arvas, Vice-Chairman
Albuquerque, NM

David Henderson, Commissioner
Santa Fe, NM

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Albuquerque, NM

Terry Z. Riley, Ph.D., Commissioner
Tijeras, NM

M. H. "Dutch" Salmon, Commissioner
Silver City, NM

Leo V. Sims, II, Commissioner
Hobbs, NM

March 21, 2007

Department of the Army
Albuquerque District, Corps of Engineers
Attn: Mrs. Danielle Galloway
4101 Jefferson Plaza NE
Albuquerque, NM 87109

Re: Environmental Assessment for the Black Mesa Storm water Drainage Improvement Project
NMGF No. 11329

Dear Mrs. Galloway,

In response to your letter dated March 2, 2007, regarding the above referenced project, the Department of Game and Fish (Department) does not anticipate significant impacts to wildlife or sensitive habitats. For your information, we have enclosed a list of sensitive, threatened and endangered species that occur in Bernalillo County.

For more information on listed and other species of concern, contact the following sources:

1. BISON-M Species Accounts, Searches, and County lists: <http://www.bison-m.org>
2. Habitat Handbook Project Guidelines:
http://wildlife.state.nm.us/conservation/habitat_handbook/index.htm
3. For custom, site-specific database searches on plants and wildlife. Go to Data then to Free On-Line Data and follow the directions go to: <http://nmmhp.unm.edu>
4. New Mexico State Forestry Division (505-827-5830) or <http://nmrareplants.unm.edu/index.html> for state-listed plants
5. For the most current listing of federally listed species **always** check the U.S. Fish and Wildlife Service at (505-346-2525) or <http://www.fws.gov/ifw2es/NewMexico/index.cfm> .

Thank you for the opportunity to review and comment on your project. If you have any questions, please contact Randy Floyd, Habitat Specialist, at (505) 476-8101 or randy.floyd@state.nm.us.

Sincerely,

Janell Ward, Assistant Chief
Conservation Services Division

JW/ttd

xc: Wally Murphy, Ecological Services Field Supervisor, USFWS
Brian Gleadle, NW Area Operations Chief, NMGF
Mark Olson, NW Area Habitat Specialist, NMGF

NEW MEXICO WILDLIFE OF CONCERN BERNALILLO COUNTY

For complete up-dated information on federal-listed species, including plants, see the US Fish & Wildlife Service NM Ecological Services Field Office website at <http://www.fws.gov/ifw2es/NewMexico/SBC.cfm>. For information on state-listed plants, contact the NM Energy, Minerals and Natural Resources Department, Division of Forestry, or go to <http://nmrareplants.unm.edu/>. If your project is on Bureau of Land Management, contact the local BLM Field Office for information on species of particular concern. If your project is on a National Forest, contact the Forest Supervisor's office for species information.

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGF</u>	<u>US FWS</u>	<u>critical habitat</u>
Rio Grande Chub	<i>Gila pandora</i>	s		
Rio Grande Silvery Minnow	<i>Hybognathus amarus</i>	E	E	Y
Brown Pelican	<i>Pelecanus occidentalis</i>	E		
Neotropic Cormorant	<i>Phalacrocorax brasilianus</i>	T		
Bald Eagle	<i>Haliaeetus leucocephalus</i>	T	T	
Northern Goshawk	<i>Accipiter gentilis</i>	s	SOC	
Common Black-Hawk	<i>Buteogallus anthracinus</i>	T	SOC	
Aplomado Falcon	<i>Falco femoralis</i>	E	E	
Peregrine Falcon	<i>Falco peregrinus</i>	T	SOC	
Mountain Plover	<i>Charadrius montanus</i>	s	SOC	
Black Tern	<i>Chlidonias niger surinamensis</i>		SOC	
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	s	C	
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	s	T	Y
Burrowing Owl	<i>Athene cunicularia</i>		SOC	
Black Swift	<i>Cypseloides niger</i>	s		
Broad-billed Hummingbird	<i>Cyanthus latirostris</i>	T		
White-eared Hummingbird	<i>Hylocharis leucotis</i>	T		
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	E	E	Y
Loggerhead Shrike	<i>Lanius ludovicianus</i>	s		
Bell's Vireo	<i>Vireo bellii</i>	T	SOC	
Gray Vireo	<i>Vireo vicinior</i>	T		
Baird's Sparrow	<i>Ammodramus bairdii</i>	T	SOC	
Western Small-footed Myotis Bat	<i>Myotis ciliolabrum melanorhinus</i>	s		
Yuma Myotis Bat	<i>Myotis yumanensis yumanensis</i>	s		
Occult Little Brown Myotis Bat	<i>Myotis lucifugus occultus</i>	s		
Long-legged Myotis Bat	<i>Myotis volans interior</i>	s		
Fringed Myotis Bat	<i>Myotis thysanodes thysanodes</i>	s		
Spotted Bat	<i>Euderma maculatum</i>	T		
Pale Townsend's Big-eared Bat	<i>Corynorhinus townsendii pallescens</i>	s	SOC	
Big Free-tailed Bat	<i>Nyctinomops macrotis</i>	s		
Gunnison's Prairie Dog	<i>Cynomys gunnisoni</i>	s		
New Mexican Jumping Mouse	<i>Zapus hudsonius luteus</i>	T	SOC	
Red Fox	<i>Vulpes vulpes</i>	s		
Western Spotted Skunk	<i>Spilogale gracilis</i>	s		
Socorro Mountainsnail	<i>Oreohelix neomexicana</i>	s		
Slate Millipede	<i>Comanichelus chihuanus</i>	s	SOC	

