

**U.S. Department of the Interior
Bureau of Land Management**

**Chimayó Water Tank
Environmental Assessment**

DOI-BLM-NM-F020-2012-0011-EA

U.S. Department of the Interior
Bureau of Land Management
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Chimayo Water Tank

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Chapter 1: Introduction

1.1 Background

The Greater Chimayó Mutual Domestic Water Consumers Association (Water Consumers Association) is responsible for providing drinking water to the residents of Chimayo in north-central New Mexico. Chimayó is a residential and agricultural community. The community is known for the Santuario de Chimayó, an important religious site and destination for visitors. The Water Consumers Association provides water through a system of wells, pumps, and pipelines. Engineering investigations determined that four water tanks would be needed to meet future water demand (Molzen-Corbin, 2002). One of the proposed tank sites is located on Bureau of Land Management (BLM) land in the northeast part of Chimayó. The BLM land is managed by the BLM Taos Field Office. This tank, referred to as the Chimayo Water Tank, is discussed in this environmental assessment (EA).

The Water Consumers Association's primary objective is to improve its ability to store water to ensure that adequate water is available to meet the demand of current and future users in the village of Chimayó. In addition, the Water Consumers Association would like to improve the water pressure for all of their customers. The Water Consumers Association water system currently serves about 450 water connections. When built out, the system would serve about 1,500 water connections. Future water connections would serve users currently on individual private wells and new residences and buildings that are expected to be constructed in future years. Optimal tank sites are limited in the Chimayó area. To be feasible, a tank site needs to be at an optimal elevation for gravity flow and in proximity to an established road for connection to the water pipelines and access for maintenance. The proposed site on BLM land has the needed ground elevation and proximity to an established road. To use this site for a water tank, the Water Consumers Association would need to execute a lease with the BLM.

1.2 Purpose and Need for Action

The Water Consumers Association intends to apply for right-of-way to construct a new water tank and a single lane unpaved access road on BLM-administered land. The purpose of this action is to provide a right-of-way on BLM-administered land while minimizing impacts to other resource values. The need for the action is established by the BLM's responsibility to respond to a request for a right-of-way under the Federal Land Policy and Management Act of 1976 (FLPMA) in order to meet a basic community need (water supply).

1.3 Decision to Be Made

Based on the information in this EA, the BLM Field Manager will decide whether to issue a lease to the Water Consumers Association for the construction and operation of a water tank or to reject the proposed action.

This EA discloses the environmental consequences of implementing the proposed action, an alternative action, and a No Action alternative to this action. The Finding of No Significant Impact (FONSI), if applicable, is a statement indicating a determination on the significance of the impacts analyzed in this EA. The BLM Taos Field Office Field Manager is the Deciding Official. The Field Manager's decision, and rationale for that decision, will be stated in the Decision Record.

1.4 Land Use Plan Conformance

The proposed action would be in conformance with the *Taos Resource Management Plan (RMP)* (BLM, 2012), the applicable land use plan prepared under the provisions of BLM planning regulations at 43 CFR 1600. The Taos RMP has the following goals for land use authorizations, utility corridors, and communication sites:

Provide land use authorizations in support of public needs to be done in consideration of and in compliance with the various management decisions, goals, objectives, and resource restrictions required to protect or maintain multiple uses and resource values. (BLM, 2012, p. 40)

The following Taos RMP objectives would apply to the Chimayó Water Tank Project:

- Identify areas that are suitable and available to meet public needs for use authorizations such as rights-of-way, leases, and permits, while minimizing adverse impacts to other resource values.
- Process rights-of-way applications in a timely manner, applying appropriate mitigation to resource values.
- Issue land-use authorizations based on RMP decisions, BLM policy, and other Federal mandates to support the public need for uses such as utilities, renewable energy, and telecommunications. (BLM, 2012, p. 41)

The *Proposed Taos RMP and Final Environmental Impact Statement (EIS)* also contains Continuing Management Guidance that apply to the Chimayó Water Tank Project:

Land use authorizations include various authorizations and agreements to use BLM lands such as right-of-way grants and temporary use permits; various leases, permits, and easements; and Recreation and Public Purposes (R&PP) leases, pursuant to regulations found at 43 Code of Federal Regulations (CFR) 2740, 2800, 2900, 2911, and 2920.

Requests for land use authorizations will be analyzed and mitigation measures applied on a case-by-case basis in compliance with the National Environmental Policy Act (NEPA) process. Avoidance or exclusion areas may be applied to lands to be avoided but may be available to the location of rights-of-way with special stipulations and areas where location is not available under any conditions, respectively. In accordance with current policy, land use authorizations would not be issued for uses which would involve the disposal or storage of materials which could contaminate the lands (hazardous waste disposal sites, landfills, rifle ranges, etc.). (BLM, 2012, p. 41)

The Chimayó Water Tank Project would conform with the above objectives and guidelines. The project area is also located within the Santa Cruz Lake Special Management Area (Santa Cruz Lake). Recreation activities at Santa Cruz Lake include boating, fishing, camping, and hiking. The Chimayó Water Tank would also conform to objectives and guidelines for Santa Cruz Lake.

1.5 Relationship to Statutes and Guidelines

The environmental laws and regulations discussed in this section were considered in the preparation of the EA. Applicable provisions of these laws and guidelines were incorporated into the project or EA.

NEPA (43 United States Code [USC] 4321 *et seq.*) established the policy of evaluating environmental effects of Federal actions. The Council of Environmental Quality NEPA regulations are found at 40 CFR 1500-1508. BLM guidelines for NEPA are contained in the *BLM NEPA Handbook (H-1790-1)*.

Under Section 302 of FLPMA (at 43 USC 1701 *et seq.*), the BLM is authorized to issue leases and permits for the use, occupancy, and development of public land. FLPMA regulations are found at 43 CFR 1600-9260.

Requirements for public drinking water systems are established in the Safe Drinking Water Act (42 USC 300f *et seq.*). In New Mexico, additional drinking water system requirements are provided in the State Drinking Water Rules (New Mexico Administrative Code 20.7.10–20.7.10.704).

The BLM complies with Section 106 of the National Historic Preservation Act (16 USC 470f). The BLM has implemented a protocol agreement with the State Historic Preservation Officer (SHPO) at the New Mexico Historic Preservation Division. A cultural resource study was conducted for this project.

Potential impacts to protected animal and plant species were considered under various Federal and State laws and regulations. Impacts to species listed under the Federal Endangered Species Act (16 USC 1531 *et seq.*) and corresponding New Mexico law were evaluated. Potential impacts to birds protected under the Migratory Bird Treaty Act (16 USC 703-712) were also addressed as well as impacts to BLM sensitive species listed for the Taos Field Office. A biological study was conducted for this project.

The EA also considers other laws including the Federal Water Pollution Control Act or Clean Water Act (33 USC 1251-1376), Clean Air Act (42 USC 7401 *et seq.*), and Resource Conservation and Recovery Act (42 USC 6901 *et seq.*). Executive Orders (EO) were also reviewed for applicability to the project on issues such as floodplain management (EO 11988), wetland (EO 11990), environmental justice (EO 12898), invasive species (EO 13112), and migratory birds (13186).

1.6 Identification of Issues

On December 22, 2011, an Interdisciplinary Team meeting was held at the BLM Taos Field Office. Issues were identified by resource and program specialists based on a review of the proposed action and potentially affected resources during this meeting and subsequent meetings, including on-site visits to the proposed tank location.

In addition, the local Chimayó community has been directly involved in the development of the proposal through the Water Consumers Association. The board of the Water Consumers Association met regularly and provided guidance in developing the project plan. A public meeting was held on April 17, 2012 at La Arboleda Community Center. Comments provided by the public included the following topics: current tank locations, visual impacts, cultural landmarks in the area, tank siting, existing water system, future water demand, environmental process schedule, and funding. Also during the public meeting, an alternative tank location was suggested and discussed at length. This alternative is discussed under section 2.4.

Based on these internal and external scoping efforts, the following issues were identified as relevant for analysis in this EA:

1.6.1 Land Tenure and Use

- How would the construction and operation of the water tank affect recreation activities at Santa Cruz Lake?

1.6.2 Water Resources

- How would construction and operation of the water tank and access road affect surface and groundwater resources?
- How would the water tank affect human use of water including water quality, availability of water for fire protection, and water storage?

1.6.3 Visual Resource Management (VRM)

- How would the water tank affect visual resources in Chimayó?

1.6.4 Geologic Resources

- Is the project area suitable geologically for water tank construction?

1.6.5 Soils

- What is the risk of soil erosion from water tank and access road construction?

1.6.6 Vegetation

- What is the potential vegetation impact from construction and operation of the water tank and access road?

1.6.7 Wildlife

- What are the potential impacts of construction and operation of the water tank and access road on wildlife including big game, small mammals, migratory birds, BLM sensitive species, and Federal/State listed threatened and endangered species?

1.6.8 Cultural Resources

- What are the potential impacts of construction and operation of the water tank and access road on cultural resources such as archaeological sites, historic structures, and traditional cultural properties?

1.6.9 Socioeconomics

- How would the water tank affect population trends in the Chimayó community?
- How will the water tank serve the community?
- How many construction jobs will be created?
- Are there any environmental justice impacts?

1.6.10 Hazardous Materials

- Will construction or operation of the water tank affect known hazardous materials sites or create hazardous materials impacts?

Chapter 2: Description of Alternatives

2.1 Alternative A: Proposed Action – North Access Road

2.1.1 Project Area – North Access Road Alternative

The project area is located in the village of Chimayó at the northern edge of Santa Fe County, New Mexico. A small portion of the project area is located in Rio Arriba County. The legal location of the project area is Northwest ¼ Section 6, Township 20 North, Range 10 East; Northeast ¼ Section 1 Township 20 North, Range 9 East; and Southeast ¼ Section 36, Township 21 North, Range 9 East; New Mexico Prime Meridian. This area appears on the *Chimayo* 7.5 minute U.S. Geological Survey map (see figures in Appendix A). The proposed tank would be located on a hill to the east of Santa Fe County Road 98 (SF 98 or Juan Medina Road), east of the SF 98/NM 76 intersection. An access road would be constructed on the north side of the Benny Chavez Community Center. The project area covers about 0.8 acres.

2.1.2 Lease – North Access Road Alternative

The Water Consumers Association would enter into a lease with the BLM for right-of-way that covers the entire project area consisting of the water tank site, access road, and waterline under the road (see plans in Appendix A). The lease would include mitigation measures identified in this EA for the protection of the environment.

2.1.3 Water Tank – North Access Road Alternative

The Water Consumers Association would construct a 100,000-gallon capacity water tank at the project area. The tank would be 32 feet tall and 23.5 feet in diameter. The tank site base elevation would be 6,269 feet above mean sea level (AMSL). The tank would be painted a forest green or earth-tone buff color to blend with the surrounding landscape. A 12-inch overflow drain pipe would be installed, and 12-inch thick riprap would be installed at the outlet structure for the overflow pipe. The water tank would be connected by a valve/box to a waterline buried under the access road to connect the water tank to the Water Consumers Association water system. An 8-foot high chain link fence with 3-strand barbwire would be constructed around the 70 square foot water tank site. The fence would have a 15-foot wide locking gate. The tank site would be graded, and an 8-inch surface layer of base course would be placed on the site. The Water Consumers Association would ensure that the project meets applicable Santa Fe County ordinances and standards. After construction, the Water Consumers Association would operate the tank as part of overall water system operations in conformance with the Safe Drinking Water Act and State Drinking Water Rules as administered by the New Mexico Environment Department (NMED) Drinking Water Bureau. The tank would be in constant use.

