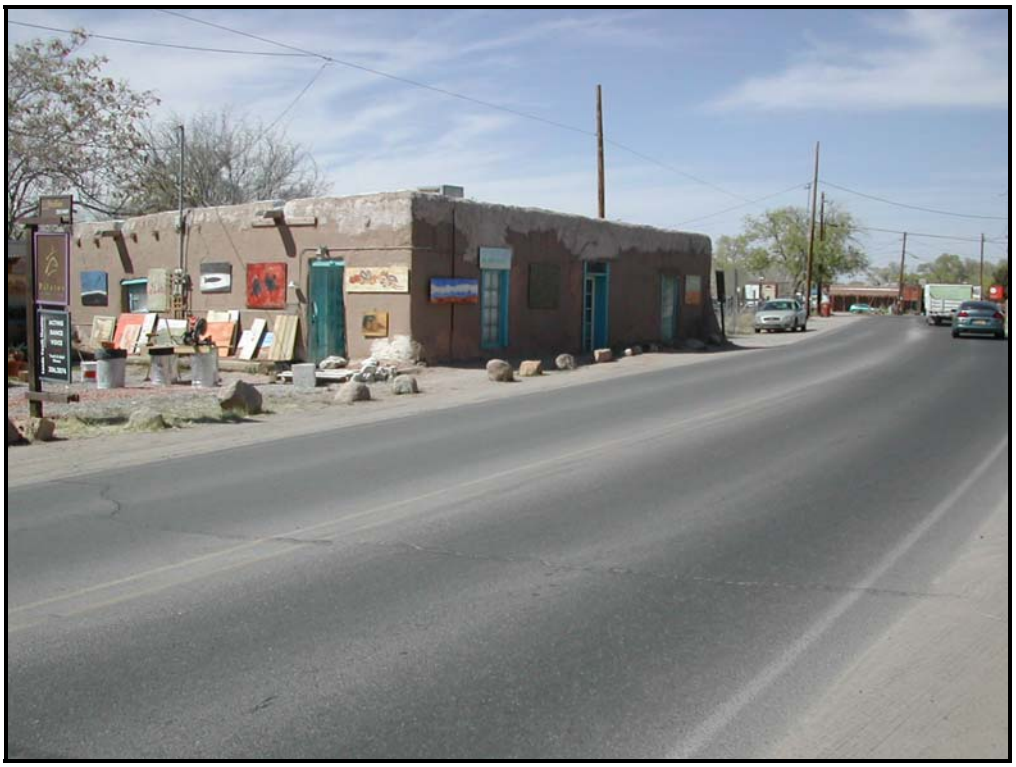
ENVIRONMENTAL INFORMATION DOCUMENT

Business Core Wastewater Collection System
for
Village of Corrales, New Mexico



Submitted to:

Village of Corrales

and

The New Mexico Environment Department - Construction Programs Bureau

November 2008

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Environmental Information Document
Business Core Wastewater Collection System

Village of Corrales
Corrales, New Mexico

November 2008

Submitted to:

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This report was prepared by Souder, Miller & Associates as per New Mexico Environmental Department – Construction Programs Bureau - State Environmental Review Process (revised 1/02/08) and the National Environmental Policy Act

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1.0 PURPOSE AND NEED OF PROJECT

1.1 Project Description

The purpose of the project is to install a wastewater collection system along an approximate 15,100 linear foot portion of NM-448 (aka Corrales Road) from the intersection of Old Church Road southwards to Calle Cuervo Road in the Village of Corrales, New Mexico. The proposed wastewater collection system will be installed within the right-of-way (ROW) of NM-448. Wastewater collection system options being considered include a single 6-inch diameter, a single 8-inch diameter and twin 6-inch diameter wastewater collection mains. The project will provide a wastewater collection system for the primary business district in Corrales, (aka Business Core) which includes approximately 45 businesses. The Village of Corrales currently relies on septic systems and leachfields for wastewater treatment and disposal, with the exception of several small wastewater package treatment units and holding tanks that must be frequently pumped and hauled to other municipal treatment plants. The New Mexico Environment Department (NMED) has published the statement in 2005, "Septic tank effluents have adversely impacted groundwater quality in the Village of Corrales". The installation of the Business Core wastewater collection system will help to improve and sustain groundwater quality in the Village of Corrales.

The businesses and residences located along the Corrales Road Business Core will connect to the wastewater collection main by utilizing lateral connections installed to existing septic tanks. A septic tank filter would be required to be installed in existing septic tanks. An effluent pump would also be required for existing septic tanks and would be installed between the septic tank and the existing leachfield. The septic tank effluent pump will provide the pressure required to charge the low pressure wastewater collection main and transport septic tank effluent to a down gradient lift station located just south of the Village of Corrales boundaries. This low pressure wastewater collection main, also known for this application as a Septic Tank Effluent Pump (STEP) system will be connected at the end point of construction to the City of Albuquerque/Bernalillo County Water Utility Authority (ABCWUA) lift station located on east side of NM-448 at the intersection of Calle Cuervo Road and Corrales Road. The wastewater project will extend the lateral connections from the STEP collection main to the apparent edge of the NMDOT NM-448 ROW. Business and homeowners fronting Corrales Road within the Business Core area will be required to install the septic tank filters, effluent pumps, and lateral connection piping to the edge of the NMDOT ROW. Flow meters may also be required to be installed by businesses and homeowners.

The STEP system will be installed using directional boring techniques which will minimize the impact to the subsurface, traffic, adjacent structures, existing utilities, and access to businesses. Since the project will be constructed using relatively small diameter piping (6 to 8-inch diameter for the collection main and 1.5 to 2-inch diameter for lateral services), the directional boring machines utilized will be approximately the size of a large pick-up truck. The preliminary design for the project includes the use of high density polyethylene piping (HDPE), which is flexible, strong and chemically resistant. The HDPE piping will be placed in the directional borings in 40-

foot or longer lengths and fusion welded. The directional borings will be constructed in approximate 750-foot lengths, with a staging area required at either end of each pipe run.

The primary impacts to the subsurface will be the staging areas, which are anticipated to be approximately 20-feet long, by 4-feet wide and 4-feet deep (80 square feet). NMDOT requires the wastewater collection main to be installed at a depth of four feet below grade and requires the low pressure collection main to be cased wherever it passes underneath NM-448 paving. The anticipated area of potential effect (APE) for the wastewater collection force main will be approximately 1,610 square feet or 0.036 acres. The APE associated with the lateral service connections (assumed to be 50 connections at 80 square feet each) is anticipated to be approximately 4,000 square feet, or 0.09 acres. A series of air relief valves and pipe cleanouts will be required and will be placed in traffic rated vaults, or manholes. The number of cleanouts and air relief valves will not be determined until final design is completed, but anticipated to be approximately ten locations. The disturbed area associated with the air relief valve vaults is anticipated to be approximately 80 square feet each, or a total of 800 square feet (0.018 acres). The total disturbed area (APE) associated with the project is anticipated to be approximately 0.17 acres.

A Preliminary Engineering Report (PER) was prepared by the Larkin Group in multiple stages during 2005 to 2007 which described various alternatives to meet the wastewater needs of the Village of Corrales. Souder, Miller & Associates (SMA) prepared a Peer Review Report in January 2008 that reviewed and updated the PER prepared in 2007. The PER and Peer Review Report described various alternatives for wastewater collection, treatment and disposal for the Village of Corrales. The scope of the PER and Peer Review Report also included an inspection and assessment of the existing wastewater collection system, existing on-site wastewater systems, environmental resources present with in the project area, growth area and population trends. The Peer Review Report also identified areas of groundwater contamination within the Village and divided the Village into sectors of highest to lowest needs with schedules for implementation of wastewater collection or use of advanced treatment systems. The Business Core was identified as a sector of high needs.

This report addresses the Environmental Information Document (EID) portion of the scope of work pursuant to the New Mexico Environment Department - Construction Programs Bureau (NMED-CPB) State Environmental Review Process document dated 1/2/08. The EID is prepared in part to comply with the requirements of the National Environmental Policy Act (NEPA). To fulfill the requirements of NEPA, NMED-CPB is required to prepare a written assessment that describe the affected environment and environmental consequences of a proposed project; reasonable or practicable alternatives to the proposed project; and any mitigation measures necessary to avoid or minimize adverse environmental effects.

1.2 Purpose and Need of Project

1.2.1 Current Wastewater System

The Village is primarily comprised of conventional septic tank wastewater treatment systems for domestic wastewater. According to NMED Liquid Waste Program personnel, there are a few residential advanced treatment units (ATUs) in the Village. Some septic tanks for businesses and the municipality are periodically pumped rather than discharged to a leachfield. There are three current commercial wastewater treatments systems in the Village that use non-septic tank types of treatment systems. Information on these systems is available from discharge permits listed in the NMED database. Information regarding these three systems is shown in the following table.

Table 1: Current Commercial Non-Septic Tank Treatment Systems in Corrales

Name	NMED Discharge Permit No.	Permitted Daily Flow (gpd)	Type of Treatment System
APS-Corrales Elem. School	1099	13,300	Constructed wetlands
Pueblo Los Cerros	131	20,000	Extended aeration
Village Pizza	1159	5,000	Constructed wetlands

All existing wastewater facilities in the Village process domestic wastewater. There are no known commercial or industrial wastewater facilities in the community.

There are no municipal water systems in the Village. There are less than 20 small public water systems that serve municipal facilities or businesses.

Location Map

There is no municipal wastewater system in the Village. The majority of the households and businesses have a conventional septic tank system, unless noted above. A location map is not provided as there is no municipal system.

History

The Village was first settled in the early 1700's. Agriculture has been a mainstay for hundreds of years. The Village was incorporated in 1971. There are no municipal water or wastewater facilities provided by the Village. Wastewater systems in the Village are primarily comprised of individually owned and operated residential and commercial conventional septic tank systems with leachfields. There are a number of leachfield mound systems constructed on the east side of Corrales Road, due to high groundwater and poorly draining soils. NMED and Village members also report a number of cesspools in the Village but the total number and extent is unknown. It is assumed that any cesspool would be located in areas of the Village developed prior to 1973 as that is the year regulatory requirements were put in place preventing future installation of cesspools.

Condition of Facilities

The NMED Liquid Waste Program reports that there are a number of problems with the existing septic tanks in the Village. NMED receives a number of calls regarding the location of septic

tanks and the failure of leachfield systems. Since a number of the calls involve the location of an individual's septic tank, NMED suspects a number of Village members do not pump out their septic tanks on a regular basis.

Financial Status of Existing Facilities

This is no existing municipal wastewater system. Funds for wastewater planning and future design and construction have been received from the EPA, and State of New Mexico legislative appropriations, and Sandoval County. These funds ($958,200, $103,909.58, $77,000, $200,000 and $750,000, respectively) total approximately $2,089,109.58. There is currently a matching fund of $1,130,909.58 which exceeds the $1,041,800 required for the EPA grant that is required to be provided by the Village.

Annual Operations and Maintenance Costs

There is no municipal wastewater system. The Village does operate several conventional septic tank systems for municipal offices, a library and a recreational facility. These systems and the costs to operate them were addressed in the PER prepared by Larkin.

Users

There is no municipal wastewater system. The Village operates several conventional septic tank systems for municipal offices, a library and a recreational facility.

Financial Income and Expenses

There is no income from municipal utilities as they are not provided by the Village.

Existing Debts and Reserve Accounts

SMA is not aware of any existing debts or reserve accounts for future municipal utilities.

1.2.2 Health, Sanitation and Security

Health, Sanitation, and Security

Reports and data collection concerning potential impacts of septic systems to the groundwater in the Village area have been generated over the past 20 years. Groundwater samples collected and analyzed in this period of time have shown sporadic impacts to groundwater from septic tank discharges. These impacts have not been able to be confirmed for any given period of time. These impacts have been documented as follows:

- Nitrate level exceeding the EPA and NMED standard of 10 mg/L in 5 percent of the 137 wells sampled (NMED 1994 Water Fair)
- Nitrate level exceeding 5 ppm (a previously suggested target level for nitrate) in 17% of the 137 wells sampled (NMED 1994 Water Fair)

Nitrate levels exceeding 2 ppm (NMED assumes a concentration of 2 ppm nitrate in groundwater to be naturally occurring, or "background" concentration) in 24 wells widespread across the Village on the west side of Loma Larga Road (*Ground-Water Quality in Corrales,* NMED, December 6, 2005)

- Substantial concentrations of iron (greater than Secondary drinking water quality standard of 0.3 ppm) widespread across the Village in 14 wells on the east side of Loma Larga Road (*Ground-Water Quality in Corrales,* NMED, December 6, 2005)
- NMED reported anoxic conditions having occurred in Corrales in one public groundwater well and 79 residential groundwater wells and in part are attributed to septic tank discharges (*Onsite Sewage Management in New Mexico,* NMED Liquid Waste Program, October 11, 2006)

NMED has published the statement "Septic tank effluents have adversely impacted ground-water quality in the Village of Corrales (*Ground-Water Quality in Corrales, Middle Rio Grande Basin, New Mexico*, NMED Interim Progress Report, December 6, 2005).

Measured groundwater impacts over the years have been widespread across the Village and have not been typically concentrated in any given areas, although there appears to be some correlation between the number of occurrences and the density of housing. There also appears to be a correlation with depth to groundwater.

The Village implemented a voluntary well sampling and testing program in 2006. A total of 140 wells, 4.6 percent of the estimated 3,000 wells in the Village, were sampled and analyzed. Results of the voluntary testing of 140 private wells did not indicate any exceedences of maximum contaminant levels (MCLs) for primary drinking water quality standards, however, there were significant concentrations of nitrates (> 2ppm background) detected in 12 of the samples. There were numerous exceedences of non-regulated secondary maximum contaminant levels (SMCLs) for iron and manganese. The analytical suite during the 2006 program did not include Total Kjeldahl Nitrogen (TKN). TKN is analyzed to determine the amount of organic nitrogen present and is used to determine the presence of wastewater contaminants in groundwater. TKN can oxidize to nitrate, a regulated primary groundwater standard contaminate, in the presence of oxygen. Anoxic conditions can prevent this process from occurring. The results of the 2006 sampling event are summarized in the following table.

Table 2: Summary of 2006 Village Voluntary Groundwater Sampling Event

Primary Drinking Water Standard	**Contaminant**	**MCL (ppm)**	**No. Samples NO_3-N > 5 ppm**	**No. Samples NO_3-N > 2 ppm ≤ 5ppm**
	Nitrate as Nitrogen (NO_3-N)	10	1 (0.7%)	11 (7.8%)
Secondary Drinking Water Standard	**Contaminant**	**SMCL (ppm)**	**No. Samples > SMCL**	---
	Iron (Fe)	0.3	18 (12.9%)	---
	Manganese (Mn)	0.05	75 (53.6%)	---

The results of the Village 2006 voluntary groundwater sampling event mimics past voluntary groundwater sampling events in that there are a number of samples that exhibit nitrate concentrations above the established background target levels of 2 ppm. There are also a significant number of samples that exceed the SMCL for iron and manganese, which are indicative of anoxic conditions. Anoxic conditions can prevent the oxidation of organic nitrogen to nitrate.

The Village has again implemented the voluntary well sampling and testing program for 2007 but data has not been provided as of the date of this report. SMA provided recommendations to the Village prior to implementing the 2007 program. One recommendation was for analyzing TKN in the samples. The Village has implemented this recommendation for this current sampling program. A better indication of the potential levels of organic nitrogen in anoxic zones is expected.

Most of the groundwater data, either historic, or currently being collected, has been on a voluntary basis. Sporadic sampling of wells throughout the Village does not enable the creation of a consistent analysis baseline. The estimated cost to provide such a baseline is provided below. SMA believes it is also important to note that it would also be very difficult and expensive to consistently measure the impact of individual septic tanks to the large aquifer that exists beneath the Village. It is not prudent for the Village to wait until consistent and defined groundwater impacts can be substantiated from a voluntary sampling program. If such an event would occur it would likely be classified as an emergency and substantial costs would be incurred. Such an event would also prompt regulatory action by NMED.

In the event the Village were to implement a comprehensive groundwater monitoring program, it is estimated that approximately 300 shallow monitoring wells would be required to monitor the upper aquifer, assuming approximately one well per 20 acres across the Village. Well depth would vary depending on depth to water, but would average 25 feet. Additionally, it would be necessary to monitor groundwater most likely being used for domestic supply. It is projected that 30 deep wells would be needed, assuming one well per 200 acres across the Village. Deeper wells are projected to be completed to a depth of 200 feet. Given a projected cost of $750 per well for shallow wells and $5,000 per well for deeper wells, total well construction cost would be approximately $375,000.

Following well installation, it would be necessary to determine baseline groundwater conditions for each well. This would entail quarterly monitoring of groundwater for a minimum of four consecutive quarters. Common parameters used to determine impact from domestic wastewater include nitrate (as nitrogen), TKN, chloride, and total dissolved solids (TDS), at a minimum. Cost to monitor each well for this parameter suite, including field work, sample analysis, and a brief letter report of results would be approximately $100,000 per sampling event, or $400,000 to determine baseline conditions. Following determination of baseline conditions, wells would likely be monitored annually, with associated costs. The estimated total cost to implement a Village-wide groundwater monitoring program for a sampling period of one

year is $775,000. Each subsequent year of monitoring would cost $100,000 (annual sampling) to $400,000 (quarterly sampling).

The inability for data to provide consistent results is believed to be one of the major reasons why some community members do not believe any action is required.

There are currently 16 active small public water systems within the Village. These public systems are required by NMED Drinking Water Bureau (DWB) to periodically collect and analyze drinking water samples from their wells. A review of this information indicates a number of these systems have been in violation for not sampling their wells or have violated regulatory standards for coliforms, however, there have been no reported coliform MCL violations for fecal coliform or E. coli. It was also noted that three systems reported nitrate concentrations of 0.05 ppm to 0.43 ppm in 2006 and these same systems reported nitrate concentrations in 2007 of 1.84 ppm to 4.14 ppm. This is a significant increase in concentration (order of magnitude) of nitrate in a short period of time.

There appears to be a consistent trend in the Village for septic tank problems and installation of new groundwater wells, which may be related. NMED Liquid Waste Program personnel indicated they are in Corrales on an almost daily basis. They receive numerous calls on septic tank backups and surfacing wastewater from leachfields. In some cases NMED said residents overload their septic system. NMED also suspects some septic systems discharge to the Rio Grande. NMED also said that the Rio Grande is expected to be classified in the near future as an impaired water body due to nutrient loading. If this occurs, NMED will have regulatory authorization to prevent uncontrolled wastewater discharges to the Rio Grande.

Rodgers & Company, an Albuquerque well driller, has indicated that they keep a drilling crew busy almost full time in Corrales. This indicates a number of wells needing repairs, being drilled deeper, or being replaced. SMA suspects that existing septic tanks may have some effect on this level of activity as there is not the level of new construction to require this level of need.

NMED Liquid Waste Program personnel indicated that the Office of the State Engineer (OSE) may soon expand the required separation of well and septic tank from 100 feet to 150 feet. NMED Liquid Waste Program has also published a report that suggests 0.75-acre (the current minimum lot size required) may not be large enough for a conventional septic tank system. These likely forthcoming regulatory changes support the concern of regulatory agencies regarding septic tank systems, and ultimately, the need for the project.

The need for a system was discussed with Mr. Bart Faris, NMED Groundwater Quality Bureau, Albuquerque. Mr. Faris has been involved with previous NMED data collection, synopsis, and reports for the Village and indicated there is a need for more advanced wastewater treatment in the Village even though groundwater quality standards have not been exceeded for a given period of time.

SMA contacted the NMED DWB Albuquerque office and discussed drinking water in the Village with Mr. Damian Luna, E.I.T. Mr. Luna is responsible for oversight of public water systems in Corrales. Mr. Luna stated that he was not aware of any exceedences of MCLs for public water systems in the Village, as noted previously above. NMED DWB does not have regulatory responsibility for private wells.

SMA spoke with Ms. Jane DeRose-Bamman, NMED Surface Water Quality Bureau Monitoring & Assessment Section Manager to discuss recent sampling information for the Middle Rio Grande. Ms. DeRose-Bamman indicated that the 2005-2006 sampling results for the Middle Rio Grande are still being compiled but expected to be available in the next several months and a report is expected to be published by June 2008. Ms. DeRose-Bamman also indicated that there are potential nutrient and E. coli concerns in the Middle Rio Grande and that new discharge requirements, including total maximum daily loads (TMDLs), may be forthcoming.

SMA studied the Village hydrogeology and aquifer impacts. This information was used to prepare a hydrogeologic report for the Village. The general conclusions of this report are:

- The aquifer underlying the Village is highly transmissive
- Clay layers that exists at depth beneath the Village are discontinuous and do not prevent contaminants from entering lower levels in the aquifer
- Aquifer impacts from septic tanks have occurred
- Based on a groundwater model of the Village, septic tank contaminants (total nitrogen) above MCLs (total nitrogen >10 ppm) from a single leachfield have the potential to migrate as much as 100 feet down-gradient in two years.

Based on the same groundwater model, multiple septic tank leachfields on two-acre lot spacing can cause additive effects which impact large areas and may impact groundwater to depths of greater than 100 feet.

2.0 ALTERNATIVES TO THE PROPOSED ACTION

In addition to the proposed action in the PER, the following alternatives were considered for Village of Corrales wastewater collection project. The wastewater treatment system project includes wastewater collection system and transmission system alternatives. Alternatives addressing a gravity based wastewater collection system were previously addressed in the EID prepared by Marron and Associates for the Corrales Sanitary Sewer System Implementation Study prepared in March 2002.

2.1 No Action Alternative

The No Action Alternative would mean that the proposed Village of Corrales wastewater collection would not be constructed. The Village of Corrales would continue to rely on on-site septic tank and leach field systems for wastewater treatment. The No Action Alternative would result in continued and growing impacts to the aquifer because of the increased population causing increased loading from septic systems and leachfield effluent. The No Action Alternative could also restrict the potential for commercial growth in the Corrales Business Core due to restrictive wastewater flow volumes from septic tanks that limits the size of businesses and which can also cause increased development costs.

2.2 Collection System Alternatives

2.2.1 Alternative No. 1 - Corrales Road (NM-448) STEP System

Sector A – Business Core

A 50,000 gpd minimum STEP collection system would be designed for use by the Business Core and would be connected to the ABCWUA (currently New Mexico Utilities, Inc.) lift station located at Calle de Cuervo (see Figure 2). Future connections by areas outside of the Business Core may occur. The 6-inch STEP collection main would be installed within the Corrales Road ROW. It is proposed to install the STEP system outside of the asphalt pavement. NMDOT will require a traffic control permit and approval of the design plans by NMDOT will be required. The collection main would be installed at a depth of 4 feet below grade as required by NMDOT, and would follow the natural topography to the ABCWUA lift station. One-inch to 2-inch HDPE connections (sized by individual lot flow) to the collection main would be provided at each property in the Business Core from Old Church Road to Meadowlark Lane. The force main would then continue south along the west side Corrales Road until approximately the intersection of Cabezon Road. At this point, the force main would be routed to the east side of Corrales Road and then south approximately 350 feet to the ABCWUA lift station. Valves, cleanouts and combination air valves should be installed along the length of the collection main. Gate valves and flow meters would be provided at each connection point, as required. The collection main and property laterals would be installed using HDPE pipe and directional drilling technology. Approximately 15,100 linear feet of HDPE force main would be installed using this alternative. This methodology would minimize construction impacts to businesses and the Village.

Each residence or business connecting to the STEP collection system desiring to utilize the existing septic tank will be required to install a septic tank effluent filter and provide a septic tank effluent pump. In addition, each connection to the wastewater collection system will be required to install electrical service for an effluent pump, connection from the effluent pump to the wastewater service connection at the edge of the property, and maybe required to also install a flow meter.

