ENVIRONMENTAL ASSESSMENT
and
FINDING OF NO SIGNIFICANT IMPACT

for the

CITY OF DEMING, NEW MEXICO

SECTION 595 WATER RESOURCES DEVELOPMENT ACT
South Side Sewer and Water Improvements

Prepared by

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Updated by

US Army Corps of Engineers®
Albuquerque District

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Finding of No Significant Impact
Section 595 Water Resources Development Act
City of Deming
South Side Sewer and Water Improvements
Deming, New Mexico

The U.S. Army Corps of Engineers (Corps), Albuquerque District, in cooperation with and at the request of the City of Deming, New Mexico, is planning to construct approximately seven miles of wastewater collection line, 5.7 miles of water distribution line, and a lift station on the south side of Deming, Luna County, New Mexico. The construction work would be conducted under authority of Section 595 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 *et seq*), as amended. The Act authorizes the Corps to provide assistance for design and construction for water-related environmental infrastructure, resource protection, and development projects in central New Mexico. The City of Deming is the local sponsor. The proposed construction period is expected to begin in May 2008 and last twelve months. The estimated total construction cost for this proposed project is $3.95 million. The non-Federal cost share is approximately $1.0 million. The Federal cost share is approximately $2.95 million.

An Environmental Assessment titled "City of Deming, South Side Sewer and Water Improvements", dated January 2008, was prepared for the City by Gila Conglomerate. Council of Environmental Quality regulations (40 Code of Federal Regulations [CFR] Part 1506), state in Section 1506.3, paragraph (a):

"An agency may adopt a Federal draft or final environmental impact statement or portion thereof provided that the statement or portion thereof meets the standards for an adequate statement under these regulations."

In addition, in the Corps' Regulations Implementing NEPA (33 CFR 230), paragraph 21 states, "A District Commander may also adopt another agency's EA/FONSI."

Since Gila Conglomerate completed the Environmental Assessment in January 2008, no changes have occurred in the scope of work for the proposed project. No changes have occurred to potential impacts to threatened and endangered species. There currently are no sensitive, threatened, or endangered species; critical habitat; or other species with management concerns in the proposed project area.

The potential effects of the proposed action would reduce impacts to groundwater. Construction of sewer and water lines would provide local residents with access to municipal services and allow them to discontinue use of private wells and individual septic systems. The new distribution lines would provide water for two existing schools and future residential development. The no-action alternative would not reduce septic system impacts to groundwater or residential water quality in the City of Deming.

The proposed work would not affect waters of the United States regulated by Section 404 of the Clean Water Act (CWA); therefore a Section 404 Department of the Army (DA) permit would not be needed for the project. The proposed sewer and water line construction would

occur outside the floodplain and would not significantly alter any natural feature or use of the area. Therefore, the planned action is consistent with Executive Order 11988 (Floodplain Management). The proposed work complies with Executive Order 11990 (Protection of Wetlands) as there are no wetlands within the project area.

Cultural resources surveys of the project area have been conducted and the investigation has determined that there are no artifacts, archaeological sites, or historic properties within the project area. One historic property adjacent to the project area was determined not eligible for registration as a Historic Place, and would not be impacted by the proposed action. American Indian Tribes that have indicated they have tribal concerns within Luna County have been contacted and all cultural resources concerns have been discussed and resolved. No traditional cultural properties are known to occur in the vicinity of the project area. Based on the results of the cultural resources investigation, the Corps has determined that there would be "No Historic Properties Affected" by construction of the project. The New Mexico State Historic Preservation Officer has concurred with the Corps' determination of no effect.

Best Management Practices (BMPs) that would be employed during construction include the use of silt fences as part of the Fugitive Dust Control Permit, and the use of already paved or graveled roads for access to the work area. The trenches will be examined daily, prior to starting work, for small mammals and reptiles to be removed prior to initiating work. A Storm Water Pollution Prevention Plan will be prepared by the contractor and implemented during construction. Disturbance to vegetation during construction would be mitigated by re-seeding and revegetation. All equipment would be cleaned when moving between areas to prevent transfer of noxious weeds.