Two existing water tanks would be removed after the proposed water tank and access road are completed. These water tanks are located to the south of the project area. The tanks are deteriorated, and no longer in service. Removal of the tanks would improve the visual landscape.

The tank would be painted a BLM-approved forest green color to blend in with the surrounding landscape. The following measures would be implemented to mitigate visual impacts:

- Above ground facilities requiring painting should be designed to blend with the surrounding environment. A BLM-approved forest green color would be used.
- Disturbed areas would be contoured to blend within the natural topography. Blending is defined as reducing form, line, and color contrast associated with surface disturbance. Disturbance would be contoured to match the original topography, where matching is defined as reproducing the original topography and eliminating form, line, and color contrast caused by the disturbance as much as possible.
- Cut and fill would be recontoured.
- Disturbed areas would be reseeded with native grasses.
- Edges of disturbances would be scalloped and feathered.

2.1.4 Access Road – North Access Road Alternative

The Water Consumers Association would construct an 895-foot long, 15-foot wide gravel access road to provide access from SF 98 on the north side of the Benny Chavez Community Center to the water tank site. The road would have 8-inch thick base course overlying an 18-inch compacted subgrade. A 12-inch diameter waterline connecting the water tank to the water system would be placed and buried in a trench under the road. The waterline would be placed on appropriate bedding material and buried with compacted backfill material. In the lower portion of the access road, the waterline would be extended to a water valve/box located under SF 98.

2.1.5 Cost – North Access Road Alternative

The estimated construction cost is about \$800,000. The Water Consumers Association charges users for water from the water system. The average monthly water bill is about \$26 per month per user. The Water Consumers Association adjusts water rates periodically based on inflation and increasing operation costs.

2.1.6 Construction – North Access Road Alternative

Conventional construction methods for water tanks and gravel roads would be used. Construction equipment would include dozer, back-hoe, crane, trenching equipment, dump trucks, heavy duty trucks, and a variety of smaller construction equipment. A temporary construction area would be needed for equipment and materials staging. The proposed staging area is the Santa Fe County booster pump station no. 1, along SF 98 near SF 92. This staging area is on cleared land covered with base course. Project construction activities would take 3-4 months. A Storm Water Pollution Prevention Plan with best management practices would be prepared to describe methods for minimizing erosion and sediment transport. Construction would occur during daylight hours, and equipment would be properly maintained to minimize off-site noise.

Noxious weed treatments would adhere to BLM policies and be coordinated with the BLM Taos Field Office weed coordinator. Diffuse knapweed, a Class A noxious weed, would be treated within the project area. Reclaimed soil would be free of contaminants and would have

adequate depth, texture, and structure to provide for successful vegetation reclamation. Vegetation reclamation would be considered successful when healthy, mature perennials are established with a composition and density that closely approximates surrounding vegetation as prescribed by the BLM, and the reclamation area is free of noxious weeds.

To reduce the chances of trapping small mammals and reptiles, trenches would be filled concurrently, or for excavated areas not filled at the end of each workday, escape ramps would be installed. Trimming and removal of piñon and juniper trees should occur outside of the migratory bird (including gray vireo) nesting season from April 1 to August 30.

2.2 Alternative B: South Access Road

2.2.1 Project Area – South Access Road Alternative

As with Alternative A, the project area is located in the village of Chimayó at the northern edge of Santa Fe County, New Mexico. The Rio Arriba County line is located about 200 feet north of the project area. The legal location of the project area is Northwest $\frac{1}{4}$ Section 6, Township 20 North, Range 10 East, New Mexico Prime Meridian. This area appears on the *Chimayo* 7.5 minute U.S. Geological Survey map (see figures in Appendix A). The proposed tank would be located on a hill to the east of SF 98, east of the SF 98/NM 76 intersection. Access to the water tank site would be provided from Santa Fe County Road 92A (SF 92A), which extends east from SF 98, and a new access road would be constructed north from SF 92A up the hill to the tank site. The project area covers about 0.5 acres.

2.2.2 Lease – South Access Road Alternative

The Water Consumers Association would enter into a lease with the BLM for a right-of-way that covers the entire project area consisting of the water tank site, access road, and waterline under the road. The lease would include mitigation measures for the protection of the environment. Specific measures would need to be included for the road and pipeline crossings of two arroyos and the road's location near a cemetery. Specific measures for the road and pipeline crossings would include erosion control practices, minimize area of impact within the arroyos, and recontouring and revegetation of disturbed areas at the completion of construction. Monitoring would be needed for construction activities within 100 feet of the cemetery. During construction, an archaeologist would watch constructing activities within 100 feet of the cemetery for impacts to burials and other objects associated with the cemetery.

2.2.3 Water Tank – South Access Road Alternative

The water tank would have the same design as Alternative A. Two existing water tanks located south of the project area would be removed.

The tank would be painted a BLM-approved forest green color to blend in with the surrounding landscape. The following measures would be implemented to mitigate visual impacts:

- Above ground facilities requiring painting should be designed to blend with the surrounding environment. A BLM-approved forest green color would be used.

- Disturbed areas would be contoured to blend within the natural topography. Blending is defined as reducing form, line, and color contrast associated with surface disturbance. Disturbance would be contoured to match the original topography, where matching is defined as reproducing the original topography and eliminating form, line, and color contrast caused by the disturbance as much as possible.
- Cut and fill would be recontoured.
- Disturbed areas would be reseeded with native grasses.
- Edges of disturbances would be scalloped and feathered.

2.2.4 Access Road – South Access Road Alternative

The Water Consumers Association would construct a 410-foot long, 15-foot wide gravel access road to provide access from SF 92A to the water tank site. The access road would follow a south alignment from SF 92A, which extends east from SF 98, and a new access road would be constructed north from SF 92A up the hill to the tank site. The road would have the same specifications as Alternative A. In the lower portion of the access road, the waterline would be extended across vacant land to a water valve/box located under SF 92A. Two 4-foot diameter culverts would be constructed under the road.

2.2.5 Cost – South Access Road Alternative

Alternative B would have a similar cost as Alternative A.

2.2.6 Construction – South Access Road Alternative

Alternative B would have the same construction process as Alternative A.

2.3 Alternative C: No Action

Under the No Action Alternative, the Water Consumers Association would not construct the water tank and access road. BLM would not issue a lease for land to the Water Consumers Association for this project. The project area would not be disturbed for this project. Without the water, the Water Consumers Association would not be able to provide water to meet expected demand in future years. This would force the Water Consumers Association to eventually look for another water tank site or impose water use restrictions.

2.4 Alternatives Considered but Dismissed from Detailed Analysis

East NM 76 Tank Site

At a public meeting conducted on April 17, 2012, for this project (see Section 5.2), a member of the public suggested that another water tank site be considered along NM 76 about 0.3-1.0 miles east of the SF 98 intersection. However, this alternative was not deemed feasible. No suitable tank sites at a base elevation of 6,269 feet were identified. There were no affordable properties that met the requirements of the project. To acquire a 2-5 acre parcel, would require the purchase of a large parcel of 100 acres or more, since owners do not want to subdivide parcels. Potential tank sites along NM 76 are not located in proximity to the existing water system and pipelines. Long lengths of buried pipeline would be required to connect the tank to

the water system. For these reasons, tank sites along NM 76 east of SF 98 were not identified in the preliminary engineering report (Molzen-Corbin, 2002). Such tank sites would be cost prohibitive and require several \$100,000 dollars of additional work to acquire a property and construct the additional linear feet (1,600 to 6,000 feet) of pipeline. For these reasons, an East NM 76 Tank Site was considered as an alternative but dismissed from detailed analysis.

Chapter 3: Affected Environment

3.1 Land Tenure and Use

Most of the project area would be on BLM land, which is managed under the provisions of FLPMA.

The project area does not receive regular recreation use, but the project is located within the Santa Cruz Lake. Santa Cruz Lake has the following management objectives:

Santa Cruz Lake is a local destination for fishing visited by residents from surrounding communities. This area is managed to enhance fishing and boating opportunities in this middle country and front country setting. Primary activities at Santa Cruz Lake include boating, fishing, camping, and hiking. As a management action, the development of additional nonmotorized trails with trailheads and signs is proposed (BLM, 2012). No recreational facilities or trails are located at the project area. The project area is not located within or adjacent to a designated wilderness area or wilderness study area.

The project area is also included in El Norte Growth Management Area covered by the Santa Fe County Growth Management Plan (Santa Fe County, 2011). Among the plan's purposes are to create a growth management strategy that directs the location and character of future growth to appropriate and designated areas, and to conserve water for present and future generations. The principal land uses in the vicinity of the project are residential lands in lowland areas and vacant lands in upland areas. Commercial and agricultural land uses are also present in lowland areas. Lowland areas are rated as having moderate suitability for development and upland areas as having no suitability for development. The Santa Fe County Growth Management plan classifies Chimayó as Sustainable Development Area – 2 (SDA-2) where new development is likely and reasonable to occur over the next 10-20 years, some of which will be infill within existing communities. Future land use characters would be Residential – Traditional Community consisting of single-family residential development which is consistent with traditional community development.

The Benny Chavez Community Center is located to the west of the project area. The center provides a facility to house community events and recreational activities.

3.2 Water Resources

The project area is located in the Upper Rio Grande Basin, which covers about 7,500 square miles in north-central New Mexico (BLM, 2004). Chimayó is located within the Santa Cruz River watershed within the Upper Rio Grande Basin. The Santa Cruz River reach is from the Santa Cruz Dam to the Santa Clara Pueblo boundary and is listed as an impaired stream for marginal cold water aquatic life and warm water aquatic life. The probable cause of impairment is sedimentation and siltation (New Mexico Water Quality Control Commission, 2010). Irrigation ditches (acequias) are used for crops cultivated in lowland areas of Chimayó. A total of 4,425 acres were irrigated in 2005 within the Santa Cruz River watershed (Santa Fe County, 2005). No irrigated farmland or irrigation ditches are located within or adjacent to the project area.

Projects on private and BLM land are subject to the requirements of the Clean Water Act. Two arroyos cross the south access road alignment to the water tank, and Section 404 permits would be required for construction activities in the arroyos.

The principal aquifer is the Santa Fe Group. Since surface water sources are limited in the area, groundwater is the main source of water for domestic use.

The Santa Fe County Sustainable Growth Management Plan includes the following goals to achieve the purpose of conserving water for present and future generations:

- Ensure a sustainable water supply through water conservation and drought management.
- Rely less on groundwater for future development through conservation and use of surface water where appropriate.
- Participate in a coordinated ongoing regional water planning process to ensure a sustainable future water supply.

Santa Fe County has executed an agreement with the Water Community Association to provide a supplemental or backup water supply. The county has implemented a policy for new development to incorporate water conservation strategies and technologies to lower indoor and outdoor water use (Santa Fe County, 2010).