In lieu of the septic tank, a grinder pump will be required; however, the use of grinder pumps should be limited in number in order to minimize potential O&M issues from collecting an appreciable amount of solids. The pumping system will be installed in between the existing septic tank and leachfield. Individual, or shared, pumps will pump effluent to the collection main. Piping from the pump to the connection tap, located at Corrales Road ROW, will be provided by property owners. Pumps will be required to operate at a minimum of 60 psi, unless otherwise determined during the design phase. Pumps at the northern end of the system may be required to operate at a higher pressure in order to compensate for friction loss in the collection main. The system design would provide pump pressure requirements for all property owners.

The wastewater collection system will be installed using directional boring techniques which will minimize the impact to the subsurface, traffic, and access to businesses. Since the project will be constructed using relatively small diameter piping (6 to 8-inch diameter for the force main and 1.5 to 2-inch diameter for lateral services), the directional boring machines will be about the size of a large pick-up truck. The preliminary design for the project includes high density polyethylene piping (HDPE) which is flexible, strong and chemically resistant. The HDPE piping will be placed in the directional borings in 40-foot (minimum) lengths and fusion welded. The directional borings will be constructed in approximate 750-foot lengths, with a staging area required at either end of each pipe run.

The primary impacts to the subsurface with be the staging areas, each of which are anticipated to be approximately 20-feet long, by 4-feet wide and 4-feet deep (80 square feet). Preliminary conceptual design for the wastewater collection main will be installed at an approximate depth of four feet below grade. A series of air relief and possibly pressure sustaining valves and pipe cleanouts will be required and will be placed in traffic rated vaults, or manholes. The number of cleanouts and air relief valves will not be determined until final design is completed. The following table summarizes the APE which is estimated at approximately 0.17 acres for the project.

Table 3 - Estimated Area of Potential Effect for the Corrales Road Collection System

Project Area	Assumptions	Estimated Acreage
Business Core Collection System Force Main - 8,000 Linear Feet	4 foot x 20 foot staging area every 750 feet (~11 locations)	880 ft^2
Business Core Collection System Lateral Service Connections - 800 Linear Feet	4 foot x 20 foot staging area at 50 locations	4000 ft^2
Business Core Collection System - air relief valve, pressure sustaining valves and cleanout vaults	4 foot x 20 foot staging area at 10 locations	800 ft^2
Estimated Area of Potential Effect (APE)		5,680 ft^2 or 0.130 acres

The system would be required to be designed in accordance with ABCWUA standards if ABCWUA takes ownership at the completion of construction. If ABCWUA owns and operates the system, they would be responsible for O&M of the collection system as well as billing customers. SMA contacted Mark Sanchez, ABCWUA Executive Director, to discuss this project. Mr. Sanchez indicated that ABCWUA has always considered that the Village would tie into their wastewater system and that ABCWUA was ready and willing for that to occur. Mr. Sanchez has also offered a reduced bulk rate connection cost for wastewater collection should the Village decide to own and operate the system.

Continued septic tank use by property owners would require pumping a minimum of every 4 years. Documentation of this should be provided to the Village. The Village should monitor these events as part of a proposed wastewater management program.

2.3 Wastewater Transmission System Alternatives

The proposed project includes the approximate 8,000 down gradient linear foot (LF) STEP Collection System within the Business Core on Corrales Road and three transmission system alternatives; Corrales Road Transmission System, Corrales Lateral Transmission System and the Upper Corrales Riverside Drain Transmission System. The proposed collection system and transmission system alternatives are depicted in Figure 1. A series of photographs are included in Appendix G which illustrates the typical environment of the project alternatives.

2.3.1 Alternative No. 1 - Corrales Road (NM-448) Transmission System Force Main

The Corrales Road Transmission System will consist of approximately 7,100 LF of 6 to 8-inch diameter HDPE pipe placed within the ROW of Corrales Road within the NMDOT right-of-way between Meadowlark Lane and the ABCWUA lift station located at Calle Cuervo Road (See Figure 1). The APE of the Corrales Road Alternative is estimated at 0.036 acres and is summarized below.

Table 4 - Estimated Area of Potential Effect for the Corrales Road Transmission System

Project Area	Assumptions	Estimated Acreage
Corrales Road Transmission System - 7,100 Linear Feet	4 foot x 20 foot staging area every 750 feet (~10 locations)	800 ft^2
Corrales Road Transmission System - air relief valve, pressure sustaining valves and cleanout vaults	4 foot x 20 foot staging area at 10 locations	800 ft^2
Estimated Area of Potential Effect (APE)		1,600 ft^2 or 0.036 acres

The Corrales Road Transmission System Alternative is the preferred transmission system alternative for the project. The primary reason that the Corrales Road Transmission System is the preferred alternative is that it is the shortest distance, approximately 3,460 feet less than the Corrales Lateral Transmission Alternative and approximately 3,777 feet less than the Corrales Upper Riverside Drain Transmission Alternative. The shorter distance represents approximately 67% of the distance that the Corrales Drain Alternative would require, and 65% of the distance that the Corrales Upper Riverside Drain Alternative would require. Roughly, this equates to a 33% to 35% cost savings in piping, directional boring, valves and other appurtances required for the project.

Additionally, selection of the Corrales Road Transmission System alternative alleviates the impacts to the recreational use of the MRGCD ditch roads during construction activities along the Corrales Lateral and the Upper Corrales Riverside Drain alternatives. Many Corrales residents utilize the MRGCD ditch roads for jogging, horseback riding, bicycling and walking. Although the effects to the ditch roads would be limited in duration, many residents may be in opposition to the constriction efforts along the ditch road. During conversations with representatives of the MRGCD, SMA understands that the MRGCD conducts routine maintenance activities along the ditch roads including grading, vegetative clearing and ditch cleaning and dredging. The presence of manholes, air relief valves and isolation valves could present obstacles to the MRGCD maintenance staff, and some of these items could be damaged during routine ditch road maintenance.

The selection of the Corrales Road Transmission System alternative will also require a NMDOT right-of-way construction permit. Typically, obtaining a NMDOT right-of-way permit will be an easier alternative that obtaining an easement through the MRGCD administered lands.

2.3.2 Alternative No. 2 - Corrales Lateral Transmission System Force Main

The Corrales Lateral Transmission System alternative would include approximately 10,560 LF of 6 to 8-inch diameter HDPE piping that would be placed along the east side of the Corrales Lateral irrigation ditch between West Meadowlark Lane and Calle Cuervo Road. A portion of this alternative includes piping installation along the north side of West Meadowlark Lane between Corrales Road and the Corrales Lateral (See Figure 1). The table below summarizes the APE for the alternative.

Table 5 - Estimated Area of Potential Effect for the Corrales Lateral Transmission System

Project Area	Assumptions	Estimated Acreage
Corrales Lateral Transmission System - 10,560 Linear Feet	4 foot x 20 foot staging area every 750 feet (~14 locations)	1120 ft^2
Corrales Lateral Transmission System - air relief valve, pressure sustaining valves and cleanout vaults	4 foot x 20 foot staging area at 12 locations	960 ft^2
Estimated Area of Potential Effect (APE)		2,080 ft^2 or 0.048 acres

Completion of the Corrales Lateral Transmission System Lateral would require obtaining an easement through the MRGCD administered lands. Completion of this alternative would also temporarily disrupt recreational activities along the Corrales Lateral, although the disturbance would be primarily at the staging areas located along either end of each direction bore. Completion of the directional boring could in some instances affect mature Cottonwood tree root systems in several locations; although this effect is considered to be minor, based on the relatively small diameter of the direction bore. Completion of this alternative would also allow close coordination with MRGCD staff to avoid damage to transmission system components during ditch and ditch road maintenance activities. MRGCD staff have also expressed concerns in the unlikely event of a transmission system leak, and the potential impacts to the MRGCD ditches and access roads during leak repair efforts. The MRGCD has concerns regarding a breach of the ditch system during a pipeline repair.

2.3.3 Alternative No. 3 - Corrales Upper Riverside Drain Transmission System Force Main

The Upper Corrales Riverside Drain Transmission System: approximately 10,877 LF of 6 to 8-inch diameter HDPE piping would be placed along the west side of the Upper Corrales Riverside Drain between East Meadowlark Lane and Calle Cuervo Road. A portion of the pipeline would be placed along East Meadowlark Lane between Corrales Road and Andrews Drive. The piping would then proceed south along the Andrews Drive Drain to the intersection of the Andrews Drive Drain and the Upper Corrales Riverside Drain. The piping would then be placed along the east side of the Upper Corrales Riverside Drain to Cabezon Road, where the pipe line would be routed several hundred feet along the east side of Corrales Road to the ABCWUA lift station (See Figure 1).

Table 6 - Estimated Area of Potential Effect for the Upper Corrales Riverside Drain Transmission System

Project Area	Assumptions	Estimated Acreage
Corrales Upper Riverside Drain Transmission System - 10,877 Linear Feet	4 foot x 20 foot staging area every 750 feet (~15 locations)	1200 ft^2
Corrales Upper Riverside Drain Transmission System - air relief valve, pressure sustaining valves and cleanout vaults	4 foot x 20 foot staging area at 12 locations	960 ft^2
Estimated Area of Potential Effect (APE)		2,160 ft^2 or 0.05 acres

Completion of the Upper Corrales Riverside Drain Transmission System Lateral would require obtaining an easement through the MRGCD administered lands. Completion of this alternative would also temporarily disrupt recreational activities along the Upper Corrales Riverside Drain, although the disturbance would be primarily at the staging areas located along either end of each directional bore. Completion of the directional boring in some instances could affect mature Cottonwood tree root systems in several locations; although this effect is considered to be minor, and not permanently damaging, based on the relatively small diameter of the directional bore. Completion of this alternative would require close coordination with MRGCD staff to avoid damage to system components during ditch and ditch road maintenance activities. MRGCD staff also expressed concerns of a transmission system leak, although highly unlikely due to the benefits of using HDPE piping, and the potential impacts to the MRGCD ditches and access roads during any leak repair efforts. The MRGCD has concerns regarding a breach of the ditch system during a pipeline repair.

Both the Corrales lateral ditch and the Upper Corrales Riverside Drain are under the jurisdiction of the Middle Rio Grande Conservancy District (MRGCD) and the Bureau of Reclamation.

3.0 AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES

3.1 Environmental Setting

The project area is located in Corrales, New Mexico, which is located on the west bank of the Rio Grande at an average elevation of approximately 5,000 feet above mean sea level. The Village of Corrales is approximately 6,000 acres in size, with approximately 1,500 acres utilized for agricultural purposes. Livestock, including horses, llamas, goats and other animals are kept at a number of properties within the Village. The community is separated along a north-south axis by Corrales Road (NM-448), and several irrigation and drainage canals. Topography in the Village is relatively flat along the Rio Grande floodplain, and generally slopes from north to south and west to east. The Bosque (a natural cottonwood gallery forest) and the adjacent Rio Grande forms the eastern boundary of the Village. The Village of Rio Rancho is the adjacent community to the west. Land use in the Village is primarily residential, with some light commercial and agricultural use. The average residential lot size is between 1 and 2 acres, although much smaller lot sizes exist.

The Village's commercial zoning district (Business Core), part of which is located along Corrales Road is home to several restaurants, a service station, artist studios, bed and breakfasts, feed store, veterinary practice, professional offices, medical offices and other businesses. Based on the 2000 census and a growth extrapolation, the population of the Village of Corrales was estimated at approximately 8,000 in 2005, with a projected population increase to 11,000 by the year 2025.

Surface water bodies are present in the Corrales area, and water supplies are exclusively supplied by groundwater extraction. Wastewater is currently treated by on-site septic tanks and leach fields. Several commercial businesses utilize small package units for wastewater treatment.

The climate of the Corrales area is mild with an average annual precipitation of 8.7 inches and an average minimum temperature of 37 degrees Fahrenheit, and a maximum average temperature of 69.8 degrees Fahrenheit, and a means average of 53.4 degrees.

The project area is located within a subsection of the Albuquerque Basin of central New Mexico. The Albuquerque Basin is one a long line of basins designated as the Rio Grande rift. The alluvial floor of the Rio Grande Valley has been aggrading for many centuries with the result that many historical ground surfaces are buried. The geological media in this area is comprised of Quaternary alluvium, terrace and pediment gravels, and sand, silt and gravel deposits.

3.2 Land Use

3.2.1 General Land Use

The general land use in the Business Core and the location of the STEP Wastewater Collection System and the Corrales Road Transmission System Alternative of the Villages of Corrales is primarily urban commercial, with approximately 105 businesses, residences, and vacant

properties located along Corrales Road. Additional businesses are located along Loma Larga Road and other streets adjacent to Corrales Road. Many residential properties are located in the streets adjacent to Corrales Road. Additionally, many properties along the periphery of the Business Core district are utilized for agricultural purposes including small orchards, livestock grazing, gardens and open space. The Corrales Business Core is bisected by Corrales Road, which is a two-lane paved street that experiences relatively high traffic volumes. Since Corrales Road has no turn lanes, traffic is frequently congested as traffic enters and exits Corrales Road. Land ownership, with the exception of the Village of Corrales offices and community center, are privately owned.

The properties within 300 feet of the center line of Corrales Road from Old Church Road in the north to Meadowlark Lane in the south are designated as the Business Core; and zoned as commercial properties. There are also properties located within the Business Core that are currently used for residential purposes.

Land use along the Corrales Lateral Transmission Main Alternative is primarily residential and privately owned, and the Corrales Lateral ditch and access roads are administered by the Middle Rio Grande Conservancy District (MRGCD). The access roads along MRGCD Corrales Lateral ditch are frequently used by Corrales residents for jogging, walking and horseback riding. The eastern and western edges of the MRGCD Corrales Lateral access roads are covered with Fremont cottonwood, Siberian elm and occasional Russian olive trees, and salt cedar.

Land use along the Upper Corrales Riverside Drain Transmission Main Alternative is similar to the Corrales Lateral land use. The access roads along MRGCD Corrales Lateral ditch are frequently used by Corrales residents for jogging, walking and horseback riding. The Upper Corrales Riverside drain forms the western boundary to the 400-acre Corrales Bosque Preserve, which forms the western bank and floodplain of the Rio Grande.

No population will be displaced as result of the proposed action. Likewise, the character of the area affected by the wastewater collection system will not be altered. There will some temporary effects and disturbance related to the construction of the project, but these effects will be temporary. No long-term effects to general land use are anticipated as result of the project.

3.2.2 Growth and Population Trends

As of the census of 2000, there were 7,334 people, 2,819 households, and 2,122 families residing in the Village. The population density was 683.7 people per square mile. There were 2,983 housing units at an average density of 278.1per square mile. The racial makeup of the Village was 86.05% White, 0.57% African-American, 1.51% Native American, 0.79% Asian, 0.03% Pacifica Islander, 8.22% from other races and 2.82% from two or more races. Hispanic or Latino of any race were 25.55% of the population.

There were 2,819 households out of which 32.5% had children under the age of 18 living with them, 65.4% were married couples living together, 7.1% had a female householder with no

husband present, and 24.7% were non-families. 18.1% of all households were made up of individuals and 4.7% had someone living alone who was 65 years of age or older. The average household size was 2.60 and the average family size was 2.97.

The Village population is diverse with 24.6% under the age of 18, 4.8% from 18 to 24, 25.9% from 25 to 44, 34.2% from 45 to 64, and 10.5% who were 65 years of age or older. The median age was 42 years. For every 100 females there were 93.5 males. For every 100 females age 18 and over, there were 90.2 males.

The median income for a household in the Village was $67,217, and the median income for a family was $79,331. Males had a median income of $52,397 versus $34,091 for females. The per capita income for the Village was $33,629. About 3.1% of families and 5.0% of the population were below the poverty level, including 7.8% of those under age 18 and 1.8% of those age 65 or over.

Potential growth in the Village for the 20-year planning period was discussed in the 2007 PER. In summary, there is a current estimated population of 8,000 in the Village as of 2005 with a projected population increase to 11,000 by year 2025. Based on the estimated population of 8,000 in 2005, this is a growth of 3,000 people in 20 years, or 150 people per year. The median household size is 2.6 people per household (2000 U.S. Census). Considering the median household size, the growth projection is equivalent to 57 new houses, and septic tanks, per year. This is a projected 38 percent increase in septic tanks in 20 years, or approximately 2 percent per year.

According to the Village Planner, there is approximately 1,500 acres of land in Corrales that can be developed as one-acre lots. The Farmland Preservation initiative in Corrales has set aside 19 acres of land and has an additional 50 acres of land under consideration. If all 69 acres are put into preservation, this leaves 1,431 acres available for potential development. Using the median household size, an additional 1,431 one-acre lots results in an additional 1,431 septic tanks and 3,721 people. This further confirms the potential growth projection shown in the 2007 PER and the need for the project shown in the SMA 2008 Peer Review Report.

The proposed project is expected to promote some commercial growth within the Business Core in the Village of Corrales, since the wastewater collection system will provide an alternative to the existing on-site wastewater septic tank systems, which in some instances has prohibited commercial development. Many properties within the Business Core are already developed, with few remaining undeveloped parcels. Additionally, the proposed wastewater collection system will be installed in an area of Corrales that is already built out without significant tracts of vacant undeveloped land. Some limited growth could occur if properties currently utilized for residential use are converted to commercial use. There will be some impact to properties currently used for residential purposes fronting Corrales Road within the Business Core as they will be required to connect to the wastewater collection system. Significant additional growth outside of the Business Core is not anticipated as a result of installation of the wastewater collection system.

No mitigation measures are required as a result of the proposed project and the effect upon the present and future population.

3.2.3 Important Farmland

The Village has been a farming area since the Spanish colonial period and prehistoric sites indicate that the area has been occupied since at least 500 A.D. Over time as the Albuquerque urban area has expanded, the Village has changed from a farming community to a rural, residential community with some farming. Some properties in the Village are zoned "agricultural and rural residential," which can be used for raising crops, livestock, and fowl.

According to the New Mexico Land Conservancy (NMLC), the Village established a Farmland Preservation Program in 2000 "to preserve and protect the farmland, open space and viewsheds," and preserving "the agricultural, scenic and open character of Corrales through the acquisition of conservation easements on important farmland within the Village." According to the Village Planner, there are 19 acres in the preservation program and another 50 acres under consideration. The proposed wastewater project(s) will not affect any designated farmland and will likely not take place on agricultural land.

A conservation easement is a voluntary legal agreement between the landowner and a government agency or private conservation organization. A conservation easement ensures protection of agriculture resources today and into the future. The restrictions on the property can cover the entire property or portions of the property. Conservation easements provide tax incentives to farmers to protect their land. However, conservation easements require a qualified conservation organization or public agency to monitor and enforce the restrictions. The Rio Grande Agricultural Land Trust (RGALT) is a nonprofit 5 land trust that helps protect the rich agricultural land in the Rio Grande Valley.

Preservation of agricultural land in the Middle Rio Grande region using this method is already underway. In September of 2004, the Village of Corrales approved the sale of $2.5 million in bonds committed to preserving farmland and open space. This bond is partnered with a $1.1 million grant from the U.S. Department of Agriculture, and will be used to acquire conservation easements from property owners. Corrales citizens now have the option to sell the development rights to the Village instead of a developer. The landowner would maintain ownership of the property, while the property would be preserved exclusively for agricultural or open space uses.

Agricultural land may be categorized as prime and unique or as of statewide and local importance. The Natural Resources Conservation Service (NRCS), which has jurisdiction over farmlands, defines prime or unique farmlands as those lands whose value is derived from their general advantage as cropland due to soil and water conditions. Farmlands deemed of statewide importance are important to agriculture but exhibit some properties that exclude them from the prime farmland classification.

SMA contacted the NRCS to obtain information regarding designated farmland parcels within the project vicinity, was informed that no prime farmlands or unique farmlands have been designated in the Corrales area by the NRCS.

Agricultural activities within the project area include gardens, livestock grazing, alfalfa farming and orchards. Farmland is not present within the project APE.

The proposed project will not have an effect on important farmland.

No mitigation measures associated with farmlands area required for the project.

3.2.4 Soils

As stated in the 2007 PER, there are a number of soil types within the project area. A soil survey map from U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) is provided in Appendix B. The majority of the soil in the area is classified as loam, with varying proportions of sand, silt, and clay. It is important to note that even though the soil survey map indicates loamy soils, there are a number of areas within Corrales that have experienced problems with septic tank leachfields. This may be attributed in part to poorly draining soils. This is confirmed by a USDA NRCS soils map for septic tank conditions (see Appendix B) which shows much of the Village to be “very limited” for septic tank drainage due to slow water movement through soils. The soils in the area are used for rangeland, livestock grazing, irrigated cropland and pasture, and urban development.

The proposed project should not increase erosion rates or promote soil loss, since the total APE is estimated at 0.17 acres. A Stormwater Pollution Prevention Plan (SWPPP) is required under 40 CFR §122 for construction activities that result in a total land disturbance of 1 acre or greater, and where those discharges enter the surface waters of the United States. Soil excavated during implementation of the directional boring staging areas will be placed carefully around the excavation and a berm will be constructed to minimize migration of soil from the staging areas. Silt fences and Best Management Practices (BMPs) will be implemented as part of the general construction practices during the project to minimize off site migration of soils. Based on the relatively flat gradient at the proposed staging areas, the potential for soil migration off site is minimal.

No mitigation measures associated with soils are required for the project other than implementation of BMPs during construction activities. If the project design changes significantly, and anticipated total land disturbance exceeds 1 acre, then a SWPPP will be required for the project.

3.2.5 Formally Classified Lands

Formally classified lands include national parks, landmarks, wild and scenic rivers, grasslands, state parks and Native American owned lands.

The 400-acre Corrales Bosque Preserve was previously owned by the Nature Conservancy and was recently transferred to the Village of Corrales. This 7.8 mile riverside preserve offers the best-known example of middle Rio Grande broadleaf deciduous forest. The Corrales Riverside Preserve also provides habitat for more than 180 species of migrating and nesting birds. The Upper Corrales Riverside Drain transmission line alternative would be installed along the access road for the Middle Rio Grande Conservancy District right-of-way, which borders the Corrales Nature Preserve.

There are no designated Wilderness areas in the vicinity of Corrales. The Sandia Mountain Wilderness, a part of the Cibola National Forest is located approximately 10 miles east of Corrales in the Sandia Mountains. SMA received correspondence from the National Park Service dated May 19, 2006 indicating that the proposed project will not have an effect upon any parks.

The proposed project will not have an effect upon formally classified lands.

No formally classified lands are present within the project area. No mitigation measures are required in regards to formally classified lands.

3.3 Floodplains

Based on review of Federal Emergency Management Agency (FEMA) Flood Rate Insurance Maps (FIRM) found in Appendix C, SMA understands that flood plains in the vicinity of Corrales are primarily designated as Zone X, which designates areas outside the 1-percent annual chance floodplain, areas of 1-percent annual chance of sheet flow average depths greater than 1 foot depth, or areas protected from the 1% annual chance flood by levees. These areas generally do not require flood insurance. No base flood elevations are depicted in these areas. The draft EID report stated that the majority of land east of the Corrales Acequia is designated as being within river flood hazard areas, and in areas with a 1% or greater annual shallow flooding risk. This was based on the 1996 flood plain maps, which were updated in March, 2008 following modifications to the levee system along the west bank of the Rio Grande.

Areas within the Corrales area that are mapped as having flood potential on the Flood Insurance Rate Mates (FIRM) are areas along the Corrales Main canal and along the Corrales Bosque Preserve, both of which are out of the project area. Village
Impacts to the project in the event of a flood are not considered to be detrimental, since the wastewater collection and transmission mains will be located underground, and will still function as designed. If a significant flooding event occurs during construction activities, then temporary dewatering operation may be required, depending upon flood duration, intensity and soil infiltration capacity.

The local floodplain administrator responded on May 28, 2008 and had no comment.