Only short-term negligible adverse impacts to land use, aesthetics, soils, air, noise, vegetation, and wildlife, would occur during construction. No impacts would occur to land use (long-term), climate, soils (long-term), air (long-term), wetlands or other waters of the U.S., special status species, floodplains, socioeconomics, environmental justice or cultural resources. Minor beneficial impacts would occur to human health and safety. The proposed project would not result in any moderate or significant, short-term, long-term, or cumulative adverse effects.

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

6 MAY 08
Date

B.A. Estok
Lieutenant Colonel, U.S. Army

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1.0 INTRODUCTION

1.1 Background and Location

The United States Army Corps of Engineers (Corps), Albuquerque District, in cooperation with, and at the request of the City of Deming, Luna County, New Mexico, and the New Mexico Environment Department (NMED), Construction Programs Bureau, is planning a project to construct approximately seven (7.0) miles of new 18-inch wastewater collection piping, and approximately 5.7 miles of new 12-inch water distribution piping. The wastewater and water improvements are needed to provide adequate and safe wastewater collection and water distribution for Deming, and to accommodate future expansion of the systems to areas of the community currently without wastewater collection or water service.

The work would be conducted under Section 595 of the Water Resources Act of 1999 (Public Law 106-53) as amended. The Act authorizes the United States Army Corps of Engineers to provide assistance in the form of design and construction for water related environmental infrastructure, resource protection, and development projects in Idaho, Montana, rural Nevada, New Mexico and rural Utah. Types of projects included under the Act are: wastewater treatment and related facilities, stormwater retention and remediation, environmental restoration, surface water resource protection and development, and sewer and water line replacement.

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

The proposed project area is located within county right-of-way, New Mexico Department of Transportation (NMDOT) right-of-way, and on city land south of the City of Deming in Luna County, New Mexico. The wastewater line is proposed to run from the intersection of Dona Ana Road and Hermanas Grade Street south to Solana Road. It will then continue east along Solana Road to McCann Road where it will connect to a new 10-inch force main, which will proceed northeast for approximately 6,500 feet to the existing wastewater treatment plant (WWTP). An underground lift station will be constructed at the intersection of McCann and Solana to transfer wastewater to the force main and the WWTP. The water line will run from the intersection of Lucca Road and Solana Road east to McCann Road where it will continue north along McCann Road to J Street. The water line will be capped at J Street for future expansion.

The proposed construction period is approximately twelve months and is expected to start in May, 2008.

Figure 1 contains a project location map from the Bowlin Ranch and Capitol Dome USGS (United States Geological Survey) 7.5 minutes series quadrangles.

Figure 1.

1.2 Purpose and Need

Currently, most of the residents in the project area rely on individual septic systems for their wastewater disposal needs, and private water wells for their drinking water needs. The purpose of the proposed wastewater and water system improvements is to provide adequate and safe wastewater collection and water distribution to residents living in the southern portion of Deming, and Luna County as well as to accommodate future expansion to these areas of the community currently without wastewater collection or water distribution service.

Since 1990, Deming has experienced an annual growth rate of 2.79%, which is reported to be the second highest rate of all municipalities in New Mexico. The population increase is attributable to several factors, including popularity as a retirement community; immigration from Mexico; and increased employment in the transportation and tourism sectors for winter "snowbirds". Assuming that the annual growth rate of 2.79% will continue, the population of Deming is expected to increase from an estimated 16,500 residents in 2004 to 21,850 residents by 2020. Most of this growth is expected to occur in the southern part of Deming (Engineers, Inc.) where one subdivision is being developed, and several others being planned.

The water distribution improvements will provide water to two new schools constructed in 2005 and 2007 as well as another school proposed to be constructed in 2010.

1.3 Regulatory Compliance

This Environmental Assessment was prepared by Gila Conglomerate, 5203 Little Walnut Road, Silver City, New Mexico, 88061, in compliance with all applicable Federal Statutes, Regulations, and Executive Orders, including the following:

- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470)
- Clean Water Act of 1972 and Amendments of 1977 (CWA)
- Clean Air Act of 1972, as amended (42U.S.C. 7401 *et seq.*)
- Endangered Species Act of 1973, (ESA) as amended (16 U.S.C. 1531 *et seq.*)
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, 1994
- Farmland Protection Policy Act of 1981, as amended (7 U.S.C. 4201 *et seq.*)
- Federal Noxious Weed Act of 1974 (Public law 93-269; 7 U.S.C. 2801)
- Floodplain Management (Executive Order 11988)
- National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq.*)
- Regulations of Implementing the Procedural Provisions of NEPA (40 CFR 1500 *et seq.*)
- National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 *et seq.*)
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 *et seq.*)
- Protection and Enhancement of the Cultural Environment (Executive Order 11593)
- Protection of Wetlands (Executive Order 11990)
- Procedures of Implementing NEPA (33 CFR 230; ER 200-2-2)

- U.S. Army Corps of Engineers' Procedures for Implementing NEPA (33 CFR 230)

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

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

All agencies that assist or take part in projects that utilize Federal funding are mandated by the National Environmental Policy Act (NEPA) to evaluate alternative courses of action. Typically, alternatives are a set of different locations that satisfy certain defined project criteria. However, alternatives can also include design considerations and/or attributes that may mitigate or reduce impacts generated by a given action. In general the NEPA process provides decision makers with an evaluation of the present and future conditions with regard to the implementation and timing of an alternative at a given site. Finally, a particular design chosen from alternatives evaluated can then be implemented in the best interest of the public and environment.

2.1 Proposed Action

The proposed action involves the design of a master plan gravity flow system with one lift station and the expansion of the water distribution system. The proposed action includes the construction of approximately seven (7.0) miles of a new 18-inch wastewater collection line from the intersection of Dona Ana Road and Hermanas Grade Street south to Solana Road. The wastewater collection line will then continue east along Solana Road to McCann Road where an underground lift station will be installed to transfer the wastewater to the existing WWTP. In addition, approximately 5.7 miles of a new 12-inch water distribution line will be constructed from the intersection of Solana Road and Lucca Road east along Solana to McCann Road where it will continue north to J Street. The proposed alignment of the lines along road right-of-ways reduces disturbance to soil and vegetation. The total construction cost for this proposed project is $3.9 million. Federal costs would be approximately $2.95 million and non-federal costs would be approximately $1.0 million.

The actual alignments, manhole locations, inverts, appurtenances, pipe grades, pipe sizes and depth of bury will be determined during the preliminary design phase after a detailed topographic survey has been performed. Elevations will also be determined during the preliminary design phase.

2.2 Alternative Considered

An alternative was considered to have each developer provide their own wastewater collection and water distribution system. Although this alternative addresses the immediate need for future expansion it does not address the overall growth of the city, or current residents without city sewer or water. With this alternative, developers would only address the individual subdivision needs through individual septic tank installations with no regard to the future master plan of the city. No alternative alignments for the lines were considered due to increased levels of disturbance.

2.3 The No-Action Alternative

Under the No-Action alternative, there would not be any construction of the wastewater collection line or the water distribution line. No federal funding would be expended and there would be no new effects to the project site or surrounding environment. However, the No-Action alternative does not address any future expansion of the City's growth, and allows less control of a City maintained wastewater collection system. In addition, the increase of individual septic systems and private wells in the southern portion of Deming could create potential groundwater contamination from nitrates.

3.0 EXISTING ENVIRONMENT AND FORESEEABLE EFFECTS

3.1 Physical Resources

3.1.1 Physiography, Geology, and Soils

The proposed action area occurs at the southern end of the Deming Plains in the high Chihuahua desert north of the Florida Mountains, which rise to an elevation of 7,295 feet above sea level. The region is part of the Mexican Highland Section of the Basin and Range Physiographic Province, which makes up much of central and southwestern New Mexico. The Basin and Range is characterized by block-faulted mountains with Precambrian cores overlain by Paleozoic sedimentary sequences (Hawley, 1986). Basin deposits in the project area are made up of Quaternary alluvium deposits from the Cenozoic Era consisting of non-gravelly to slightly gravelly sediments (Clemmons, 1998).

The terrain of the project area is relatively flat with a slight grade (less than 1%) to the southeast. Elevations range from approximately 4,341 feet above mean sea level in the northwestern portion of the project area at Pear Street and Hermanas Grade to 4,271 feet above mean sea level in the southeastern portion of the project area at Solana Road and McCann Road. The low grade of the terrain will necessitate trenches and installation of sewer and water lines be performed at a depth to provide adequate gravity flow of wastewater. The depth of the trench will vary from three to fifteen feet. The width of the trench will be six feet to accommodate both lines. Open trenches will be used to construct road crossings with the exception of the crossing at the intersection of State Highway 11 and Solana Road, which will be constructed by boring under the pavement.

