

**ENVIRONMENTAL ASSESSMENT**

**for**

**CUNDIYO WATER SYSTEM  
IMPROVEMENTS**

**SANTA FE COUNTY, NEW MEXICO**

**Prepared on Behalf of**

**U.S. Department of the Interior: The Bureau of Land  
Management and  
The Cundiyo Mutual Domestic Water Consumers  
Association**

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**TABLE OF CONTENTS**

- CHAPTER I – INTRODUCTION ..... 1**
  - A. INTRODUCTION TO PROCESS AND PROJECT ..... 1
  - B. PURPOSE OF AND NEED FOR THE ACTION ..... 1
  - C. CONFORMANCE WITH LAND USE PLANS ..... 5
  - D. RELATIONSHIPS TO STATUTES, REGULATIONS, OR OTHER PLANS ..... 5
  - E. PUBLIC SCOPING AND PUBLIC MEETING ..... 6
- CHAPTER II – PROPOSED ACTIONS AND ALTERNATIVES..... 7**
  - A. PROPOSED ACTION ..... 7
  - B. PRELIMINARILY DISSMISSED ALTERNATIVE..... 7
    - 1. Dismissed Alternative – Extend a Water Main to the Vista Del Rio Subdivision and use the Subdivision Well ..... 7
  - C. VIABLE ALTERNATIVES..... 8
    - 1. Alternative 1 – No-Action (No improvements to the existing system or postponement of the improvements) ..... 8
    - 2. Alternative 2 – Proposed Action - Drill a new well but do not extend a water main to the Vista del Rio Subdivision ..... 8
- CHAPTER III – AFFECTED ENVIRONMENTS..... 9**
  - A. INTRODUCTION ..... 9
  - B. GENERAL ENVIRONMENT ..... 9
    - 1. Location ..... 9
    - 2. History ..... 9
    - 3. Climate ..... 9
    - 4. Topography and Geology ..... 10
    - 5. Land Use ..... 10
    - 6. Farmland ..... 10
    - 7. Floodplains ..... 11
    - 8. Wetlands ..... 11
    - 9. Surface Water ..... 12
    - 10. Groundwater ..... 12
    - 11. Biological Resources ..... 12
    - 12. Threatened and Endangered Species ..... 13
    - 13. Cultural Resources ..... 14
    - 14. Socioeconomic and Environmental Justice. Issues ..... 14
    - 15. Public Health and Safety / Environmental Inspection ..... 15
    - 16. Air Quality ..... 15
    - 17. Transportation ..... 15
    - 18. Visual Impacts ..... 15
    - 19. Noise ..... 16
- CHAPTER IV – ENVIRONMENTAL CONSEQUENCES ..... 17**
  - A. PROPOSED ACTION ..... 17
    - 1. Introduction ..... 17
    - 2. Land Use ..... 17
    - 3. Farmlands ..... 17
    - 4. Floodplains ..... 18

5. Wetlands .....	18
6. Surface Water .....	18
7. Groundwater.....	18
8. Biological (Wildlife and Threatened and Endangered Species) .....	18
9. Vegetation .....	19
10. Cultural Resources.....	19
11. Socioeconomic Issues .....	19
12. Environmental Justice.....	20
13. Public Health and Safety.....	20
14. Air Quality .....	20
15. Energy .....	20
16. Transportation .....	20
17. Visual .....	20
18. Noise .....	21
19. Cumulative Impacts.....	21
<b>B. NO-ACTION ALTERNATIVE .....</b>	<b>22</b>
1. Introduction.....	22
2. Land Use .....	22
3. Farmlands.....	22
4. Floodplains .....	22
5. Wetlands .....	22
6. Surface Water .....	22
7. Groundwater.....	23
8. Biological (Wildlife and Threatened and Endangered Species) .....	23
9. Vegetation .....	23
10. Cultural .....	23
11. Socioeconomic Issues .....	23
12. Environmental Justice.....	23
13. Public Health and Safety.....	23
14. Air Quality .....	23
15. Energy .....	23
16. Transportation .....	23
17. Visual .....	23
18. Noise .....	23
19. Cumulative Impacts.....	23
<b>CHAPTER V—POSSIBLE MITIGATION AND MONITORING MEASURES .....</b>	<b>24</b>
<b>A. MITIGATION MEASURES FOR AFFECTED RESOURCES.....</b>	<b>24</b>
1. Land .....	24
2. Surface Water .....	24
3. Air Quality .....	25
4. Vegetation .....	25
5. Wildlife .....	25
6. Cultural Resource Measures .....	25
7. Transportation .....	25
8. Visual Impacts.....	26
9. Noise Impacts.....	26

10. Public Health and Safety / Environmental Inspection .....	26
B. MONITORING.....	26
<b>Chapter VI– CONSULTATION and COORDINATION .....</b>	<b>26</b>
A. Distribution.....	26
B. List of Reviewers .....	27
C. List of Preparers.....	27
<b>CHARPER VII—REFERENCES .....</b>	<b>28</b>
<b>APPENDIX A.....</b>	<b>1</b>
<b>Agency and Public Coordination .....</b>	<b>1</b>
<b>APPENDIX B.....</b>	<b>2</b>
<b>Environmental Justice Index.....</b>	<b>2</b>
<b>APPENDIX C.....</b>	<b>3</b>
<b>Public hearing summary.....</b>	<b>3</b>
<b>APPENDIX D.....</b>	<b>4</b>
<b>BIOLOGICAL EVALUATION .....</b>	<b>4</b>

**LIST OF TABLES**

Table 1: Project Area Roads Proposed for Water Line Installation .....	4
Table 2: Water System Supply Requirements.....	8
Table 3: Santa Fe County Soils Descriptions for the Cundiyo Area .....	10
Table 4: Floodplains .....	11
Table 5: Santa Cruz River, Rio Frijoles, and Rio Medio Designated Uses .....	12
Table 6: Target for the Project Area. ....	13
Table 7: Demographic Characteristics.....	15
Table 8: VRM Classes and Management Objectives .....	16

**LIST OF FIGURES**

Figure 1: Project Vicinity Map.....	2
Figure 2: Project Area Map.....	3
Figure 3: Water Tank Simulation.....	21

## LIST OF ABBREVIATIONS

ACEC	Areas of Critical Environmental Concern
AWWA	American Waterworks Association
BLM	U.S. Bureau of Land Management
BMP's	Best Management Practices
CAA	Clean Air Act
CMDWCA	Cundiyo Mutual Domestic Water Consumers Association
CWA	Clean Water Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HMA	Habitat Management Area
IM	isolated manifestation
ISA	initial site assessment
ISO	Insurance Services Office
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NMDOT	New Mexico Department of Transportation
NMED	New Mexico Environmental Department
NMEMNRD	New Mexico Energy, Minerals, and Natural Resources Department
NPEDS	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NWP	Nationwide Permit
OSHA	Occupational Safety and Health Administration
PER	Preliminary Engineering Report
PSI	pounds per square inch
PVC	polyvinyl chloride
RMP	Resource Management Plan
RNA	Research Natural Area
SHPO	State Historic Preservation Office
SWPPP	storm water pollution prevention plan
TEC	Taschek Environmental Consulting
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VRM	Visual Resource Management
WSA	Wilderness Study Area

## **CHAPTER I – INTRODUCTION**

### **A. INTRODUCTION TO PROCESS AND PROJECT**

The National Environmental Policy Act of 1969 (NEPA) requires a systematic, interdisciplinary approach to planning and project implementation and emphasizes that the environmental impacts of federal actions must be given serious consideration in the decision-making process. Environmental documentation consistent with NEPA and other applicable laws and regulations are required on all proposed federal actions. These documents allow resource managers to make informed decisions regarding project approval and stipulations necessary to mitigate adverse impacts.

An environmental analysis process was undertaken by the U.S. Bureau of Land Management (BLM), in cooperation with the Cundiyo Mutual Domestic Water Consumers Association (CMDWCA or “Association”), for the proposed water system improvements. The location of the proposed project is shown in Figures 1 and 2. The analysis was conducted because portions of the proposed project fall on federally-managed BLM lands.