3.3 Visual Resource Management

The project area is located within a VRM Class II, which has the following objective:

Class II: Retain the existing character of the landscape. The level of change should be low. Management activities may be seen, but should not attract the attention of the casual observer. (BLM, 2012, p. 24)

The landscape at the project area consists of hilly terrain with piñon/juniper vegetation. In the immediate vicinity of the project, area lands are undeveloped. Buildings and powerlines are visible in the distance to the west of the project area. Management of the Old Spanish National Historic Trail (see Section 3.8), which follows present day NM 76, contributes to the VRM II classification, along with the Santa Cruz Lake. A cell phone tower is located about 0.1 miles north of the project area. Most viewers would see the project area from Chimayó residences, businesses, and roadways to the west of the project area. More information on visual resources is presented in Appendix B.

3.4 Soils

Two soil mapping units are present in the project area. Encantado, a very cobbly sandy loam with 25-45% slopes, occurs at the tank site and upper part of the access roads (for both alternatives). Tanoan-Encantado-Urban land complex, with 5-25% slopes, occurs at the lower part of the access roads. The soils have a moderate to low wind erosion risk, but a somewhat high water erosion risk (see Table 3.1).

Table 3.1 Soils

Soil Mapping Unit	Location in Project Area	Wind Erosion Risk ¹	Water Erosion Risk ²
Encantado very cobbly sandy loam, 25-45% slopes	Tank site and upper part of access roads	6	0.4
Tanoan-Encantado Urban land complex, 5-25% slopes	Lower part of access roads	5	0.6

Source: NRCS (2012)

¹Wind Erodibility Group – Soils in group 1 are least susceptible to wind erosion; soils in group 8 are most susceptible to wind erosion.

²Erosion K factor indicates susceptibility of soil to sheet and rill erosion. Values range from 0.02 to 0.69 – the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

3.5 Vegetation

Vegetation at the project area consists of Southern Rocky Mountain Piñon-Juniper Woodland (BLM, 2012). This is the most common vegetation type for the Taos BLM Field Office, covering 169,316 acres of the land it administers. The project area is not actively used for livestock grazing or timber harvesting. The lower portion of the access road has been partially disturbed by the construction of the Benny Chavez Community Center, playground, and basketball court. The tank site and upper portion of the access road is located in undisturbed piñon-juniper habitat. Common plants at the project area include piñon pine, one-seed juniper, blue grama, summer cypress, Canadian horsetweed, and wild rose. Noxious weeds growing at the project area include diffuse knapweed (Class A noxious weed) and Siberian elm (Class C noxious weed). Weed control treatment is recommended for Class A noxious weeds.

3.6 Wildlife

The project area is not located within a special designation area for wildlife habitat management (BLM, 2012). No big game migration corridors, big game winter range, big game summer range, key terrestrial habitat, key aquatic habitat, or are present at the project area. Wildlife likely passes through the project area traveling from the valley bottom to higher terrain. Mammal species known to occur in the piñon-juniper habitat in this general area include coyote, mule deer, raccoon, porcupine, and pocket gopher. Birds observed at the project area include raven, house finch, black-capped chickadee, bushtit, and dark-eyed junco. Reptiles likely to inhabit the project area include New Mexican whiptail and prairie lizard. No Federal endangered/threatened, State endangered/threatened, or BLM listed species were observed in the project area. Gray vireo, a state threatened species, nests in piñon-juniper vegetation such as present in the upper parts of the project area (Marron and Associates, 2012).

3.7 Cultural Resources

The Chimayó area has a long history of human settlement. The area was inhabited prior to the arrival of the Spanish during the Paleoindian, Archaic, Ancestral Pueblo Periods. With the arrival of Juan de Oñate in 1598 to the Upper Rio Grande Valley, there was regular traveling and

settlement in the region (Hroncich-Conner, 2012). Chimayó is known for its important cultural sites such as the El Santuario de Chimayó.

A segment of the Old Spanish National Historic Trail follows NM 76. The trail was used in the early half of the 1800s. The segment along NM 76 was part of the northern trail route that provided a link between the main route at Española and Taos as well as Colorado (Old Spanish Historic Trail Association, 2011). The Old Spanish National Historic Trail does not pass through the project area.

Two state registered properties, Oratorio de San Buenaventura and Plaza del Cerro (SR No. 71 and SR No. 75), and a cemetery (LA 143554) are located within 0.3 miles of the project area. Also, El Santuario de Chimayó (SR No. 188), which is located about 0.8 miles south of the project area. All of these locations function as tourist attractions and/or places of cultural and religious significance within the village of Chimayó.

3.8 Socioeconomics

Employment in Santa Fe County is mostly in four industries: government, leisure and hospitality, education and health services, and retail trade (see Table 3.2). In recent years, most jobs were created in the education and health services sector and the leisure and hospitality services. Job losses occurred in the retail trade, information, wholesale trade, professional and businesses services, financial activities, and other services along with substantial job losses in the construction industry (Santa Fe County, 2010).

Table 3.2 Santa Fe County Employment by Industry

Industry	Number of Employees	Percent of Total Employment
Government	16,700	27.2%
Leisure and Hospitality	9,600	15.3%
Education and Health Services	9,400	15.2%
Retail Trade	8,800	14.3%
Financial Activities	4,500	7.3%
Other Services	3,400	5.5%
Mining, Logging, and Construction	2,800	4.5%
Financial Activities	2,600	4.2%
Wholesale Trade	1,100	1.8%
Information	1,100	1.8%
Manufacturing	700	1.1%
Transportation, Warehousing, and Utilities	700	1.1%

Source: Santa Fe County (2010)

Important tourist destinations are located in the Chimayó area. The Santuario de Chimayó is an important religious site and tourist destination. NM 76 is also known as the High Road to Taos that passes through important historic communities such as Chimayó, Truchas, and Trampas as well as scenic areas of public land and the Carson National Forest. Santa Cruz Lake is located south of Chimayó on public land.

Sources of employment are limited in Chimayó. Local work is limited mainly to commercial establishments and agriculture. Some individuals may be able to work at home and communicate through email and the internet. There is no large-scale industry or economic

activity in Chimayó that is a major employer. Many workers commute to jobs in Española, Santa Fe, and Los Alamos where it is easier to find employment.

Data from the 2010 Census was obtained for the Chimayó community near the project area (Census Tract 101.02) and compared with data from Rio Arriba and Santa Fe Counties, New Mexico. The population in Census Tract 101.02 has a median age of 38.7 years, which is slightly older than the New Mexico median age (36.7 years) but slightly younger than Rio Arriba County (39.0 years) and much younger than Santa Fe County (43.0 years). Census Tract 101.02 has a large proportion of the population listed as “Some Other Race”, which is higher than comparable figures for New Mexico, Rio Arriba and Santa Fe Counties. This corresponds with the census tract’s high percent Hispanic/Latino population of 80.6%, which is higher than Hispanic/Latino percentages for New Mexico (46.3%), Rio Arriba County (71.3%), and Santa Fe County (50.6%). Home ownership rate is moderately high with 75.0% percent of census tract’s population living in owner-occupied units. Rio Arriba County has a higher homeownership rate of 79.5%, but New Mexico and Santa Fe County have lower homeownership rates of 68.5% and 69.2% respectively. Based on the high Hispanic/Latino population in Census Tract 101.02, representing the Chimayó community near the project area, this community was considered a community of concern for environmental justice evaluation in this EA.

Table 3.3 Year 2010 Demographic Characteristics of the Chimayó Area

Characteristics	New Mexico	Rio Arriba County	Santa Fe County	Census Tract 101.02
Population				
- Total Population	2,059,179	40,246	144,170	4,880
- Median Age	36.7 years	39.0 years	43.0 years	38.7 years
Race Status (Percent)				
- White	68.3%	51.6%	76.2%	56.3%
- Black / African American	2.1%	0.5%	0.9%	0.5%
- Native American	9.4%	16.0%	3.1%	2.1%
- Asian	1.4%	0.4%	1.2%	0.8%
- Hawaiian / Pacific Islander	0.1%	0.0%	0.1%	0.1%
- Some other race	15.0%	28.0%	15.1%	34.3%
- Two or more races	3.7%	3.3%	3.6%	6.0%
Percent Hispanic / Latino	46.3%	71.3%	50.6%	80.6%
Housing Units (Percent)				
- Owner-occupied Units	68.5%	79.5%	69.2%	75.0%
- Renter-occupied Units	31.5%	20.5%	30.8%	25.0%

Sources: U.S. Census Bureau (2013)

3.9 Hazardous Materials

Federal and State environmental databases were reviewed for known hazardous materials site near the project area. The U.S. Environmental Protection Agency (EPA) does not list any proposed National Priorities List/Superfund site within 1.0 miles of the project area (EPA, 2012a). No corrective action sites are located within 1.0 miles of the project area (EPA, 2012b).

No hazardous waste generators are located near the project area (EPA, 2012c). No active State or closed cleanup sites or permitted hazardous waste facilities are located within 0.5 mile of the project area (NMED, 2012a, 2012b, 2012c, and 2012e). NMED does not list any leaking petroleum storage tank sites within 0.5 miles of the project area (NMED, 2012d). No records of existing landfills or solid waste facilities were identified within 1.0 mile of the project area (NMED, 2012f). No indications of hazardous materials sites, such as stained soils, drums, tanks, or excavated areas, are visible at the project area.

Chapter 4: Environmental Effects

4.1 Direct and Indirect Effects

4.1.1 Alternative A: Proposed Action – North Access Road

4.1.1.1 Land Use Plan Conformance

Alternative A would conform with the Taos RMP (BLM, 2012). The RMP allows issuances of rights-of-way with appropriate mitigation measures. Development of the water tank would occur within the Santa Cruz Lake, but it would not affect recreational activities. Recreational opportunities at the project area are currently unavailable, and after construction of the tank, no change in the availability of recreational opportunities would occur. The alternative would have no effect on existing fishing, boating, and camping activities at Santa Cruz Lake. Development of the access road to the water tank could provide a route for hikers to better access Santa Cruz Lake and continue hiking east into more remote areas of Santa Cruz Lake. The alternative would be compatible with the Santa Fe County Growth Management Plan.

4.1.1.2 Water Resources

Alternative A would affect surface and groundwater resources. About 0.8 acres of the ground surface would be disturbed, which would modify surface water drainage patterns. No drainages, arroyos, wetlands, or surface water bodies would be affected. Exposed soils would be subject to erosion and sediment transport. A Storm Water Pollution Prevention Plan would be prepared, and General Construction Permit coverage would be obtained from EPA under the Clean Water Act National Pollutant Discharge Elimination System. The Storm Water Pollution Prevention Plan would include best management practices listed in the Taos RMP to mitigate water resource impacts:

- Design roads to minimize total disturbance, to conform to topography, and to minimize disruption of natural drainage patterns.
- Measures would be implemented to minimize erosion and sediment transport into drainages.
- Interim reclamation should be implemented concurrent with construction and site operations to the fullest extent possible. Final reclamation actions shall be initiated within 6 months of the termination of operations unless otherwise approved in writing by the authorized officer.
- Sediment barriers should be constructed when needed to slow runoff, allow deposition of sediment, and prevent sediment transport from the site. Straining and filtration mechanisms may also be employed for the removal of sediment from runoff.

Groundwater would be extracted from the Santa Fe Group aquifer. The availability of groundwater is sustainable for the next 40 years. The development of a water system in Chimayó would reduce water use from individual wells in the community. Permits would be obtained from the New Mexico Office of the State Engineer and NMED Drinking Water Bureau.