A lift station will be required near McCann Road and Solana Road to pump wastewater to the Deming Wastewater Treatment Plant (WWTP) located at the northeast corner of the project area at an elevation of approximately 4,280 feet above mean seal level.

Nine different soil units occur within the project area as mapped by the United States Department of Agriculture (USDA), Soil Conservation Service Soil Survey of Luna County, 1980. The portion of the soil survey which encompasses the project area is included in Appendix A.

1) **Karro silty clay loam (Ka)** occurs in the northeast portion of the project area along McCann Road and Dona Ana Road (Section 12, Township 24 South, Range 9 West, and Sections 6-7, Township 24 South, Range 8 West), and south along Solana Road (Sections 11 and 14, Township 24 South, Range 9 West). These soils occur on 0 to 1 percent slopes. Permeability is moderately slow and runoff is slow. The hazard of soil blowing is moderate.

2) **Bluepoint loamy sand (Bd)** occurs in the western portion of the project area along Hermanas Grade Road (Sections 8-9, Township 24 South, Range 9 West). These soils occur on 0 to 3 percent slopes as slight ridges 1 foot to 3 feet high on old flood plains and alluvial fans. Permeability is rapid and runoff is slow. The hazard of soil blowing is severe.

3) **Mimbres loam (Mb)** occurs in the northwestern portion of the project area along Hermanas Grade Road (Sections 8 and 9, Township 24 South, Range 9 West), and along Solana Road (Sections 11 and 14, Township 24 South, Range 9 West). These soils occur on 0 to 1 percent slopes at the outer edges of alluvial fans, in valley fill sediments. Permeability is moderately slow and runoff is slow. The hazard of erosion is slight.

4) **Mimbres silty clay loam (Mc)** occurs throughout most of the project area from Hermanas Grade Road in the western portion of the project area (Section 8, Township 24 South, Range 9 West), along Solana Road (Sections 8 – 17, Township 24 South, Range 9 West), to the southeast corner of the project area at the intersection of Solana and McCann roads (Sections 7 and 18, Township 24 South, Range 8 West). These soils occur on 0 to 1 percent slopes at the outer edges of alluvial fans, in valley fill sediments. Permeability is moderately slow and runoff is slow. The hazard of erosion is slight.

5) **Mimbres silty clay loam, sandy subsoil variant (Me)** occurs in the southwestern portion of the project area along Lucca Road and Solana Road (Sections 8-9, and 16-17, Township 24 South, Range 9 West). These soils occur on 0 to 1 percent slopes at the outer edges of alluvial fans, in valley fill sediments. Permeability is moderately slow and runoff is slow. The hazard of erosion is slight.

6) **Mimbres soils, eroded (Mn)** occurs in the southern portion of the project area along Solana Road near the intersection of New Mexico Highway 11 (Sections 10, 11, and 14, Township 24 South, Range 9 West). These soils occur on 0 to 3 percent slopes. Permeability is moderately slow, and runoff is slow. The hazard of soil blowing is severe.

7) **Hondale loam (Ho)** occurs in the east portion of the project area from Solana Road (Sections 12-13, Township 24 South, Range 9 West), northeast along McCann Road to the area of the wastewater treatment plant (Sections 6-7, Township 24 South, Range 8 West). These soils occur on 0 to 1 percent slopes in the basin fill. Permeability is very slow, and runoff is slow. The hazard of erosion is slight.

8) **Hondale soils, strongly alkali (Hr)** occurs in the east portion of the project area along McCann Road and the wastewater treatment plant (Sections 6-7, Township 24 South, Range 8 West, and Section 12, Township 24 South, Range 9 West). These soils occur on 0 to 1

percent slopes in the basin fill. Permeability is very slow, and runoff is slow. The hazard of erosion is slight.

9) **Dona Ana sandy clay loam (Dc)** occurs in the southeast portion of the project area along McCann Road (Section 7, Township 24 South, Range 8 West, and Section 12, Township 24 South, Range 9 West). These soils occur on 0 to 3 percent slopes. Permeability is moderate, and runoff is slow. The hazards of water erosion and soil blowing are moderate.