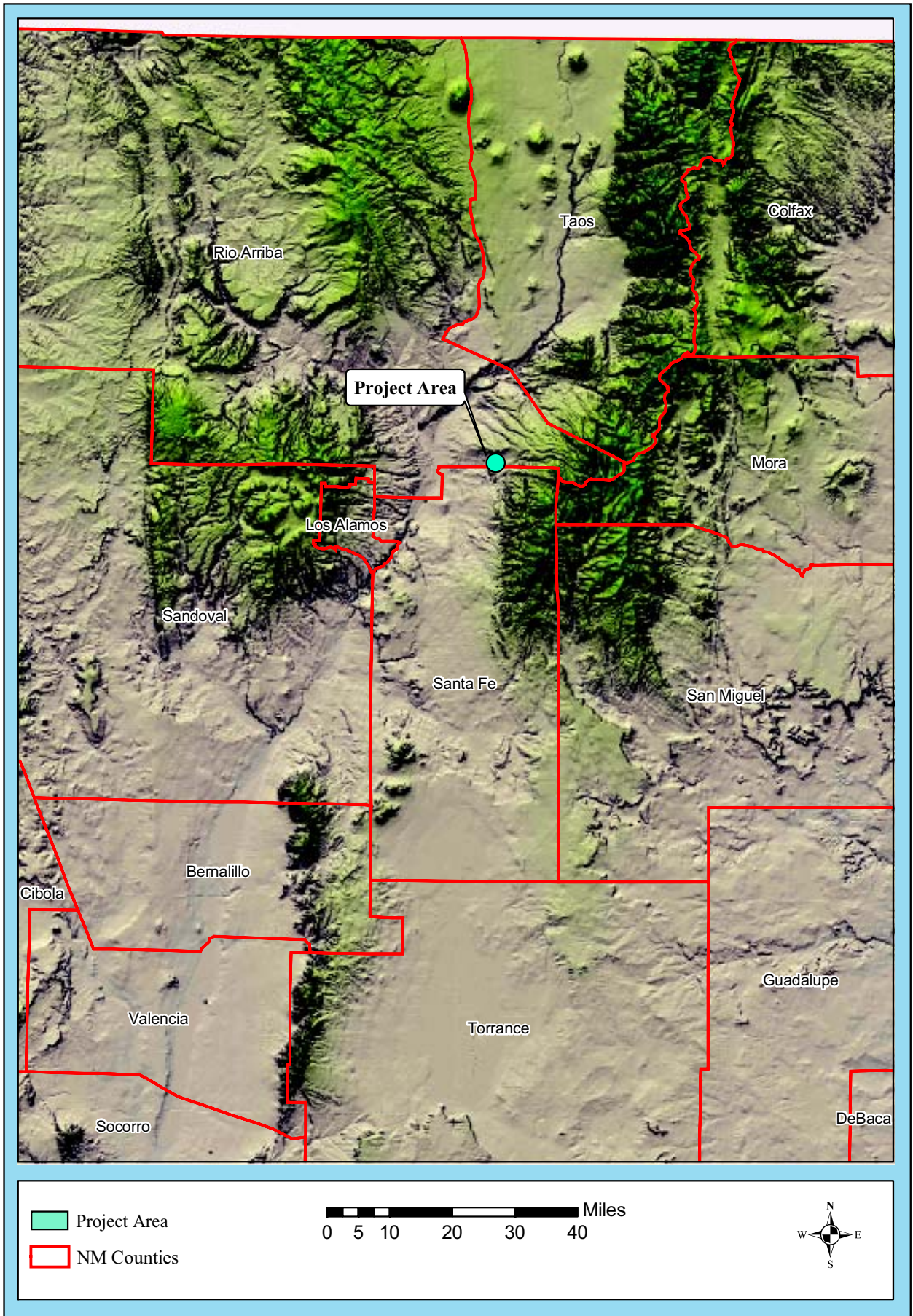
The environmental analysis was conducted in accordance with BLM procedures for preparing environmental documents, including the requirements of Chapter 23, Part 771, Code of Federal Regulations (23 CFR 771) and BLM Handbook H-1790-1. This document is the environmental assessment (EA) prepared for the project. The preparation of the EA is being done in consultation with numerous federal and state agencies including local and regional planning agencies. The EA serves to inform the public and elected officials of the consequences of the proposed action. An important purpose of the EA is to determine if there will be significant environmental effects, requiring preparation of an environmental impact statement (EIS).

Currently, the Village of Cundiyo has an inadequate water system. The proposed project centers on the installation of a second well, a larger capacity storage tank, and larger diameter pipes to supply Cundiyo with adequate, safe drinking water along with water for fire-fighting.

### **B. PURPOSE OF AND NEED FOR THE ACTION**

The proposed action is to install a community water system consisting of water production facilities (community wells), water distribution and storage facilities (a storage tank and associated pipe lines), and an access road (330 feet [ft] by 12 ft with a total disturbance width of 20 ft). Design of the system is currently underway through the CMDWCA. A preliminary engineering report (PER) has been prepared by Sullivan Design Group, Inc., which includes the conceptual water system layout plan and service area boundary.

The purpose of this project is to develop facilities necessary to meet the needs of the current population (about 95) and the projected population (about 150) for the year 2020. To date, the existing community water system has been ineffective in meeting the water needs of the residents of Cundiyo. The CMDWCA was organized to develop a community water system for area residents, which meets both demand and safe drinking water standards.



**Figure 1: Project Vicinity Map**



Cundiyo, NM 7.5-minute  
USGS Quadrangle (1978)  
Santa Fe County, NM



- Currently Proposed Waterlines
- Previously Proposed Waterlines

0 0.125 0.25 0.5 0.75 1 Miles

1:24,000



Figure 2: Project Area Map



Currently the water system services 28 connections, utilizes 1.5-inch (in) and 2-in water mains, and has a 10,000-gallon (gal) water storage tank. The water delivery system has often run dry because the  $\pm 10$  gallon per minute (gpm) well and 10,000-gal water storage tank did not have enough capacity to meet maximum daily demands. Once the storage tank runs dry, it takes three to four days to become fully recharged. Frequently the storage tank is shut down to prevent it from running dry. Several existing homes use booster pumps because the existing storage tank is too low in elevation to adequately supply system pressure. The existing tank and water mains are also insufficient in supplying both peak flow and 250 gpm for two hours for fire protection. The American Waterworks Association (AWWA) recommends that small water systems have enough storage to provide water for this situation. The controls on the existing well (drilled in 1984) run on a timer and are located in a vault. Vaults are considered “confined space” under Occupational Safety and Health Administration (OSHA) regulations, meaning that the CMDWCA should have two people present, plus a harness and hoist, whenever entering the vault. The New Mexico Environment Department (NMED) recommends installing well controls in a meter box above ground. In addition, as the community grows, it should be able to service approximately 30 to 40 new connections.

The CMDWCA proposes to upgrade the capacity and function of the existing system by removing the existing water storage tank and installing a new larger capacity tank at a higher elevation (color to be determined by BLM). The Association would also like to replace the 1.5-in and 2-in water mains with 6-in and 8-in lines, replace the vault with a concrete block meter house (color to be determined by BLM), and install radio controls. In order to protect the meter house from vandals, a 6-ft high chain-link fence with single barb wire arms will surround it. The fence will be located 10 ft from the building and will total approximately 100 ft in length. The existing supply well is located on private property, and one new community well would be added to the system and located on BLM property. The BLM property was targeted due to cost estimates of placing facilities on private land and the elevation requirements for increasing flow. The associated new storage tank would be located either on BLM property or on private property. The water distribution lines would be installed along existing roads in the public right-of-way. The roads identified in the PER for water line installations are listed in Table 1.

Taschek Environmental Consulting (TEC), on behalf of the BLM and the CMDWCA, has prepared the following EA. The EA addresses the environmental conditions in the project area which encompasses approximately 0.5 square miles of surface area within the Cundiyo area. Cundiyo is located in north central New Mexico along State Road 503 (NM 503). It is situated where the Rio Frijoles and Rio Medio join to form the Santa Cruz River in Santa Fe County. The nearest city, Espanola, New Mexico, is located 18 miles northwest of Cundiyo. The rural community of Chimayo is located four miles northwest of Cundiyo, and the community of Pojoaque is located 10 miles southwest of Cundiyo. The project area is shown on the Figures 1 and 2.