The development of the water tank would allow for water storage and improve the reliability of water supplies for Chimayó. Water quality would be improved with the implementation of a community-wide water treatment system, which would provide improved water quality than the current system. The system would be subject to NMED Drinking Water Bureau oversight to ensure compliance with the Safe Drinking Water Act. The tank would allow water to be stored to insure consistent water pressures for water users at their homes and businesses. The storage capacity would provide a dependable water supply for fire suppression. Firefighters would have an available supply for fire engines and water tenders.

4.1.1.3 Visual Resource Management

The tank and access road would modify the visual landscape. A 32-foot tall and 23.5-foot diameter water tank would be constructed, which would modify a previously undisturbed landscape. A fence would be constructed around the tank's site. The visual landscape would also be modified by the construction of an 895-foot long, 15-foot wide gravel access road from SF 98 (Juan Medina Road) on the north side of the Benny Chavez Community Center to the water tank site. However, per the objective of VRM Class II, the overall character of the landscape would be retained.

Four Key Observation Points were established (see Figures B1 and B2 in Appendix B). Visual Contrast Rating Forms and visual simulations were completed for each Key Observation Points (Appendix B). Key Observation Point 1 is located on the west side of SF 98, south of the Benny Chavez Community Center. The proposed water tank and access road would be visible to the east of Key Observation Point 1 (see Figures B3 and B4). Key Observation Point 2 is located at the intersection of SF 98 and SF 92-A. The proposed water tank and access road would be visible to the east-northeast of key observation points 2 (see Figures B7 and B8). Key Observation Point 3 is located west of the intersection of NM 76 and SF 98. The proposed water tank and access road would be visible to the east of Key Observation Point 3 on the north side of the Benny Chavez Community Center (see Figures B11 and B12). The tank and road are most visible from Key Observation Point 3. For Key Observation Points 1 through 3, contrasts would be minimal since the buff or forest green tank would blend with the surrounding landscape. Views of the tank and access road would be partially screened to the south of the Benny Chavez Community Center. The forest green color has the least contrast since it matches in color with trees on the hillside. The tank is also of the same height as a large juniper or piñon tree. The removal of two existing water tanks would improve views from Key Observation Points 1 and 2, which would largely offset the contrast caused by the proposed tank and access road. Key Observation Point 4 is located on the west side of the Santuario de Chimayó. The proposed water tank is located north of Key Observation Point 4, but trees and hills would screen views of the tank and access road (see Figures B15 and B16). The tank and access road would not be visible from the Santuario de Chimayó.

Alternative A would be visible from a nearby segment of the Old Spanish Historic Trail. Stipulations for the Old Spanish Historic Trail specify VRM Class II for surface occupancy. Existing modern developments and alterations of the immediate historic landscape are already extensive and have served to compromise any pristine historical landscape settings associated with this portion of the Old Spanish Historic Trail. While the Alternative A would be partially visible from the Old Spanish Historic Trail, it would not substantially contribute to alteration of the existing view shed.

As discussed, the tank would be painted a BLM-approved forest green color to blend in with the surrounding landscape. The following measures would be implemented to mitigate visual impacts:

- Above ground facilities requiring painting should be designed to blend with the surrounding environment. A BLM-approved forest green color would be used.
- Disturbed areas would be contoured to blend within the natural topography. Blending is defined as reducing form, line, and color contrast associated with surface disturbance. Disturbance would be contoured to match the original topography, where matching is defined as reproducing the original topography and eliminating form, line, and color contrast caused by the disturbance as much as possible.
- Cut and fill would be recontoured.
- Disturbed areas would be reseeded with native grasses.
- Edges of disturbances would be scalloped and feathered.

Although some moderate and strong contrasts are identified on the contrast rating forms, if recommended mitigation is applied the proposed action would meet the VRM Class II objectives.

4.1.1.4 Soils

Alternative A would affect about 0.8 acres of soils by construction activities. The soils on the tank site and the upper portion of the access road are gravelly with a low to moderate risk of wind erosion but a somewhat high risk of water erosion (see Table 3.1). The following best management practices from the Taos RMP would be implemented to mitigate soil impacts:

- Disturbed areas within road rights-of-way should be stabilized by vegetation practices designed to hold soil in place and minimize erosion.
- If possible, construct roads when soils are dry and not frozen. When soils or road surfaces become saturated to a depth of 3 inches, BLM-authorized activities should be limited or cease unless otherwise approved by the authorized officer.
- As discussed in Section 4.1.1.2, the Storm Water Pollution Prevention Plan would include measures to minimize soil erosion, minimize total disturbance area, and reclaim disturbed areas.

4.1.1.5 Vegetation

Alternative A would affect about 0.8 acres of vegetation. About 0.4 acres of piñon-juniper vegetation is present on the tank site and upper portion of the access road, but vegetation on the lower portion of the access road has been previously disturbed. At the completion of construction, 0.2 acres of disturbed land not used for the tank or access road would be reseeded. Noxious weed treatments would adhere to BLM policies and be coordinated with the BLM Taos Field Office weed coordinator. Diffuse knapweed, a Class A noxious weed, would be treated within the project area. The following best management practices from the Taos RMP would be implemented to mitigate vegetation impacts:

- Reclaimed soil would be free of contaminants and will have adequate depth, texture, and structure to provide for successful vegetation reclamation. Vegetation reclamation would be considered successful when healthy, mature perennials are established with a composition and density that closely approximates surrounding vegetation as prescribed by the BLM, and the reclamation area is free of noxious weeds.

4.1.1.6 Wildlife

Alternative A would affect about 0.4 acres of piñon-juniper habitat and 0.4 acres of disturbed habitat. Small mammals and reptiles would be affected by construction activities, and about 0.6 acres of habitat would be permanently lost. The following mitigation measures would be implemented:

- Trenches would be filled concurrently, or for excavated areas not filled at the end of each workday, escape ramps would be installed to reduce the chances of trapping small mammals and reptiles.
- Trimming and removal of piñon and juniper trees should occur outside of the migratory bird (including gray vireo) nesting season from April 1 to August 30.

4.1.1.7 Cultural Resources

Alternative A would have no adverse effect on two State registered properties, Oratorio de San Buenaventura and Plaza del Cerro (SR No. 71 and SR No. 75, or cemetery (LA 143554). Construction activities for the tank and access road would avoid these two sites, and no disturbance would occur within the boundaries of these two state registered properties. Based on the location of the proposed water tank, partially behind a hill, the mature foliage in the area, and the proposed forest green or earth-tone tan color, the proposed water tank would not adversely affect the natural and cultural landscapes that attract tourism and hold historical significance to the village of Chimayó. The following mitigation measure would be implemented:

- In the event that cultural resource materials are uncovered during construction or earth-disturbing activities, work in the area should cease immediately and the BLM and State Historic Preservation Officer (SHPO) will be notified. The BLM and SHPO will determine the necessary steps to evaluate, document, protect, or remove the material or remains, in compliance with the law.

4.1.1.8 Socioeconomics

In terms of population trends, installation of the water tank would not result in any short-term population growth or migration. In the long-term, the water tank would help provide a dependable water supply for any population growth that may occur in the Chimayó area.

The water tank would benefit the Chimayó by providing local residents with a steady supply of cleaner drinking water. Long-term use of individual wells are less dependable for water supply than a community water system and have the risk of contamination from nearby septic systems. Firefighters would also benefit from more water available to extinguish fires.

About 10-15 short-term construction jobs would be created when the water tank, access road, and waterline is constructed. No long-term employment would be created.

In terms of environmental justice, the improved water supply would benefit the minority community that resides in the Chimayó area. There would be no disproportionate environmental or health effects from this alternative.

4.1.1.9 Hazardous Materials

Construction and operation of the water tank, waterline, and access road would not affect any known hazardous materials sites. During construction and operation of the water facilities, hazardous chemicals and petroleum substances would be managed in a manner to prevent releases to soils, surface water, or groundwater.

4.1.2 Alternative B: South Access Road

4.1.2.1 Land Tenure and Use

Alternative B would have the same level of impact on land tenure and use as Alternative A including effects on Santa Cruz Lake.

4.1.2.2 Water Resources

Alternative B would affect surface and groundwater resources. About 0.5 acres of the ground surface would be disturbed, which would modify surface water drainage patterns. Two arroyos would be impacted by construction of access road crossing and buried pipelines across the arroyos. This would create the potential for more erosion and sediment transport than Alternative A. Section 404 permit coverage from the U.S. Army Corps of Engineers would be obtained for this activity. Specific measures for the road and pipeline crossings of two arroyos would include erosion control practices, minimize area of impact within the arroyos, and recontouring and revegetation of disturbed areas at the completion of construction. No other drainages, wetlands, or surface water bodies would be affected. Except for these impacts and specific measures, Alternative B would have the same level of impact and benefits on water resources as Alternative A, and the same mitigation measures would be implemented.

4.1.2.3 Visual Resource Management

Alternative B would have a slightly different level of impact on visual resources as Alternative A. As with Alternative A, a 32-foot tall and 23.5-foot diameter water tank would be constructed, which would modify a previously undisturbed landscape. A fence would be constructed around the tank site. The visual landscape would also be modified by the construction of a 410-foot long, 15-foot wide gravel access road from SF 92A to the water tank site, extending south from the tank site. Per the objective of VRM Class II, the overall character of the landscape would be retained.

Four Key Observation Points were established (see Figures B1 and B2 in Appendix B). Visual Contrast Rating Forms and visual simulations were completed for each Key Observation Point (Appendix B). Key Observation Point 1 is located on the west side of SF 98, south of the Benny

Chavez Community Center. The proposed water tank and access road would be visible to the east of Key Observation Point 1 (see Figures B5 and B6). Key Observation Point 2 is located at the intersection of SF 98 and SF 92-A. The proposed water tank and access road would be visible to the east-northeast of Key Observation Point 2 (see Figures B9 and B10). Key Observation Point 3 is located west of the intersection of NM 76 and SF 98. The proposed water tank and access road would be barely visible to the east of Key Observation Point 3 on the north side of the Benny Chavez Community Center (see Figures B13 and B14). The tank is visible, but the access road is screened by vegetation and buildings. For Key Observation Points 1 through 3, contrasts would be minimal since the buff or forest green tank would blend with the surrounding landscape. The forest green color has the least contrast since it matches in color with trees on the hillside. The tank is also of the same height as a large juniper or piñon tree. The removal of two existing water tanks would improve views from Key Observation Points 1 and 2 and offset the contrast caused by the new tank. Key Observation Point 4 is located on the west side of the Santuario de Chimayó. The proposed water tank is located north of Key Observation Point 4, but trees and hills would screen views of the tank and access road (see Figures B15 and B16).

Since the access road is on the south side of the tank, the Alternative B access road would be more visible than the Alternative A access road from Juan Medina Road south of the Benny Chavez Community Center. Nevertheless, the Alternative B access road would be less visible from areas northwest of the Benny Chavez Community Center, such as NM 76 and Juan Medina Road. Views of the water tank would be the same. The same mitigation measures would be implemented. Although some moderate and strong contrasts are identified on the contrast rating forms, if the recommended mitigation is applied, Alternative B can meet the VRM Class II objectives.

As with Alternative A, Alternative B would be visible from a nearby segment of the Old Spanish Historic Trail. Stipulations for the Old Spanish Historic Trail specify VRM Class II for surface occupancy. Existing modern developments and alterations of the immediate historic landscape are already extensive and have served to compromise any pristine historical landscape settings associated with this portion of the Old Spanish Historic Trail. While the Alternative B would be partially visible from the Old Spanish Historic Trail, it would not substantially contribute to alteration of the existing view shed.