During construction, exposed soils will be susceptible to water erosion and highly susceptible to wind erosion. Water erosion of soils from construction activities is expected to be slight because the topography is basically flat, but wind erosion is likely to be moderate, dependent in part on the time of year that construction occurs.

Standard construction practices will be incorporated into the construction contract to minimize soil loss due to wind and water erosion. These practices are outlined in the Storm Water Pollution Prevention Plan (SWPPP) required for the Deming South Side Sewer and Water Improvements project. The SWPPP is written comply with Section 402 (p) of the Clean Water Act, and defines appropriate stabilization practices, structural controls, storm water management measures, and Best Management Practices (BMPs) to mitigate the water erosion of soils. Wind erosion of soils will be partially mitigated by scheduling construction activities during the fall and winter when winds are less and by restoring and stabilizing areas as soon as possible after the disturbance. Erosive soils exposed at any time will be limited.

3.1.2 Climate

Luna County has an arid continental climate characterized by large annual temperature ranges and distinct season. Thunderstorms occur during the summer season when moisture from the Gulf of Mexico precipitates over the desert plains and ranges. Average annual precipitation is about 8 to 10 inches with more than half of the annual total falling between July and September. Luna County is one of the warmer parts of New Mexico. The average annual maximum temperature in Luna County is 76° and the average annual minimum temperature is 42°. The hottest month is July with average daily minimums of 95° and the coldest month is January with average daily minimums of 26°.

Luna County is subject to strong winds, particularly in the spring when winds occasionally exceed 25 miles per hour and contribute to blowing dust. Winter and summer are generally less windy than spring. In the spring, heating of the ground intensifies, creating updrafts. These updrafts intersect with high-velocity, upper-level winds and divert them downward to the ground where they maintain considerable horizontal momentum. In the summer, upper-level winds are not as easily affected by updrafts, and in the winter the ground is too cool to produce significant updrafts. Although winds can occur at any time of the day, in general they are strongest in the afternoon and subside in the evening.

3.1.3 Water Resources

Deming and Luna County rely entirely on ground water for their water supply. Water quality is considered to be good, and the municipal water supply has consistently met state and federal water quality regulations.

The proposed project action area is located in the Mimbres Basin, a closed ground water basin. The bolson fill in the basin forms a large underground aquifer below Deming and the surrounding area in Luna County that is reported to range in thickness from 0 to 3,700 feet (HydroGeoLogic, Inc). The general pattern of water movement in the aquifer is southeast – and southward from recharge areas in the northwestern part of the Mimbres Basin and along the mountains at the edges of the basin. Records of wells located to the north of the wastewater treatment plant indicate the average depth to groundwater to be approximately 100 feet.

Correspondence with the New Mexico Environment Department indicates that "the proposed project will provide significant benefits for the City of Deming…installation of new sewer lines promises to reduce the likelihood of sewage spills due to line failures associated with aged wastewater lines, thereby enhancing the protection of ground water quality in the area". Appendix B contains correspondence from the NMED regarding ground water and surface water.

There are no perennial streams or rivers within or adjacent to the proposed project action area. No ponds or wetlands are found within the project area or nearby. Surface water within the project area consists of storm water flows which result from rain and snow runoff in the area. The Mimbres River is located approximately 2.5 miles north of the wastewater treatment plant, the northeast corner of the project. The Mimbres becomes a subsurface stream north of Deming, and only flows at the surface during periods of exceptional rainfall or snowfall.

Section 402 of the Clean Water Act (CWA; 33 U.S.C. 1251 *et seq.*), as amended, regulates point-source discharges of pollutants into waters of the United States and specifies that storm-water discharges associated with construction activities shall be conducted under the National Pollution Discharge Elimination System (NPDES) guidance. Construction activities associated with storm-water discharges for the proposed action consist of practices such as clearing, grading, and excavation, which subject underlying soils to erosion and result in a disturbance to one or more acres of land. The NPDES general permit guidance would apply to this project because the total project area is approximately 4.0 acres. A SWPPP will also be prepared by the contractor as part of the NPDES general permit, and will include standard Best Management Practices to prevent on- and off- site erosion. Impacts from storm-water are expected to be negligible.