**Table 1: Project Area Roads Proposed for Water Line Installation**

<b>Jurisdiction</b>	<b>Road Name</b>
New Mexico Department of Transportation	NM 503
Santa Fe County	Camino del Cañon
Santa Fe County	Camino del Molino

### **C. CONFORMANCE WITH LAND USE PLANS**

A portion of the proposed action is within an area that is covered by the BLM's *Taos Resource Management Plan* (RMP) (1988), although the land within Cundiyo is predominantly in private ownership. The RMP provides a comprehensive framework for managing public lands and allocating resources under the principles of multiple use and sustainable yield. The RMP also establishes areas of limited or restricted use (for example mining or grazing), and management directions. The proposed project is partially within BLM grazing allotment No. 535.

No impacts to BLM planning objectives are anticipated from the proposed project. Within the specific location of the Cundiyo Water System Improvements, there are no special management areas identified in the RMP. Conditions for issuing easements identified in the RMP include the specification that proposed easement not be within the easement exclusion area and that the applicant be a qualified user of public land. Both conditions are met, as the proposed BLM land is not within the easement exclusion area and the CMDWCA is a qualified user of public land.

### **D. RELATIONSHIPS TO STATUTES, REGULATIONS, OR OTHER PLANS**

The proposed project is consistent with other state, regional, and local planning documents and proposed actions. As proposed, the expansion of the Cundiyo water system is in conformance with Santa Fe County's Land Development Code. In addition, it meets Santa Fe County, the State of New Mexico, and the Environmental Protection Agency's (EPA) standards for water quality and safety.

Implementation of the Cundiyo Water System Improvements project will involve a variety of federal, state, and local permits, authorization and approvals, including consultation with federal, state and local government agencies and authorities. A summary of the authorizing actions is presented below:

Executive Order 11988 "Floodplain Management" requires that any potential impacts to floodplain areas be studied, assessed, and identified to reduce the risk of flood loss and to minimize the impacts to the beneficial values served by floodplains. If the final well sites selected involve floodplain locations, then a floodplain assessment and consultation with appropriate agencies will be conducted.

When final project design is completed and detailed construction plans are available, further consultation with the U.S. Army Corps of Engineers (USACE) and the NMED Surface Water Quality Bureau will occur to determine the CWA Section 404 and Section 401 permitting requirements.

BLM rights-of-way for wells, storage facilities, access roads, and pipelines will be required.

Applicable permits from the State Engineers Office related to Beneficial Use and Proof of Well Completion must be obtained prior to diverting water.

No other permits or authorizing actions are required prior to implementing the proposed action.

## E. PUBLIC SCOPING AND PUBLIC MEETING

On June 23, 2005 the BLM and the CMDWCA co-hosted a public information meeting / hearing on the proposed Cundiyo water system improvements at the Cundiyo Fire Station. There were no public concerns expressed (see Appendix C for sign-in sheet and summary).

Also on March 26, 2004, May 5, 2004, and June 21, 2004, scoping letters were sent to agencies seeking comment on the proposal to expand the development of the Cundiyo's water system. The comment period closed July 14, 2004. Eight letters were received that provided issues, concerns, or no comments (see Appendix A for letters). These included:

***Santa Fe County Certified Floodplain Manager*** (10/4/2005) (6/23/2004)

Portions of the proposed project are located within the 100-year floodplain. While these areas can not be entirely avoided, it is not anticipated that the project will adversely impact the existing floodplains. The project is expected to comply with the requirements of *Executive Order 11988 Floodplain Management*. The 1988 FEMA FIRM is current map for area of Cundiyo<sup>1</sup>.

***New Mexico Office of the State Engineer*** (7/12/2004)

Proof of application of water for Beneficial Use and Proof of Completion of Well needs to be filed with the New Mexico Office of the State Engineer. Meter readings have not been submitted on a regular basis. CMDWA must apply for appropriate permits prior to diverting water<sup>2</sup>.

***New Mexico Department of Transportation, Environmental Section*** (7/8/2004)

Acknowledged receipt of correspondence and looks forward to review of future resource studies.

***NMED Ground Water Quality Bureau*** (7/1/2004)

Acknowledged receipt of correspondence and indicated no comments.

***NMED Petroleum Storage Tank Bureau*** (7/1/2004)

Acknowledged receipt of correspondence and indicated no comments.

***Bureau of Land Management, Taos, New Mexico*** (3/26/2004)

Outlined process for BLM preparation of NEPA document and stated potential environmental concerns and issues<sup>3</sup>.

***National Park Service, Regional Office, Denver, CO*** (6/30/2004)

Acknowledged receipt of correspondence and indicated no comments.

***US Fish and Wildlife Service, Ecological Services*** (5/21/2004)

Response letter received plus additional information with correct county lists. If project area has habitat for listed species then species-specific surveys are recommended<sup>4</sup>.

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<sup>1</sup> Used the 1988 FEMA FIRM map for helping delineate floodplain areas in Cundiyo. Concur with the findings of Paul Kavanaugh, Santa Fe County Floodplain Administrator

<sup>2</sup> All appropriate documents will be filed with the New Mexico Office of State Engineers on a consistent and timely manner. All applicable permits will be obtained prior to implementation.

<sup>3</sup> Integrated BLM process for NEPA. All environmental concerns and issues are covered in this document.

<sup>4</sup> County lists have been corrected. In addition, no listed species were observed during the biological inventory of the project area. However, to avoid nesting season conflicts it is recommend that tree removal take place between September and March. If this is not possible, additional survey for active nests will take place prior to construction.



## CHAPTER II – PROPOSED ACTIONS AND ALTERNATIVES

### A. PROPOSED ACTION

The following section describes the proposed action, which will provide the Village of Cundiyo with an adequate supply of safe drinking water. The improvements that are proposed include the installation of a new well on BLM land, the construction of a new larger capacity storage facility at a higher elevation on BLM land, and the installation of larger diameter water lines primarily within existing roadway rights-of-way. The improvements are described in more detail below, in Section II.C.2.

The proposed action includes a new community well that would add capacity to the existing 10 gallons per minute (gpm) system for a total capacity of 27 gpm. The new well would be located on BLM property. The proposed action also includes a new 70,000 gallon storage tank to supplement the existing 10 gallon tank. The new tank and service road would be located on BLM property. After a review of alternatives, the BLM property was identified as the preferred location for the well due to the elevation requirements for the tank to provide pressure and increase flow. The location of the well was selected because of its proximity to the tank site. The water distribution lines would be installed along existing roads in the public right-of-way.

### B. PRELIMINARILY DISSMISSED ALTERNATIVE

#### 1. Dismissed Alternative – Extend a Water Main to the Vista Del Rio Subdivision and use the Subdivision Well

This alternative would extend the water main  $\pm 1800$  feet to connect the Vista Del Rio subdivision development to the Association's water system and an existing  $\pm 25$  gpm well. This development is located on the south end of Cundiyo along Camino del Cañon. The Association's existing  $\pm 10$  gpm well would continue to be used in conjunction with the subdivision's well. Water would be stored in a 70,000 gallon storage tank on BLM land.

The 70,000-gal storage tank would be located on BLM land to the west of Camino del Cañon (see Figure 2). This tank would be set at approximately the 6,932 ft contour. It would have a 15-ft wide 200-ft long access road at a grade of about 14%. The tank would be 30-ft in diameter, 16-ft high, and have a 20-ft wide driving area around it. The tank would provide a minimum of 40-pounds per square inch (psi) pressure for any house at or below 6,850 ft. The water transmission and distribution lines would consist of polyvinyl chloride (PVC) pipe in 6-in and 8-in sizes, installed within the public right-of-way along the existing roads. One pressure reducing valve would be located along the 8-in line in the center of town along NM 503, not far from the site of the existing 10,000-gal water tank. The fire suppression system will be based on compliance with the standards of the Insurance Services Office (ISO).<sup>5</sup>

This alternative was dismissed after the developer decided against connecting the existing  $\pm 25$  gpm well to the Association's water system.

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<sup>5</sup> These standards describe water storage criteria and water distribution requirements at hydrants.

## C. VIABLE ALTERNATIVES

### 1. Alternative 1 – No-Action (No improvements to the existing system or postponement of the improvements)

Under the No-Action Alternative, the Village would do nothing and leave the system as it currently exists. Due to the community's need for a consistent and reliable water source, and for fire suppression purposes, the "no-build" scenario is not recommended. It is, however, a possible future scenario, and is maintained for comparison purposes in this EA.