3.4 Wetlands

As stated in the 2007 PER, wetlands are present along the Rio Grande, east of the project area. The presence of freshwater emergent wetlands and riverine wetlands were identified based on review of the U.S. Fish and Wildlife Service (USFWS) wetlands mapped area. According to the USFWS Wetlands Online Mapper, four small wetlands are identified within the Village of Corrales (see map provided in Appendix D). The project area was not part of the U.S. Fish and Wildlife Service (USFWS) wetlands mapped area. Additionally, no evidence of hydric soils, wetland vegetation or saturated areas was observed during the site reconnaissance.

The proposed project(s) will not affect any of the identified wetlands within the project area.

Accordingly, no mitigation measures are required for wetlands as part of the proposed project.

3.5 Water Resources

3.5.1 Surface Water

The Rio Grande is present east of the project area, as well as the Corrales Riverside Drain, the Corrales Acequia, the San Mateo Drain, the Nichols Drain, and the Corrales Interior Drain. Construction, implementation and operation of the proposed wastewater collection system will not adversely affect surface water.

SMA did consult with the U.S. Army Corps of Engineers (USACE) regarding wetlands and surface water. The USACE stated in a written response, dated May 14, if the project involves work in the waters of the United States, that a Section 404 permit may be required. Depending upon the alternative selected, a crossing of the Nichols Drain and possibly the San Mateo Drain may be required. In event of a water crossing, it is anticipated that a directional boring will be advanced beneath the waterway at a minimum depth of three feet, and the HDPE wastewater main will be placed within a secondary containment casing. Alternatively, a crossing at an existing bridge may negate the need to advance a directional boring beneath a waterway. The final need for a Section 404 permit will be determined after completion of the final design of the proposed project. SMA understands that the MRGCD conducts periodic dredging activities in the drains and acequias in the project vicinity, and that the wastewater transmission main will need to be installed at a depth sufficient to avoid being damaged during dredging and channel maintenance activities.

The U.S. Environmental Protection Agency (USEPA) requires National Pollutant Discharge Elimination System (NPDES) permit coverage for stormwater discharges from construction projects that will result in the disturbance of one or more acres of total land area. A Stormwater Pollution Prevention Plan (SWPPP) is required under 40 CFR §122 for construction activities that result in a total land disturbance of 1 acre or greater, and where those discharges enter the surface waters of the United States. Since the proposed project will only disturb approximately 0.17 acres, a SWPPP will not be required as part of the proposed project. However, the construction contract specifications will include Best Management Practices (BMPs) to reduce the potential for off-site migration of sediment into surface water. Additionally, equipment

fueling operations will be conducted at locations away from surface water to minimize potential for spills. Construction equipment will not be parked in close proximity to surface water. Hazardous materials used in the construction process will be stored in a secure location away from surface water.

The NMED-Surface Water Quality Bureau (SWQB) was contacted as part of the project consultation process. The NMED-SWQB did mention the requirement for the Village and the general contractor to obtain coverage under NPDES general permit for construction activities that disturb over 1 acre. Since the project is anticipated to only disturb approximately 0.17 acres, preparation of a SWPPP is not required.

The piping used to convey the wastewater will be constructed out of HDPE, a strong, flexible, thick-walled pipe that will be pressure tested prior to use. Sections of HDPE pipe are connected using a fusion welding process, which makes the connection stronger than the blank sections of pipe. In the unlikely event of a leak, the resulting loss of pressure could be identified by the wastewater operator. At points where the wastewater transmission main would cross surface water bodies, a secondary containment casing pipe would be placed around the pipe to prevent leaks from entering the surface water.

The proposed project will not have an effect upon surface water resources. Accordingly, no mitigation measures are required for surface waters, other than implementation of BMP's during construction activities. If the final system design results in a land disturbance greater than 1 acre, then a SWPPP will be required. The final need for a Section 404 permit will be determined after completion of the final design of the proposed project.

3.5.2 Groundwater

The Village of Corrales is located in the Middle Rio Grande Basin, a rift-related tectonic feature where crustal extension has caused large blocks of older sedimentary and igneous rocks to be down-dropped relative to the adjacent ground, forming a series of fault bounded basins. Through time, the basin has been filled by a thick package of sediments, including sediments associated with the ancestral and current Rio Grande.

Depths to groundwater vary across the Village of Corrales with depths exceeding 80 feet below grade along the higher elevation areas west of Loma Larga Road, to only 5 feet below grade for properties located along Corrales Road and closer to the Rio Grande.

Proximal to the Rio Grande, the Village of Corrales is underlain by the Los Palomas Formation, a 50 to 80 foot thick package of generally sandy to gravelly fluvial sediments of the Rio Grande. Underlying and interbedded with Las Palomas Formation are older fluvial sediments, which overly the Ceja Formation. The Ceja Formation is part of the upper Santa Fe Group, which are fluvial sediments associated with the ancestral Rio Grande. The upper Santa Fe Group is characterized by thinly interbedded sand, silt and clay, with local gravelly units. Sedimentary beds are generally discontinuous.

Sandy and gravelly zones within the Las Palomas Formation and upper Santa Fe Group are generally water-bearing in the Corrales area, and form outstanding aquifers. Older wells were completed in the shallow (less than 100 feet) Las Palomas formation. As this aquifer has been locally depleted and impacted by human activities, wells have been drilled into the deeper upper Santa Fe Group aquifer. Both the shallow and deeper aquifer zones are good producers, with well production of 50 to 100 gallons per minute from short screened intervals common.

Threats to water quality in the vicinity of the proposed project area include nitrates and anoxic conditions from septic systems. Construction of the wastewater collection system should reduce the nitrate loading in groundwater in the area because of decreased stress upon the aquifer. Detrimental effects upon groundwater as a result of implementation of the proposed project are not anticipated.

Completion of the proposed project should ultimately improve groundwater quality in the vicinity of the Village of Corrales Business Core, since decreased loading of nitrates will occur. Since the entire Village relies upon domestic wells for drinking water, completion of the proposed project should have a positive effect upon groundwater quality.

The New Mexico Office of the State Engineer (NMOSE) was contacted as part of the project consultation process. The NMOSE did not have any comment regarding the project.

The Albuquerque Bernalillo County Water Utility Authority (ABCWUA) was contacted during the project consultation process. The ABCWUA concurred with SMA's initial determination that the proposed project will not have a significant impact within the context of NEPA.

The NMED-Groundwater Quality Bureau (GWQB) was contacted regarding drinking water issues, but no response relative to drinking water was received.

3.6 Coastal Resources

Coastal resources are not present within the State of New Mexico. This section is included to meet the requirements of 40 FR 6.302(d) and (f).

3.7 Air Quality

Section 109 of the Clean Air Act (CAA) (42 U.S.C. 1857-18571, as amended by Public Law 91-604), requires that national primary and secondary ambient air quality standards be established. In New Mexico, the EPA has identified seven Air Quality Control Regions (AQCRs) and has approved, with some exceptions, New Mexico's plan for the attainment and maintenance of the national ambient air quality standards (NAAQS) in these interstate and intrastate regions. The State of New Mexico has also promulgated some ambient air quality standards that are more stringent than the NAAQS.

The Village of Corrales is considered to be in attainment for all New Mexico and National Ambient Air Quality Standards. Activities associated with project activities have the potential for a temporary increase in dust and emissions from construction equipment. However, these increases are expected to be minimal, since excavation activities will only be conducted at the staging areas, located on either end of each directional boring. The project activities will meet local regulations regarding noise and dust control.

The proposed project construction activities are not anticipated to have a detrimental effect on air quality, since the duration of the project is anticipated to be less than six months, and will only involve typical construction equipment. No significant emissions are expected as part of project activities.

No mitigation measures are anticipated for air quality generated as part of the proposed project.

3.8 Biological Resources

SMA conducted a biological evaluation of the proposed wastewater collection system project area (Appendix E). The project area for the proposed Corrales wastewater collection system project consists of commercial and residential development, roads, right-of-ways (ROWs), utility easements, private land, and Village of Corrales property. Additionally, the wastewater transmission system alternatives include property administered by the MRGCD.

The wastewater collection and transmission system will be constructed in areas that have been previously disturbed, such as along the edges of existing paved roads and bladed dirt and gravel roads, with many of these areas have buried utilities already present. A brief description of the species present within the project area is described below.

3.8.1 Vegetation

A SMA biologist conducted a pedestrian and vehicular biological survey of the project area on April 24 and April 25, 2008. Due to the urban nature of the project area, only limited vegetation was present. Over time, the project area has experienced many modifications in the vegetative community from construction of utilities, drainage and irrigation ditches, residential and commercial development, roadways and other infrastructure.

Original Corrales Area Vegetative Community

Remnants of the original vegetative community are present within the Corrales Bosque Preserve, a 400-acre tract of land formerly owned by the Nature Conservancy and recently transferred to the Village of Corrales. The vegetation within the Corrales Bosque Preserve consists of floodplain-riparian vegetation largely comprised of cottonwood gallery forest. The original gallery forests comprised of large cottonwood trees present along the floodplains of the Rio Grande were often close to historical settlements, and were often cut for fuel and for building materials. The historical riparian forests were also cleared to make land available for agriculture and urbanization. The management of overbank flooding from the installation of

dams and other flood control structures within the last 100 years has reduced the ability of the native vegetation, particularly cottonwoods to reproduce. Additionally, the water table in some areas has lowered from river channel incision, which has impacted phreatophytic habitats. The lack of overbank flooding events as eliminated the silt layer that the cottonwoods rely on to supportive new vegetative growth from buried twig and branch nodes and sprouting from root systems.

As a result of the encroachment of man upon the riparian flood plains which comprises the Village of Corrales, dramatic growth of alien tree species has occurred, including Salt Cedar (tamarisk sp.), and Russian Olive (Elaeagnus angustifolia). The primary types of natural vegetation present along the floodplains of the Rio Grande include Fremont cottonwood (*Populus fremonti*), New Mexico olive (*Forestiera neomexicana*), Skunkbrush (*Rhus trilobata* Nutt.), Rabbitbrush (*Chrysothamnus spp.*), Sandbar willow (*Salix interior* Rowlee), Coyote willow (*Salix exigua*), Four wing saltbush (*Atriplex canescens*), Arizona grape (*Vitis arizonica*), Common cattail (*Typha latifolia*) and many other grasses, forbs and shrubs.

Project Area Vegetation

Vegetation observed during the field reconnaissance of the project area included species observed along the ditch banks of the Corrales Lateral and the Upper Corrales Riverside Drain and the edges of Corrales Road. A summary of the vegetation observed during the field reconnaissance is included within the Biological Survey Report in Appendix E. Vegetation observed included Russian thistle (*Salsola kali*), Chinese elm (*Ulmus parvifolia*), Tansy mustard (*descurainia pinnata*), Slender wheatgrass (*elymus trachycaulus*), Alfalfa (*medicago sativa*), White clover *(Trifolium repens),* Dandelion *(Taraxacum officinale),* Globe mallow *(Sphaeralcea ambigua),* Inland saltgrass *(Distichlis spicata),* Coyote willow *(Salix exigua),* Yellow salsify *(Tragopogon dubius),* Foxtail barley *(Hordeum jubatum*), Kochia *(Bassia prostrate),* Bamboo *(unknown species),* Cockle burr *(Xanthium strumarium),* Cheatgrass *(Bromus tectorum),* Pear tree *(Pyrus communis),* Rio Grande cottonwood *(Populus deltoids),* Narrow leaf cottonwood *(Populus angustifolia),* Hairy gold aster *(Heterotheca villosa), and* Threadleaf grounsel *(Senecio flaccidus).*

Non-Native/ Invasive Weeds

The New Mexico Department of Agriculture designated a number of invasive weed species as noxious and targeted these as species of control or eradication pursuant to the Noxious Weed Management Act of 1998. These are divided into Class A, Class B, and Class C weeds.

Class A weeds are species that currently are either not present in New Mexico or have limited distributions in the state. Prevention of invasion or spread of these species in the state is considered highest priority.

Class B weeds are species that already occur in limited portions of the state. In areas that are not currently infested these weeds are treated as Class A. In areas that are already severely infested these species are to be contained to stop further spread.

Class C weeds are species that are widespread in New Mexico. Since in some areas they are almost naturalized, management decisions for these species should be determined on a local level. These decisions are normally based on the feasibility of control and the level of infestation.

Three species of New Mexico Noxious Class C weeds were observed during the field reconnaissance, including Field bindweed *(Convolvulus arvensis,* Russian olive *(Elaeagnus angustifolia) and Salt cedar (Tamarisk sp.*).

In order to reduce the potential for spreading noxious weeds to the project area, construction equipment should be cleaned with herbicide. No other mitigation measures are required for noxious weeds.

Rare Plants

Based on review of the list of New Mexico Rare Plants provided by the New Mexico Rare Plant Technical Council (NMRPTC), a total of eleven rare plants species are present in Sandoval County. None of the rare plants listed for Sandoval County were listed as endangered. A list of the plants is provided below.

Table 7 - Rare Plants-Sandoval County

Common Name	Scientific Name	USFWS Status	Habitat Elevation	Potential Presence
Parish's alkali grass	*Pucinella parishii*	SoC	2,600-7,200 ft. Alkaline springs, seeps and seasonally wet areas at the head of drainages. Requires continuously damp soil during growing season.	Unlikely, since continuous alkali rich wet areas are not present within project area
Knight's milkvetch	*Astraglus knightii*	SoC	5,700-5,900 ft. Rimrock ledges of Dakota Formation. Conifer and pinon-juniper woodlands.	Suitable habitat not present since Dakota Formation not present in project area
Plank's campion (or Plank's catchfly)	*Silene plankii*	SoC	5,000-9,200 ft. Igneous cliffs and rocky outcrops, mountains near the Rio Grande.	Suitable habitat not present since cliffs and rocky outcrops not present in project area

Common Name	Scientific Name	USFWS Status	Habitat Elevation	Potential Presence
Gypsum townsendii	*Townsendia gypsophilia*	SoC	5,700-7,400 ft. Gypsum outcrops and gypsiferous/pure gypsum soils. Great Basin conifer woodland	Suitable habitat not present since gypsum soils and outcrops not present in project area
Tufted sand verbena	*Abronia bigelovii*	SoC	5,700-7,400 ft. Gypsum or stongly gypsiferous soils	Suitable habitat not present since gypsum soils and outcrops are not present in project area
Santa Fe milkvetch	*Astragalus feensis*	SoC	5,100-6,000 ft. Sandy benches and gravelly hillsides, pinon-juniper woodland or plains/mesa grasslands	Suitable habitat not present
La Jolla prairie clover	*Dalea scariosa*	SoC	4,750-4,900 ft. Sandy clay banks and bluffs	Suitable habitat not present
Sapello Canyon larkspur	*Delphinium sapellonis*	SoC	8,000-11,500 ft. Canyon bottoms and aspen groves (in montane coniferous forests)	Suitable habitat not present since elevation of site below 8,000 ft.
Sandia alumroot	*Heuchera pulchella*	SoC	8,000-10,700 ft. Limestone cliffs	Suitable habitat not present since elevation of site below 8,000 ft. and limestone cliffs not present at site.
Springer's blazingstar	*Mentzelia springeri*	SoC	7,000-8,000 ft. Volcanic pumice and unconsolidated pyroclastic ash in piñon-juniper woodland and lower montane coniferous forest;	Suitable habitat not present since elevation of site below 7,000 ft.
Navajo Muhly	*Muchlenbergia arsenei*	SoC	4,600-6,500 ft. On limestone outcrops in pinon and juniper woodland	Limestone outcrop not present at site.
Sivinki's scorpion weed	*Phacelia sivinskii*	SoC	5,900-6,450 ft. Gypsum from the Upper Jurassic Todilto Formation juniper/desert scrub communities.	Suitable habitat not present since elevation of project area is lower.

Notes: SoC = Species of Concern

No listed rare plants were observed during the site evaluation, and since the project area does not support rare plant habitat, no impacts to rare plants are anticipated as part of this project.

Short term impacts to the vegetative community in the project area are anticipated to be very minor. Some impacts to Cottonwood roots could occur in the Upper Corrales Riverside Riverside Drain and for the Corrales Lateral transmission main alternatives. However, these impacts are considered to be relatively minor, based on the proximity of mature trees close to the center line of the MRGCD access roads present along the Upper Riverside Drain and the Corrales Lateral. Some minor impacts to seasonal plants such as the Tansy mustard, Russian thistle, Dandelion and Globe mallow could occur, but will be limited the staging areas located at either end of each directional boring.

Long term impacts to the vegetative community are not anticipated, since the APE is such a small area, and primarily centralized at the staging areas. Completion of the preferred transmission system alternative along Corrales Road will present less potential for impacts to the vegetative community than the Corrales Lateral and the Upper Corrales Riverside Drain transmission system alternatives. In some locations, the tree roots from mature cottonwood trees could be affected by the directional boring, although the effect would be considered minimal.

3.8.2 Wildlife and Habitat

Wildlife and threatened and endangered species within the State of New Mexico are managed by three agencies including the U.S. Fish and Wildlife Service (USFWS), under authority of the Endangered Species Act (ESA), the New Mexico Department of Game and Fish (NMDGF), under authority of the New Mexico Wildlife Conservation Act of 1974, and the New Mexico Energy, Minerals and Natural Resources Department, under authority of the New Mexico Endangered Plant Species Act. Protection from harassment, harm, or destruction of habitat is granted to species protected under the ESA. The New Mexico Wildlife Conservation Act and New Mexico Endangered Plant Species Act protect state listed species by prohibiting taking without proper permits.

The Rio Grande riparian forest environment contains many different mammals, amphibians, reptiles and birds. Refer to Appendix E for a listing of species typically found in the riparian forest that occur along the banks of the Rio Grande. Common mammals observed in the Bosque forest include spotted ground squirrel (*Spermophilus spilosoma*), rock squirrel (*Spermophilus variegatus*), black tailed jackrabbits (*Lepus californicus*), deer mouse (*Peromyscus maniculatus*), white-footed mouse (*Peromyscus leucopus*), muskat (*Ondatra zibethicus*), yellow-faced pocket gopher (*Pappogeomys castanops*), American porcupine (*Erethizon dorsatum*), Coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), bobcat (*Lynx rufus*), and mule deer (*Odocoileus hemionus*).

Common amphibians observed along the Rio Grande include green toad (*Bufo dibilid*), western chorus frog (*Pseudacris triserita*), Northern leopard frog (*Rana pipiens*), painted turtle (*Chrysemys picta*), collared lizard (*Crotaphytus collaris*), common kingsnake (*Lampropeltis*

getula), bullsnake (*Pituophis melanoleucus*), blackhead garter snake (*Thamnophis cyrtopsis*) and western rattlesnake (*Crotalus viridis*), and many other species.

The Bosque forest is home to over 180 species of birds, and is an important migratory pathway for many species. Common birds observed in the Bosque area include Great blue heron (*Ardea Herodias*), Snow goose (*Chen caerulescens*), Canada goose (*Branta Canadensis*), mallard (*Anas platyrhynchos*), Northern pintail (*Anas acuta*), Hooded merganser (*Mergus cuculatus*), American coot (*Fulica Americana*), Sandhill crane (*Grus canadensis*), Killdeer (*Charadrius vociferous*), Solitary sandpiper (*Tringa solitaria*), Turkey vulture (Cathartes aura), Bald eagle (*Haliaeetus leucocephalus*), Swainson's hawk (*Buteo swainsoni*), Red-tailed hawk (*Buteo jamicensis*), Ring-necked pheasant (*phasianus colchicus*), Gambel's quail (*Callipeple gambelli*), Mourning dove (*Zenaida macroura*), Greater Roadrunner (*Geococcyx californianus*), Great Horned owl (*Bubo virginianus*), Cliff swallow (*Hirundo pyrrhonota*), Brown towhee (*Pipilo maculates*) and many other species.

Prior to the site visits, extensive literature review was completed. A list of sensitive species in Sandoval County was compiled from the U.S. Fish and Wildlife Service web site. During the site visits none of the sensitive species were observed at or near the project site. Presence of a species was determined by visual observations, acoustic presence, scat, dens/nests, and tracks. Species that were observed are listed below:

Mole den, species unknown, location was the Corrales Riverside Drain.

Rock squirrel (*Spermophilus variegates)*, location was throughout all sites.

Great Blue Heron (*Ardea herodias)* tracks, location was the Corrales Riverside Drain.

Mourning dove (*Zenaida macroura*), location was throughout all sites.

Roadrunner (*Geococcyx californianus*), location was on Corrales Road, across from Andrews Lane.

Red-tailed hawk (*Buteo jamaicensis*), observed flying west of all the sites.

Mallard (*Anas platyrhynchos*), male with female in ditch next to pump station adjacent to Corrales Road.

In addition to the above listed species there was evidence of a turtle in the canal. Frequently it was observed coming up for air but no identification could be made based on that alone. Several species of insects could be seen as well.

The selection of the preferred alternative for the Corrales Road transmission system would likely have less effect on wildlife than the implementation of either the Corrales Lateral or the Upper Corrales Riverside Drain transmission system alternatives. The staging areas would be equipped with escape ramps for wildlife in the event they were left open overnight, per NMDGF guidance.

3.8.3 Threatened and Endangered Species/Species of Concern

According to the U.S. Fish and Wildlife Service (USFWS), a total of six species are listed on the Sandoval County Endangered Species list. These species include the following:

Table 8 - Threatened and Endangered Species in Sandoval County

Common Name	Scientific Name	Species Group	Listing Status	Critical Habitat in Corrales Vicinity
Yellow-Billed Cuckoo	*Coccyzus americanus occidenttalis*	Birds	Candidate	No
New Mexico meadow jumping mouse	*Zapus hudsonius luteus*	Mammals	Candidate	No
Black-footed ferret	*Mustela nigripes*	Mammals	Endangered	No
Mexican Spotted Owl	*Strix occidentalis lucida*	Birds	Threatened	No
Rio Grande silvery minnow	*Hybognathus amarus*	Fishes	Endangered	Yes
Southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	Endangered	No

Yellow-Billed Cuckoo

The yellow-billed cuckoo (*Coccyzus americanus occidenttalis)* is a USFWS candidate species that occurs locally along the riparian corridors throughout New Mexico. Ideal habitat appears to be dominated by cottonwood canopy with a well developed understory (Bison, 2008). Yellow-billed cuckoos breed in riparian woodlands and similar habitats at lower (2800 - 5500 ft) to middle (5000 - 7500 ft) elevations. The western race of the yellow-billed cuckoo is associated with lowland deciduous woodlands, willow and alder thickets, second-growth woods, deserted farmlands, and orchards. No evidence of yellow-billed cuckoos was noted during the biological survey. Because the project site does not contain actual or potential habitat for the species, the proposed project will have no effect upon the breeding habitat and no direct effects to the species.

Mexican Spotted Owl

Habitat characteristics highly sought by Mexican spotted owls *(Strix occidentalis lucida)* include high canopy closure, high stand density, a multi-layered canopy, uneven-aged stands, numerous snags, and downed woody matter (Bison, 2008). These are best expressed in old-growth mixed-conifer forests (usually more than 200 years old). These characteristics may also develop in younger stands that are unmanaged or minimally managed, especially when the stands contain remnant large trees or patches of large trees from earlier stands. Primary spotted owl habitat consists of mixed conifer dominated by Douglas-fir, pine, or true fir and pine-oak forests. Secondarily selected habitats include such features as steep, narrow canyons with cliffs and a perennial water source. Such canyon habitats generally include conifer or riparian forests, or clumps of trees, but also may be sparsely vegetated. Areas chosen for their contiguous forests are strongly selected for old-growth forests or forests that have more complex structure than surrounding forests.

The project area does not support the type of habitat preferred by the Mexican spotted owls, since the owls prefer old growth mixed conifer forest, typically found at elevations over 4,000 feet higher than the project area. No short-term or long-term impacts are anticipated from the proposed project.