Section 404 of the CWA, (CWA; 33 U.S.C. 1251 *et seq.*), as amended, provides for the protection of waters of the United States through regulation of the discharge of dredged or fill material. The Corps' Regulatory Program (33 CFR Parts 320-330) requires that a Section 404 evaluation be conducted for all proposed construction that may affect waters of the United States. Section 404 of the CWA does not apply to this project, as there would be no discharge of dredged or fill material into waters of the United States.

Section 401 of the CWA (CEA; 33 U.S.C. 1251 *et seq.*), as amended, requires that a Water Quality Certification Permit be obtained for anticipated discharges associated with construction activities or other disturbance within waterways. Section 401 of the CWA does not apply to this project, as there would be no discharge associated with construction activities or other disturbance within waterways.

3.1.4 Floodplains and Wetlands

Executive Order 11988 (Floodplain Management) provides federal guidance for activities within the floodplains of inland and coastal waters. The order requires federal agencies to take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains. The proposed project area is located outside the 100-year flood plain, and impacts to floodplains are not anticipated from the proposed action. Construction activities and proposed improvements will not alter existing drainage patterns. All trenches will be covered, and ground surface restored to the conditions prior to construction. Appendix C contains a copy of the portions of the Flood Insurance Rate Map (FIRM) covering the project area.

Executive Order 11990 (Protection of Wetlands) requires the avoidance, to the greatest extent possible, of both long and short-term impacts associated with the destruction, modification, or other disturbance of wetland habitats. There are no wetlands within the project area, and therefore, no impacts to wetlands

FEMA and the Luna County Flood Plain Coordinator were notified of the proposed action by the City. Correspondence from FEMA is included in Appendix D.

3.1.5 Air Quality, Noise, and Aesthetics

Air Quality

Deming and Luna County are located in New Mexico's Air Quality Control Region No. 12 for air quality monitoring. Air quality in Deming and Luna County does not exceed State and federal Environmental Protection Agency air quality standards, and is 'in attainment' for all criteria pollutants, including PM-10 (NMED-ABQ, 2007). Although the air quality of Deming is generally considered to be good, the area is subject to strong winds and blowing dust. Particulate matter exceeding the PM-10 standard has been recorded by NMED in the past.

The closest Class I area is the Aldo Leopold Wilderness, which is approximately 96 kilometers (60 miles**)** to the north of the project area. Class I areas are special areas of natural wonder and scenic beauty, including wilderness areas, national parks and monuments, where air quality should be given special protection. Class I areas are subject to maximum limits on air quality degradation. Correspondence from the National Park Service regarding the proposed action is included in Appendix E.

The proposed project would result in a temporary but negligible increase in suspended dust particles from construction activities. Water trucks with sprinklers will be used during

construction to minimize dust. According to NMED, "the project as proposed should not have long-term significant impacts to ambient air quality". Correspondence from NMED is included in Appendix B.

The City of Deming currently has a Natural Events Action Plan (NEAP) consisting of a dust control ordinance to avoid nonattainment that applies to areas outside the city within Luna County. Under the NEAP, a Fugitive Dust Control Permit is required when there is a surface disturbance to three-quarters of an acre or more. Because the proposed project will disturb more than three-quarters of an acre, the contractor will obtain an approved permit from the New Mexico Environment Department and perform the required dust control measures for the project (Ruiz).

Noise

Background noise levels in the proposed project area are relatively low. According to the Noise Center for the League for the Hard of Hearing (League for the Hard of Hearing, 2004), a typical, quiet residential area has a noise level of 40 decibels. A residential area near heavy traffic has a noise level of 85 decibels. Heavy machinery increases the noise level to 120 decibels. The Noise Center advises that noise levels above 85 decibels will harm hearing over time and noise levels above 140 decibels can cause damage to hearing after just one exposure. During construction noise would temporarily increase in the vicinity during vehicle and equipment operation. The increase in noise during construction will be minor and temporary, ending when construction is complete. Therefore, the proposed project will not have a significant affect on noise.

Aesthetics

Aesthetically, the project area is rural and consists of residential development. The Deming WWTP is located at the northeast corner of the project area. There are no parks or designated recreational areas within the project area. Proposed sewer mains will be buried underground and the surface of trenches will be restored to the conditions prior to construction. Aesthetic conditions would not be affected by the proposed project or by the no-action alternative.