### 2. Alternative 2 – Proposed Action - Drill a new well but do not extend a water main to the Vista del Rio Subdivision

Alternative 2 is the Proposed Action. It would not extend the water main south along Camino del Cañon for  $\pm 1800$  feet to connect to the Vista del Rio Subdivision. Along with the existing Association well that pumps  $\pm 10$  gpm, additional capacity totaling 27 gpm would be added with a new well to address the community's needs for the next 20 years. With this alternative, a new well would be drilled adjacent to Camino del Cañon on BLM land. The easement from the BLM for the well site would be included in a larger easement for the storage tank and access road. The advantage of this alternative is that the Association would not have to install the additional  $\pm 1800$  feet of water main; however, the existing  $\pm 25$  gpm well would not be available for community use. The remainder of the system (70,000 gallon storage tank and service road) would be the same as the preliminarily dismissed alternative.

This alternative would meet the following water supply requirements: (See Table 2).

**Table 2: Water System Supply Requirements**

Specification	Current (2003)	Project Design and Projected (2023)
Connections Served	28	65
Production Capacity	10 gpm	27.1 gpm
Water Storage Capacity	10,000 gallons	70,000 gallons
Fire System Flow	10 gpm flow	250 gpm flow for 2 hours
Average Daily Demand Usage	6720 gpd	15,600 gpd
Peak Daily Demand Usage	16,800 gpd	39,000 gpd
Water Main Line	7000 feet	7950 feet
Production Wells	1	2
Storage Tanks	1	1
Pressure Reducing Valves	0	1
Fire Hydrants	4--?	8--?

## CHAPTER III – AFFECTED ENVIRONMENTS

### A. INTRODUCTION

The environmental resources evaluated in this document include classified lands, farmlands, floodplains, wetlands, surface water, groundwater, biological resources, vegetation, wildlife, threatened and endangered species, cultural resources, socioeconomic issues, environmental justice, public health and safety, air-quality, energy, transportation, visual impacts, and noise.

### B. GENERAL ENVIRONMENT

#### 1. Location

Cundiyo, New Mexico is located approximately 18 miles southeast of Española, New Mexico along New Mexico State Route 503 (NM 503) in north central New Mexico. It is situated in northern Santa Fe County not far from the Rio Arriba County line. Chimayo is located four miles northwest of Cundiyo and Pojoaque is located 10 miles southwest of Cundiyo. Cundiyo is situated where the Rio Frijoles and Rio Medio join to form the Santa Cruz River. This EA addresses the environmental conditions in the project area that encompasses approximately 0.4 square miles of surface area. (See Figures 1 and 2).

#### 2. History

Cundiyo was founded in the early nineteenth century by Captain Jose Antonio Vigil (Center for Southwest Research, UNM, 2004). The name Cundiyo is a Spanish corruption of another word from the Nambe Tewas that meant “round hill of the little bells” (Julyan, 1996). The village was established on the Cundiyo Grant which consisted of approximately 1,580 acres of land for livestock grazing and farming. The village became primarily a family village, with most residents of predominantly Hispanic origin and predominantly with the name Vigil. Four main irrigation ditches were developed: Acequia de la Placita, Acequia, de Molino, Acequia de los Cuarteles, and Acequia de los Barriales. Irrigated lands were cultivated for commercial crops including alfalfa, corn, oats, chili, garden vegetables, and some orchard fruit

In the 1920s the population consisted of 29 families and 129 individual residents (Center for Southwest Research, UNM, 2004). Since then the population has declined slightly to 21 families and 99 residents in 1948 and to 95 residents in 42 housing units in the 2000 Census (U.S. Census Bureau, 2000). The total land area of the village is 0.5 square miles.

#### 3. Climate

The climate for the area is classified as semi-arid. Average annual total precipitation is 9.82 in. Most of the precipitation comes in the form of rain from brief but intense thunderstorms occurring in the summer months, particularly July and August. Average annual maximum and minimum temperatures are 69.2°F and 34.6°F, respectively (Western Regional Climate Center, 2003). Data from the weather station in Alcalde, New Mexico, places the prevailing wind from the southeast (NMSU State Climate Network, 2003). Alcalde, NM is approximately 12 miles northwest of Cundiyo. Wind speeds over the state are usually moderate (an average annual wind speed of 10 miles per hour [mph] occurs at the Santa Fe airport) although strong winds and wind advisories do occur particularly in advance of thunderstorms.



#### 4. Topography and Geology

The geographic location of Cundiyo is shown on Figure 1 taken from the *Cundiyo, N.M.* Quadrangle of the United States Geological Survey (USGS) Topographic Map, 7.5 minutes series. Cundiyo is situated upstream of the Santa Cruz Reservoir where the Rio Frijoles and Rio Medio join to form the Santa Cruz River. The project area is bounded by the Sangre de Cristo Mountains to the east and the Rio Grande and Jemez Mountains to the northwest. The principle geologic formations underlying the Cundiyo area are valley alluvium and arroyo alluvium (Qal) and the Tesuque Formation of sandstone, mudstone, ash beds, and gravel (Tst).<sup>6</sup> Soil types and soils descriptions for the Cundiyo area were obtained from the US Department of Agriculture (USDA, 1975) Natural Resource Conservation Service (NRCS) Soil Surveys for Santa Fe County. The soil map units and descriptions are listed in Table 3.

#### 5. Land Use

Land use in Cundiyo is predominantly residential and agriculture with some light commercial uses. Agriculture has been an important cultural as well as economic component in the community. Tourism has not been an industry in Cundiyo, but may be changing with the location of small commercial art galleries in the community. The Santa Cruz Lake Recreation area attracts visitors for recreational uses.

A portion of the proposed action is within an area that is covered by the BLM's *Taos Resource Management Plan* (RMP) (1988). The RMP also dictates the management of the Santa Cruz Lake Recreation Area located just outside the southeastern tip of the project's service area boundary. However within the specific location of proposed project, there are no special management areas identified in the RMP. The portion of the project on BLM land is within designated grazing allotment No. 535, the Cundiyo Community Allotment.

#### 6. Farmland

Of the eight soil types classified for Cundiyo, four are described as supporting prime farmland if irrigated and not in urban or built-up areas. These are soil types Ed, Ee, Eh, and Ft, as described in Table 3. A copy of the soils map is included in Appendix A and the four soil types are highlighted in yellow.

**Table 3: Santa Fe County Soils Descriptions for the Cundiyo Area**

Map Unit	Description	Uses
AN	Ancho clay loam, 0-3% slopes, moderate permeability, medium runoff, moderate erosion.	Irrigated crops, range, wildlife habitat, and water supply.
Ed **	El Rancho sandy clay loam, 1-3% slopes, moderate permeability, medium runoff, moderate erosion	Irrigated crops, range, wildlife habitat, and water supply
Ee **	El Rancho sandy clay loam, 3-5% slopes, moderate permeability, medium runoff, moderate-severe erosion	Irrigated crops, range, wildlife habitat, and water supply
Eh **	El Rancho sandy clay loam, sandy subsoil variant, 0-3% slopes, moderate perm., medium runoff, mod.erosion	Irrigated crops, range, wildlife habitat, and water supply

<sup>6</sup> Geology of Espanola Basin, New Mexico by Vincent Kelley. Geologic Map 48 New Mexico Bureau of Mines and Mineral Resources 1978.

Map Unit	Description	Uses
Fn	Fruitland sandy loam, 0-3% slopes, moderately rapid permeability, slow runoff, moderate erosion	Irrigated crops, wildlife habitat and water supply
Ft **	Fruitland sandy clay loam, 0-3% slopes, moderately rapid permeability, slow runoff, slight erosion	Irrigated crops, wildlife habitat, and water supply
PB	Panky fine sandy loam, 0-5% slopes, slow permeability, medium runoff, moderate erosion	Range, wildlife habitat, water supply, and few areas for community development
PN	Pojoaque-Rough broken land complex, 9-25% slope, moderate permeability, rapid runoff, severe erosion	Range, community development, water supply, and wildlife habitat

\*\* Designated as Prime Farmland if Irrigated by the U.S. Department of Agriculture, Natural Resource Conservation Service

## 7. Floodplains

Executive Order 11988 “Floodplain Management” requires that any potential impacts to floodplain areas be studied, assessed, and identified to reduce the risk of flood loss and to minimize the impacts to the beneficial values served by floodplains. Project planning requires that proposed construction be compatible with floodplain areas and that impacts and mitigation measures be identified as needed. A Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Santa Fe County was consulted to identify floodplains within the project area. The Santa Fe County floodplain manager was also contacted to confirm current information. Floodplains are identified in Table 4.