4.1.2.4 Soils

Alternative B would affect about 0.5 acres of soils by construction activities. Alternative B would have the same type of soils impacts as Alternative A. The same mitigation measures would be implemented.

4.1.2.5 Vegetation

Alternative B would affect about 0.5 acres of vegetation by construction activities. About 0.4 acres of piñon-juniper vegetation is present on the tank site and upper portion of the access road, but vegetation on the lower portion of the access road has been previously disturbed. At the completion of construction, 0.1 acres of disturbed land not used for the tank or access road would be reseeded. The same mitigation measures would be implemented as Alternative A.

4.1.2.6 Wildlife

Alternative B would affect about 0.4 acres of piñon-juniper habitat and 0.1 acres of disturbed habitat. Small mammals and reptiles would be affected by construction activities, and about 0.4 acres of habitat would be permanently lost. The same mitigation measures would be implemented as Alternative A.

4.1.2.7 Cultural Resources

The access road for Alternative B would pass through cemetery (LA 143554). The access road would intrude and alter the cemetery's characteristics as a place of seclusion, respect, and reverence. The quiet cemetery setting would be modified by construction activities and by periodic well maintenance traffic after the completion of construction. The road would become a dominant component of the cemetery, which is not compatible with the cemetery's important cultural role in the community. If this alternative were selected, monitoring would be needed for construction activities within 100 feet of the cemetery. For other listed sites, Alternative B would have the same level of cultural resource impacts as Alternative A. The same mitigation measures would be implemented.

4.1.2.8 Socioeconomics

Alternative B would produce the same economic and environmental justice benefits as Alternative A in providing a dependable water source and creating short-term construction employment. There would be no disproportionate environmental or health effects from this alternative.

4.1.2.9 Hazardous Materials

Construction and operation of the water tank, waterline, and access road would not affect any known hazardous materials sites. During construction and operation of the water facilities, hazardous chemicals and petroleum substances would be managed in a manner to prevent releases to soils, surface water, or groundwater.

4.1.3 Alternative C: No Action

4.1.3.1 Land Tenure and Use

Alternative C would have no effect on land tenure and use. Recreational use of Santa Cruz Lake would not be affected.

4.1.3.2 Water Resources

Alternative C would have no effect on surface and water resources. There would be no surface or groundwater impacts. Chimayó water users would continue to obtain water from individual wells. Without a tank, community water supplies would be less dependable. In addition, water pressure in the Water Consumers Association water system would not be improved or stabilized. Individual wells would provide water with varying quality that may not meet Safe Drinking Water Act standards. The water supply for fire suppression would be limited.

4.1.3.3 VRM

Alternative C would have no effect on visual resources.

4.1.3.4 Soils

Alternative C would have no effect on soils.

4.1.3.5 Vegetation

Alternative C would have no effect on vegetation.

4.1.3.6 Wildlife

Alternative C would have no effect on wildlife.

4.1.3.7 Cultural Resources

Alternative C would have no effect on cultural resources.

4.1.3.8 Socioeconomics

Alternative C would create no socioeconomic benefits. The Chimayó community would need to find another water source to ensure overall dependability of the water system. Continued use of individual wells would be less dependable water supply and create a risk for drinking water contamination. This would create an environmental justice impact since the minority population would not have access to a more dependable and healthier water supply.

4.1.3.9 Hazardous Materials

Alternative C would have no impacts on known hazardous materials sites and would not result in any releases to soils, surface water, or groundwater.

4.2 Cumulative Effects Analysis

4.2.1 Cumulative Actions

4.2.1.1 Past and Present Actions

The Water Consumers Association water system currently serves about 450 water connections. A water tank, waterline, and access road were constructed in 2011. This was the first of four proposed tanks that would be constructed at part of the Water Consumers Association water system as described in the preliminary engineering report (Molzen-Corbin, 2002). The second tank is the tank described and evaluated in this EA.

The Chimayó region has experienced gradual growth in the past 30 years. Employment centers in Española and Santa Fe are within a 30 minute commute time or less allowing individuals to live in a rural environment while being employed in urban areas. Vacant parcels have gradually been developed with people migrating into the Chimayó community. The Santuario de Chimayó is an important tourist and spiritual center that receives visitation. Several local businesses serve Santuario de Chimayó visitors.

4.2.1.2 Reasonably Foreseeable Actions

When built out, the Water Consumers Association water system would serve about 1,500 water connections. Future water connections would serve users currently on individual private wells and new residences and buildings that are expected to be constructed in future years. Individual wells would be closed as the new water system is put into service. As part of the water system, the Water Consumers Association waterlines would be constructed to individual residences, businesses, and other water users. Fire hydrants would be installed along local and State roadways.

As planned in the preliminary engineering report (Molzen-Corbin, 2002), two water tanks would be constructed in the future, resulting in a total of four water tanks in the Water Consumers Association water system. No funds have been obtained to construct the two proposed water tanks; thus, a schedule for their planning and construction is unknown at this time.

Two existing water tanks would be removed after the proposed water tank and access road are completed. These water tanks are located to the south of the project area. The tanks are deteriorated, and no longer in service. Removal of the tanks would improve the visual landscape.

As the community grows, infrastructure improvements may be constructed. Roadways would be improved. A wastewater system could be developed if funds were available.

Chimayó is expected to continue to grow during the next 20 years. Land is available for more residential development. The Santuario de Chimayó will remain an important tourist and spiritual center that receives a steady stream of visitors.

The BLM will continue to implement management actions for Santa Cruz Lake. Signage and fencing may be installed to define motorized and nonmotorized zones. Trails could eventually be located near the project area (although there are no current plans to develop such a trail).

4.2.2 Cumulative Effects

4.2.2.1 Land Tenure and Use

Vacant private land parcels would be developed during the next 20 years. The community would take on a more urban character as the density of residences increases. There may be fewer open parcels available for agricultural, but farming and livestock grazing would continue to occur in some areas. BLM lands would remain primarily undeveloped. Increased recreational demand may be placed on the BLM lands as more people move to the Chimayó area.

4.2.2.2 Water Resources

Water would remain a critical resource in New Mexico. Drought conditions may become more frequent in future years as the climate continues to change. Increasing populations in the Chimayó area would depend on the Santa Fe group aquifer. Water conservation measures through an improved system—as currently proposed—would need to be implemented by local government authorities to ensure a sustained water supply.

4.2.2.3 Visual Resource Management

Since the project area and surrounding lands are on BLM land, modifications of the viewshed would be limited. Few, if any structures, would be constructed on the hills to the east of Chimayó. In lowland areas and within the Chimayó community, views would be modified as more buildings are constructed on vacant lands. After completion of construction of the water tank and access roads, two abandoned water tanks would be removed. These water tanks are located to the south of the project area, within 0.3 miles of the proposed water tank. The tanks are deteriorated and no longer in service. Removal of the tanks would improve the visual resources by removing two deteriorated metal colored tanks from the landscape, thereby offsetting the intrusion of a new tank and access road.

4.2.2.4 Soils

Near the project area, soil disturbance would be limited to natural wind and water erosion since BLM lands are not proposed for development. In lowland areas to the west of the project area, periodic construction activities would expose soils to wind and water erosion.

4.2.2.5 Vegetation

Vegetation on BLM lands near the project area would remain in its current condition. In the absence of fire, woody vegetation would likely increase. If a fire occurs, woody vegetation would be reduced, and herbaceous vegetation would increase. The presence of natural vegetation in lowland areas would remain limited because of the presence of residential, commercial, and agricultural lands uses.

4.2.2.6 Wildlife

Wildlife populations on BLM lands near the project area would not change in the foreseeable future. Large areas of habitat would remain available to the east of the project area. West of the project area, deciduous trees would continue to provide nesting sites for migratory birds.

4.2.2.7 Cultural Resources

Cultural resource impacts would be minimal on BLM lands near the project area. Construction activities in lowland areas to the west of the project area may occasionally impact archaeological sites and historic buildings. Because of the recognized importance of the Santuario de Chimayó, it is expected that there would be a long-term interest in protecting this cultural resource.

4.2.2.8 Socioeconomics

Employment opportunities would remain limited in Chimayó. There is no indication of development of a large-scale industry or creation of major economic activity in the community. Many workers would commute to jobs in Española, Santa Fe, and Los Alamos where it is easier to find employment.

4.2.2.9 Hazardous Materials

No change is anticipated in hazardous materials conditions. There are no projects being planned that would create large quantities of hazardous waste.

Chapter 5: Consultation and Coordination

5.1 Summary of Consultation and Coordination

An Interdisciplinary Team meeting was held at the BLM Taos Field Office on December 22, 2011 with follow-up on-site visits. Coordination between the BLM and the Water Consumers Association representatives has occurred throughout the preparation of this EA and resulted in the development of Alternative A – the north access road to avoid potential impacts to two arroyos and a cemetery. Cultural resource coordination was conducted with the State Historic Preservation Officer at the New Mexico Historic Preservation Division. Database information was obtained from the New Mexico Department of Game and Fish, NMED, EPA, and U.S. Fish and Wildlife Service.

5.2 Summary of Public Participation

A public meeting was held on April 17, 2012, at La Arboleda Community Center. Representatives from the BLM, Molzen-Corbin, and Marron and Associates gave a presentation on the project to 29 stakeholders who attended the meeting. Information was provided in PowerPoint slides, project display plans, and a handout. The proponent explained that a water tank is needed to provide additional water storage to provide a dependable water supply, have adequate pressure in the water system, and provide water for fire protection. The proponent indicated that the proposed tank location is optimal in terms of technical feasibility and cost.

Public comments addressed topics such as location of current tanks, visual impacts, cultural landmarks in the area, tank siting, existing water system, future water demand and capability of serving this demand, schedule for the environmental process, and funding. The public confirmed the need to address the following three issues:

- **Water Resources:** How would the water tank affect human use of water including water quality, availability of water for fire protection, and water storage? The community needs an improved, dependable water supply. Additional water storage is needed. Water is especially needed for fire protection. The Water Consumers Association has limited funding and has not secured funding for the entire water system.
- **VRM:** How would the water tank affect visual resources in Chimayó? Visual impacts should be minimized.
- **Cultural Resources:** What are the potential impacts of construction and operation of the water tank and access road on cultural resources such as archaeological sites, historic structures, and traditional cultural properties? The access road should avoid cemeteries in the area. An alternative that avoids the cemeteries is preferred.

As discussed under section 2.4, the public also identified an alternative tank site location that warranted consideration by the Water Consumers Association in developing its water supply infrastructure. This alternative was primarily driven by the interest in preventing new intrusions in the visual landscape.

Note: this section will be updated subsequent to public review and comment on this EA.