3.2 Biological Resources

3.2.1 Vegetation Communities

The project area is situated in the Chihuahuan Desertscrub biotic community as described by Brown (1994). Soils and vegetation of the project area have been greatly disturbed by development over the years. The proposed sewer and water mains will be installed within county right-of-way along Hermanas Grade from Dona Ana Road to Solana Road, east along Solana Road, and north along McCann Road; state (NMDOT) right-of-way at the intersection of Solana Road and New Mexico Highway 11, and approximately one-mile of Solana Road (State Highway 497); and vacant land owned by the City of Deming in the northeastern portion of the project site near the Deming Wastewater Treatment Plant.

Vegetation observed during a site visit to the project area on July 10, 2007, by Gila Conglomerate personnel included globemallow (*Sphaeralea coccinea)*, Syrian rue (*peganum harmala)*, Mormon tea (*Ephedra trifurca)*, silverleaf nightshade (*Solanum elaeagnifolium)*, western peppergrass (*Lepidium montanum)*, catclaw (*Acacia greggi)*, saltbush (*Atriplex canescens)*, soaptree yucca (*yucca elata)*, and Sotol (*Dasylirion wheeleri)*.

3.2.2 Noxious Weeds

The Federal Noxious Weed Act of 1974 (Public law 93-269; 7 U.S.C. 2801) provides for the control and eradication of noxious weeds and their regulation in interstate and foreign commerce. Executive Order 13112 directs Federal agencies to prevent the introduction of invasive (exotic) species and to control and minimize the economic, ecological, and human health impacts that invasive species cause. In addition, the State of New Mexico, under administration of the U.S. Department of Agriculture, designates and lists certain weed species as being noxious (Nellessen 2000). "Noxious" in this context means plants not native to New Mexico that may have a negative impact on the economy or environment and are targeted for management or control. Class C- listed weeds are common, widespread species that are fairly well established within the state. Management and suppression of Class C weeds is at the discretion of the lead agency. Class B weeds are considered common within certain regions of the state but are not widespread. Control objectives for Class B weeds are to prevent new infestations, and in areas where they are already abundant, to contain the infestation and prevent their further spread. Class A weeds have limited distributions within the state. Preventing new infestations and eliminating existing infestations is the priority for Class A weeds. In order to prevent this, all equipment would be cleaned with a high-pressure water jet before leaving an area and entering a new area.

3.2.3 Wildlife

A variety of species are known to occur within the Chihuahuan Desertscrub biotic community. According to Brown (1994) some of these species may include: desert pocket gopher (*Geomys arenarius)*, Nelson's kangaroo rat (*Dipodomys nelsoni)*, Texas antelope squirrel (*Ammospermophilis interpres)*, coyote (*Canis latrans*), white-necked raven (*Corvus cryptoleucus)*, scaled quail (*callipepla squamata)*, roadrunner (*Geococcyx californianus)*, lesser nighthawk (*Chordeiles acutipennis)*, black-throated sparrow (*Amphispiza bilineata)*, Texas banded gecko (*Coleonyx brevis)*, Greater Earless Lizard (*Cophosaurus texanus)*, little striped whiptails (*Cnemidorphorus inornatus)*, western diamondback (*Crotalus atrox)*, western hooknose snake (*Gyalopion canum)*, and pronghorn (*Antilocapra Americana)*.

Wildlife identified by Gila Conglomerate during a site visit on July 10, 2007, included black-tailed jackrabbit (*Lepus californicus*), spotted ground squirrel (*Spermophilus spilosoma*), Gambel's quail (*Callipepla gambelii)*, white-winged dove (*Zenaida asiatica)*, and common raven (*corvus corax)*.

The proposed project construction would be confined to county and state rights-of-way and land owned by the City of Deming. No significant impacts should occur as a result of the proposed project or the no action alternative.