**Table 4: Floodplains**

AREA / LOCATION	ZONE	REF
Arroyo/acequia at MP 10.95 on NM 503	X	1
Arroyo/acequia at MP 10.8 on NM 503	X	1
La Caja/Santa Cruz River at confluence of Rio Frijoles and Rio Medio (outside project limits)	X	1
Santa Cruz Reservoir (outside project limits)	A	1
All other areas in the project study area	X	1
REFERENCE: <b>Zone A:</b> Special flood hazard areas inundated by 100-year flood. <b>Zone X:</b> Areas determined to be outside the 500-year flood plain. 1. FEMA FIRM for <u>Santa Fe County</u> , NM, Unincorporated Areas, Panel No.350069 0020 B, 11/4/88 2. Paul Cavanaugh, Certified Floodplain Manager (CFM) (505-986-6225 at Santa Fe County Building). Reference for changes to Santa Fe County Map effective 8/5/1997.		

## 8. Wetlands

Jurisdictional wetlands, those protected under Section 404 of the Clean Water Act (CWA) and Executive Order 11990, have three essential characteristics: dominance by hydrophytic vegetation, hydric soils, and wetland hydrology.

One small patch of wetland vegetation was identified immediately adjacent to NM 503 at the arroyo crossing at MP 10.95. The wetland plant species observed was wire rush (*Juncus balticus*) an obligate wetland species. The patch of wire rush measured 20 ft by 3 ft paralleling the edge of the pavement on the west side of the road. Also at this point, the arroyo crosses under the highway through a culvert. The substrate under the wire rush was roadbed gravels, including red lava rock used on icy roads during the winter. Wetland delineation was not performed because the soil substrate would not meet a hydric soil test. Therefore, while a wetland species is present, the area cannot be classified as a jurisdictional wetland.

### 9. Surface Water

The major surface water feature in the project area is the Santa Cruz River with two tributaries, the Rio Frijoles on the east side of the project area and the Rio Medio on the north end of town. The Santa Cruz River flows west and north to the Santa Cruz Reservoir and through Chimayo to the Rio Grande. The current designated uses of the Rio Frijoles, Rio Medio, and Santa Cruz River are listed in Table 5 (New Mexico Water Quality Control Commission, 2002).

**Table 5: Santa Cruz River, Rio Frijoles, and Rio Medio Designated Uses**

Designated Use	Attainment Status
Marginal Cold Water Fishery	Not supporting
Wildlife Habitat	Fully supporting
Primary Contact	Fully supporting
Livestock Watering	Not supporting
Irrigation	Not supporting
Warmwater Fishery	Not supporting

### 10. Groundwater

Groundwater is the principal source of drinking water for New Mexico and the principal aquifer for this region is the Santa Fe Group Tesuque Formation. The depth to groundwater is variable, depending on the location and distance from the streams and other surface water features in the area. The Village of Cundiyo owns 19 acre-feet of water rights. The projected needs for the Village are 17.5 acre-feet in 20 years.

### 11. Biological Resources

A biological survey was conducted in March 2004 to inventory the biological resources (plants, animals, and habitats) in the project area (see Appendix D). The field survey focused on the ecologically less disturbed and natural areas within the southern portion of the project area (Camino del Cañon) as well as any potentially sensitive riparian/arroyo areas crossing NM 503.

The plant community / vegetation association in this area is described as Coniferous and Mixed Woodland, which for New Mexico primarily means piñon-juniper woodland (Dick-Peddie, 1993). During the biological survey, 61 species of plants were observed in the project area. These are listed and the general characteristics of the vegetation are described further in the biological evaluation report. None of the observed plants in the project area are listed as endangered, threatened, or sensitive species.



Three species of state-listed noxious weeds were observed in the project area during the biological survey: Russian olive, salt cedar, and Siberian elm. All are Class C listed weeds, as defined by the New Mexico Department of Agriculture, and are common across New Mexico.

Sixteen species of animals or their signs were observed during the survey: four mammals, seven birds, and five species of insects. These are listed and the general characteristics of the habitats are described further in the biological evaluation report. Some of the observed birds included American crows, piñon jays, mountain chickadees, black-billed magpies, and bushtits. None of these species are listed as endangered, threatened, or sensitive species.

Much of the natural wildlife habitat has been modified by the residential and agricultural developments. However, natural, undisturbed wildlife habitat within the project area primarily consists of the BLM and private land along Camino del Cañon. Except for the water tank sites most of the construction activities will occur in and along existing roads. There are two arroyo crossings along NM 503 at the north end of the project that may function as wildlife corridors.

## 12. Threatened and Endangered Species

To identify potentially occurring threatened, endangered, sensitive, or special-status species in the project area, federal and state agency lists were consulted in conjunction with an assessment of the actual site conditions. Examined lists included: the U.S. Fish and Wildlife Service (USFWS, 2004), the state-level *Inventory of Rare and Endangered Plants of New Mexico* (Sivinski and Lightfoot 1995), the New Mexico Department of Game and Fish (NMDGF), the Bureau of Land Management (BLM), and the New Mexico Natural Heritage Program (NMNHP). Those species potentially occurring within the project area, “target species,” are identified in Table 6 below. None of the listed species were observed in the project area during the field survey.

**Table 6: Target Species for the Project Area.**

<b>ANIMAL SPECIES</b>	<b>STATUS</b>
Lanius ludovicianus: Loggerhead Shrike	USFWS Species of Concern, BLM Sensitive
Buteo regalis: Ferruginous hawk	BLM Sensitive, USFS Sensitive
Buteo swainsoni: Swainson’s hawk	USFS Sensitive
Athene cunicularia hypugaea: Burrowing owl	BLM Sensitive, USFWS Species of Concern
Spilogale gracilis: Western Spotted Skunk	State Sensitive
Vireo vicinior: Gray Vireo	State Threatened, USFS Sensitive
Vulpes Vulpes: Red Fox	State Sensitive
<b>PLANT SPECIES</b>	<b>STATUS</b>
Astragalus cyaneus: Cyanic Milkvetch	Possible State Species of Concern
Astragalus feensis: Santa Fe Milkvetch	State Species of Concern
Cuscuta fasciculate: Santa Fe Dodder	Possible State Species of Concern
Opuntia viridiflora: Santa Fe Cholla	USFWS Species of Concern, State Endangered, BLM Special Status

### 13. Cultural Resources

A review of the records of the New Mexico Cultural Resource Information System (NMCRIS) of the Museum of New Mexico Laboratory of Anthropology, Archaeological Records Management Section (ARMS), was performed to identify previously recorded archaeological sites or historic buildings in the project area. A 100-percent coverage pedestrian field survey of the project area was also conducted to identify unrecorded sites and historic buildings within the project area of potential effect (APE). Because rights-of-way owned by the BLM and the NMDOT are affected by this project, all fieldwork was conducted in compliance with both BLM and NMDOT guidelines as well as the New Mexico Historic Preservation Division (HPD) guidelines.

The records review revealed that one previously recorded archaeological site, LA 11972, could extend into the project area. However the site, which was surface collected in 1974, was not relocated during the survey. A segment of the Acequia de la Placita (LA 110863) extends into the project area and was documented during the survey.

The entire project area is located within the Village of Cundiyo, which was listed in the New Mexico State Register of Cultural Properties (SRCP) in 1970 (SRCP No. 195), and is referred to as Santo Domingo de Cundiyo. Cundiyo was also assigned site number LA 100110 by the Laboratory of Anthropology in order to recognize its status as a cultural property listed in the State Register (SRCP No. 195). Despite the Village's listing in the SRCP, the boundaries are not clear regarding the historic district, and it is likely that many, if not all of the recorded buildings within the project area are located within the Santo Domingo de Cundiyo historic district.

No other previously recorded sites or properties listed on the SRCP or the National Register of Historic Places (NRHP) were located within the project's area of potential effect (APE).

During the survey of the APE, 14 historic buildings, a historic acequia, one prehistoric site, and six isolated manifestations (IMs) were recorded. The acequia and one side-gate of the Acequia de la Placita were recommended as eligible for inclusion in the NRHP under Criterion A. Building 2 of the survey (the Santo Domingo Catholic Church) is an adobe structure built in 1840 that is recommended as eligible for inclusion in the NRHP under Criterion A. The prehistoric site, LA 149332, consists of the possible remains of a PIII/PIV pueblo, and until subsurface testing can take place it is recommended as unevaluated as eligible for the NRHP.