Rio Grande Silvery Minnow

The Rio Grande silvery minnow (*Hybognathus amarus)* occupies a variety of habitats in low-gradient, large streams with shifting sand or silty bottoms (Bison, 2008). The distribution and habitat recorded for specimens of this species do not indicate special requirements other than a flowing mainstream environment. The natural habitat for the Rio Grande Silvery Minnow includes stream margins, side channels, and off-channel pools where water velocities are lower than in the main river channel (USBOR, 2006). Favored areas are covered with detritus and algal-covered substrate. Stream channels dominated by straight, narrow, or incised channels with rapid flows would not typically be occupied by the Rio Grande silvery minnow.

No short-term or long term impacts to the Rio Grande Silvery Minnow or its habitat are anticipated to occur as a result of the proposed actions. The Rio Grande Silvery Minnow prefers habitat that exhibits lower stream velocities and eddies; the potential ditch crossing points have typically higher velocity, and straight sections of ditch which are not considered Rio Grande Silvery Minnow habitat. Directional boring techniques will be used if a crossing of a ditch or drain is needed to complete the project. The directional boring can be elliptical in nature and a HDPE pipe can be utilized for the wastewater transmission main, and is flexible enough to be inserted below a ditch bottom without affecting the ditch invert elevation and will be placed deep enough to allow for periodic dredging that is routinely conducted by the MRGCD. Ditch bottoms and the Rio Grande Silvery Minnow habitat will not be affected by the proposed action.

New Mexico Jumping Mice

New Mexico Jumping mice (*Zapus hudsonius luteus*) are primarily associated with riparian habitats in New Mexico. Meadow jumping mice captures (in a study at Bosque del Apache) were often associated with a grass perennial forb community with at least 65% vegetative cover (Bison, 2008). They are usually found in marshes, moist meadows and riparian habitats in open prairie. The species in New Mexico characteristically occur in mesic habitats dominated by rank, herbaceous vegetation. In the Rio Grande Valley, Morrison (Bison, 2008) found that preferred habitat for the meadow jumping mouse contained permanent streams, moderate to high soil moisture, and dense and diverse streamside vegetation consisting of grasses, sedges, and forbs. Such habitats include the edges of permanent ditches and cattail stands in the Rio Grande Valley (Bison, 2008). The potential for Jumping Mouse habitat within the proposed project area is limited to the banks of the Upper Corrales Riverside Drain. Since the preferred alternative for the wastewater transmission main will be along Corrales Road between Meadowlark Land and the ABCWUA lift station, the potential for impact to the New Mexico Jumping Mouse and its habitat are remote.

Black-Footed Ferret

The distribution of the black-footed ferret (*Mustela nigripes)* is closely related with that of prairie dogs and most viable breeding populations have been associated with prairie dog colonies which they use for food and shelter (Bison, 2008). Prairie dog colonies are essential for black-footed ferret habitat. Based on ferret energy needs, prairie dog energy yields, population dynamics of both species and related factors, Stromberg et al. (Bison, 2008) calculated that a single female black-footed ferret and her litter would require a population of 474-1421 prairie dogs. Annual harvest from these populations would be 214 black-tailed and 186 white-tailed prairie dogs. In order to sustain the prey base, 91-235 acres of black-tailed and 212-877 acres of white-tailed prairie dogs would be needed at average prairie dog densities of 6.1/acre and 1.6/acre, respectively. Since no evidence of prairie dogs was noted during the biological survey of the project area, it is highly unlikely that black-footed ferret habitat is present within the project area. The proposed project will not have an effect upon black-footed ferret populations or its habitat.

Southwest Willow Flycatcher

The southwestern willow flycatcher (*Hybognathus amarus)* is considered endangered by both the USFWS and the state of New Mexico. The subspecies is typically found in dense riparian vegetation along select waterways in New Mexico. The Southwestern willow flycatcher is an obligate riparian species and is found in close association with dense groves of willows, arrowweed, buttonbush, tamarisk, Russian olive, and some other riparian vegetation, often with a scattered overstory of cottonwood (USBOR, 2006). These riparian communities provide nesting and foraging habitat. The southwestern willow flycatcher has experienced extensive loss and modification of this habitat and is also endangered by other factors, including brood parasitism by the brown-headed cowbird (Bison, 2008).

Since the project area does not contain actual or potential habitat for the species, the proposed action will have no effect upon breeding habitat, and no short-term or long-term effects to the species. The preferred alterative for the wastewater transmission main will be along Corrales Road, which does not support the habitat necessary for the species.

Based on the findings of the Biological Evaluation, the proposed project is unlikely to affect threatened and endangered species.

The United States Department of the Interior, Fish and Wildlife Service provided a response to a request for comments on May 23, 2006 regarding impacts to threatened or endangered species or important wildlife habitats that may occur in the project area. They referenced sources of information on these issues, and regulatory requirements. They also suggested contacting the New Mexico Department of Game and Fish and the New Mexico Energy, Mineral and Natural Resources Department, Forestry Division for additional information.

The New Mexico Department of Game and Fish (NMGF) responded to SMA's request for information on May 28, 2008 regarding impacts to threatened or endangered species or critical

habitat and indicated the project is unlikely to affect wildlife or wildlife habitats. Trenching and pipe backfilling will be conducted to minimize trapping of wildlife. Escape ramps will be provided for wildlife. Following completion of construction activities, disturbed areas will be reseeded with native vegetation to minimize erosion.

The New Mexico Energy, Mineral and Natural Resources Department, Forestry Division responded to SMA's request for information on May 10, 2008. They stated that they had no comment regarding the proposed project.

3.9 Archeological, Cultural and Historic Resources

A cultural resource survey was conducted by Mr. Steve Townsend with Townsend Archeological Consultants at the proposed wastewater collection and transmission system between April 25 and May 23, 2006. A copy of the survey is attached in Appendix F. The survey included a complete field inventory of the wastewater collection system and the three wastewater transmission system alternative locations and documentation of historic structures with 100 feet of the APE, including Corrales Road (NM-448). Since Corrales Road was previously inventoried entirely within the recent past, the New Mexico Department of Transportation did not require a cultural resources inventory of the right-of-way corridor within the project area. The State of New Mexico Cultural Resource regulations required an inventory of the built environment and relocation of sites that were previously recorded.

The State of New Mexico Office of Cultural Affairs has designated the Village of Corrales as site number LA 5169. The records of the Archeological Records Management Section contain files that suggest that the existence of old foundations of Spanish Colonial structures. However, no spatial information is associated with the LA 5169, and therefore in the opinion of Steve Townsend has no management value. The reference to LA 5169 was therefore not included within the cultural resource report.

The cultural resource inventory resulted in the documentation of 1 isolated occurrence, 63 buildings, 1 previously recorded site, an Official State Highway Scenic Marker, portions of the Corrales Lateral, the Upper Corrales Riverside Drain, the Corrales Interior Drain and Cabezon Channel. The Nichols Lateral was documented as a part of the Upper Corrales Riverside Drain.

The isolated occurrence is of limited data potential and is not eligible for listing on the National Register of Historic Places. Of the 63 structures documented during the survey, 20 were eligible to the National Register under 36 CFR 60.4 (c) and 43 structures were considered ineligible for listing. The Corrales Lateral, the Upper Corrales Riverside Drain, and the Corrales Interior Drain are potentially eligible for listing under 36 CFR 60.4 (a) based on the expressions of a broad pattern in American History. However, these structures have been modernized in many locations and much of the original construction details have been obscured. The Cabezon Channel south of the Corrales Road crossing near the southern terminus of the project is considered to have been altered enough to have no remaining evidence of the original construction, and is therefore ineligible for listing. The Acequia Madre de Corrrales (LA132552),

has been cleaned and put into use since the previously recording, and is now potentially eligible for listing under 36 CFR 60.4 (a). The Official Scenic Highway Marker is recent and while of management consideration, is not considered a significant resource.

The landscape in the general vicinity of the Project Area included the areas along the Corrales Lateral, the Upper Corrales Riverside Drain, the Corrales Interior Drain and the Cabezon Channel are extensively used for recreational paths by walkers, joggers, horseback riders and bicyclists. These areas were significantly disturbed during the initial construction during the 1920's. Additionally, modern dredging and canal maintenance activities have resulted in vegetative clearing both with mechanical and chemical methods, and stockpiles of dredged materials bladed and reconfigured.

The Corrales Road area has been extensively urbanized with many driveways, fences, overhead and buried utilities, and residential and commercial development. Corrales Road is a highly congested road with almost constant high levels of traffic occurring during normal business hours.

Meadowlark Lane, being of a portion of the Corrales Drain transmission main alternative, has seen variable disturbance, mostly from utilities and driveway crossings. The eastern Meadowlark Lane is wider, with larger set-backs that the western Meadowlark Lane.

The linear land parcel designation originated by the Spanish Colonial and Mexican periods is reflected in current tax maps. Corrales has been affected by modernizing trends since the 1970s. The rapid growth of Rio Rancho to the west and north of Corrales has eroded the agrarian nature of the community. South of the Cabezon channel there has been recent urbanization, including the development of strip malls, subdivisions and apartments.

In the center of historic portion of the Village, gentrification has started altering the historic fabric of the community. North of Ella Street crossing on Corrales Road, there are several structures which formed the center of the original Village and are now the center of the Business Core. These structures include law offices, architects, psychologist and other professionals, computer businesses, clothing stores and restaurants. In some instances, reconstruction of the original, historic buildings has resulted in the removal of factors of integrity which result in those structures no longer being of consideration for listing to the National Register.

The results of the cultural resource survey included 20 structures that are considered eligible for the National Register. The recorded structures included the State Register of Cultural Properties listings HPD-1516, the Alejandro Gonzales House, and HPD-1858, the Martinez/Perea Hall.

The Alejandro Gonzales House (HPD-1516) is a vernacular hipped box house with three shed dormers and a basement. It belonged to Alejandro Gonzales, who was a local landowner and a member of the early Middle Rio Grande Conservancy District board. The house features 5/1 double hung windows, an internal brick chimney, a 3-light awning window, an inset porch on the

southeast of the building, accessed by concrete stairs, though a fixed glass porch and single leaf glass door. There is a second enclosed porch on the southwest side of the house, likewise glazed with fixed windows. There is an eave and the rakes are exposed. The foundation of the structure cannot be seen.

Although the Alejandro Gonzales House is within 100 linear feet of the project area, it is sufficiently far enough away to not be impacted from implementation of the directional boring and subsequent pipe installation.

The Martinez/Perea Hall is one of the oldest remaining structures in Corrales. A flat-roofed New Mexico vernacular house with parapet, metal clad canales and vigas, this single story house a sunken interior, wood casement and 1/1 double hung wood windows. The entrance on the south side of the building has a steel security door, but the door is single leaf. The main entrance from the east is a single leaf panel with fixed lights and a transom. The foundation cannot be seen. Originally classed as Territorial style, the pediments have been changed since 1981 and a double leaf casement window in the northeast of the building has been largely infilled and covered with Plexiglas. Previous pediments were elaborate and included Territorial arches with beadrails and dentils, while the previous doors included both single and double leaf panels. There is non-contributing addition to the southwest, sharing a common wall.

Since the final design for the wastewater collection system is not yet completed, the exact location of the piping near the Martinez/Perea Hall is unknown. However, the final design will take the Martinez/Perea Hall into account, and care will be exercised to avoid impacting the structure. SMA understands that the State Historic Preservation Officer (SHPO) typically has concerns over the vibration effects from project activities. However, the vibration effects from traffic along Corrales Road will no doubt be much greater in magnitude than the effects of directional borings. Preferably, the wastewater collection main will be located on the east side of the road near the Martinez/Perea Hall.

In order to provide for protection of possible cultural resource materials during construction activities, the construction contract documents should include the following or similar language:

"In the event of a discovery ["discovery" means any previously unidentified or incorrectly identified cultural resources, including but not limited to, archaeological deposits, human remains, or locations reportedly associated with Native American religious/ traditional beliefs or practices], the Contractor must immediately cease all operations in the immediate vicinity of the discovery and notify the Engineer. The Contractor should be aware of his/her responsibilities under the Historic Preservation Act of 1966 and the Archeological Resources Protection Act of 1979."

Upon notification of a discovery by the Contractor, the Engineer must immediately notify the New Mexico State Historic Preservation Office (NMSHPO), as well as other Native American groups that have requested notification (the Comanche Tribe, for example).

Other than the avoidance of the Martinez/Perea Hall, no mitigation measures are required for known cultural resources. In the event that unknown cultural resources are encountered during construction activities, construction activities in the area would stop, and appropriate treatment would be developed in consultation with NMSHPO.

As part of the Section 106 consultation process, SMA consulted with a total of 16 tribes including:

- Cochiti Pueblo
- Comanche Tribe
- Hopi Tribal Council
- Pueblo of Isleta
- Pueblo of Jemez
- Jicarilla Apache Nation
- Pueblo of Laguna
- Navajo Nation
- Ohkay Owingeh
- Pueblo of Zia
- Pueblo of San Felipe
- Pueblo of San Ildefonso
- Pueblo of Sandia
- Pueblo of Santa Ana
- Pueblo of Santa Clara
- Pueblo of Santo Domingo

Reponses from the tribal consultation are attached in Appendix G, and discussed in Section 5.2.

SMA submitted the Cultural Resource Survey for the project to the State Historic Preservation Office (SHPO) on July 15, 2008, including copies of tribal consultation letters and copies of tribal consultation responses. As of the date of this report, SMA has not received a response from the SHPO regarding the cultural resource survey report.

3.10 Socioeconomic/Environmental Justice

3.10.1 Socioeconomic Conditions

The community of Corrales is located within southern Sandoval County and according to the 2000 Census, the population was 7,334 people. The median household income in 1999 dollars was $67,217, and 3.1% of the families live below the poverty level.

The population density was 683.7 people per square mile. There were 2,983 housing units at an average density of 278.1per square mile. The racial makeup of the Village was 86.05% White, 0.57% African-American, 1.51% Native American, 0.79% Asian, 0.03% Pacific Islander, 8.22% from other races and 2.82% from two or more races. Hispanic or Latino of any race were 25.55% of the population.

There were 2,819 households out of which 32.5% had children under the age of 18 living with them, 65.4% were married couples living together, 7.1% had a female householder with no husband present, and 24.7% were non-families. 18.1% of all households were made up of individuals and 4.7% had someone living alone who was 65 years of age or older. The average household size was 2.60 and the average family size was 2.97.

In the Village the population was spread out with 24.6% under the age of 18, 4.8% from 18 to 24, 25.9% from 25 to 44, 34.2% from 45 to 64, and 10.5% who were 65 years of age or older. The median age was 42 years. For every 100 females there were 93.5 males. For every 100 females age 18 and over, there were 90.2 males.

An initial one-time impact fee (UEC), based on estimated monthly flow, shown in the following table, is required for each connection by ABCWUA. As of the time of report publication, the Village of Corrales has not determined if the wastewater collection system will be operated by ABCWUA or the Village of Corrales. The current ABCWUA wastewater rate schedule for non-water users is also shown in the following table.

Table 9: ABCWUA Wastewater Rates for Non-Water Use Facilities

ABCWUA Wastewater Rates for Non-Water Customers							
Flow (CCF)	**Flow (gallons)**	**Residential**	**Commercial**	**Industrial**	**Institutional**	**Multi Family**	**UEC**
0 - 10	0 - 7,481	$ 7.49	$ 9.26	$ 42.09	$ 7.17	$ 12.43	$ 1,816
11 - 19	7,482- 14,213	$ 12.14	$ 15.16	$ 71.30	$ 11.58	$ 20.58	$ 3,027
20 - 63	14,214 - 47,127	$ 49.64	$ 62.82	$ 307.10	$ 47.23	$ 86.37	$ 6,053
64 - 82	47,128 - 61,340	$ 123.52	$ 156.70	$ 771.61	$ 117.46	$ 215.97	$ 9,685
83 - 343	61,341 - 256,581	$ 165.42	$ 209.94	$ 1,035.05	$ 157.29	$ 289.48	$ 19,370
344 - 599	256,582 - 448,082	$ 352.41	$ 447.54	$ 2,210.67	$ 335.03	$ 617.50	$ 30,265
600 - 803	448,083 - 600,684	$ 469.32	$ 596.10	$ 2,945.73	$ 446.16	$ 822.59	$ 60,530
804 - over	600,685 - over	$ 834.31	$ 1,059.87	$ 5,240.47	$ 793.10	$ 1,462.87	$ 96,848

Notes: *CCF - Commodity Charge Flow, one unit = 100 cubic ft.*
UEC - Utility Expansion Charge

As of the time of this report publication, the Village of Corrales has not made a decision as to how the wastewater collection system will be managed. Definition of anticipated costs for monthly billing rates to Village of Corrales customers is anticipated to be similar to the costs presented in the table above for the ABCWUA. The costs are anticipated to be similar to mid to low range flows for residential and commercial customers. The wastewater rates presented in the table above are similar or less than other municipalities in the State of New Mexico for similar-sized populations.

Determination of cost for connection to the wastewater collection main will vary depending upon the distance from the septic tank to the main and the availability of electrical service for the effluent pump. A preliminary estimate based on information provided in the Peer Review Report suggests that costs for electrical connection and lateral piping would be approximately $2,000 and the cost for the effluent pump system would be approximately $4,000 for a typical connection within the project area. A one time connection fee based on wastewater flow starting at approximately $1,800 would be required if the wastewater collection main is managed by the ABCWUA. Anticipated one time costs for connection to the wastewater main within the project are expected to be on the range of $7,800 to $9,000. An additional monthly fee based on wastewater flow would also be required. The cost for septic tank pumping is

approximately $250, which will be required a maximum of once every three years, depending upon wastewater flow and characteristics. Village wastewater customers that operate restaurants may require more frequent septic tank pumping than residential customers. The flows anticipated for Village of Corrales customers within the project area are anticipated to be similar to the low to medium flows presented in the table above, or 0 to 63 Commodity Charge Flow (CCF) units. It should be noted that the costs for connection to the proposed wastewater collection system are lower or similar to costs associated with installation of ATUs, which were recommended for all other areas of the Village.

The Village of Corrales cannot directly provide financial assistance to Village wastewater customers because of anti-donation statutes. However, SMA understands that the Village is exploring potential cost sharing options in the form of low interest loans, bulk purchasing, and other options. In a similar situation, the City of Albuquerque provided wastewater customers low interest loans to assist with the cost of connection to a wastewater collection system in the South Valley.

The financial impacts to Village wastewater customers within the project area are expected to be similar or slightly lower than other customers in other areas of the Village which may require installation of ATUs in the future, as discussed in the Village wastewater plan as described in the Peer Review Report. The high-density wastewater discharge area in the Business Core was ranked as an area requiring immediate action in the Peer Review Report. ATUs were recommended for other areas of the Village.

3.10.2 Environmental Justice

Federal agencies are required to identify and address disproportionately high and adverse human health or environmental effects of its activities on minority and low income populations under Executive Order 12898 (published in the Federal Register on February 11, 1994). Based on review of the U.S. EPA's Region 6 Environmental Justice Geographic Information Index Tool maps, several areas within the project area have economically stressed populations over 15%. However, this value is less that the New Mexico state average of 28.7%. These maps are included in Appendix H. However, the installation of the proposed wastewater treatment plant and associated collection and transmission systems should have a positive effect upon economically stressed populations, since less reliance upon on-site septic tanks and leach fields will be required, and possibly less expensive construction of new homes and businesses, since septic tanks and leachfield facilities will not need to be installed.

The proposed project was reviewed for compliance with Executive Order 12898 entitled "Federal Actions to Address Environmental Justice (EJ) in Minority and Low-Income Populations". Potential environmental impacts to economically stressed communities were evaluated using Geographical Information System maps, census demographic data, and a mathematical formula to rank the project for EJ impacts. The project will serve all populations equally and will be constructed in a manner to ensure that no persons or populations will be discriminated against or denied the benefits of the project because of their race, color, income level, or national origin. There will be no adverse impacts that are considered disproportionate

to any particular population(s) based on ethnicity or income. The results of the EJ analysis are shown in the enclosed in Appendix H. These figures result in a ranking scale of one to one hundred that indicates the potential for discrimination. A ranking below thirteen indicates a low possibility of discrimination while a ranking above fifty indicates a high probability of discrimination.

The proposed project will not have any significantly adverse impacts on people or any disproportionate effects on minority or low-income populations. No mitigation measures are required in reference to environmental justice issues.

3.11 Other Resources

3.11.1 Public Health and Safety

The proposed project will improve public health and safety, with the availability of a wastewater collection system, and less reliance with on-site septic tank and leachfield systems. SMA's experience indicates that these small wastewater treatment systems face barriers in being protective of human health and the environment. This is due to the fact that small on-site septic systems do not normally reduce the amount of nitrogen in wastewater discharged. The discharged wastewater has the potential to cause ground water to become elevated in nitrate, which is a contaminant that can cause health impacts if ingested. The proposed project will decrease the number of existing and future on-site wastewater treatment facilities and limit the potential that these systems will impact human health and the environment.

3.11.2 Energy

Since the proposed Village of Corrales wastewater collection system is a force main system, it will be operated by electrical power. Each business or residence connecting to the wastewater collection system will require either an effluent pump or grinder pump. The horsepower requirements on these types of pumps vary, but are expected to be rated with power requirements less than 5 horsepower, and will cycle dependent upon demand. Commercial facilities with intact septic tanks will require less power than older septic tanks with infiltration problems; which will pump larger amounts of effluent due to dilution with groundwater. Energy will be required to operate the lift station at the terminus of the wastewater transmission system, which will be operated by the ABCWUA.

Construction and operation of the proposed wastewater collection system is not anticipated to consume large amounts of energy, and no mitigation measures are required.

3.11.3 Transportation

Transportation service to Corrales is provided primarily by the two-lane Corrales Road (NM 448) which is generally oriented north-south. Additional access to Corrales is via Loma Larga Road, although this road is outside the project area. Some additional long-term growth and increased traffic is possible from installation of the wastewater collection system along the Corrales Road corridor, as commercial development increases because of easier and more cost effective

access to wastewater treatment. However, the amount of available land for new commercial development along the Corrales Road corridor is limited.

Typical petroleum products such as gasoline and diesel are used for fueling construction equipment, and some fuels may be temporarily stored in a construction lay down yard during construction. Best Management Practices (BMPs) will be incorporated into project plans to avoid the potential for storage of hazardous materials or petroleum products in close proximity to surface water.

Operation of the proposed wastewater collection system is not anticipated to have a detrimental effect upon the local transportation network.

Some minor disruption of traffic will occur during construction activities of the wastewater collection system on Corrales Road. However, traffic flow will be redirected as necessary during construction activities according to the Manual of Uniform Traffic Devices and applicable traffic control plans developed for the project. The changes in traffic patterns will be temporary, and the directional boring and pipe laying construction activities will be conducted in a phased approach.

No mitigation measures other than traffic control during construction activities are required for transportation issues associated with the proposed project.

3.11.4 Visual Impacts

Regulations of NEPA and CEQ identify aesthetics, or visual quality, as one of the elements in the environment that may be considered in determining the effects of a construction project. Visual resources are those physical features that make up the visible landscape, including land, water, vegetation, and human-made elements. The location, design, and maintenance of wastewater facilities may adversely or positively affect visual features of the landscape. Concern over adverse visual impacts can be a major source of project opposition. The installation of the proposed wastewater collection system will not alter the visual environment in the project area, other than the presence of air relief valve vaults, meter pits, or pressure sustaining valve vaults. Based on preliminary conceptual designs, it is anticipated that up to 10 locations over an approximate 15,100 linear feet, assuming that the Corrales Road Transmission system alternative is the preferred alternative. The installation of the wastewater force main using the directional boring approach will eliminate the need for regular spaced manholes, typically present for conventional gravity wastewater collection systems.

No mitigation measures are required for visual impacts from the proposed project.

3.11.5 Noise

Ambient noise levels in the project area are moderate, based on the relatively high traffic density along Corrales Road. Noise impacts as a result of installation of the wastewater

collection main will not be evident, since the piping will be installed utilizing directional drilling methodology and will minimize the amount of construction equipment required during construction.