5.3 List of Preparers

- Brad Higdon, BLM Taos Field Office, Planning and Environmental Specialist
- Merrill Dicks, BLM Taos Field Office, Archaeologist
- Jason Romero, BLM Taos Field Office, Realty Officer
- Tami Torres, BLM Taos Field Office, Outdoor Recreation Planner
- Valerie Williams, BLM Taos Field Office, Wildlife Biologist
- Mark Trujillo, Water Consumers Association Board Member
- Doug Albin, Molzen-Corbin, Senior Designer
- Eric Johnson, Marron and Associates, Environmental Project Manager
- Tony Goar, Marron and Associates, Archaeologist
- Hroncich-Conner, Marron and Associates, Archaeologist
- Heather Parmeter, Marron and Associates, Biologist
- Jesse Schuck, Marron and Associates, Biologist

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Appendix A
Project Area Maps

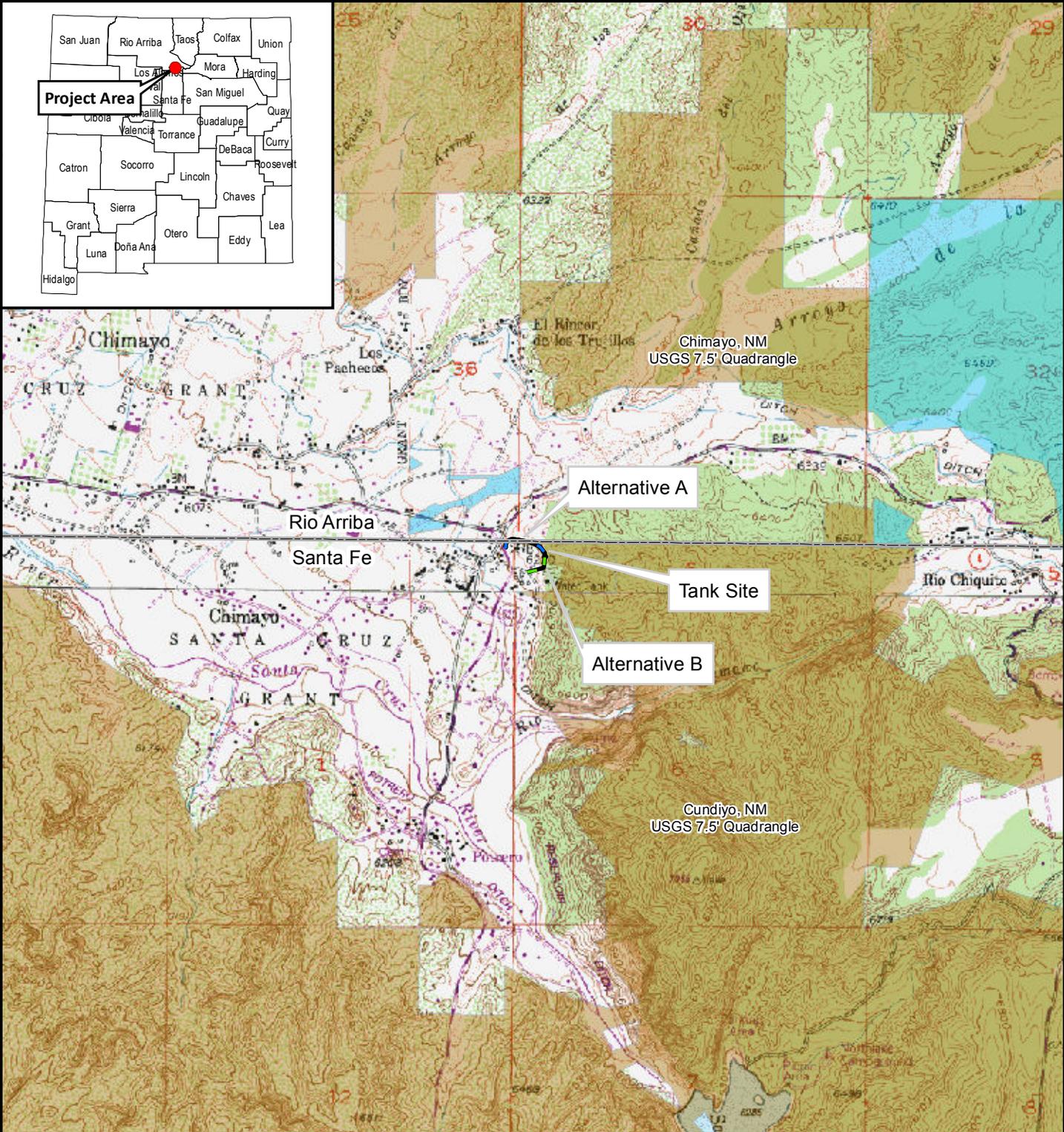
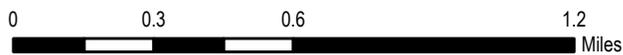


Figure 1
Project Area Map

-  Alternative A
-  Alternative B

Land Ownership

-  Private
-  BLM
-  State



T 20N, R 9E; Sec. 1
 T 20N, R 10E; Sec. 6
 SE 1/4, T21N, R9E, Sec. 36
 BLM and County/Private Land
 Santa Fe and
 Rio Arriba Counties, New Mexico



1:25,926

Chimayo Water Tank

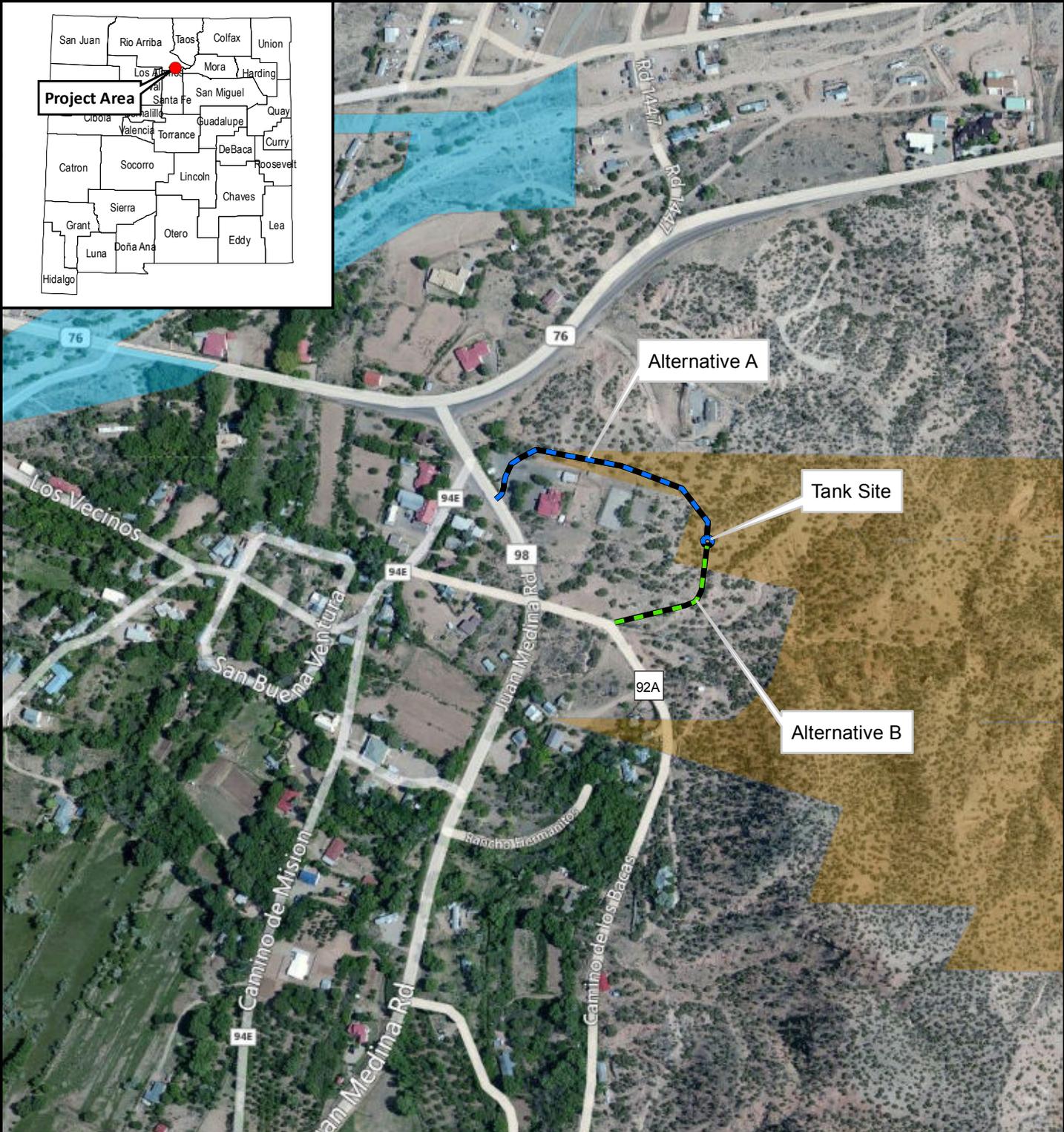


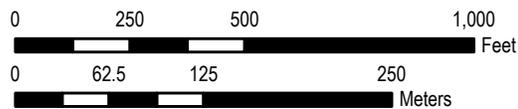
Figure 2
Project Area Map
on Aerial Background

- Alternative A Access Road
- Alternative B Access Road

Land Ownership

- Private
- BLM
- State

T 20N, R 9E; Sec. 1
 T 20N, R 10E; Sec. 6
 SE 1/4, T21N, R9E, Sec. 36
 BLM and County/Private Land
 Santa Fe and
 Rio Arriba Counties, New Mexico