The remaining historic buildings have undergone significant modifications and they are no longer good examples of the Northern New Mexico vernacular architecture.

### 14. Socioeconomic and Environmental Justice. Issues

Environmental justice (EJ) indicates the fair and meaningful involvement of all people regardless of race, color, national origin, or income with respect to development, implementation, and enforcement of environmental laws, regulations, and policies. The goal of fair treatment is not to shift risks among populations but to identify potential disproportionately high adverse impacts and to identify alternatives to mitigate those impacts. Under Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, it is federal policy to avoid disproportionately high or adverse impacts on minority and low-income communities.

To evaluate socioeconomic and potential environmental justice impacts, year 2000 Census data were obtained for low-income and minority populations in the project area. These data are compared to Santa Fe County and the State of New Mexico data in Table 7.

**Table 7: Demographic Characteristics**

Subject	New Mexico	Santa Fe County	Study Area <sup>(a)</sup>
Total Population	1,819,046	129,292	95
% Hispanic/Latino	42%	49%	100%
% Non-White	33%	26%	100%
% Below Poverty	18%	12%	23%

Source: U.S. Census Bureau, Census 2000

<sup>(a)</sup> Poverty level percentage is based on the total population of Cundiyo. Poverty data not detailed at the block level.

### **15. Public Health and Safety / Environmental Inspection**

A field inspection was conducted to investigate the possible presence of hazardous materials. The inspection included review of existing records, an on-site field inspection, and an evaluation of available data. These data show that Cundiyo has largely remained an agricultural community with a few new roads and residences. There are no major manufacturing or industrial facilities in the project area. Since major manufacturing and industrial facilities have not been a part of the development in Cundiyo, the past or current storage or releases of chemical products or wastes is not expected.

### **16. Air Quality**

Cundiyo is in an area in attainment for all state and national ambient air quality standards.

### **17. Transportation**

New Mexico State 503 is the main route through Cundiyo.

### **18. Visual Impacts**

Scenery is the aggregate of features that give character to the landscape and is an integrated part of ecosystem management. All lands administered by the BLM are managed to achieve some level of visual or scenic quality.

The BLM uses a Visual Resource Management (VRM) system to identify and manage scenic values on federal lands administered by the agency. The VRM system includes a visual resource inventory, which classifies visual resources on BLM land into one of four categories (Class I, II, III, or IV), and sets management objectives through the RPM process. The manner in which the four visual resource inventory classifications are determined is explained in BLM Handbook H-8410-1, *Visual Resource Inventory* and Handbook H-8431-1, *Visual Resource Contrast Rating* (BLM 1986). Table 8 provides information regarding the management objectives for the various VRM classes.

The Taos Field Office has not classified the Cundiyo project area for visual resource management through the RMP. Since there are no RMP approved objectives, an interim VRM class was developed using the guidelines in Handbook H-8410-1 and reflecting the management decision(s) made in the existing RMP (BLM 1988).



**Table 8: VRM Classes and Management Objectives**

<b>BLM - Visual Resources Management Class</b>	<b>Management Objectives</b>
Class I	Provides for natural ecological changes; however, it does not preclude very limited management activities. Level of change should be very low and must not attract attention.
Class II	Retain the existing character of the landscape. Management activities may be seen, but should not attract the attention of the casual observer.
Class III	Partially retain the existing character of the landscape. Level of change should be moderate but not dominate the view of the casual observer.
Class IV	Provides for major modification of the existing character of the landscape. Level of change can be high.

The visual resources field inventory conducted for the project in 2005 (Taschek Environmental Consulting) indicated that the scenic quality of the area includes rolling hills and vertical relief to the north, southeast, and west. The landform and vegetation of the project area are common in the region. The major cultural modifications that can be seen from the area include NM 503, Camino del Cañon, and residences to northeast, east, and southeast. The “scenic quality” rating under the BLM’s system is included in Appendix B.

### **19. Noise**

Existing noise in the project area consists of limited traffic and agricultural activity.

## CHAPTER IV – ENVIRONMENTAL CONSEQUENCES

### A. PROPOSED ACTION

#### 1. Introduction

The human and environmental resources potentially affected by the project include land use, farmlands, floodplains, wetlands, surface water, groundwater, biological, vegetation, wildlife, threatened and endangered species, cultural, socioeconomic issues, environmental justice, public health and safety, air-quality, energy, transportation, visual, and noise. The direct and indirect effects<sup>7</sup> of the proposed action are addressed below for each resource, followed by a discussion of cumulative impacts of the proposed action.

#### 2. Land Use

There are no adverse impacts to land uses anticipated as a result of the proposed project. Since the water line installation would occur in the public right-of-way along existing roads there would be no displacement of residential homes or businesses. The water system is planned to enhance water delivery, health, and safety for the existing community and its projected growth. It is not anticipated to change the character of the community or stimulate large-scale growth.

There are several places in the project area where private property fence lines are located immediately on the roadside, possibly in the right-of-way. Some of the fences utilize roadside trees as fence posts. Depending on the location of the right-of-way and the placement of the water line, some of this fencing and associated vegetation might be impacted; however, efforts will be made to avoid impacts to private property. In locations where private property may be affected by construction related to the Proposed Action, prior notification and coordination with the respective property owners will occur before construction commences.

BLM property would be affected by the project. The BLM manages the Santa Cruz Lake Recreation Area just outside the southeast tip of the project's service area boundary. The project would not impact these areas. The well, water tank, and associated access road would be constructed within BLM grazing allotment No. 535, the Cundiyo Community Allotment. The limited area of the tank and road are not expected to adversely affect the capacity or use of this grazing allotment. The road will be gated at the boundary of the BLM land, which will prevent livestock from getting onto traveled roadways where they would be exposed to traffic. The tank itself will be fenced to prevent graphite, which will also prevent livestock from accessing to the tank and interfering with valves and other devices.

#### 3. Farmlands

No farmland will be impacted by the Proposed Action. However, any temporary restrictions on irrigation ditches necessary during the construction period will be coordinated with the Santa Cruz Irrigation District (SCID).

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<sup>7</sup> Direct effects are caused by the proposed action and occur at the same time and place, which indirect effects occur later in time or farther removed in distance, but are still reasonably foreseeable and caused to the proposed action (*Code of Federal Regulations*, Section 1508.8).

#### **4. Floodplains**

Several possible locations for the future drilling and installation of water supply wells may involve floodplains and/or areas immediately adjacent to a 100-year floodplain, as defined by FEMA. Considerations for the locations of these floodplains, potential impacts, and associated costs of mitigation will be included in the final project design and well siting determinations. The water line installation is planned for the existing roadways and therefore should not impact floodplain areas; there will be no “occupancy of or modification to” floodplains.

#### **5. Wetlands**

Jurisdictional wetlands, those protected under Section 404 of the CWA and Executive Order 11990, are not present in the proposed project area. Therefore, no impacts to wetlands will take place from the Proposed Action.

#### **6. Surface Water**

No adverse impacts to surface water features or quality are anticipated as a result of the Proposed Action. If any irrigation ditches need to be temporarily restricted or modified during the construction period, then coordination with the SCID will occur. When final project design is completed and detailed construction plans are available, further consultation with the U.S. Army Corps of Engineers (USACE) and the NMED Surface Water Quality Bureau will occur to determine the CWA Section 404 and 401 permitting requirements.

#### **7. Groundwater**

Groundwater is the principal source of drinking water for Cundiyo and the principal aquifer for this region is the Santa Fe Group Tesuque Formation. The depth to groundwater is variable, depending on the location and distance from streams and other surface water features in the area.

Currently, the CMDWCA has 19 acre-feet of water rights which is estimated to satisfy the 20 year projected requirements of 17.5 acre-feet (based on 100 gallon per person per day consumption). The additional well allows the members of the CMDWCA to more efficiently access water for which they have valid water rights. If each member had an individual well, they would access the same aquifer; however, wells would require individual pumps and water would not be treated. Before any water can be diverted, the State Engineer’s Office will validate MDWCA’s right to divert water while concurrently certifying the sustainability of the well and water system. Because, the CWDWCA has valid water rights that will be independently reviewed by the State Engineer’s Office and because the proposed action would use the same water as CWDWCA members would use with individual wells, impacts to groundwater from implementation of the Proposed Action are not anticipated.