During construction, there will be a slight increase in noise pollution from construction equipment. Efforts will be utilized to minimize noise impacts. Noise is unavoidable but temporary and is not expected to cause a large impact, based on the distance of residences from the construction area. Construction activities will be limited to the directional boring machine operations in the staging areas, which are anticipated to be present in up to 10 locations along the Corrales Road Business Core. The final number and location of the staging areas will be determined during the final design process.

3.11.6 Public Service and Infrastructure

Electrical and natural gas service in the Corrales area is provided by the Public Service Company of New Mexico (PNM). PNM has a 3-inch diameter natural gas main along the east side of Corrales Road. Potable water is supplied by private water supply wells. Completion of proposed project is expected to have a positive contribution to groundwater quality in the Corrales Area, based on less reliance with on-site septic tank and leach field wastewater treatment systems.

Construction and operation of the proposed wastewater treatment facility is not anticipated to have a detrimental effect upon Public Service and Infrastructure.

3.11.7 Areas of Critical Environmental Concern

There are no Areas of Critical Environmental Concern (ACEC) in the proposed project area. No mitigation measures are required.

3.11.8 Impaired Properties/Hazardous Materials

No hazardous materials or wastes shall be disposed of on the site. While it is not anticipated that any hazardous materials will be generated or used, in the event of such generation, any hazardous materials shall be removed from the site and properly handled. An on-site visit by Souder, Miller & Associates, was completed in April 2008. The visit revealed no evidence of recognized environmental conditions (RECs) in connection with the property.

Typical petroleum products such as gasoline and diesel are used for fueling construction equipment, and some fuels may be temporarily stored in a construction lay down yard during construction. Best Management Practices (BMPs) will be incorporated into project plans to avoid the potential for storage of hazardous materials or petroleum products in close proximity to surface water.

3.12 Cumulative Impacts

The construction and operation of the proposed wastewater collection and transmission systems are not anticipated to commit irreversible or irretrievable resources.

Cumulative impacts from the proposed project include a minor change in visual resources with the construction of the wastewater collection system air relief vaults, cleanout manholes, and pressure sustaining valve vaults. However, since the wastewater collection system will be installed using directional boring techniques, the distance between the manholes and vault locations is anticipated be approximately 750 feet, so only approximately 10 locations will be required for the Business Core collection system. An additional estimated 8 staging areas will be require for construction of the Corrales Road transmission system from Meadowlark Land to the ABCWUA lift station at Calle Cuervo. The final number of staging areas and vaults will be determined following completion of the final design. The wastewater collection system would be compatible with the land use in the Business Core, since the area is commercially zoned.

Some temporary noise and dust may be generated during construction activities. However these effects will be limited to the approximate 10 staging areas required to install the wastewater collection system within the Business Core, and an additional approximate 8 staging areas along the Corrales Road transmission system alternative.

Implementation of the proposed project is anticipated to have a positive effect upon the growth in the Corrales, since new commercial businesses within the Corrales central area will be able to connect to the sewer system.

The proposed project will have a positive effect upon groundwater quality, since new businesses and residences within the project area would no longer discharge septic system effluent into the aquifer. The decreased effluent loading into the aquifer would be a positive effect on groundwater quality.

Although the proposed project may cross the Cabezon channel at the southern end of the project if the Corrales Road Transmission system alternative is selected, no impacts will occur to the channel or ditch bottom since the crossing will be completed using the directional boring technique or a bridge may be used to support the pipe crossing. A Section 404 permit may be required in the event of a ditch crossing. The USACE will be consulted to assess permit requirements once the final transmission system alignment is designed.

The proposed project will not affect wetlands, since no jurisdictional wetlands are present within the project area.

Much of the project area is currently developed with Village of Corrales roads, utilities, state and county highways. Since the largest area affected by the proposed action will take place during construction of the wastewater collection system, cumulative impacts are expected to be minimal. With the exception of the pressure sustaining valve vaults, cleanout manholes, and

meter pit vaults, the visual impacts to the project area are expected to minimal following completion of construction activities.

Effects to air quality from the proposed wastewater collection system are not anticipated, since the collection system will be buried below grade. Some minor odors may be experienced in areas close to the air relief vault locations.

Since threatened and endangered species or associated habitats are not present within the area affected by the proposed action, impacts to listed species would not occur.

Although the findings of the cultural resource survey indicated that the project could possibly affect the Martinez/Perea Hall if the wastewater collection main was placed on a west side of Corrales Road at the HPD-1858, completion of the project will have no effect to significant cultural resources, and a cultural resource clearance is recommended for the project. Since the final design for the wastewater collection system is not yet completed, the exact location of the piping near the Martinez/Perea Hall is unknown. However, the final design will take the Martinez/Perea Hall into account, and care will be exercised to avoid impacting the structure. SMA understands that the State Historic Preservation Officer (SHPO) typically has concerns over the vibration effects from project activities. However, the vibration effects from traffic along Corrales Road will no doubt be much greater in magnitude than the effects of directional borings. Preferably, the wastewater collection main will be located on the east side of the road near the Martinez/Perea Hall.

Since the preferred alternative for the wastewater transmission system is the Corrales Road Alternative, no vegetation is expected to be adversely affected by construction activities.

Some temporary effects will occur to the transportation network during construction of the proposed project. Some minor disruption to traffic patterns from project activities is expected. However, traffic flow will be redirected as necessary during construction activities according to the Manual of Uniform Traffic Devices and applicable traffic control plans developed for the project. However, these effects will be limited to the approximate 6-month or less period of construction.

4.0 SUMMARY OF MITIGATION MEASURES

The project includes the Business Core wastewater collection system and the preferred wastewater transmission system alternative is the Corrales Road alternative.

4.1 Physical Resources Measures

The following mitigation measures will be implemented to protect land, surface water, groundwater and air resources.

Landforms and soils

The proposed wastewater collection system will require excavation up to 4 feet below grade at the locations of the staging areas used to implement the directional boring advancement. Each directional boring staging area will require approximately 80 square feet or an area of approximately 20-feet long, by 4-feet wide and 4-feet deep. The estimated total APE for the project is approximately 0.17 acres.

The U.S. Environmental Protection Agency (USEPA) requires National Pollutant Discharge Elimination System (NPDES) permit coverage for stormwater discharges from construction projects that will result in the disturbance of one or more acres of total land area. A Stormwater Pollution Prevention Plan (SWPPP) is required under 40 CFR §122 for construction activities that result in a total land disturbance of 1 acre or greater, and where those discharges enter the surface waters of the United States. Since the proposed project will only disturb approximately 0.17 acres, a SWPPP will not be required as part of the proposed project. However, the construction contract specifications will include Best Management Practices (BMPs) to reduce the potential for off-site migration of sediment into surface water. Additionally, equipment fueling operations will be conducted at locations away from surface water to minimize potential for spills. Construction equipment will not be parked in close proximity to surface water. Hazardous materials used in the construction process will be stored in a secure location away from surface water. If the project design changes so that an area greater than 1 acre will be disturbed, then a SWPPP will be prepared.

Some dust will be generated during construction. Mitigation measures will include contractual requirements to reduce dust during construction by watering or covering disturbed areas.

Floodplains

Based on review of Federal Emergency Management Agency (FEMA) Flood Rate Insurance Maps (FIRM) found in Appendix C, SMA understands that flood plains in the vicinity of Corrales are primarily designated as Zone X, which designates areas outside the 1-percent annual chance floodplain, areas of 1-percent annual chance of sheet flow average depths greater than 1 foot depth, or areas protected from the 1% annual chance flood by levees. These areas generally do not require flood insurance. No base flood elevations are depicted in these areas. The draft EID report stated that the majority of land east of the Corrales Acequia is designated as being within river flood hazard areas, and in areas with a 1% or greater annual shallow

flooding risk. This was based on the 1996 flood plain maps, which were updated in March, 2008 following modifications to the levee system along the west bank of the Rio Grande.

Impacts to the project in the event of a flood are not considered to be detrimental, since the wastewater collection and transmission mains will be located underground, and will still function as designed. If a significant flooding event occurs during construction activities, then temporary dewatering operation may be required, depending upon flood duration, intensity and soil infiltration capacity.

No mitigation measures are required in regards to the floodplains, other than adherence to the BMP's developed during the engineering design process.

Surface Water

Construction, implementation and operation of the proposed wastewater collection system will not adversely affect surface water. Mitigation measures other than adherence to the BMPs are not required to protect surface water supplies. If the project design changes so that an area greater than 1 acre will be disturbed, then a SWPPP will be prepared. SMA did consult with the U.S. Army Corps of Engineers (USACE) regarding wetlands and surface water. The USACE stated in a written response, dated May 14, if the project involves work in the waters of the United States, that a Section 404 permit may be required. The final need for a Section 404 permit will be determined after completion of the final design of the proposed project.

Groundwater

Threats to water quality in the vicinity of the proposed project area include nitrates from septic systems. Construction of the wastewater treatment plant should reduce the nitrate loading in groundwater in the area because of decreased stress upon the aquifer. Detrimental effects upon groundwater as a result of implementation of the proposed are not anticipated.

Air Quality

The proposed project activities are not anticipated to have a detrimental effect on air quality, since the duration of the project utilizing heavy equipment is anticipated to be six months, or less. No significant emissions are expected and dust control mitigation will be part of project activities.

Some dust will be generated during construction. Mitigation measures will include contractual requirements to reduce dust during construction by watering down or covering disturbed areas.

Noise

During construction, there will be a slight increase in noise pollution from construction equipment. Efforts will be utilized to minimize noise impacts. Noise is unavoidable but temporary and is not expected to cause an impact, based on the distance of residences from the construction area.

Transportation

No mitigation measures other than traffic control during construction activities are required for transportation issues associated with the proposed project.

4.2 Biological Resource Measures

The New Mexico Department of Game and Fish (NMGF) responded to SMA's request for information regarding impacts to threatened or endangered species or critical habitat and indicated the project is unlikely to affect wildlife or wildlife habitats. To minimize trapping of wildlife during trenching operations, trenching and backfilling piping will be conducted concurrently. A minimal amount of trenching will be kept open overnight, and escape ramps will be provided for wildlife. Following completion of construction activities, disturbed areas will be reseeded with native vegetation to minimize erosion.

In order to reduce the potential for spreading noxious weeds to the project area, noxious weeds should be sprayed with herbicide prior to start of construction activities, as required. No other mitigation measures are required for noxious weeds.

4.3 Threatened and Endangered Species Measures

The presence of threatened and endangered species or associated habitat was not documented during the biological evaluation.

The New Mexico Department of Game and Fish (NMGF) responded to SMA's request for information regarding impacts to threatened or endangered species or critical habitat and indicated the project is unlikely to affect wildlife or wildlife habitats. Trenching and pipe backfilling activities will be conducted with escape ramps to minimize trapping of wildlife during trenching operations.

4.4 Socioeconomic/Environmental Justice Measures

By providing a means of wastewater collection system, the proposed project will likely have a positive effect on socioeconomic conditions in the area. Provision of basic utilities, such as wastewater collection, will raise the standard of living in the area.

The proposed project will benefit minority and low-income populations, by providing a wastewater collection system to community residents.

Mitigation steps with regard to socioeconomics include low interest loans, bulk purchasing of equipment (effluent pumps, septic tank filters and piping), that could be provided by the Village.

4.5 Archeological, Cultural and Historic Resources Measures

In order to provide for protection of possible cultural resource materials during construction activities, the construction contract documents should include the following or similar language:

"In the event of a discovery ["discovery" means any previously unidentified or incorrectly identified cultural resources, including but not limited to, archaeological deposits, human remains, or locations reportedly associated with Native American religious/ traditional beliefs or practices], the Contractor must immediately cease all operations in the immediate vicinity of the discovery and notify the Engineer. The Contractor should be aware of his/her responsibilities under the Historic Preservation Act of 1966 and the Archeological Resources Protection Act of 1979."

Upon notification of a discovery by the Contractor, the Engineer must immediately notify the New Mexico State Historic Preservation Office (NMSHPO), as well as other Native American groups that have requested notification (the Comanche Tribe, for example).

Although the findings of the cultural resource survey indicated that the project could possibly affect the Martinez/Perea Hall if the wastewater collection main was placed on a west side of Corrales Road at the HPD-1858, completion of the project will have no effect to significant cultural resources, and a cultural resource clearance is recommended for the project. Since the final design for the wastewater collection system is not yet completed, the exact location of the piping near the Martinez/Perea Hall is unknown. However, the final design will take the Martinez/Perea Hall into account, and care will be exercised to avoid impacting the structure. SMA understands that the State Historic Preservation Officer (SHPO) typically has concerns over the vibration effects from project activities. However, the vibration effects from traffic along Corrales Road will no doubt be much greater in magnitude than the effects of directional borings. Preferably, the wastewater collection main will be located on the east side of the road near the Martinez/Perea Hall.

4.6 Environmentally Sensitive Areas

No environmentally sensitive areas are present within the project area. No mitigation steps are required for environmentally sensitive areas.

4.7 Other Resources

During construction of the project, there will be an increase in the amount of truck and construction equipment traffic on roads in the area. This will be a temporary and unavoidable impact from the project. All construction traffic shall be limited to existing roadways and rights of way to the extent possible. A site specific traffic control plan will be prepared for the project. Some construction activities may be scheduled at night to minimize the disruption to local businesses and reduce traffic congestion.

There will be no burden to existing social services, educational facilities, or medical facilities from the use of the proposed project. The proposed project will improve community access to these services, by improving the domestic utilities and sanitary infrastructure in the proposed project area.

4.8 Cumulative Impact Measures

Cumulative impacts are defined as the combined impacts of individual actions. In the case of the project, the cumulative impacts include the combined impacts of the proposed action to provide wastewater collection and transmission system, as well as possible future actions by the Village of Corrales to extend sewer lines to Corrales area residents who currently lack service.

The project will be constructed in phases to reduce the overall impact to the Village. Since directional boring techniques will be implemented to construct the wastewater collection and transmission system, the primary areas of impact will be the staging areas. The location of the staging areas will be dependent upon the final engineering design, locations of business access, capability of the directional boring machine, location of existing utilities and other factors.

Some minor disruption of traffic will occur during construction activities of the wastewater collection system on Corrales Road. However, traffic flow will be redirected as necessary during construction activities according to the Manual of Uniform Traffic Devices and applicable traffic control plans developed for the project. The changes in traffic patterns will be temporary, and the directional boring and pipe laying construction activities will be conducted in a phased approach.

Some construction activities may be scheduled at night to minimize the disruption to local businesses and reduce traffic congestion.

The cumulative negative impacts from the project will be mostly short-term and related to construction activities. In the long-term, the proposed project will have positive impacts on the community and environment with the decreased nitrate loading on the aquifer, limited increased commercial growth along the Business Core, and the cost effective ability to treat wastewater through the ABCWUA treatment system.

Cumulative impacts with respect to socioeconomics are anticipated to be low to moderate, since an investment of financial resources will be required for Village wastewater customers to connect to the wastewater collection system. However, if the Village of Corrales assists wastewater customers with low interest loans and/or bulk purchasing of equipment, the financial burden could be reduced. Additionally, following connection to the wastewater collection system, the property value is expected to increase because of the availability of a wastewater system. In the long term, the cumulative impact of the cost to connect to the wastewater system is anticipated to be low to moderate in nature.

5.0 CONSULTATION AND COORDINATION

5.1 Personnel

Personnel from the following agencies were involved in the preparation of this report.

- The Village of Corrales
- Souder, Miller & Associates
- New Mexico Environment Department - Construction Programs Bureau

5.2 Consultation/Coordination

The following state, federal and tribal entities were consulted regarding the findings of this report. Copies of correspondence are included in Appendix G.

Table 10 - Listing of Tribal, Agency and Environmental Groups Consulted

Date Submitted	Name	State, Federal or Tribal Entity
May 8, 2008	Chairman Wallace Coffey	Comanche Indian Tribe
	Chairman Benjamin Nuvamsa	Hopi Tribal Council
	President Levi Pesata	Jicarilla Apache Nation
	President Joe Shirley	Navajo Nation
	Governor Earl Salazar	Ohkay Owingeh
	Governor Ernest Suina	Pueblo of Cochiti
	Governor Robert Benevidez	Pueblo of Isleta
	Governor Paul Chinana	Pueblo of Jemez
	Governor John Antonio, Sr.	Pueblo of Laguna
	Governor Michael Chavarria	Pueblo of Santa Clara
	Governor Robert Montoya	Pueblo of Sandia
	Governor Sisto Quintana	Pueblo of Santo Domingo
	Governor Ronald L. Tenorio	Pueblo of San Felipe
	Governor Leon T. Roybal	Pueblo of San Ildefonso
	Governor Ulysses Leon	Pueblo of Santa Ana
	Governor Ivan Pino	Pueblo of Zia
	Gedi Cibas	New Mexico Environment Department
	Marcy Leavitt	New Mexico Environment Department - Surface Water Quality Bureau
	Bill Olson	New Mexico Environment Department - Groundwater Quality Bureau
	Mary Day	New Mexico Environment Department - Drinking Water Bureau
	Mary Uhl	New Mexico Environment Department - Air Quality Bureau
	Auralie Ashely-Marx	New Mexico Environment Department - Solid Waste Bureau
	Bill Olson	New Mexico Environment Department - Groundwater Quality Bureau
	Bob Sivinski	New Mexico Energy, Minerals and Natural Resource Department

Date Submitted	Name	State, Federal or Tribal Entity
May 8, 2008	Susan MacMullin	United States Department of Interior - Fish and Wildlife Service, New Mexico Ecological Services Field Office
	Lisa Kirkpatrick	New Mexico Game and Fish Department
	Roxanne Runkel	National Park Service
	Gordon A. Hambrick	US Army Corps of Engineers
	John Poland	US Bureau of Reclamation
	Candy Ford	US Bureau of Reclamation
	Debbie Hays	Sandoval County
	John D'Antonio	New Mexico Office of the State Engineer
	Janet McVickar	New Mexico Department of Transportation
	Colleen Vaughn	New Mexico Department of Transportation
	David Gensler	Middle Rio Grande Conservancy District
	Ray Gomez	Middle Rio Grande Conservancy District
	Jim Orwat	Federal Emergency Management Agency, Region VI
	Mark Sanchez	Albuquerque Bernalillo Water Utility Authority
	Tim West	Bernaliilo County
	Cynthia Tidwell	Village of Corrales
	Michael Mudd	Sierra Club
	John Horning	Forest Guardians
	Brian Shields	Amigos Bravos
May 30, 2008	Josh Sherman	USDA - Natural Resources Conservation Service
July 15, 2008	Michelle Ensey	Department of Cultural Affairs, Historic Preservation Division

Table 11 - Responses Received Tribal Officials During Consultation Process

Tribe, Nation or Pueblo, Organization	Date Received	Contact Name	Verbal/ Written	Comments (if any)
The Hopi Tribe	5/19/08	Governor Benjamin Nuvamsa	Written	Leigh J Kuwanwisiwma, Director, Hopi Cultural Preservation Office responded with the following comments: The Hopi Tribe considers prehistoric archaeological sites to be Traditional Cultural Property. If any are identified that will be adversely impacted, they request copies of the cultural resource survey report and any proposed draft treatment plans for review & comment. Additionally, if any cultural features or deposits are encountered, activities must be discontinued and State Historic Preservation Office must be notified. If any Native American human remains or funerary objects discovered, notification must be made immediately by law.
Jicarilla Apache Nation	5/22/08	Lorene Willis	Written	Response provided by Lorene Willis, Director – Jicarilla Apache Cultural Affairs. The Jicarilla Apache Nation has no immediate concerns regarding this project. However, they request to be notified if environmental analysis determines the project would adversely impact the Rio Grande River. Additionally, they request immediate notification in the event of inadvertent discovery of human remains or associated funerary objects.
Pueblo of Laguna	5/15/08	Governor John Antonio, Sr.	Written	The Pueblo of Laguna has determined that the proposed undertaking will not have significant impact at this time. They request notification in the event that any new archaeological sites are discovered or new artifacts are removed.
Ohkay Owingeh	7/15/08	Governor Earl Salazar	Written	Response from Herman Agoyo, Realty Officer/NAGPRA Rep. No comment
Pueblo of San Ildefonso	7/14/08	Governor Leon T. Roybal	Verbal	As per discussion with Steve Rydeen no comment
Pueblo of Santa Ana	7/18/08	Governor Ulyssess Leon	Verbal	Received telecommunication from Mr. Ben Robins, Tribal Resource Coordinator for Santa Ana Pueblo on July 18, 2008. Mr. Robins explained that Santa Ana Pueblo does not have any comment regarding the proposed Corrales Wastewater system.
Pueblo of Santa Clara	7/14/08	Governor Michael Chavarria	Verbal	As per discussion with Joseph Chavarria, environment dept no comment

5.3 Public Involvement

The Village of Corrales held a total of six public meetings regarding the proposed wastewater collection system. The first five public meetings were held to discuss the Preliminary Engineering Report (PER) and the associated Peer Review Report regarding the proposed wastewater system. A project kickoff meeting was held on September 27, 2007 in which the

PER and the goals of the Peer Review process were discussed. Additionally, a well questionnaire was introduced. A second public meeting was held on October 25, 2007 in which wastewater collection system alternatives and Corrales hydrogeology was discussed. The third public meeting held on November 29, 2007 discussed wastewater treatment systems and Corrales Hydrogeology was discussed. A fourth public meeting was held on December 30, 2007 in which wastewater disposal systems and Corrales hydrogeology was also discussed. The fifth public meeting was held on January 24, 2008 in which the Final Peer Review Report was discussed and the wastewater collection, treatment and disposal alternatives were discussed. The preferred alternative of the Peer Review Report was discussed, which is the Business Core STEP wastewater collection system.

The sixth public meeting was held on October 2, 2008 in which the EID was discussed and a question and answer session was held. Approximately 45 people attended the meeting and 29 people signed the meeting attendance list. A summary of the EID was presented and was followed by an approximate two hour question and answer session. A number of questions were raised that were not relevant to the proposed project. It was evident that a number of the public that attended the EID public meeting had not attended the previous public meetings, and were unaware of the large amount of planning and alternative screening that was conducted during preparation of the Peer Review report. A transcript of the public meeting is attached in Appendix I. The transcript was only provided for the question and answer session. A total of twenty one people made comments from the public meeting. The responsiveness summary provided below summarizes the comments that were applicable to the scope of the EID. Alternatives discussed not included in the EID are not included in the responsiveness survey.

Documentation of the hearing, including the sign-in sheet, proof of publication of hearing notice, and listing of hearing posting locations are included in Appendix I. A total of twelve written comments were received from the public during the comment period and are attached in Appendix J. A summary of the written public comments is attached in Section 5.4.

5.4 Responsiveness Summary

IN THE MATTER OF THE PUBLIC HEARING REGARDING:

Village of Corrales Business Core Wastewater Collection System Project

Summary of Public Comments:

Comments were received from approximately twenty one members of the public. Comments generally related to cost of the project, need for the project, cultural resource impacts, and the effect upon the local transportation network.