Chimayo Water Tank

Appendix B
Visual Resource Analysis

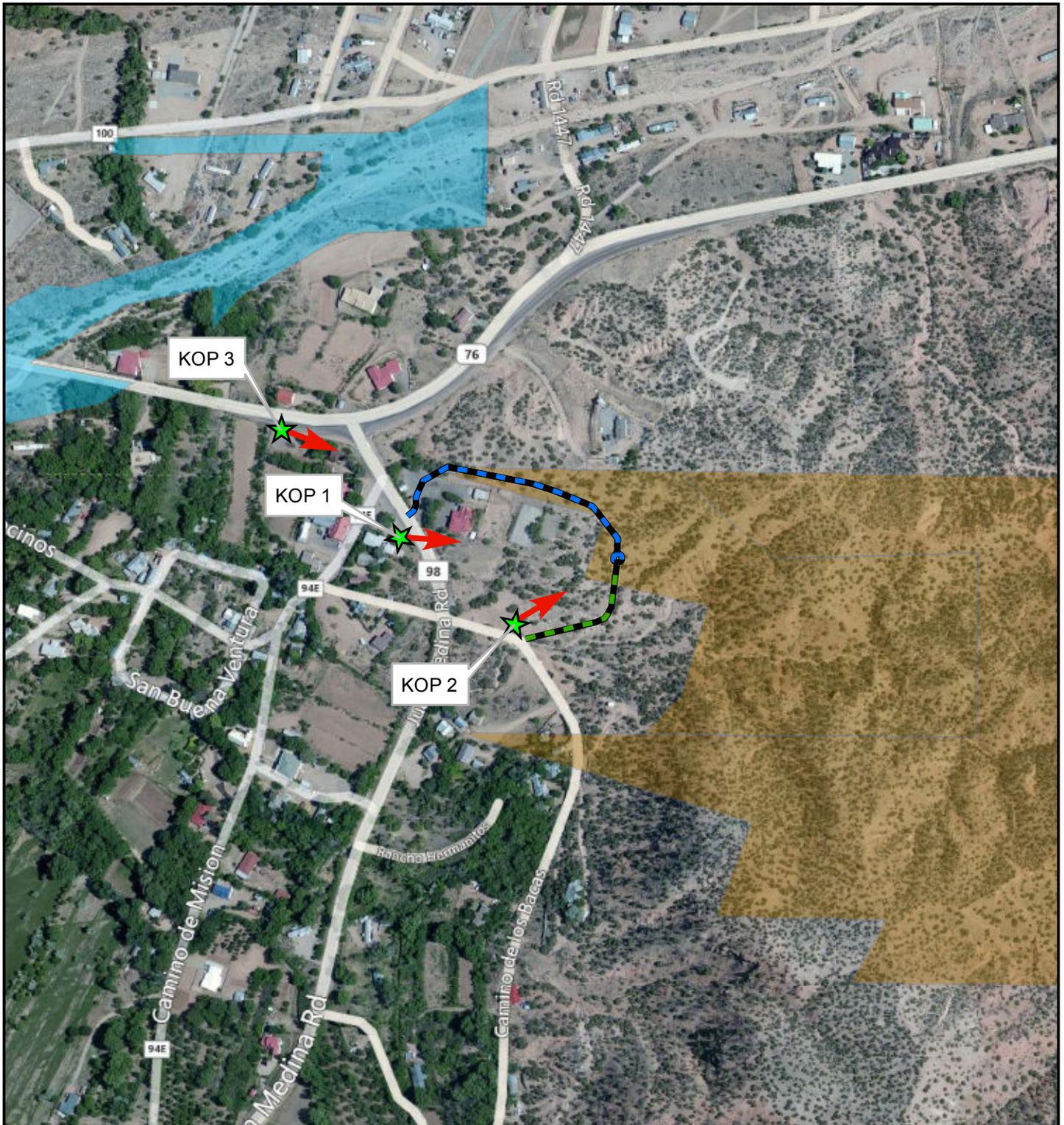


Figure B1
Key Observation Point
Location Map

Legend

-  KOP
-  Alternative A
-  Alternative B
- Land Ownership**
-  Private
-  BLM
-  State

0 50 100 200
Meters

0 200 400 800
Feet

T 20N, R 9E; Sec. 1
T 20N, R 10E; Sec. 6
SE 1/4, T21N, R9E, Sec. 36
BLM and County/Private Land
Santa Fe and
Rio Arriba Counties, New Mexico



1:5,000



Santuario de Chimayo

KOP 4



Figure B2
Key Observation Point
Location Map

Legend

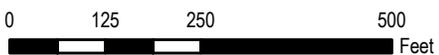
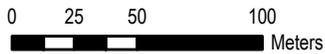
★ KOP

Land Ownership

Private

BLM

State



T 20N, R 9E; Sec. 1
T 20N, R 10E; Sec. 6
SE 1/4, T21N, R9E, Sec. 36
BLM and County/Private Land
Santa Fe and
Rio Arriba Counties, New Mexico



1:3,000

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: May 30, 2013

District/ Field Office: Taos Field Office

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Chimayó Water Tank,	4. Location Township <u>20N</u>	5. Location Sketch See Figure B1
2. Key Observation Point 1, Alternative A, west side of SF 98, south of Benny Chavez Community Center	Range <u>10E</u>	
3. VRM Class II	Section <u>6</u>	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rounded, uneven hills in background; sloping terrain in foreground	Contrasting round, green trees with buff and grey grasses and forbs	Buildings in foreground
LINE	Silhouette line of hills	Diffuse with few linear elements	Building edges, roadway, powerline and poles
COLOR	Tan	Tan and dark green	Grey, tan, and brown
TEX-TURE	Fine	Medium to coarse, mottled trees	Fine where present

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			Appears as rectangular shape with fence slightly visible.
LINE			Linear access road
COLOR			Two color options: buff or forest green BLM approved color
TEX-TURE			Medium

SECTION D. CONTRAST RATING SHORT TERM LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)				
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)								
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE					
ELEMENTS	FORM				X		X						X				3. Additional mitigating measures recommended <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)	
	LINE		X				X						X					
	COLOR		X									X			X			
	TEXTURE		X			X							X					
																	Evaluator's Names Eric Johnson	Date 5-30-13

SECTION D. (Continued)

Comments from item 2.

BLM approved forest green color will be used to minimize contrast.

Additional Mitigating Measures (See item 3)

- Locate access road to follow contours of topography.
- Re-contour any cut and fill.
- Remove cut and fill from site.
- Reseed with native grasses.
- Scallop and feather edges of vegetation disturbance.



Chimayo Water Tank



Figure B3
Alternative A
KOP 1, West Side of SF 98,
Looking East, Forest Green Tank



Chimayo Water Tank



Figure B4
Alternative A
KOP 1 West Side of SF 98,
Looking East, Buff Tank

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: May 30, 2013

District/ Field Office: Taos Field Office

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Chimayó Water Tank,	4. Location Township <u>20N</u>	5. Location Sketch See Figure B1
2. Key Observation Point 1, Alternative B, west side of SF 98, south of Benny Chavez Community Center	Range <u>10E</u>	
3. VRM Class II	Section <u>6</u>	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rounded, uneven hills in background; sloping terrain in foreground	Contrasting round, green trees with buff and grey grasses and forbs	Buildings in foreground
LINE	Silhouette line of hills	Diffuse with few linear elements	Building edges, roadway, powerline and poles
COLOR	Tan	Tan and dark green	Grey, tan, and brown
TEX-TURE	Fine	Medium to coarse, mottled trees	Fine where present

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			Appears as rectangular shape with fence slightly visible
LINE			Linear access road
COLOR			Two color options: buff or dark green BLM approved color
TEX-TURE			Medium

SECTION D. CONTRAST RATING SHORT TERM LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)		
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)						
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE			
ELEMENTS	FORM				X		X						X		3. Additional mitigating measures recommended <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)	
	LINE		X				X						X			
	COLOR		X										X			Evaluator's Names Eric Johnson
	TEXTURE		X			X							X			

SECTION D. (Continued)

Comments from item 2.

BLM approved forest green color will be used to minimize contrast.

Additional Mitigating Measures (See item 3)

- Locate access road to follow contours of topography.
- Re-contour any cut and fill.
- Remove cut and fill from site.
- Reseed with native grasses.
- Scallop and feather edges of vegetation disturbance.



Chimayo Water Tank



Figure B5
Alternative B
KOP 1, West Side of SF 98,
Looking East, Forest Green Tank



Chimayo Water Tank



Figure B6
Alternative B
KOP 1 West Side of SF 98,
Looking East, Buff Tank

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: May 30, 2013

District/ Field Office: Taos Field Office

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Chimayó Water Tank	4. Location Township <u>20N</u>	5. Location Sketch See Figure B1
2. Key Observation Point 2, Alternative A, SF 98 / SF 92-A intersection	Range <u>10E</u>	
3. VRM Class II	Section <u>6</u>	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rounded, uneven hills in background; sloping terrain in foreground	Contrasting round, green trees with buff and grey grasses and forbs	Road and fence in foreground, existing water tank in mid-ground
LINE	Silhouette line of hills	Diffuse with few linear elements	Fence
COLOR	Tan	Tan and dark green	Grey, black, tan, and brown
TEX-TURE	Fine	Medium to coarse, mottled trees	Medium where present

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			Appears as rectangular shape with fence slightly visible
LINE			Linear access road
COLOR			Two color options: buff or dark green BLM approved color
TEX-TURE			Medium

SECTION D. CONTRAST RATING SHORT TERM X LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <u> X </u> Yes <u> </u> No (Explain on reverse side)		
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)						
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE			
ELEMENTS	FORM				X		X						X			3. Additional mitigating measures recommended <u> X </u> Yes <u> </u> No (Explain on reverse side)
	LINE		X				X						X			
	COLOR		X									X		X		
	TEXTURE		X				X						X			
															Evaluator's Names Eric Johnson	Date 5-30-13

SECTION D. (Continued)

Comments from item 2.

BLM approved forest green color will be used to minimize contrast.

Additional Mitigating Measures (See item 3)

- Locate access road to follow contours of topography.
- Re-contour any cut and fill.
- Remove cut and fill from site.
- Reseed with native grasses.
- Scallop and feather edges of vegetation disturbance.



Chimayo Water Tank



Figure B7
Alternative A
KOP 2, SF 98/SF92-A Intersection,
Looking East-Northeast, Forest Green Tank



Chimayo Water Tank



Figure B8
Alternative A
KOP 2, SF 98/SF92-A Intersection,
Looking East-Northeast Buff Tank

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: May 30, 2013

District/ Field Office: Taos Field Office

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Chimayó Water Tank	4. Location Township <u>20N</u>	5. Location Sketch See Figure B1
2. Key Observation Point 2, Alternative B, SF 98 / SF 92-A intersection	Range <u>10E</u>	
3. VRM Class II	Section <u>6</u>	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rounded, uneven hills in background; sloping terrain in foreground	Contrasting round, green trees with buff and grey grasses and forbs	Road and fence in foreground, existing water tank in mid-ground
LINE	Silhouette line of hills	Diffuse with few linear elements	Fence
COLOR	Tan	Tan and dark green	Grey, black, tan, and brown
TEX-TURE	Fine	Medium to coarse, mottled trees	Medium where present

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			Appears as rectangular shape with fence slightly visible
LINE			Linear access road
COLOR			Two color options: buff or dark green BLM approved color
TEX-TURE			Medium

SECTION D. CONTRAST RATING SHORT TERM X LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <u> X </u> Yes <u> </u> No (Explain on reverse side)		
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)						
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE			
ELEMENTS	FORM				X		X						X			3. Additional mitigating measures recommended <u> X </u> Yes <u> </u> No (Explain on reverse side)
	LINE		X				X						X			
	COLOR		X									X		X		
	TEXTURE		X				X						X			
															Evaluator's Names Eric Johnson	Date 5-30-13

SECTION D. (Continued)

Comments from item 2.

BLM approved forest green color will be used to minimize contrast.

Additional Mitigating Measures (See item 3)

- Locate access road to follow contours of topography.
- Re-contour any cut and fill.
- Remove cut and fill from site.
- Reseed with native grasses.
- Scallop and feather edges of vegetation disturbance.



Chimayo Water Tank



Figure B9
Alternative B
KOP 2, SF 98/SF92-A Intersection,
Looking East-Northeast Forest Green Tank



Chimayo Water Tank



Figure B10
Alternative B
KOP 2, SF 98/SF92-A Intersection,
Looking East-Northeast Buff Tank

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: May 30, 2013

District/ Field Office: Taos Field Office

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Chimayó Water Tank	4. Location Township <u>20N</u>	5. Location Sketch See Figure B1
2. Key Observation Point 3, Alternative A, west of NM 76 / SF 98 intersection from south side of NM 76	Range <u>10E</u>	
3. VRM Class II	Section <u>6</u>	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rounded, uneven hills in background; sloping terrain in foreground	Contrasting round, green trees with buff and grey grasses and forbs	Road, powerline, building, cell tower, and fence in foreground
LINE	Silhouette line of hills	Diffuse with few linear elements	Road, powerline, and cell tower
COLOR	Tan	Tan and dark green	Grey, tan, and brown
TEX-TURE	Fine	Medium to coarse, mottled trees	Medium to coarse where present

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			Appears as rectangular shape with fence slightly visible
LINE			Linear access road
COLOR			Two color options: buff or dark green BLM approved color
TEX-TURE			Medium

SECTION D. CONTRAST RATING SHORT TERM LONG TERM

1. DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side) 3. Additional mitigating measures recommended <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
ELEMENTS	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	Evaluator's Names Eric Johnson Date 5-30-13
FORM				X	X					X			
LINE		X			X					X			
TEXTURE		X			X					X			

SECTION D. (Continued)

Comments from item 2.