Appendix F
Clean Water Act 404 Coordination

5 March, 2007

MEMORANDUM FOR Programs Management Branch (CESPA-PM-LE/D.
Galloway)

SUBJECT: Revised Stormwater Pipeline Crossing Locations: Black Mesa Phase I Stormwater Pipeline Project in tributaries of the Rio Grande in Albuquerque, Bernalillo County, New Mexico, Authorization No. 2005 00482

1. We have evaluated the updated Draft Environmental Assessment you provided and concur with your findings of waters of the United States within the project site. The Rio Grande and its tributaries (the revised utility line crossing locations of the Los Padillas and the Atrisco Riverside Drains approximately 900 feet north of the original locations) are regulated under provisions of Section 404 of the Clean Water Act. The jurisdictional boundaries are defined by the destruction of terrestrial vegetation. The installation of the stormwater pipeline in these waters may be authorized under Nationwide Permit No. 12 for Utility Line Activities. As stated in our previous jurisdictional determinations of May 16, 2006 and September 1, 2006 (copies enclosed), the Isleta, the Atrisco, the Pajarito Drains and the Arenal Main Canal are located in within jurisdictional waters of the United States.

2. As stated in our previous jurisdictional determinations, the Los Padillas, Pajarito, Atrisco and Riverside Drains and the Arenal Main Canal are used for the conveyance of irrigation waters. Therefore, the removal and restoration of the culverts at these locations along Raymac Road is exempt from regulation under exemption No. 3 for construction or maintenance of farm or stock ponds or irrigation ditches and a Department of the Army permit will not be required. A summary of this exemption is enclosed for your information.

3. This jurisdictional determination will be valid for 2 years from the date of this letter unless new information warrants revision of the determination before the expiration date.

4. If you have any questions about this determination or permit requirements, please feel free to contact me at (505) 342-3284 or by email at william.m.oberle@usace.army.mil.



William Oberle
Regulatory Specialist

CF: CESPA-PMP/P. Doles

Appendix G
Notice of Availability of the Amended Draft Environmental Assessment

STATE OF NEW MEXICO
County of Bernalillo SS

Notice of Availability

The U.S. Army Corps of Engineers (Corps), Albuquerque District, has completed the amended Draft Environmental Assessment (DEA) entitled "Amended Draft Environmental Assessment for the Black Mesa Stormwater Drainage Improvement Project, Bernalillo County, New Mexico". The U.S. Army Corps of Engineers (Corps), Albuquerque District, sent out a DEA, entitled "Black Mesa Stormwater Drainage Improvement Project, Bernalillo County, New Mexico" on August 24th, 2006 for a 30-day public review. Since that time, there has been a change to the alignment of the stormwater pipe from Isleta Boulevard to the Rio Grande Bosque. The only changes in the amended DEA are the location of the new alignment and the alternative locations considered. The duration of the proposed construction would be nine months and is expected to start in the spring of 2007.

The DEA is electronically available for viewing and copying at the Albuquerque District website (under "FONSI/ Environmental Assessments") at:

<http://www.spa.usace.army.mil>

or a hard copy will be sent upon written request to the following address:

U.S. Army Corps of Engineers
Albuquerque District
Environmental Resources Section
Attn: CESA-PM-LE (Mrs. Danielle Galloway)
Albuquerque, New Mexico
87109-3435

Paper copies of this document are also available for review at:
Rio Grande Valley Library
501 Copper Avenue NW
Albuquerque, New Mexico 87102

The public review will extend from March 02 to March 31, 2007. Written comments should be sent to the above address and will be accepted until 4:00 PM, March 30, 2007. Alternatively, comments may be sent electronically to danielle.a.galloway@spa02.usace.army.mil.
Journal: March 5, 2007

Bill Tafoya, being duly sworn, declares and says that he is Classified Advertising Manager of **The Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made of assessed as court cost; that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition, for 1 times, the first publication being on the 5 day of Mar., 2007 and the subsequent consecutive publications on _____, 20____.

[Handwritten signature: B. Tafoya]

Sworn and subscribed to before me, a Notary Public, in and for the County of Bernalillo and State of New Mexico this 5 day of Mar. of 2007.

PRICE \$ 39.50

Statement to come at end of month.

ACCOUNT NUMBER C88913

CLA-22-A (R-1/93)