Specific Public Comment	Response to Comment
1. **Mike Krupnick:** Hello, my name is Mike Krupnick my address is 4638 Corrales Road, a few questions I have, I run a professional office at Corrales Road. I estimated our gallons per week from our offices is about 200 gallons of water per week for usage. Typically it's about 21 toilet flushes a day and that is if we have seven employees currently we have three. So my question is, are we allowed to opt out? Can I decide not to do this project, not pay the connection fee? Can we use composting toilets for seven employees who can easily use a $2,000 composting toilet and greywater water instead of hooking up to your system? And what is it going to cost me if we do do the preferred alternative? I've heard rumors of between $10,000 – $40,000 - don't know what that is um either way that seems expensive for a 200 gallon a week usage. So I guess my question for the need of the project, I do see the need for restaurants, I don't understand how the population of Corrales being 8,000 now going up to 11,000 has any effect on the Business Core unless we as a Village are promoting restaurants, trying to attract restaurants, and trying to make Corrales, the Corrales Village Core, a core of restaurants, then I see the need for the sewer system. But for the typical professional office or residence I don't see the need. So I guess those are the questions that I would like answered. 2. The question about the cost of the pump. My building is kinda in a community of 4 other small buildings. 3. Approximately $6,000 split amongst the building in the area 4. Right. That was the question there are 3 properties that have the buildings near by. Ok and then I guess is why only the business district? It's 50 buildings out of 4000 buildings in Corrales? 5. But if we're producing 200 gallons of waste a week and my house is producing way more than that, I guess the question is, I want to support the sewer system - I think it's a great idea – if it makes sense, but why only the 50 buildings?	1. **Jerry May (SMA):** Well, we are going to response to that when we can respond to it. If there are some questions we can't response to right away we will do those in writing and those will be published. But I think the first question, if I'm not mistaken Dr. Rose is in the audience, that under the EPA funding that if there is oppor - anybody that has that opportunity to be able to connect, is suppose to connect under that funding. That's correct, Dr. Rose? Right. The other, ----connect, ----if the lines there to connect you are suppose to connect. 2. Excuse me, this is a question and answer forum, we've recognized this gentleman; we're answering this gentleman's questions. Please hold your comments to let us finish answering the questions he asked. The other question about the cost - we did present rates from the Albuquerque Bernalillo County in a previous report we presented at a public meeting last year. It's not clear yet who would own and operate the wastewater collection system whether that would be Albuquerque Bernalillo County or the Village itself. That is still yet to be determined by Mayor and Councilors. The current connection fee and monthly rates for a business which you describe is about $1,800 for a connection fee and about $7 or $7.50 a month based on the types flows you're talking about. Now to install filters and the pumping we were talking about, we estimated that it would take about $2,000 to provide the piping and plumbing; the pump system would be about $4000. Those costs could be possibly subsidized in some way, shape, or form by the Village. I know there has been talk about that - so that is - and then was there another question you had with that? 3. You could share a pump amongst all those buildings very easily. You could all share one pump. 4. You could even share property to property, there's a lot of options. 5. This is what EPA fund was designated for, my understanding, was for the Business Core of Corrales and this goes back to 2001 and to prior

6. I'm assuming it a couple thousand dollars to run the line - if I'm gonna share with my neighbors maybe $4,000 just to get my sewer connected, plus the $1,800 dollars connection fee, plus the $7.50 a month. Is $7.50 a month a metered rate? 7. The Village Pizza pays more than my office – I guess is my ….	mayors and councilors, so I'm not…. 6. Well, part of what you have there in Business Core, is density, you're not on 1 acre of land and your not on 2 acres of land with all the septic tanks that are generating the effluent. You've got groundwater at 5 feet with that type of density. Unfortunately, it's very hard to measure the nitrates in this area because of the anoxic conditions, but if you go look for it, I wouldn't be surprised that you could find some - find it somewhere. But the concentration, it is one of the things - it is also one of the things, that service, is considered you know, by some as an incentive to business that you don't have to worry about that discharge from your septic tanks, but the primary thing is that density. 7. Yes, it's a metered rate…yes. everyone it depends on Right, yeah. The City of Albuquerque, if that's who would be the owner, and I'm not sure who the Village, if they were the owner, it's a metered rate, so you would be required to put a meter in and that would be a measure rate.
1. **Ralph Martinez:** Ralph Martinez, life long resident in Corrales. 65 Old Church Road and I am here on behalf of my daughter who lives on 4389 Corrales Road. There's been a lot of concern, at the previous meeting, that I attended over here, I asked the question, 'is this going to be mandatory or voluntary?' –And the answer was 'I don't know, -we don't know.' Now according to Corrales Comment, it's going to be mandatory. Well, my concern is that there is quite a few elderly and single ladies living right next to the road between Meadowlark Lane and the area right here where …. – we're on fixed incomes. One of them is in a rest home – she's 95. We're concerned that were gonna hook those people up. Also, how deep are you gonna go beyond the 350 feet? Are you gonna require everybody from 350 feet from the road to be hooked up? 2. I understand that you're gonna have a pump at the septic system and if we have an electrical breakdown or is the power of those pumps going to be operable? 3. One of the concerns of the elderly and the people who are seniors living on fixed incomes, is that they can't even get a loan for that – they wouldn't be eligible. Especially with the fiasco going on in Washington with the financial situation. And the elderly living today - life long residents - thought they were living the American Dream, I think if this goes through, the American Dream is going down the drain. 4. The last meeting we also heard that meters might be installed. Is that correct?	1. **Jerry May (SMA):** Ok –first question. I understand that Mayor and Council have considered some, and I haven't been privy to all those conversations, they have talked about some financial assistant for people in need for this project. The other thing is that what we're looking at right now is connecting - what fronts Corrales Road. We know that the Business Core does extend back that 300 feet in each direction – but looking at the aerial maps and having driven the Village there doesn't seem to be too many places that extend beyond that – pretty much the lots that are on along Corrales Road are within that area. The sewer main would have the service connections would be along the edge of Corrales Road – so somebody wouldn't have to come through somebody else's property to connect to it. …that wouldn't be necessary. It would be pretty much what fronts along Corrales Road. 2. No, they won't operate if the powers off. No. 3. And just to comment about the one thing about the power outage, don't forget you still have your septic tank, and the septic tank will hold, it is supposed to hold several days of flow. So it's having the power out for a brief period of time - your pumps not going to pump more than several times a day typically - depending on if for residents or business – obviously it's going to depend on your water use - and how much goes to your septic tank. Like I said before, there have been – there has been conversations already about how there might be some financial assistance and also what we've told the Village is that there's some opportunities for cost savings in

5. Meters? Are you going to meter the outflow? 6. We just got through doing a water system in the Village of San Luis. Those meters run $1,300 a piece. 7. I think what we're looking for is some figures and facts, ya know, what its gonna cost. Most of the people that I talk to think, that we're subsidizing the businesses. Thank you.	doing purchase requests for all the pumps at one time or doing all the construction by certain entities - you get better cost with larger projects or consolidated projects. 4. Pardon me? 5. The flow has to be metered if it's going to be done by the City of Albuquerque. If the Village decides to do it, the Village may decide not - the Village would have to have its own meter, which is like a bulk user rate- for the City of Albuquerque and then the Village would decide how they charge rates after that. The may just charge a base rate, based on estimated flow – or whatever– that's still to be decided yet by the Village. 6. That is not what's required for you to tie on for a small, for a house or small business, is only gonna be 1" – 1 ½" pipe and that's the size of the meter that's required. 7. Well, that's still not been determined who owns and operates that system. We know as much, as was in our reports from last year, and you can go on ABC website and look at that yourself if they would be the owner and operator of that system.
1. **Wayne Bradley:** My name is Wayne Bradley. I reside at 3856 Corrales Road. My parents reside at 3858 Corrales Road and my sister resides at 3858 Corrales Road. And I have a number of questions. You get up here and you tell us, you don't know what the cost is gonna be. ….that's just unbelievable. That you guys are up here telling us this stuff. When we don't have the income to pay for this stuff. You people think we're all business. Well, we've been here since 1952 and for you guys to come in here and come in here and decide that the business district needs this and then tell us that we have to hook up to it being private property, private land owners, this is not fair and to me you guys are setting yourselves up, because if the rest of Corrales the residence don't have to hook up, and I have to hook up to this thing- it seems pretty unfair and pretty unethical. I have a number of questions. 2. Let me decide which page I want to start on. Well the first thing I pretty much covered – why should I have to pay for this. Because like I said, I'm in the business district, but I'm not a business ya know, this is just typical – this is not fair. Ok – that's the one. On the private land owners - Another thing I'd like to know is why are we putting in such a small line? If we're gonna do this – we're trying to set this up so your saying that we're supposed to help Corrales and the future, were putting in a little line and it's not gonna even take away waste. All we're taking away is water. Now I understand your saying it's contaminated water, but the point is, if we're gonna have business	1. **Jerry May (SMA):** If you could direct your questions to Purpose and Needs for right now, we'll get to these other areas later- is that what you're? 2. From our previous report from last year to put in a wastewater collection system that would serve the Village of Corrales is $83 million dollars and first of all, the Village of Corrales doesn't have $83 million dollars and if you were to share in that cost, you can imagine your rate would be several hundred dollars a month. So I just – that was from previous reports and information - so… 3. No, I mean your septic tank stays there. 4. Right - it only pumps to the main line in the street. 5. No, no. It would come out the top of your septic tank before it went anywhere. If it pressured - back pressure for some reason. 6. The wastewater discharge in the right conditions can cause what is known as the anoxic conditions, in other words, it has depleted the oxygen in the soils and in the groundwater. And so the iron that's naturally in the soil can leach out and get into the groundwater and become a problem. People have already encountered this in Corrales. With that taste and odor and the sulphur odor smell or the iron that can cause staining in the water and some of that can be directly related to the wastewater discharges.

district in here, we need to put a line in, I mean a major line that everybody in Corrales can hook up to, because pumping into that is - it's just not - to me, the cost is not feasible and it's - -if you're gonna do it - get rid of the sewer at the same time, so its not just the drain line – it should be drain/septic systems. That's another thing that I have.

3. Well I understand that - well maybe the rest of Corrales should share in the cost of what I'm gonna have to pay. Maybe you should raise the taxes on everybody else to pay for this line, because it isn't fair for me to have to pay for this. Another thing I wanted to know is what happens if something was to quit? Can this backup into my house?
4. Yeah but, if you have water pressure coming in - say the check valve fails, and you got everybody else pumping water in there and there's pressure in there. I understand that this is not going to be a gravity flow line, is that correct?
5. But you're telling me that that main line can't get backed up and then pressurized and go into somebody's home?
6. I don't buy that, because of the fact if you have dirt on top of your septic tank lids, that dirt is gonna block that – it ain't gonna come up the lid – its gonna come up into your house. Ok. Another thing is – ok - I guess I just better be checking these off – Your taking about the taste of the water and the iron in it - what does this have to do with the water and iron as far as this septic system doing and the taste? Why is that even brought up?
7. Would we better be served to have a water system put through Corrales than we would this?
8. I understand that – it's Corrales that wants the money. I understand that.
9. Yeah well, they need to think about funding for other people as well. Ok and as far as the size of the line – you're talking about a 6" line. Like I'm saying - I think if we're gonna build the line - and I understand what your saying – your saying Corrales doesn't want it – but if we're gonna do it – and the whole purpose is for the groundwater…is we need to put in a line big enough - like I said do it and make the road wide enough to handle it. I can't even get out of my driveway. You talk about impact…you talk about endangered species - you got a few around here - and I'm one of them. I'd like to know to how this small strip off the streets is gonna change the rest of the groundwater when you are not applying this to all of Corrales to hook up to this. You're saying there only go 300' up this Corrales road. I think that we're taking the burden of– you look at the size of Corrales and you look at the size of where you're talking and you're talking 91% and yet, we're having to pay the cost. I understand that once you have this thing hooked up that you're gonna have
7. That's - yes or no. I mean – that's - this is the process - this document that we're talking about is for EPA funding to fund this project that's available to the community – it's been available to the community since 2001.
8. Well, that was the direction that Corrales chose… quite a few years back.
9. No, it's actually recommended 3-5 years which is normal pumping of a septic tank.
10. Well yes, they should be, obviously.
11. **Wayne Jeffs (SMA):** The flood insurance rate maps have depicted the whole area in a flood zone. Souder-Miller did not prepare those flood maps, that's done through FEMA and we have to rely on the information that is provided and it shows basically flood elevations of up to 2' -3' in a lot of places. So that is assumptions made by the people that made the map and that as a result of our project we have to rely on that information.
12. That's what the maps say, so we have to rely on it.

to have your septic system pumped once a year, is something to that effect? Is there anything to that? 10. Are the septic systems supposed to be inspected before these are hooked up? 11. So, so the point is – I been here a long time - if there's a crack in the bottom of my septic tank – you're gonna tell me that I need a new septic tank. So my cost just when from $8,000- which I don't buy - because your not giving me the whole cost – to now maybe $40,000 for a septic tank. That's what I'm saying - we- if you're gonna do this, we need to have something that carries solid waste all the way outta here. Ok – the other idea - you're saying that this gives additional growth on the Corrales Business area. Well, that doesn't pertain to the traffic on Corrales Road -I'd like to have that - if you guys think that we need to have a bigger business district in here, than like I said - you guys need to plan ahead – ya need to get in here and get some 2 lane highways – some medians and stuff. I understand everybody's saying 'that's the cost' –….but you know what – that's the cost if that's what you want to do to this place and make a bigger business district. It's like buying a tool that's too small. You buy something that's too small, you might as well throw it away. That's what I think of this lines gonna be. It'll be 5 years down the road – you'll be saying "well, we need a big line now and you're gonna be tearing Corrales Road up and going all through it again. I'd like to know why – you talk about the floodplain on Corrales – I was under the understanding that when they rebuilt the levies – that we were no longer in a floodplain. Can you answer that for me? Ok, because when they came in and built the levies they said we're no longer in a floodplain. 12. Well, the maps need to be changed or somebody needs to be notified. I'd like to know why all the homeowners weren't and business owners weren't addressed with a certified letter on this. Because you all say we knew this, well we didn't know this. This is all new to us. The last we heard was, that this is gonna be optional, this is for businesses only and now you're telling me I have to hook up to this thing, and I'm not a business. That is not fair. I'll give to somebody else for now.	
1. **Andy Martinez:** My name in Andy Martinez – 4206 Corrales Road. And my mother is the one that owns that property there, but we're the family that owns that property there. I totally, totally agree with this gentlemen, here. My question is on this - if your going to –if its going to be mandatory to do this and you have to have a pump –that's gonna have to pump that from the septic tank over to the line – that is electrical, is that correct?	1. **Jerry May (SMA):** Yes. 2. No, it depends more on the pressure that the line operates –but I can tell you right now- that will be a design feature and the size of the pumps would be determined during the design for - it could vary a little bit depending location to location - depending on where your tying on to the line, but its usually a very small amperage.

2. And how many amps would that require …is that depending the total of distance? 3. My mother is 95 years old and she's in a rest home. Her income, her retirement income, is about the lowest as that you can get. And she would never be able to afford what you people are talking about. Now getting back to this electrical thing, the pump that is gonna be, the electrical pump that is going to be there, we provide the service for it ourselves, is that correct? 4. If the service right now for the house and everything is already at maxed, right now and you add a pump which probably runs about between 8 and 15 amps, to go ahead and push that water out there, then that means, that you have to change the service, which means changing an electrical panel. Do you know how much it costs to change an electrical panel? To add breakers on it, to subsidize this have correction, -breaker – a disconnect over at the pump - for - to have that pump going over? That's just an additional cost. That's gonna cost alot of money. Not only that to have service over to the pump is also gonna be very expensive. I just don't see why all this cost. I just don't see it. And your telling us, the way I understand it right now, its gonna be mandatory and its not going to voluntary. Is that correct? That's pretty unfair. Thank you.	3. That is correct. Everything from the apparent right-of-way of Corrales Road, which where there would be a service connection, everything beyond there would have to provided by the property owner. 4. That's what I understand from the EPA funding that if the service is provided than you are supposed to connect.
1. **Cassie Travani:** I'm Cassie Travini and my property is at 4498 Corrales Road. So we're looking about $8,000 to hook up and $7.50 a month for service, Right? 2. So do we have assurances that the federal, state and county funds that are going to be paying for most of this is solid? With the financial crisis right now, is any of this money in jeopardy? And will any bond elections need to be floated in order to pay for this? 3. It's already been allocated? 4. Ok that is all that's necessary at $8,000, because $8000 is a lot better than $40,000. 5. Right. So grinder pumps are a possibility for some of the businesses right? 6. So that brings me to my next question. If this is going to be metered, I mean I have like you, I have a tiny, tiny business. If we have 10 flushes a day, it's because a lot of my clients had to go to the bathroom when they came to see me. So I just don't see how we're gonna keep these fees the same for me, as they are for some of the big restaurants on Corrales Road. 7. Yeah, I've seen the flow charts. Ok. So most of the population in Corrales is east of Corrales Road – is there any plan in the future to include the rest of the Village - then just the people on Corrales Road.	1. **Jerry May (SMA):** Yes, for that, for flow for a typical house. And that's if you, if the City of Albuquerque, operates it. If the Village decides to operate it could be different. 2. No, this money has already allocated. 3. Yes this money that we're talking about for this project – this money was already allocated in 2001. 4. Oh yeah. No, that's you know if, you know our estimate is based on assuming a connection of 100' to the main – it's gonna vary a little bit from house to house – where's your power panel – if you don't – say a business – because I don't think there's any homeowners who have a holding tank…if a business has a holding tank, then they'll probably want to go with a grinder pump because they don't have a septic tank which is probably gonna cost an extra $4,000. $3,000 to 4,000, because those pumps are a lot more expensive and they draw a lot more power as well. 5. Yeah, well - it's not preferred with this type of system, but a few would be. But they are gonna be much more expensive than just a standard pump. 6. No, the fees wouldn't be the same for the restaurants, they would be much higher. Your next step up in the fees - and I can't remember it off the top of my head – I believe, what the flows are - but, it goes up to 12 - I think the impact for the connect is $3000 and the monthly fee is $12 something,

8. But – 2 of the alternatives have lines that are closer to the population part of Corrales. Wouldn't it make sense? 9. Now, about this project, is there any way that you guys are gonna need more right-of-way land? Additional right-of-way land than what exists? 10. Ok – that was important. 11. Ok – and your sure that our septic systems have to be inspected prior to hook-up? 12. Yes, because that would just be a huge, huge snafoo to have to have that. 13. That makes sense. Well, calamity is described. As by whose ox is being…bored…. So ya know the little business and the homeowners are going to be very interested in the final figures – so when can we have assurances about cost? 14. Ok and finally, there are faults, there are faults through here. How will this system withstand if we had an earthquake? It's happened. 15. It's not highly active, but there's a fault. 16. Yeah, but…	and then from which I know some of the restaurants are gonna be up in the --- 3rd or 4 tier possibly based on their flows, again that was based in the PER report last year, probably still on your website but you can also get on the ABC website and look that up. 7. This – we're only talking about the Business Core. 8. All we're looking at, all we're looking at right now is this project that we described. 9. No 10. I mean, if worse case, we'll put it, we'll have to put it down the Corrales Road if we can't get it along the apparent right-of-way. But again with the directional drilling process would be limited impacts to the Village. 11. I don't know how The Liquid Waste Bureau would view that. Dr Rose .do you have any idea on that? 12. Yes, it would be. We don't think its part of the Liquid Waste Regulations. They require inspections when there's property transfer or new tanks, but we don't think that there will necessarily be – unless the Village requires one. If when they make a connection - would their septic tanks have to be inspected? I don't know off the top of my head. 13. Yes, but I can tell you with effluent filters – that's basically keeping the solids from leaving the tank - is those are typically inspected and those could be inspected by the homeowners, once a year – in case you have to clean them out or something. That's gonna be up to Mayor and Council as to - you know who owns this system and what types of rates are gonna be implemented. 14. An earthquake? **Wayne Jeffs (SMA):** The Village of Corrales is not considered a highly active seismic zone. 15. It is not, it's not. The area of Socorro is the only area in the state considered a seismic area in this state. With elevated potential for seismic risk. Considered through the, from geologic literature, being very low. 16. **Jerry May (SMA):** But anyway, I would think that the, you would have much more damage in houses than you would have in this type of piping system.
1. **Jessica Sanchez:** Hi. My name is Jessica Sanchez, I'm here on behalf of my grandmother, she lives at 3948 Corrales Road. My question is has it	1. **Jerry May (SMA):** Yes. 2. Yes, Mayor, this was sometime last year.

been decided that we are actually going to do the project? 2. So there was no vote taken? 3. And do the Villagers have a chance to vote on that? 4. So they will vote for us? 5. Back to the funding – you said – actually maybe I will direct this to you – is so – for people that can't afford it – you said it was gonna be looked at - what are we looking at as far as that's concerned? 6. Ok – I guess that was my next question. What would be the alternative if there was no government funding for these families that aren't at liberty to pay for this. So they would have to take out a personal loan? Is that correct? 7. When will you have a decision on what will be available? 8. And do we have a chance to meet with the Council that's going to vote on our behalf of going through with the project. 9. And where should we look for those public meetings. Are they gonna be posted in the Corrales Comment? Are people that live down the road going to be notified, how do we know as a people? 10. Would it be safe to say that we maybe could find that on the website? 11. Ok, so that would be a place… thank you.	3. **Mayor Gasteyer:** We haven't made a final decision to construct. We're going through the various steps and this is one of the required steps that leads us to the point of whether or not its something the Village wants and the Council wants. 4. You have an elected council that will be doing the voting. 5. Yes 6. There are several different kinds … both at the federal and state level that we might qualify for. That would allow us to do some financial assistance. We have difficulty in NM because we have something called the Anti-Donation Clause in the State Constitution. The municipality itself cannot help a private landowner, however, if you can tap some kind of fund like there's a federal clean water revolving fund that was originally started for the state with some federal procreations, then we believe it may be possible to - to provide some assistance directly to private property owners. We do have a little bit of a problem there in helping people directly one on one. There are also some other loan programs that I understand that are available that are low interest loans. Just another way of doing it. 7. It's possible, but we haven't decided on these financial mechanisms yet and we are still exploring what might be available. 8. Well, I'm sure while the current Council is still in office. So – between now and March of 2010. 9. That will all be in public meetings. And there will be agenda items that people will be invited to react to and advise the Councilors what their preferences are. 10. The Corrales Comment does a good listing the council agenda, but of course we post them in 7 locations throughout the Village for every meeting we have, which is routinely every 2 weeks. 11. Yes that's true.
1. Hello…I'm Katy Egan Deprez and we live at 3795 and 3777 Corrales Road. I had a question about the data that was being presented. It being from 1994. I thought we had just concluded like 2 years of well water monitoring. Looking for markers like caffeine. We didn't find nitrates, so I was wondering why that data was presented. 2. Ok – I thought maybe we should wait for the data to come in from the last study. 3. Alright – I'm also wondering if we're concerned about the nitrates, why we're being left with the solid waste while the water is - the greywater is being	1. **Wayne Jeffs (SMA):** That is the data that is available. As a portion of our study we do not have a budget or funds to conduct an independent study and collect additional samples. That is not part of our work scope. **Jerry May (SMA):** We have - haven't looked at the data from that the Village collected in 2006. Caffeine was not looked at. That was taken out. It's very costly and it's really an unnecessary type of sampling. We recommended another constituent be looked at, another type of nitrogen. We haven't seen the results, the most recent results, but the results from 2006 did show some nitrate contamination at the above background level

pumped out. And also I was wondering about septic tanks work with no water. I don't think you'll have, I think you'll have to pump them more than every 3 to 5 years like you were saying. 4. It just seems like our water that we should keep and also I can't probably stay for the biological impact, but I am concerned about the trees along Corrales Road, like the cottonwood trees and their root systems.	of 2 which has been establish by the Environmental Department for the Village of Corrales and we did see it spread across the Village, above 2 and in some cases as high as 5 or so. So its half way there - kind of an action level. So it's been seen in every sampling event that happened out here. 2. I mean - every time since 1994, every time something's been sampled we've seen the nitrate above 2 and 5 and sometimes above 10. It hasn't been above 10 since 1994. We spent a lot of time last year talking about data and you know samplings - taking samples from wells, doesn't necessarily show you what is on the top of the aquifer, what is being impacted by the septic tanks. Taking samplings from wells, you're, if you have a level of 5 in a well that's 100 some feet, what's up 10 feet below the ground in the top of the aquifer? It's probably gonna be much higher than what is at the bottom of the well. And to go into that kind of sampling program, to identify, you're talking a lot of money. Probably as much as what it cost to design and build this project here. 3. Let me correct you on something, its not greywater. The definition of greywater is what comes out of your sinks and showers and things like that. What comes out of the septic tanks is called black water. And we're talking black water. Unless, you have a separate piping system that you can pull your greywater off, but this is black water, when it all gets mixed together, its black water. Basically what this is, is a pump that's added on in between the septic tank and your leach field. So your leach field is no longer used and when the septic tank fills and discharges it's a sump pump that has a float. It gets to a certain level it pumps, it stops, waits for it to fill up again, it pumps, and stops. That's basically the way it works. The septic tank continues to work the way it has all the way along, it doesn't change. And the solids remain in the septic tank. The pump is only pumping the fluid that comes off of the septic tank. And that's why the filter is there. To prevent any solids from getting into that pump and pumping solids through it. 4. Right, what we are talking about is with a 6" ID. It might have as much as an 8" OD and they drill just a little bigger than that. So we're talking about probably a boring 12" in diameter or less. Part of what they do when they drill - is they pothole and spot utilities and potential obstruction. So, that's one of things during design as part of the routing – obviously try to go through the clearer areas, whether it be trees or utilities or whatever and try to stage this in ways that will minimize impacts as well.