BLM approved forest green color will be used to minimize contrast.

Additional Mitigating Measures (See item 3)

- Locate access road to follow contours of topography.
- Re-contour any cut and fill.
- Remove cut and fill from site.
- Reseed with native grasses.
- Scallop and feather edges of vegetation disturbance.



Chimayo Water Tank



Figure B11
Alternative A
KOP 3 NM 76/SF98 Intersection,
Looking East, Forest Green Tank



Chimayo Water Tank



Figure B12
Alternative A
KOP 3 NM 76/SF98 Intersection,
Looking East, Buff Tank

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: May 30, 2013

District/ Field Office: Taos Field Office

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Chimayó Water Tank	4. Location Township <u>20N</u>	5. Location Sketch See Figure B1
2. Key Observation Point 3, Alternative B, west of NM 76 / SF 98 intersection from south side of NM 76	Range <u>10E</u>	
3. VRM Class II	Section <u>6</u>	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rounded, uneven hills in background; sloping terrain in foreground	Contrasting round, green trees with buff and grey grasses and forbs	Road, powerline, building, cell tower, and fence in foreground
LINE	Silhouette line of hills	Diffuse with few linear elements	Road, powerline, and cell tower
COLOR	Tan	Tan and dark green	Grey, tan, and brown
TEX-TURE	Fine	Medium to coarse, mottled trees	Medium to coarse where present

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			Appears as rectangular shape with fence slightly visible
LINE			Linear access road
COLOR			Two color options: buff or dark green BLM approved color
TEX-TURE			Medium

SECTION D. CONTRAST RATING SHORT TERM X LONG TERM

1.	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <u> X </u> Yes <u> </u> No (Explain on reverse side) 3. Additional mitigating measures recommended <u> X </u> Yes <u> </u> No (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
		FORM			X	X				X				
	LINE		X			X				X				
COLOR		X						X			X			
TEXTURE		X			X				X					
ELEMENTS												Evaluator's Names Eric Johnson	Date 5-30-13	

SECTION D. (Continued)

Comments from item 2.

BLM approved forest green color will be selected to minimize contrast.

Additional Mitigating Measures (See item 3)

- Locate access road to follow contours of topography.
- Re-contour any cut and fill.
- Remove cut and fill from site.
- Reseed with native grasses.
- Scallop and feather edges of vegetation disturbance.



Chimayo Water Tank



Figure B13
Alternative B
KOP 3 NM 76/SF98 Intersection,
Looking East, Forest Green Tank



Chimayo Water Tank



Figure B14
Alternative B
KOP 3 NM 76/SF98 Intersection,
Looking East, Buff Tank

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: May 30, 2013

District/ Field Office: Taos Field Office

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Chimayó Water Tank	4. Location Township <u>20N</u>	5. Location Sketch See Figure B2
2. Key Observation Point 4, Alternative A, west side of Santuario de Chimayó	Range <u>10E</u>	
3. VRM Class II	Section <u>6</u>	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rounded, uneven hills in background; sloping terrain in foreground	Contrasting round, green trees with buff and grey grasses and forbs	Parking lots and buildings in foreground
LINE	Silhouette line of hills	Diffuse with few linear elements	Fence
COLOR	Tan	Tan and dark green	Grey, black, tan, brown, and blue
TEX-TURE	Fine	Medium to coarse, mottled trees	Medium

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			Tank and access road not visible. Trees screen view, and distance to tank is 4,700 feet.
LINE			Tank and access road not visible. Trees screen view, and distance to tank is 4,700 feet.
COLOR			Tank and access road not visible. Trees screen view, and distance to tank is 4,700 feet.
TEX-TURE			Tank and access road not visible. Trees screen view, and distance to tank is 4,700 feet.

SECTION D. CONTRAST RATING SHORT TERM X LONG TERM

1.	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <u> X </u> Yes <u> </u> No (Explain on reverse side) 3. Additional mitigating measures recommended <u> </u> Yes <u> X </u> No (Explain on reverse side) Evaluator's Names Eric Johnson Date 5-30-13
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	
					X				X				X	
	FORM												X	
ELEMENTS	LINE											X		
	COLOR											X		
	TEXTURE											X		

SECTION D. (Continued)

Comments from item 2.

No mitigation needed for this KOP.

Additional Mitigating Measures (See item 3)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: May 30, 2013

District/ Field Office: Taos Field Office

Resource Area:

Activity (program):

SECTION A. PROJECT INFORMATION

1. Project Name Chimayó Water Tank	4. Location Township <u>20N</u>	5. Location Sketch See Figure B2
2. Key Observation Point 4, Alternative B, west side of Santuario de Chimayó	Range <u>10E</u>	
3. VRM Class II	Section <u>6</u>	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rounded, uneven hills in background; sloping terrain in foreground	Contrasting round, green trees with buff and grey grasses and forbs	Parking lots and buildings in foreground
LINE	Silhouette line of hills	Diffuse with few linear elements	Fence
COLOR	Tan	Tan and dark green	Grey, black, tan, brown, and blue
TEX-TURE	Fine	Medium to coarse, mottled trees	Medium

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			Tank and access road not visible. Trees screen view, and distance to tank is 4,700 feet.
LINE			Tank and access road not visible. Trees screen view, and distance to tank is 4,700 feet.
COLOR			Tank and access road not visible. Trees screen view, and distance to tank is 4,700 feet.
TEX-TURE			Tank and access road not visible. Trees screen view, and distance to tank is 4,700 feet.

SECTION D. CONTRAST RATING SHORT TERM X LONG TERM

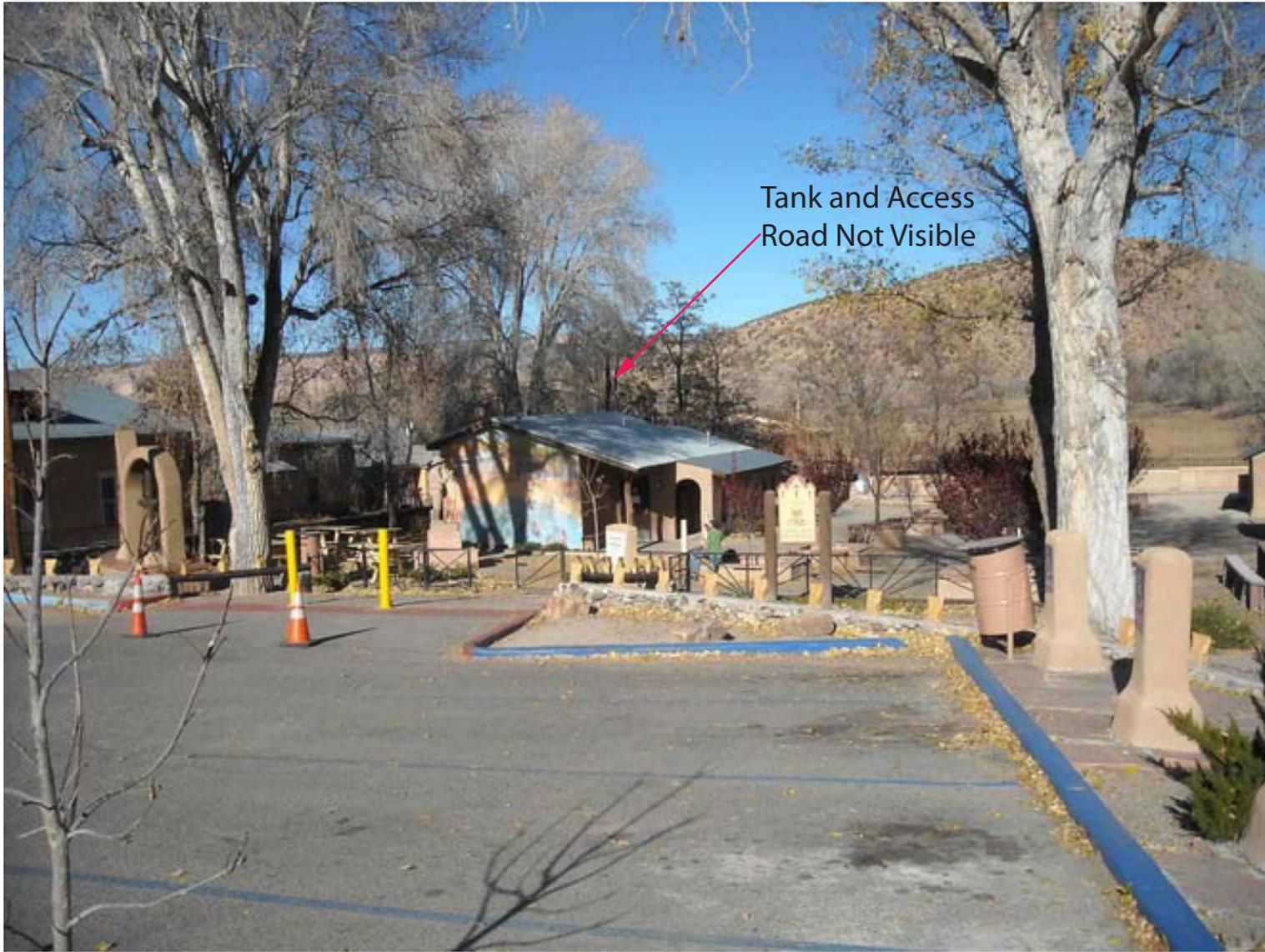
1.	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <u> X </u> Yes <u> </u> No (Explain on reverse side) 3. Additional mitigating measures recommended <u> </u> Yes <u> X </u> No (Explain on reverse side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE		
ELEMENTS	FORM				X				X				X		
	LINE				X				X				X		
	COLOR				X				X				X		
	TEXTURE				X				X				X		
														Evaluator's Names Eric Johnson	Date 5-30-13

SECTION D. (Continued)

Comments from item 2.

No mitigation needed for this KOP.

Additional Mitigating Measures (See item 3)



Chimayo Water Tank



Figure B15
Alternatives A and B
KOP 4 Santuario de Chimayó,
Looking North



Trees Block View of Tank

Santuario de Chimayo

KOP 4



Figure B16
Map of KOP 4 Showing
Trees that Block
View of Tank

Legend

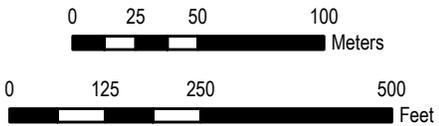
★ KOP

Land Ownership

Private

BLM

State



T 20N, R 9E; Sec. 1
 T 20N, R 10E; Sec. 6
 SE 1/4, T21N, R9E, Sec. 36
 BLM and County/Private Land
 Santa Fe and
 Rio Arriba Counties, New Mexico





Figure B17
Map of KOP 4 Showing
Long Distance
from Tank

Legend

-  KOP
-  Project Area
- Land Ownership**
-  Private
-  BLM
-  State



T 20N, R 9E; Sec. 1
 T 20N, R 10E; Sec. 6
 SE 1/4, T21N, R9E, Sec. 36
 BLM and County/Private Land
 Santa Fe and
 Rio Arriba Counties, New Mexico