#### **8. Biological (Wildlife and Threatened and Endangered Species)**

In general, work is not expected to affect wildlife species, although it is possible that some small less mobile animals, especially soil dwelling animals, could be lost due to project activities. The United States Fish and Wildlife Service (USFWS) and the New Mexico Department of Game and Fish (NMDGF) typically request that trenches for water line construction should not be left open for extended periods of time and sloped escape ramps should be utilized to allow animals that fall into trenches to escape. If these recommendations are implemented, the proposed project will have minimal impacts to wildlife.

The Migratory Bird Treaty Act protects against the “taking” of migratory birds, their nests, and eggs except as permitted by the USFWS. Only one bird nest, belonging to a black-billed magpie, was observed within the project area. This nest was located in a Siberian elm tree on the east side of NM 503 at MP 10.8. If trimming or removal of the trees is done outside the nesting season, little or no impact to migratory bird species will occur. However, if construction is planned during the nesting season, a follow-up nesting bird survey should be conducted and appropriate protection or mitigation measures developed in coordination with the USFWS and the NMDGF. No impacts to migratory birds are expected if these guidelines are followed.

### **9. Vegetation**

None of the observed plants in the project area are listed as endangered, threatened, or sensitive species. Vegetation will be lost at the selected water tank location, but this loss is not considered substantial. Additional vegetation, including some woody plants, growing along side the roadways in the project area, may be disturbed or removed during construction. These localized impacts to vegetation will not adversely impact any plant species or plant community as a whole.

Three species of state-listed noxious weeds were observed in the project area during the biological survey: Russian olive, salt cedar, and Siberian elm. These weed species will be removed from the NMDOT right-of-way within the project limits during construction. The BLM’s practices on prevention of weed infestations will also be followed for the tank site and access road that are located on BLM land (see Section V.A.4).

### **10. Cultural Resources**

During the survey of the APE, 14 historic buildings, a historic acequia, one prehistoric site, and six isolated manifestations (IMs) were recorded. The acequia and one side-gate of the Acequia de la Placita are recommended as eligible for inclusion in the NRHP under Criterion A. Building 2 of the survey (the Santo Domingo Catholic Church) is an adobe structure built in 1840 that is recommended as eligible for inclusion in the NRHP under Criterion A. The prehistoric site, LA 149332, consists of the possible remains of a PIII/PIV pueblo, and until subsurface testing can take place it is recommended as unevaluated although it will be managed as eligible for its inclusion on the NRHP.

This project will not impact any unevaluated or eligible resource although all findings are subject to review and approval from the New Mexico (NM) State Historic Preservation Officer (SHPO). Therefore, pending SHPO approval, there will be no effect to the acequia, the church (building 2), or site LA 149332 from the Proposed Action.

### **11. Socioeconomic Issues**

The project is intended to enhance community health and safety. The character of the community is not expected to change as a result of the project and no adverse direct impacts to land uses are anticipated from the preferred alternative. Short-term direct effects include the removal of fences and vegetation extending into the right-of-way. In these locations, notification and coordination with the property owner will take place prior to construction.

## **12. Environmental Justice**

The proposed project will be conducted in a manner to ensure that there will be no exclusion of persons or populations from participating in the project or its benefits, and no discrimination because of race, color, income level, or national origin, in accordance with EO 12898. The project will not have adverse or disproportional impacts on low income or minority groups.

## **13. Public Health and Safety**

It is unlikely that any hazardous materials will be encountered during construction; however, in the event that contamination is encountered during excavation (e.g. any unusual odors, liquids, materials, or stained soils) then appropriate response procedures will need to be readily available. This includes work area controls, notification instructions, and subsequent investigations to determine the source and any appropriate response measures.

The affects of the Proposed Action are expected to be beneficial to the community. Not only will the project provide enough water to meet present and future demands, but it will also meet safe consumption standards. Further, the project will provide enough water to meet fire suppression requirements for the village.

## **14. Air Quality**

Implementation of the Proposed Action should not result in the degradation of air quality. Construction activities will incorporate dust suppression practices to prevent deterioration of air quality and the contractor will have a current air quality permit for any asphalt plants needed for pavement replacements.

## **15. Energy**

Since the project is currently in the engineering and design phase, detailed energy consumption information has not been determined. There will be one-time expenditures of energy during construction and reoccurring uses of energy for the operation and maintenance of the system. The costs of these uses of energy are reflected in the PER.

## **16. Transportation**

Implementation of the Proposed Action will have no permanent impacts to any transportation facility; however, construction will have temporary impacts on state and county roads in the area. During construction, some roads may experience detours and temporary closures. Standard traffic control measures will be in-place during the construction to limit traffic problems.

## **17. Visual**

A simulation was conducted to model the visual affects of the storage tank (Figure 3). Through the on-site visit and the modeling exercise using a visual resource contrast rating, it was determined that the project met the definition of a VRM Class II (see Table 8). Therefore, once the system is installed there will be little visual impact. However, the locations of the storage tanks and well houses may change the visual environment for the few residents within the line-of-sight. The simulation of the proposed tank was presented at the public information meeting on June 23, 2005. No concerns about the appearance of the tank were expressed at the meeting.



The proposed action has been designed to fit in with the existing environment in terms of form, line, and color. Mitigation of potential visual impacts will include a) matching the exterior color of the tank and meter house to the tone of the natural landscape, b) utilizing BLM approved colors, c) using anti-graffiti coating in the exterior paint, and d) re-seeding and re-contouring disturbed areas.



**Figure 3: Water Tank Simulation**

### **18. Noise**

Noise impacts will consist of construction disturbances such as increased traffic noise and the sounds of heavy equipment and machinery. These impacts are unavoidable but will be temporary, during the construction period. Well pump house noise may also create disturbances to nearby residences. This source of noise will be mitigated through the use of insulation.

### **19. Cumulative Impacts**

Cumulative impacts are those that result from the incremental effects on the environment of the proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or persons undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (*Code of Federal Regulations, Section 1508.7*)

For the proposed CMDWCA action, cumulative impacts include visual effects and minor losses of vegetation and wildlife habitat associated with the storage tank and access road on BLM land, in combination with other activities such as grazing, illegal dumping, wood cutting, and off-road vehicle use on BLM land in the area. The impacts of the proposed action on these resources are expected to be relatively minor, as described in the previous sections. Other activities on BLM land are also regulated to minimize adverse impacts. There are no other ongoing or reasonably foreseeable public or private actions known in the area for which this project would result in cumulative adverse effects.

Development activities that have occurred and are likely to continue throughout the region include residential and commercial uses on private land. The proposed action will support development by enhancing the efficiency and capacity of the existing water supply and delivery system; however, by itself the improved system will not cause growth or adversely affect groundwater. Development can continue to occur without the proposed improvements, utilizing individual wells that access the same aquifer. Many other areas have ample water systems; consequently, there is no reason to believe that additional development would occur in the Cundiyo area to take advantage of the proposed water system improvements. The proposed action will not cause any other projects to become necessary.

## **B. NO-ACTION ALTERNATIVE**

### **1. Introduction**

The No-Action Alternative would continue to provide 28 service connections with 1.5-inch and 2-inch water mains and a 10,000-gallon water storage tank. No additional connections to the community system could be made. The direct and indirect effects of the No-Action are addressed below for each resource, followed by a discussion of cumulative impacts of the No-Action.

### **2. Land Use**

No impacts to land uses are expected as a result of the No-Action Alternative. For example, no limitations on growth would occur because of the condition of the water system in the Village.

### **3. Farmlands**

No farmland will be impacted by the No-Action Alternative.

### **4. Floodplains**

The No-Action Alternative will have no affect on floodplains.

### **5. Wetlands**

No impacts to wetlands will take place through the No-Action Alternative.

### **6. Surface Water**

No adverse impacts to surface water features or quality would result from the No-Action Alternative.

## **7. Groundwater**

The No-Action Alternative will have little effect on groundwater. The existing system with the addition of other individual wells would serve a similar population from the same aquifer. The proposed system would increase well efficiency and water storage and delivery capacity, but would not increase the total withdrawal of groundwater.

## **8. Biological (Wildlife and Threatened and Endangered Species)**

No impacts to biological resources would occur from the No-Action Alternative.