1. **Dr. David Grief:** I own the building at 4583 Corrales Road. My question concerns purpose and need. This room is filled with people that don't see the purpose or have a need for this. I'm wondering who, are the people that actually need this project. 2. Could you summarize? 3. I hear what you're saying, but I've been given every excuse that's it's gonna help business – it's gonna increase the business district and such. I mean if I have this, I'm a chiropractor – how is it gonna increase my business? Ya know a handful of people come in to use my toilets. I mean, I don't believe that having a better septic system is going to improve my business. One of my tenants, Steve, Steve's Happy Bikes how is it going to impact his business in a positive vain. I'm not really getting it – getting your point - how is it gonna help this community. There's been an ongoing debate in this community for as long I've known about Corrales about the people who want to keep it rural and the people who want to keep it a business. And that's been an on-going cycle of debate – I'm just not understanding how this is gonna serve a purpose for the greater of Corrales. I thought this was a majority rule –minority rights. And the majority here is saying that they are opposed to this. Now the minority that I hear that are benefiting are the restaurants. If I am wrong on that, could you please correct me? 4. So why are we having just the business corridor get the sewer system and not Corrales?	1. **Jerry May (SMA):** Well, I think we spent quite a bit of time last year presenting purpose and need for the project for the Village of Corrales and that… 2. Basically, you have a high concentration of people in a given area. You all have septic tanks. You have shallow groundwater, and its, there's documentation that the groundwater has been impacted by the septic tanks. Some of the, part of our hydrogeology report that we did, we modeled contaminants. Nitrate contaminants coming out of a septic tank based on the geology of Corrales that was obtained from, well reports, from the State Engineers Office. And we showed, just as we spoke this evening that there is, it's very easy to contaminate the groundwater down the street of a single septic tank. When you start putting all the septic tanks together, then you have a potential for contaminating a much greater, greater area. The laboratory data that's been collected over the years documents this. The groundwater is impacted by septic tanks. It's not going to go away and it's not going to decrease as you increase your population. It's going to go the other direction. And you don't want to wait until you get to regulatory standards at 10 parts per million. At that point in time, the Environment Department comes in and you have to get back into compliance. It's, its way beyond the costs of putting in a, probably putting a wastewater treatment system and treatment plant for the whole Village if you have that kind of problem in your aquifer. You won't be able to drink the water. This may start out as something small. But as I said before, that's impacting a well where you are pumping from, not what's up in the top, it's down that deep. It would be a very major undertaking. Its very expensive to treat and clean up. And this, people have said, 'yeah I've lived here all my life.' Well, this isn't the same here as it was 40 or 50 years ago. There's a lot more people. The septic tanks are still continuing to grow. And if they're not maintained, they're putting out even higher concentrations. 3. Well I think one thing is that this project, you know, would increase the value of the properties. It's a service and it's a sewer service. If you go to any community and I think I've talked about this about this time last year, I don't think there's a community of 8,000 people in the state of New Mexico that doesn't have sewer service. So, you're behind the gun here and you're starting to see the results of that in what's been tested in the groundwater over the years. And it's not going to get any better; it's not going to go away. Some people think that there's a big washing affect underneath the Village, well sorry its not. It's not going get any better. So this is not only about you or anyone in this room at this point and time.

	This is about your generation, your next generation and the generations after that. And providing sewer is a common service for most municipalities and the reason is protection of the public, protection of groundwater and you can name a number of other things. 4. We've, again, this is about this project. This is what the EPA grant was for. We talked and we made recommendations for the Village as a whole to deal with the groundwater and sustaining the groundwater underneath Corrales versus the impacts from the septic tanks. But this is this project, this is what the EPA Grant was written for, and this is what the funds are to be used for. And this is the process that has to happen in order to obtain those funds.
1. Gail Horan: Hi, my name is Gail Haran. I own a business. I'm a tenant on 4685 Corrales Road in Mercado De Mayo. I have 2 questions. This is all in the proposed stage. I know we have to keep going to the Council to see what's going on here, but approximately would you know when it would start, how long it would take and what if you have a little clincher like you did find something in the ground – that was maybe an Indian burial site or you just ran out of money? What would happen to the project, does it just stand still? Is that enough money since the money was from so many years ago to complete this project? 2. And being a business owner in that area, traffic flow, we live for Corrales Road. As much as I loathe the traffic, because I live here too, we need it to keep our businesses going. So I really feel that the business should be notified - way ahead of time - so I can get out of dodge before this starts and start my business in Albuquerque. I personally want to know because it's going to affect my income and two other people that work in my business. So I would like to know - when and if and how long all this is going to take. If it were just a two week projects, fine. Close the doors for two weeks and just chalk it up to a vacation - but – like I said - the business that are there are gonna die. The ones that need to earn a living and we have quite a few that are hobby businesses on the road that are, the income wouldn't impact them. But there are quite a few also that it does. And slowing the traffic down, it's gonna be just awful. So I would really like to know these answers when the time comes. You can't give me them now. You don't know, right? We didn't pass it yet, right, in the Council? This is still in the proposed stage, correct? This is still not a done deal? They can still give the money back too. I am asking all this. I don't know who to ask? I mean the money can still be given back? And we could get a real sewer coming in here and work on that, because I really think that, after listening,	1. **Jerry May (SMA):** There's enough money funded whether it be through the EPA Grant or State Appropriations or Sandoval County itself to design and construct this project as it is right now. Your other question is, as Wayne (Jeffs -SMA) was stating earlier, we're looking at the areas of potential effects, or the APEs, are basically 4' x 20' for each staging area. That is the area where the bore pit is, so that's all that's excavated so you would be limited to those areas. 2. The Mayor and Council.

I'm opposed to this sewer. Because I don't want my income to go, this is just a personal thing. But I'm telling you now that this sounds ridiculous. That if we're gonna do it we should do it right. Just let the businesses know so we that can leave here and then you guys can have the biggest businesses district with a 100% vacancy rate here.	
1. **Al Knight:** All right I'll take it. Thank you Mayor. Al Knight. I'm very much a pro sewer person and here is why. What I've heard tonight, a lot of people who have not come to the previous meetings and do not understand and have not understood the entire course of what's going on. Because we keep asking the same questions. How much is it going to cost? Who is it gonna pay for it? Why are we doing this in general? To go back to the Business Core, I've got a business on the Business Core and I, all my water, all my sewage, is going into my septic tank. Some of those septic tanks have drain fields, some of them do not. The water that floats up goes to a pump that goes into this pressurized tank that carries the fluids away, and there's a cost to that. If you don't have that, then what you're doing is your spending money pumping out of your holding tank every month. And as this started years and years ago, the cost of pumping this sewage and water, the solids and the liquids out of these tanks, got to be more and more and more. It went from $50, to $80, to $150, and I think now it's up to almost $250 a pump. Some of these areas, now the restaurants, are focused on because they go 'well, they are producing the most amount.' But collectively, all of the smaller ones are too. The cost of that pumping is a one time cost. It's not a monthly cost, and I think one of the things that people, go like think, disagree with is, 'now I have to pay every month? I didn't have to pay anything before'. But you always had to pay something; you always had to pump that tank. You have a holding tank. Some of the business on Corrales, especially the restaurants, do not have drain fields, they have a holding tanks. Those things have to be pumped. We're trying to develop a, so those things have to be pumped. There's a heavy cost. We're at a point now where you have to make a decision as to whether you want to go to a sewer system or not. Now the argument is, is it environmental or is it economic? Bob Borman argued that it's not environment, it's economic. My thing is that's it's both; we can see that it's environmental. You can't keep doing this forever and not have an effect. Economic-wise you have to start growing a tax base in this Village. We are one of the only communities around here that does not have a commercial core. If we don't have a commercial core that is creating some kind of a tax base, then we are all going to pay for this in higher taxes. And if you don't believe it, just wait. Because you're gonna get it. If this is a household, the bills still have to be paid. There's a fire department, a police	1. **Mayor Gasteyer:** We are to limit ourselves to comments or questions. It is opportunity to question the engineer and Al, if you have some questions for the Engineer.

department, a public works, a recreation that we've all gotten used to. There's a cost that has be paid for that. And that has to come from gross receipts and as the amount of homes, that don't sell as the amount of land decreases. These home sales are gonna go down and gross receipts are gonna go down, and that bill is still gonna be the same. All of you that don't like the business district. We're rural, we're not business people, we're rural. I would remind you that in the past, we were all farmers. None of you here were, but when we were farmers, farmers were business people and business people made decisions based on business. We're all business people here. Yes, we are. There's a lady, Pauline. There's a lady on Corrales Road that said 'if you put me, if you put the sewer system in here, I'm gonna go out of business.' She, Pauline Perea, yeah, how many acres do you have on Corrales Road? **Pauline:** 2 ½ acres on one place and 3 ½ acres on the other. **Al Knight:** At $400,000. At $400,000 an acre how much is that worth? **Pauline:** I don't care about the cost, that's not... **Al Knight:** Well, you should care about the cost, because you're the one that said I can't afford it. You're value, you're, then make them pay. I was just making statement in that, this is, pro or con. On the pro part of it, a sewer system will, I agree with you, I think a larger pipe would be a better pipe. But that's something that everybody has fought against because it would impact the Village too much. That's why they went with the smaller pipe. I disagree with the Gail, that it would put her business out of business. She and I have had this discussion over and over again. I don't think it's gonna put anybody out of business. I don't think that a small pipe is going to impact anything. I agree with Souder, Miller study that it's not gonna impact anything to the extent that a bigger pipe would. And there are some of these smaller businesses can come together and pool their resources and get the cost down. Again the cost of this stuff is not set yet. And the Village if you want, if you put it in, we can talk to your representatives in the Village and adjust the prices of all this stuff to make it agreeable to some and ya know where your can come to some kind of a level playing field. But I agree we need to put in the sewer, and I understand the Souder, Miller study. Ok.	
1. **Pam Bradley:** My name is Pam Bradley and I reside at 3856 Corrales Road. I have a couple questions for you. Are you a representative of SMA yourself, of Souder, Miller & Associates itself, a representative? I'm sorry I didn't catch your name in the beginning. 2. Can you tell me again how much the grant was again for this project? Mmhm.	1. **Jerry May (SMA):** Yes, my name is Jerry May; I am a Senior Engineer and Project Manager with Souder, Miller. I'm also a Vice President of and a Regional Manager at Souder Miller & Associates. 2. The EPA Grant? Mayor – do you remember that one off the top of your head?

3. $958,000? Can you tell me how much your company is going to receive of that money of that grant? How much are you going to receive for the company? From this project? 4. So you're doing it free? 5. How much are you going to receive from other funding for doing this project? Mmmhm. 6. A couple hundred thousand dollars? 7. Do you live in Corrales? 8. Ok, do you know what the average income is for the people who live in Corrales that live along that road that is not a business owner? 9. Don't you think you should research that before you require them to have a hardship in their families? I got the estimate, someone had said between $10,000 and $40,000 dollars. 10. It seems like you have a lot of numbers that you, your telling us, but you can't tell us in the ball park range it's cost. Is it gonna cost $10,000 or is it gonna cost $20,000 per family? 11. Can you tell me what is gonna happen if the resident says, 'no I'm not gonna do it.' What are you gonna do - are you gonna take them to court? 12. Well, then what's gonna happen? Ok. So if you do, you will enforce it. Will you require that residents go take a loan out for it? Sell their property, are you gonna buy the property so that people can move? Thank you.	**Mayor Gasteyer:** $958,000 I believe. 3. **Jerry May (SMA):** I don't believe any of that money. **Mayor Gasteyer:** No. 4. **Jerry May (SMA):** No, other funds are being used. 5. For designing it? Probably a couple hundred thousand dollars. 6. For the whole project. 7. No I don't. 8. No I don't. 9. That is not correct. That would be, I mean, if somebody put in an advanced treatment system on their site it wouldn't be that much. I mean I don't know where those numbers came from. 10. I don't know where your electric panel is, I don't know where each person's septic tank is. What I said before, I said this last year, the estimate we set up, the pump equipment for an effluent pump costing $4,000 is for the installation of that pump and then another $2,000 for the piping to get it to the street. The power, that's based on about a 100 foot connection. 11. I'm an engineer, I'm sorry, that's a question for the Village. 12. **Mayor Gasteyer:** Well, we're obligated to enforce the laws that we made. We don't know if we'll be making this law or not. Why don't we wait?
1. **Matt Foster:** Hi, I work at 4604 Corrales Road. We're a new business here, and we don't have representation. None of my fellow coworkers live in Corrales in this business district, nor does the owner of the place that I work. So what I don't understand is how, why the people who are in this business district can't vote on this proposal and it's the elected officials, I'm not sure if they are or are not representing our feelings towards this matter. Matt Foster (his name - clarifying name to clerk) I guess it is just a comment. I talked to my boss about this matter, and you know, he doesn't want to pay the money to do this, and that I guess, that he doesn't really have any say. I guess that is all really wanted to say. Oh and another thing, if it does get passed, would it be like he has to pay like a lump sum, like the whole amount,like the $8,000 that's been talked about, like… No, no, I know. Ya know, because we don't have representation that, ya know, I need to let my boss know.	1. **Jerry May (SMA):** That number is what it would be to put in the effluent filter and the pump to be able to pump it, so yes it would be probably be a one time cost. Unless the, like I said, unless the Village decides to do some type of subsidies or through mass purchase to reduce those costs down, but yes, that's basically a cost to be able to tie into the system and have sewage sent down to the City of Albuquerque. It's not something you can piecemeal into pieces.

1. **Crispin Kinney:** Hi there, my name is Crispin Kinney. I live at 102 Camino del Sol, Corrales Road. I also work at 3949 Corrales Road. Since I am a civil engineer also, most of my comments are technical, I'm not speaking for or against the idea of what's been presented. The EID states on page 22, also I delivered this letter to the Mayor this afternoon so, so put it on the record. So all my comments are covered here. I'll just try to keep it brief. On page 22 of the EID says no mitigation measures are required to protect groundwater from proposed project. My concern is that typically septic tanks leak, especially old septic tanks. And I've heard tonight, we've asked Dr. Rose, well do we have to inspect these tanks before they're hooked up? Well my answer is an emphatic yes. I don't care what the State says or anybody says. We're concerned about the environment and tanks typically leak from the literature. Yes, we have to inspect every tank and most likely replace every tank before it's hooked to the system. I site the textbook Small and Decentralized Wastewater Management System by, I don't know how you say his name, Chevo, the guy from California, and he says "Experience with older unsewered communities especially those where high groundwater conditions exist, indicates that septic tanks should be abandoned or replaced with new water type tanks. So I am concerned as if we're trying to improve the environment that we do make sure that our tanks are water tight. The other thing is the STEP system really doesn't work correctly, if you have leakage either in or out of a tank. If you have leakage out, your solids, your scum level, the scum layer in the tank tends to settle down and clog up the filter. If you have water coming in, of course, you end up infiltration coming into the sewer system. So that's another concern I have. Sorry, I'm so nervous. The only alternatives that were considered, did not include anything really alternative, just 3 different routings for the collection system. Of course the No Action Alternative. The alternative wastewater system in Corrales was apparently thrown out even though it scored about the same as the Alternative going to ABCWA in the original PER Report. So I had a concern, it's probably too late to mention that one, but it seems that alternative should at least be listed because it would keep money in the Village, would keep the water rights in the Village. And at least it should be looked at. The only reasoning I could see in the PER excuse me, the PER Report, for going with the recommended alternative was that the O&M would be required if we had a treatment system in the Village. I just didn't see the reasoning of how you got to the recommended alternative. Again, and that's old business in the previous report. The other concern I have is grinder pumps. I don't believe grinder pumps have any place in the STEP system. STEP system is designed to work with filter effluent, and not with solids. The design	1. **Jerry May (SMA):** Yes 2. **Mayor Gasteyer:** You're asking that to me? At the present time we think that we have from the combination of Federal, State Appropriation, Sandoval County Appropriation, the money to accomplish the construction of collection system just for the Business Core. 3. There's been discussion, as you know, of expanding it with some residential high density neighborhoods. That might change my statement, but at this moment, I think that we have allocated to us sufficient funding for the public part of the project. There were questions early in the evening you know, could we, will we also have some to help individual property owners with the substantial hook up costs? So that's uncertain at this point. But we're certainly looking to find sources for that. Actually, I think written, Jerry? Before the Sandoval County appropriation was received? 4. **Jerry May (SMA):** The way that was written in the PER Review Report, we looked at it as a cost and we looked at it as, right, that was before the Sandoval County thing. We looked at it to the money that was available at the time, or what extra money might be required to do it. Exactly, that's what the Mayor is saying.

parameters are different for filter effluent than they are for solids. You have to keep solids suspended in the sewer. Its gonna cost more, just like you said earlier tonight, to install grinder pumps, to run grinder pumps, it's gonna require higher pressure throughout the system, higher energy costs, and my preferences as a resident of this Village would be just say, no grinder pumps. Lets just go with effluent pumps. The economic impact on the Core District hasn't been clarified. We discussed it tonight. But the only area that I see addressed in the Environmental Impact Document is whether it's fair and equitable. Whether poor people have to pay more than wealthy people and that's not really our concern. Our concern is what is the cost to everybody? And that hasn't really been addressed and I think it does need to be addressed. So those are my comments, and oh, and my question, have you included the cost for directional drilling in your cost estimates –the $30 per foot figure that you had for the 6 inch pipe? 2. Ok, so that takes that into account. Ok as far as the financing for this, my understanding in the past was there's the EPA Grant and there may be some other funds from the County, but then the Village is gonna take out a loan for a portion of this project. Is that correct? Or is it all going to be funded from various sources? 3. So you have all the funding. There won't be any loans required? 4. My concern was more the public part of the project and if there were loans required. In the preliminary engineering report it sounded like there was a loan that somebody was gonna have to pay off. But it sounds like that's not the case.	
1. **Jeff Bradford:** My name is Jeff Bradford 3817 Corrales Road- I have 2 questions. One is whether or not the pressure in the pressurized system, comes from the individual business or home owners, or is there a separate pressure that the system itself has? 2. In that case, I suggest, perhaps one way to make this whole process a little more equitable, is to consider that that pressure is what makes the municipal system work and have the municipality pay for the pressurizing of the system. In other words, rather than having the individual homeowners pay for the pressurization and the taking the effluent on out to the Corrales Road main why don't you consider that pressurization process, what it takes to make the municipality system work? And make that a public cost instead of a private cost. That's one suggestion. The other suggestion, is more particular to my property, I happen to live and work on one of those properties that is very narrow 60 feet wide. As I was locating my well, I was very careful to make sure that I put it as far away as everybody else's septic	1. **Jerry May (SMA):** No, the pumps from the individual businesses or residences supply the pressure to drive or force the wastewater down the line. There is some benefit from gravity here, that does fall from Old Church all the way to Calle Cuervo so there is some benefit from that. But the pressure does come from the individual homes. 2. Typically the type of piping that would be used to connect to effluent pump to the sewer main would be the same type of material we're talking about making the sewer main out of. That would be a HDPE pipe, which for the size of a service connection for the, actually any service connection that might be required, whether it be the school or your home. You can get it in 1,000 foot rolls. You can make a connection without a joint. You know, and a pressurized system, if it does leak at a connection on each end or something like that, usually your gonna see it come to the surface since it's under pressure. And then you'll know by the metered flow if yours is not getting into the line, all of a sudden your not getting as much flow as you

system and also as far as I could away from the leaking underground service station there. My concern now, is that if I am wondering if I'm gonna be faced with contamination of my well from feeder lines going out from the residences from either side of my property. That is to say, where as now my well is well away from the 100' set back from all the septic systems in my environment, but now with everybody on either side of me running their sewage line out to the road, I'm going to be having lines that presumably having lines, if they leak, contaminating my well much closer than the 100 foot set back. I don't know that these lines do leak or don't leak, but from what I understand there's nothing in the process that has been outlined that says that when these lines running out to Corrales Road are installed that they have to be installed correctly, that there is anybody going to be doing any oversight. And furthermore, I am less confidant that these pressurized systems are going to be leak proof themselves. I don't know exactly where those are, but I'm just concerned it there is a leak in the system and its under pressure, that I will, whereas I now have my well, separated from any potential sources of septic contamination, I would be then faced with 6 lines coming much closer than the 100' to my well. Does anybody have any information about this? 3. What does experience show when these lines are put in? I mean I myself, helped a friend put in a sewer line running out to the road. And boy, I would sure hate to for my neighbors to put in one the way we put in his. 4. And what does experience show? Do those things, do those things leak, do they not leak? Do you have any experience that says? 5. Ok and that continues over time? 6. Ok, just one more comment. I think in your presentation about 5 minutes into the evening, you made a statement that confused me or you misspoke, I'm not too sure. But you suggested that if the continued use, anoxic conditions continuing, increase, we face the problem of more nitrate contamination. As I understood it. 7. I didn't think it was correct. But that's what you said. I think' it's the anoxic conditions. 8. Right, but as long as anoxic conditions remain, we're not going to have a nitrate problem, right?	had before. I think that the chances of the leaks, properly installed, that HDPE pipe type of system, it's the most foolproof of all the piping systems that are out there. 3. No, I would think that it'd have to be put in by a licensed plumber, just like you would to have to put in a septic tank. I'm sure I would, and I don't know this off the top of my head, but I'm sure in the State of New Mexico you'd have to have a license, like putting in septic tank, you'd have to have a licensed person to do it. 4. **Wayne Jeffs (SMA):** A lot of construction specifications typically have pressure testing on pipes, where you subject it to a pressure load and you'll have someone, a construction inspector, watch that before you energize the system. That's a very routine component of construction inspection. 5. No, it's a one time thing during installation. And typically you will charge a line and watch it for 20 minutes and take thermal expansion to contraction into account during the pressure testing. 6. **Jerry May (SMA):** No, that's not correct. 7. **Wayne Jeffs (SMA):** What I meant to say is the continued discharge from septic systems will contribute to the anoxic conditions. That's what I meant to say. 8. **Jerry May (SMA):** Right because it keeps the nitrate, Yes, right.
1. **John Perea:** Good evening Council members, community members. John Perea, 4590 Corrales Road. My big concern about the Environment Information Document is that Souder Miller states that there are historic, but in the document itself in makes reference to only one property in particular. There are a number of properties that are eligible for state historic	1. **Wayne Jeffs (SMA):** I think I don't quite understand your question. Based on our licensed archaeologist, that did the cultural resource survey, out of the 63 structures that were eligible, only 63 structures that were over 50 years old, only 20 were considered eligible for listing and out of the those 20, only 2 properties had potential to be impacted. The Alejandro-

presentation office recognition. My question to you is by doing boring along Corrales Road are you going to impact these properties? Are you going to update this document to address these properties and the concerns of these property owners? 2. I'd have to disagree with you. Across the road from where your recommendation is, is 4590 Corrales Road, a structure that happens to predate the Martinez-Perez Hall. If I need to write a letter to get the Historic Preservation involved on it, I don't know what you need to update your information. 3. I've seen that and it doesn't adequately address dates of construction. It doesn't adequately address what boring may or may not do to some of these properties. I guess my question is what is the process under NEPA? Are you gonna update the document if we do present some documentation to the contrary? Ok. Thank you.	Gonzales Property, was out of the, sufficiently far back from the construction area to be impacted. So it was the licensed archeologist's opinion, professional opinion, that the only cultural resource property that would be affected, possibly affected, would be The Martinez-Perez Hall, and then by the mitigation measures outlined in our EID, avoidance, that that particular structure will not impacted. 2. If you would refer to the Environmental Information Document, it's posted on the web, there is an Appendix, there is an entire cultural resource survey, and it has all 63 buildings outlined and a narrative description of all those properties. 3. I think we will take this question into consideration during the final analysis when it's submitted to the Construction Programs Bureau. And there will be an opinion most likely from the State Historical Preservation Officer.
1. **Pauline Perea:** I'm Pauline Perea. I live in Corrales and I happen to own 2 of those historical places that you are talking about. 4259 Corrales Road. Anyway, I've been here before to your meetings. I used to come to all of your meetings. It's a, this man that was here said that we don't even attend your meetings. We have been, I've been to your meetings. I've gone to sleep because I can't understand a word that you are talking about. But, all I wanted to know is how much it was going to cost. Everytime I come, I'd say "well let me know how much is it going to cost me." Nobody gave me an answer. They never could give me an answer. And you still haven't given me an answer, you know. So, I'm here because I've lived here all my life. All these new businesses that have come in, the owners don't even live in Corrales. They can just up and leave. But not us. The ones that are here, we have to stay. So, I don't think you're considering the old timers from Corrales. You're just thinking of the business district. The businesses that I rent to, they don't even want it. They say they might have to leave, very expensive. I'll have to up the rent. I can't afford, because of what you're gonna charge me for every business. I have 6 of them. So I can't afford it, and I've had them for 40 years. I can't even sell my house. You say property, ya know is going to go up. You can't even sell your house here in Corrales. There's no money to buy a house. And I don't know for how long that is going to go on. And the taxes have gone up. Our taxes have gone up a lot. I pay a lot of taxes. And then my electrical, gas, everything has gone up. So how do you think that the people who can't afford nothing at all, can afford this thing, you know. You didn't take Corrales into consideration at all. You	1. **Jerry May (SMA):** Could we have your address please?

don't advertise. Most of the people in the Village don't even know that this is going on. They don't even know it. Because you have a big sign out there, where you put Senior Center, you could put letters and put important meeting, ya know, to let the people know what's going on. You don't do that. To the paper, lot of people don't buy the Comment. They don't have the money to buy the Comment I guess, they don't buy the Comment you know. That's the only source that I go with when I want to know what's going on, buy the Comment. I buy it every week because I want to know what's going on in Corrales. The Village don't tell us nothing until you're ready to do it you know, and that's not fair. You should consider us before you do this, because you don't what you are gonna impose on us. We're gonna stay here, live. I've been here 50 years. My husband was born and raised here. A lot of the people have lived here all their lives, they can't move. They don't want to move. But you're gonna have to make us move, do something, you know. And everything has been said, and I'm against this, I hope you don't think, I hope you don't go through with it. I hope you don't. What we really need is for to, the traffic here in Corrales. You want more business to come. You want more, how in the world do, have more traffic coming into Corrales, you can't even get out of our driveways now. And we don't have no stop lights. We don't have no stop signs. We don't have nothing. There's accidents on Corrales Road all the time. That's what you should be addressing, I think, the Village concern about the traffic in Corrales. Well, that's all I have to say. I'm against it. I'm really against it.	
1. **Mike Krupnick:** 4638 Corrales Road. Most of these are just kind of comments I'd like to be considered, may not even need an answer right now. My question right, I guess the first thing, I guess I heard that with communities with 8,000 or more need a sewer system. I think that we probably all agree on that, so why are we only addressing 50 or so properties, only the business district? And is this system expandable? From what I've heard, it doesn't sound expandable. So it could it be expandable for all 11,000 people that are expected to be here in Corrales in the next couple of years. As far as the pressure test, pressure tests do work during construction, but over a time, leaks do happen, guaranteed. Can we have any system in place to know when the systems leaking so that we can repair the system? And as far as people knowing, I've heard from a lot of people here, we don't know when these meetings happen. Most of us have busy lives, we don't keep track of everything that's happening in the Village. So it seems like certified letters, emails, posted on the Corrales website in a prominent manner, could be helpful for all the people that are affected to know. I guess the question is, if this is for the Village, should we consider the	1. **Jerry May (SMA):** To answer that one question, it is expandable to some degree. But it is not capable of servicing the whole Village of Corrales. 2. $83 million dollars if that's the project that you wish to take on and pay for. 3. Part of it sometimes, part of it is done by loan, grant, you know you don't get $83 million dollars in one loan or grant. It would take years to construct a system like that. The most money I've seen come out of some things are $4 and $5 million dollars. 4. Well we have made other, to the Village to, for other parts of the Village to deal with the wastewater. But you also might want to have a look at the New Mexico Environment Department Construction Programs website. They do publish all the of the water and wastewater rates in municipalities in the state of New Mexico. There are people paying in excess of $100 dollars a month for sewer service, to help pay for projects.

tax on the whole Village, not just the tax on the business owners and the property owners? And I think that's probably the biggest concern of the people that own the property on that small area are wondering if we're really benefiting, if we're the ones paying gross receipts tax, if we're the ones helping out? Shouldn't this be a Village issue? Thank you. Would it be better to have a system, that, so that we're up there with the comment that, communities of 8,000 or more? 2. Where do these, they don't pay directly out of pocket, do they? 3. Correct, so you do $4 and $5 million dollars at a time then over a time you'd have an expandable system that would actually improve our ground water, instead of this system of just 50. 4. So if you do $100 a month and you back out the $10,000 cost to hook up it's probably a pretty good deal. The other question that I had as for representation from Village Council. I'm not sure any of the Village Councilors or the Mayor would actually be paying this tax or if it's just people that aren't directly represented. So the people voting, I don't know if anyone's actually going to be impacted by this fee or not. 5. I, good thing or bad thing, I'm just asking the questions. But at the price, it seems like a pretty good thing to do, but the price per property I'm not sure that it is or not. I'm just asking questions. The big thing, is it really going to improve much for anybody but the restaurants? And if it does improve the restaurants, I think that we as a Village should change your comprehensive plan and really focus on the Village Core. Change what coverage, change set backs, promote density, promote this sewer system so that it really works so that we can bring in gross receipts tax. Right now, on my property, it's not going to increase my property value directly, because I can't build anything new. I am already above the 35% lot coverage. It's an historic property. I'm already over the set backs. I already have parking issue. So if we do this, I think the sewer system personally, I think it's great. I think maybe we can change the plan for the downtown core. Provide some parking so that that these property owners, like the doctor here, and other people who had questions, can actually improve their property value and then we can hook into this system and really use this system to its fullest. Right now having low density and an expensive sewer system, its kinda, it's confusing.	
1. **Bob Borman:** 183 Gutierrez Road. Here in the Village I've been attending these meetings since the grant was first applied for around 1999. I have consistently spoken out against a municipal system. We have been alternately told it's the environment stupid, it's the economic environment stupid. Having read the EID Report, I still don't see a justification for a	

municipal system. What we've been doing for almost the last 10 years is chasing a grant. With all due respect to Jerry's comment that the grant is for the commercial core area, my understanding is that the federal grant has gone through two iterations. Initially it was for a centralized Village wide system and the only amendment to it that I am aware of is a decentralized, but still Village wide. This Step system proposed for the commercial core area is simply one component of what will be eventually be a Village wide system, but my problem with this and its been now since the grant was first requested, is that this is a solution in search of a problem. And it is using government as a first resort rather then as a last resort. We have not, as a community done what we can do through our planning and zoning process. We have site development plans come in on small parcels and the evidence a false or fraudulent permit from NMED, as a community we just routinely go ahead and approve it anyway. If you ask NMED, the employees, did you field check any of the septic permits that you issued, they'll be very honest and say "no, we don't have the staffing to do it." Ya know it seems to me we have jumped ahead to immediately say lets make this into a big government project and we've failed as a community to deal with this on an individual basis. There are lots of properties in this Village that quite frankly should not be [Inaudible] and if we put the burden on the individual property owners to deal with it, then the natural course of events will take place and possible what is now a restaurant may become an attorney's office, and someone's attorney's office that has sufficient property in the future could evolve into a restaurant. But we seem to have missed the point in chasing this grant. But, the rest of my comments are specifically directed to Jerry towards sections of your EID. And I would just call your attention on page 9. I'm very much offended by Subsection 2.1 No Action Alternative. I know you didn't create that phrase I chewed on Steve Grollman of the Larkin Group since he first uttered those words. But I think it completely misrepresents the status of not having a municipal system. When we say No Action Alternative it doesn't really indicate what we're really talking about or what I believe this subsection should be titled, as something to the effect of continued reliance on on-site systems. Rather than in, I think it was in seven and a half lines, I believe you repeated the phrase No Action Alternative four times. I think it lacks objectivity which is what this report requires. Rather than just repeat a catch phrase you should be identifying the role of the Village in NMED, you should be identifying the role of the systems currently available, and it's not just septic and leach fields we also have alternatives and advanced treatment, evapotransportation. This was presented by NMED at a recent public meeting. We need to have an acknowledgement of the current	

administrative policies. NMED has a ¾ acre policy for a septic and leach field. If they implement and enforce that policy a lot of this problem will get addressed. We don't, there's no mention of actually upgrading of non-complying system at the time of sale, at the time of remodeling, expansion, or if there is a change in use. That would be a local Village issue through the development plan. So it seems to me that this is very slanted. It seems to be written so that the suits in either Dallas or Washington, whoever's gonna eventually decide on this, are gonna look at this and go 'Wow, no alternative - No Action Alternative, we can't possible allow this to continue.' So I think it needs to be more objective and I hope that some of my comments are taken to heart. On page 14, you deal with the environmental setting and I think maybe this comment is going to lend itself to, some of the, I'll call resentment, of the non business residents Corrales Road core area. Understand subsection 3.1 Environmental Setting, the second paragraph, begins with the Villages Commercial Zoning District. It's not the Villages Commercial Zoning District. It's the Village's Neighborhood Commercial Zoning District that comes from our zoning ordinances as well as our Comprehensive Plan and it should be correctly identified. There should be a statement added to the substantial number of residences that in fact exist in this in what you're calling a commercial district. Again I think it's very slanted and misrepresents what the development and what the components of this Corrales Road commercial core area really are. On page 15 the second paragraph, the properties within 300 feet, do you mean 300 feet or do you mean 350 feet? Which would coincide with the distance off Corrales Road for commercial zoning. You need to decide which of those numbers you want to use. Also you've identified the boundary to the north as being Church, Old Church Road, I believe its actually Wagner Lane, and I believe the boundary to the south is the Meadowlark Lane and because of the Village Mercantile the south boundary of this commercial core, is actually the south side of the properties that are just south of intersection. That came about because some of our elected officials didn't understand the definition of between, but that is a different issue. You've used, use of zone as commercial and you've used the terms – used for residential. You're misrepresenting the zoning and usage of the property. In this commercial core area, it is zoned as commercial, municipal, office and residential. It is a mix. It is used as residential and non- residential. Your last sentence referring to there are also properties used for residential purposes, I believe it conveys the notion that residential zoning and is but an afterthought, that is somehow secondary and in fact it is just this mixed neighborhood that is the essence of Corrales. And we cannot misrepresent ourselves to people who don't know. Maybe it's	

Ok to speak this way shorthand in front of Correalean̊os, because we know what he's really talking about, but when this gets outside the Village I believe you've really misrepresented the essence of this Village. I believe that may come across to the business and the non-large business in the commercial core area. I hope that you will address that in some amendments to your EID. I think that the municipal wastewater system unfortunately will probably help to rid the Village of some of those deadender residence and ya know, I think it's sad, because I think it's going to seriously change the character of this Village. If we install this system, it is going to impact this Village that none of you are addressing. Its not just potential gross receipts, it is going to have an impact on the very basis of what is Corrales. I've said this before, meetings that nobody would design, nobody would plan commercial. This is so organic, it is, but it is what is Corrales and I think that system is going to change it ways that you're just not addressing. I'm not sure you can put it into words that someone in Dallas or Washington would quite understand. I think maybe our elected officials need to get the cohonas and vote this down. I'll just make my last comment on alternatives, since I know that this is one of the items. Again I am opposed to this, but I just have to say of the three alternatives that you presented, the three routes, of this Step system. Although I am opposed to the entire sewer concept I believe that the Riverside Drain Route and the Corrales Lateral which we think of the Corrales Acequia are just out of the question. If you're gonna do this bad thing, at least do it in the least bad way possible and I think that of all of the routes, I would suggest Corrales Road. But I would also suggest if you go ahead with this, do the Corrales Road route, that you consider some casing enhancements. You've mentioned early on in your report that the NMDOT requires casing of this pipe when it crosses under the pavement of Corrales Road. We have our own Village infrastructure. We have our own side streets. We have our own local streets. We have our irrigation ditches and we should, if we're gonna do this, and lets be honest about the cost, any time we cross under of this Village infrastructure I think that we should also case this pipe. So that if in fact there is a failure when can minimize the effect that it's gonna have on both on the infrastructure and on the environment. But again, I know you need to go through this, I know the EID is the next step in the process, but this Village does not need a municipal system and I hope that this is just one more step in the process before our elected officials kill it. Thank you.	
1. **Ralph Martinez:** One area of discussion, that hasn't been discussed tonight is the Albuquerque Utilities or the City of Albuquerque receiving this effluent. How will the Village pay for that and how much will it cost to the residence?	1. **Jerry May (SMA):** Could we have your name and address again? Mayor has there been any discussion with **Mayor Gasteyer:** Well, yeah, we have had. If we are a bulk user we use,

Ralph Martinez. And I'd like to know what the Village would be paying the City of Albuquerque, the utility company that's gonna be receiving this effluent. Are the revenues from the fees going to be able to pay for that? 2. I've heard of other alternatives. Another alternative is holding tanks being pumped. We've heard from the Environmental Department last night at another meeting, Jennifer Ickes, mentioned that the City of Wheeler, the Village of Wheeler, is paying $10 a month for pumping, now and also Pena Blanca pays $5 a month. It's a monthly fee and they pump the tank, type pump… 3. Ok. Another question, for the people who are not able afford this expenditure, will they make condemnation of the property if they can't come up with the money or if they get delinquent on the fees?	Jim do you or Pat, do you remember those numbers? It was like about$100,000 for the initial connection and then… **Councilor Fahey:** And then $1,800 a month. **Mayor Gasteyer:** And then, yeah, $1,800 a month. **Councilor Fahey**: For 50,000 gallons, for 30,000 gallons **Mayor Gasteyer:** Yeah, the $1,800 divided by 50 properties? That's how it would be. 2. It's a Septic tank. **Councilor Fahey**: It's a septic tank. I'm catching up with you Ralph. They have a water and sanitation district in Pena Blanca and they do pay a group rate monthly and then people's septic tanks are pumped like every 2 years or something. 3. **Mayor Gasteyer:** Well, I'm not sure what all of the enforcement would be but certainly you'd want to avoid anything of that nature but, there might be liens attached or something. I don't know.
1. **Councilor Sayre Gerhart:** Hi I'm Sayre Gerhart, I'm actually a councilor. Sitting on the wrong side of the room. Two questions, maybe you said this at the beginning. When does the public comment period end and when people can turn in the written comments as well? 2. Thirty days from today? And then the second question was sort of a follow up to something that John Perea brought up about the cultural resources document which is actually a great document, thank you for doing that. The conclusion that because we have the one registered property we have to mitigate our impact on that. All the other 63 historic buildings, there must be some sort of given impacts of the construction, there must be an impact on that adobe building. My concern is, I guess the consideration of all the adobe and especially many of them that may have lacking foundations, whether those will be considered, even if they're not registered. Whether given that inventory, whether they will be considered and therefore a mitigation path will be identified for those properties as well even if they're not registerable. We're still trying to prevent damage to private property whether or not it's a cultural resource. I was wondering, what this document was supposed to be addressing? 3. Then why are you avoiding the Martinez Building? 4. So it doesn't have to do with the construction technique per se?	1. **Mayor Gasteyer:** Thirty days isn't it? 2. **Wayne Jeffs (SMA):** The directional boring methodology is not anticipated to create undue vibration like conventional trenching operation. So it is the assumption that the methodology used to implement the wastewater collection system is not going be severe vibration – the traffic on Corrales Road is undoubtedly much higher impact to these structures than the directional boring process. 3. Because it's a listed property and it encroaches severely on the right-of-way. A lot of these other properties are significantly set back compared to the Martinez-Perea property. 4. Well the directional boring, the least impacts of any of the methods that could be implemented and the fact that the listed Martinez-Perea Hall is in closer proximity to the right-of-way. That is one of the reasons, there is just less physical room, that is why the initial intent was to put the wastewater collection system on the east side of the road to avoid that structure. And again that is a final design issue that has to be brought up because there is uncountable many utility crossings across this corridor that will have to be looked at and there may need to be some tweaks in the design as this thing is progressed.
1. **Wayne Bradley:** My name is Wayne Bradley. I think you have the address already. I want to know, your telling me that these lines, there gonna be solid line that they roll out, is that correct?	1. **Jerry May (SMA):** Not for the main collection. 2. From the individual homes, yes. 3. No, that wouldn't be correct. I've seen 6 inch pipe driven over by a pick-up

2. No I'm talking from the homes. 3. I'd like to know what kind of impact tree roots will have on that. Because anything that's soft like, it would appear to me that anything that, tree roots can crush the line down, have to dig it all up and redo it all again. 4. I understand what you're saying. I'm not saying that the root gets in it. I'm talking about how big of line is it from a residential? 5. So you've got 1 -1 ½ inch line. I've seen a tree root lift up my foundation on my work shop, lift cement and you're telling me that these tree roots can't get in there and crush these flexible lines that are 1" in diameter? 6. It won't squeeze them down? 7. Ok, it doesn't seem right, but ok. It appears to me you guys are saying the funding is gonna be $900,000 that you're gonna be receiving. You're telling me that this could not be used for all of Corrales, or it could not be expanded, only to a certain extent, to a low extent? So why should we spend $900,000 on something that's not going to be sufficient to update later when we are gonna have to go back into Corrales Road, tear it all up, put in a bigger line to handle it later down the road? It seems to me, it's like having a family, and you've already, and you own a motorcycle, its pretty good, its quick, its no good. You need something that's gonna be able to handle everything that you've got coming down the road. And if your looking at expanding, you're looking at doing this down the road, this makes no sense to me. 8. That's exactly what I'm saying. You're recommending that all tanks be taken off. And my point is that you're telling me that this line is not big enough to do this lets expand it down the years. We need to be able to expand it. Well like I said, if you don't make it big enough to start with you have to go back in. All that $900,000 been thrown away because it's no longer viable. It's not gonna be able to be used because it's not big enough to handle the problem. If we're gonna do this, we need to go with a line big enough to handle all of Corrales. You know you guys are talking about impact and all that but you better look down the road and not just look at tomorrow. That's what you guys are telling me. We'll make this business district better. It appears to me, it would be better to do it bigger. 9. I understand what you're saying about the cost. But the cost to my family it's a pretty big impact too. I can't afford it.	truck and it retains its shape. You can, the type of connections from the homes, you can go buy at Home Depot or Lowes. They sell it right off the rack. It meets the pressure that you would need as well. It's an inert material. There's no reason why a root would even try to get in it because it wouldn't be leaking anyway. But it probably has a lot more benefits versus PVC, it's not brittle or easy to break. 4. From the residential it's probably 1 inch to 1½ inch thick. 5. They won't crush them. No. 6. No. 7. We addressed this in the PER review report from last and our recommendations were not to create a Village wide municipal system primarily because of cost. The other issues that you run into are private roads etc. We did make a recommendation Village-wide for every property, in the Village of Corrales to deal with the wastewater from septic tanks. Basically, we recommended that all septic tanks be taken off. 8. Well, we did address that in that PER Review Document and you know our recommendation was for ATUs for the community outside of the Business Core. So that it was treatment on an individual basis. The cost to install a Village-wide system are prohibitive, probably in the time that it would take to even to build it, probably wouldn't be anybody left in this room to see it, you know. 9. It's actually probably a similar or less cost for what we recommended for the rest, for individual treatment systems.

In response to public comments, the Draft EID was revised and those revised sections are shown in this final report as follows:

- Section 1.2.1 (page 3)
- Section 2.0 (Page 9)
- Section 3.3 (page 20)
- Section 3.5.2 (page 23)
- Section 3.10.1 (page 37)
- Section 4.1 (page 45)

5.5 Written Public Comment

A total of twelve written comments were received from the public during the EID comment period. A copy of the written public comments are attached in Appendix J. The table below summarizes the comments received.

Name	General Summary of Comments
Ross and Cecilia Howard -	Oppose installation of wastewater collection system - ask is it sewer system if you have to pump the septic tank. Concerned about the expense and mandatory hook-up requirement. - Recommend that a meeting be held with affected property owners.
Scott Kominiak	Concerned about construction cost to business owners, and cost to operate wastewater collection system. Concerns about functioning septic tank system in order to connect to proposed wastewater collection system.
Carmine DeVivi	Strongly opposed to project because of financial impacts to users. Recommends that everyone in the Village help to pay for project.
Wayne Bradley	Concerned about requirement to connect to the system and the cost to connect. Concerned about the size of the wastewater system - too small. Concerned about the size of the EPA grant - too small to complete the project. Against the project and recommends that the Village Council vote against the project.
Dixie Armijo	Strongly opposes project - impacts to rural, historical and agrarian life style in Village. Concerned about liens on property for not connected to collection system.
Dennis Clarke	Concerned that installation of system would not solve any environmental problems. Strongly opposed to project, feels that undue burden to homeowners would result from project. Concerned that the project will not address the entire Village. Concerned about requirement to pump and maintain septic tanks and NMED recommendations. Questions economic stimulus to Village from installation of system.
Erminda Garcia	Opposed to construction of a water line - Erminda is confused that the project is a water line not a wastewater line. She is also concerned that the project targets a small area of the Village and is concerned about the sewer problem in the Village. She opposes the mandatory connection requirement.
Cheryl Morrison	Opposed to the project, concerned that the project has taken a long time almost ten years. Concerned about the impacts to traffic along Corrales Road and also concerned about the impact to private homeowners and their property. Concerned about the cost and feels that the existing septic tanks do the job.
Gary Leal	Opposes the project and concerned about the financial burden - he lives on a fixed income.
Jennine Michael	Opposes the project. She recently spent $8,000 to upgrade her businesses wastewater system and opposes the mandatory connection requirement. She states that she cannot afford the project.
Phil Modica	Concerned that the sewer system is proposed before a water system and concerned about the lack of metering sewer flows without a water meter. Concerned about existing septic tanks leaking. Concerned about the effluent filter on the septic tank clogging and frequent septic tank pumping requirements. Concerned about leaving the solids within the septic tank and the costs to pump the tank.
E. Crispin Kinney	Mentions that septic tanks might needs to be replaced with water tight tanks. Also mentions that the Village had not made a recommendation whether the wastewater collection system would be operated by ABCWUA or the Village of Corrales. Concerns about the cost for grinder pumps. Concerns about the economic impact of the proposed project. Concerns about how the cost for the project will be allocated.

In summary, the majority of the public that responded with comments regarding the EID were owners of residential property located within the Business Core. Those opposed to the project voiced opposition primarily because of the cost to the homeowners and businesses. Additional concerns were raised regarding the size of the wastewater collection system and the fact that the proposed system did not serve the entire Village. Concerns were raised regarding the continued maintenance of the septic tanks and the impacts to traffic along Corrales road and private property during the installation process.

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