## **9. Vegetation**

No impacts to vegetation are expected from the No-Action Alternative.

## **10. Cultural**

No impacts to cultural resources are expected from the No-Action Alternative.

## **11. Socioeconomic Issues**

The No-Action Alternative would not accommodate growth in domestic water use or needed fire suppression capacity with the community water system. Individual wells could address domestic water supply needs, but the area would lack adequate fire-fighting capabilities.

## **12. Environmental Justice**

The No-Action Alternative will not have adverse or disproportional impacts on low income or minority groups.

## **13. Public Health and Safety**

The No-Action Alternative would adversely affect the community by limiting the availability of safe water and reducing the Village's ability to fight fire.

## **14. Air Quality**

The No-Action Alternative would not result affect or change existing air quality.

## **15. Energy**

The No-Action Alternative would slightly reduce direct energy consumption.

## **16. Transportation**

The No-Action Alternative would not disrupt traffic or change traffic patterns.

## **17. Visual**

The No-Action Alternative would not have visual impacts.

## **18. Noise**

The No-Action Alternative will have no affect on noise.

## **19. Cumulative Impacts**

The No-Action Alternative would not affect or change the environment of the area; consequently, it would have no cumulative impacts.

## CHAPTER V—POSSIBLE MITIGATION AND MONITORING MEASURES

### A. MITIGATION MEASURES FOR AFFECTED RESOURCES

#### 1. Land

Efforts will be made to avoid impacts to mail boxes, fence posts, and vegetation along the roadside; however, some of this private property may be impacted. In locations where private property may be affected by construction, prior notification and coordination with the respective property owners will occur before construction commences. Following any construction on BLM lands, the area will be seeded and mulched. Also, per Item No. 17 of the DESCRIPTION OF BID ITEMS (Section 00309-3), any excess material from road and tank site grading will be removed from BLM lands.

The water tank and associated access road would be constructed within BLM grazing allotment No. 535, the Cundiyo Community Allotment. The limited area of the tank and road are not expected to adversely affect the capacity or use of this grazing allotment. The road will be gated at the boundary of the BLM land, which will prevent livestock from getting onto traveled roadways where they would be exposed to traffic. The tank itself will also be fenced to prevent graze, which will also prevent livestock access to the tank.

#### 2. Surface Water

Identification of sensitive environments around the river crossings will be included in the construction plans and operational controls, such as silt fences, will be utilized during construction in these areas. These operational controls include:

- a) controlling vehicles and equipment to restrict off-road use,
- b) preventing impacts to soils (erosion controls),
- c) preventing destruction of vegetation along embankments,
- d) control of stormwater and sediment from areas disturbed by construction,
- e) preventing releases of materials from the construction zone, such as soils and plant material, trash, and oil or fuel from equipment.

Regulatory controls will include development of a stormwater pollution prevention plan (SWPPP) under the National Pollutant Discharge Elimination System (NPDES) permit process.

Consultation with the USACE will continue as more detailed plans are developed to determine the CWA Section 404 permitting requirements. Consultation with the NMED Surface Water Quality Bureau will also occur to determine Section 401 permitting requirements.

If any irrigation ditches need to be temporarily restricted or modified during the installation of the water lines, coordination with the SCID will occur.

Also, specifications will require the drilling contractor to excavate mud pits and recirculate the drilling fluids. The clean water from test pumping and development will drain down the adjoining arroyo.

### **3. Air Quality**

Some short-term deterioration of air quality may be expected during construction due to the operation of equipment. To address this issue, standard air quality mitigation measures would be implemented, including using a water truck to wet exposed soils to minimize generation of dust. Santa Fe County is currently in attainment of the National Ambient Air Quality Standards for all listed pollutants and the Proposed Action is not expected to affect this status in any way.

### **4. Vegetation**

Efforts will be made to avoid impacts to vegetation along the roadside. The sensitive environments around the river crossings will be identified in the final plans and operational controls will be utilized during construction in these areas.

Noxious weed species will be managed in accordance with NMDOT and BLM standards within their respective rights-of-way and management areas. Management measures on BLM land will include use of fill from a weed-free source and provisions that all heavy equipment will be cleansed of mud and dirt prior to entering and exiting BLM land to avoid the transfer of noxious weed seeds. Should noxious weed infestations be found at the proposed BLM site, the holder (Cundiyo MDWCA) will provide for treatment of noxious weeds with methods approved by the BLM Taos Field Office.

### **5. Wildlife**

In accordance with USFWS and the NMDGF) practices, trenches for water line construction will not be left open for extended periods of time and sloped escape ramps will be utilized to allow animals that fall into trenches to escape.

Construction dates are not currently known. If construction activities are planned for the bird breeding/nesting period (March-August), then nest surveys will be conducted by the contractor in charge of construction before any trees are removed. Copies of the survey report will be made available to the BLM: Taos Resource Office. If active nests are present, then permit approval will be obtained prior to construction by the BLM from the USFWS, in compliance with the requirements of the Migratory Bird Treaty Act.

### **6. Cultural Resource Measures**

The original cultural resource survey determined that the Santo Domingo Catholic Church and the surrounding cemetery should be avoided during proposed project activities. The plan for waterline installation was subsequently adjusted to avoid the church area completely. Subject to the recommendations that no work would occur within a buffer of at least 20 feet from the wire fence that delineates the cemetery boundary, and 35 feet from the church itself, a finding of no adverse effect was approved by the BLM, SHPO, and NMDOT. However, if buried cultural resources are discovered during project activities, work should cease immediately and the contractor should notify the SHPO.

### **7. Transportation**

During construction, some roads may experience temporary detours or road closures. None of these are BLM roads, and appropriate utility permits will be obtained from the NMDOT to work within the NM 503 right-of-way.



Standard traffic control practices will be incorporated into construction planning to help avoid or limit traffic problems. These include strategically placed signs, lights, barrels, barricades, cones, flags, and speed limit reductions, as well as coordination with property owners and residents.

### **8. Visual Impacts**

The proposed action has been designed to fit in with the existing environment in terms of form, line, and color. Mitigation of potential visual impacts will include a) matching the exterior color of the tank and meter house to the tone of the natural landscape, b) utilizing BLM approved colors, c) using anti-graffiti coating in the exterior paint, and d) re-seeding and re-contouring disturbed areas. A simulation conducted to model the visual affects of the storage tank was presented at the public information meeting on June 23, 2005. No concerns about the appearance of the tank were expressed at the meeting. Coordination and consultation with the BLM regarding the visual impacts of the tank will continue as the final design proceeds.

### **9. Noise Impacts**

Noise impacts will consist of construction disturbances such as increased traffic noise and the sounds of heavy equipment and machinery. These impacts are unavoidable but will be temporary, during the construction period only. Well pump house noise may also create disturbances to nearby residences. Appropriate noise insulation for well houses will be provided as needed. No state or federal standards apply to noise levels from pump stations, and the Village of Cundiyo does not have a noise ordinance; however, typical standards from other communities would stipulate a 65 decibel or less noise level at the exterior of the pump house.

### **10. Public Health and Safety / Environmental Inspection**

In the event that contamination is encountered during construction (e.g. any unusual odors, liquids, materials, or stained soils), appropriate response procedures will be implemented. The contractor will develop such a response plan prior to construction. If any electrical equipment in the project area needs to be relocated during construction, attention will be given to the proper handling to assure against accidental leak of PCB containing fluids.

## **B. MONITORING**

Provided that project activities avoid the Santo Domingo Catholic Church and the surrounding cemetery and other identified archeological sites, monitoring is not required for protection of cultural resources. No other monitoring activities are required.

## **CHAPTER VI- CONSULTATION AND COORDINATION**

### **A. DISTRIBUTION**

The preparation of the EA was conducted in consultation with numerous federal, state, and local agencies, as documented in Appendix A. A publicly advertised, opened meeting was also held on June 23, 2005, at the Cundiyo Fire Station, to provide information about the project to interested members of the public. In accordance with BLM's requirements, an additional period of public review and comment will be held prior to a final decision record for the Proposed Action.

## **B. LIST OF REVIEWERS**

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## **APPENDIX A**

# **AGENCY AND PUBLIC COORDINATION**



## **APPENDIX B**

# **ENVIRONMENTAL JUSTICE INDEX**

## **APPENDIX C**

# **PUBLIC HEARING SUMMARY**

**APPENDIX D**

**BIOLOGICAL EVALUATION**