3.2.4 Special Status Species

Three agencies have primary responsibility for protecting and conserving plant and animal species within the proposed project area. The United States Fish and Wildlife Services (USFWS), under authority of the Endangered Species Act of 1973 (16 U.S.C. 1531), as amended, has the responsibility for federally listed species. The New Mexico Department of Game and Fish (NMDGF) has the responsibility for state-listed wildlife species. The New Mexico Department of Minerals, Natural Resources, Forestry Division has responsibility for state-listed endangered plant species. Each agency maintains a continually updated list of species that are classified, or are candidates for classification, as protected based on their present status and potential threats to future survival and recruitment into viable breeding populations. These types of status rankings represent an expression of threat level to a given species' survival as a whole and/or within local or discrete populations. No special status plant and animal species listed with these agencies were identified by Gila Conglomerate during environmental investigations performed for this report.

NMDGF lists six endangered species and eleven threatened species occurring in Luna County. USFWS lists two endangered species and three threatened species occurring in Luna County. None of the listed animal species are expected within the project area due to existing development, lack of habitat, and human activities. Correspondence with NMDGF indicates that the agency "does not anticipate significant impacts to wildlife or sensitive habitats" within the project area. Special status species that that potentially occur in Luna County and may occur near the proposed project area are listed in "New Mexico Wildlife of Concern", included in correspondence from NMDGF in Appendix F. Correspondence from USFWS, and a list of threatened, endangered and sensitive species is included in Appendix G.

The State species list for rare plants lists nine plant species that potentially occur in Luna County and may occur near the project area. Telephone communication with the New Mexico Department of Minerals, Natural Resources, Forestry Division, indicates that this agency "is not aware of any sensitive or rare plant species occurring within the project area" (Sivinski). A list of New Mexico Rare Plants for Luna County is included in Appendix H **(http://nmrareplants.unm.edu/).**

3.3 Cultural Resources

In compliance with Section 106 of the Code of Federal Regulations (CFR), the New Mexico Department of Cultural Affairs, Historic Preservation Division (HPD) was contacted regarding potential historic or cultural resources within or adjacent to the project area. Correspondence with HPD is contained in Appendix I.

On October 6 and 7, 2007, Archaeological Services of Las Cruces conducted an intensive Class III cultural resources inventory of the project area, including the construction corridor (35600 feet in length by 50 feet in width) for the proposed water and sewer mains, and seven additional acres were surveyed at the major road intersection. The survey of the water and sewer line corridor was conducted by walking a straight transect along the centerline of the proposed water/sewer right-of-way. Road intersections were surveyed by walking straight transects

spaced 15 meters apart within 200 by 200 foot parcels. The archaeological survey covered 100-percent of the project area, and about 85 percent of the ground surface was visible. Approximately 95% of the project area shows evidence of previous ground disturbing activity.

A records search performed by Archaeological Services revealed 10 previously recorded sites within a one-mile radius of the project area. The closest of these sites, LA 128653 and LA 129560, are located approximately one-third of a mile east of the intersection of Hermanas Grade and Dona Ana Road. LA 128653 consists of Mogollon artifact scatter, and LA 12950 consists of Archaic and Mogollon artifact scatter. Eight additional surveys have been conducted within the vicinity of the project area. No sites were recorded within a one mile radius of the proposed project during these surveys. Additional properties located in Deming that are listed on the State and/or National Register are located over a mile outside of the project area.

Archaeological Services identified one historic site during the survey adjacent to the project area consisting of a livestock pen and loading chute. The site was determined not to be eligible to the National Register of Historic Places, and it will not be impacted by the proposed action. Archaeological Services also reports that Hermanas Grade formerly consisted of a railroad grade that connected Deming and Hermanas, which has since been bladed and converted into a paved county road. The proposed undertaking is not expected to impact the area of the old railroad grade. Cultural resources clearance is recommended for the proposed undertaking. A copy of *Cultural Resources Report Number 2109 (10/16/07) by Archaeological Services* is included in Appendix J.

American Indian Tribes that may have cultural resources concerns in Luna County have been contacted in regards to this project, including the Mescalero Apache Tribe, Fort Sill Apache Tribe of Oklahoma, the Hopi Tribe, the Navajo Nation, and the White Mountain Apache Tribe. Correspondence from the Hopi Tribe indicates the tribe is “not aware of any Hopi Traditional Cultural Properties in this project area”, and is included in Appendix K. Gila Conglomerate is of the opinion that historic or traditional cultural properties will not be affected by the proposed action.

In the event that previously undiscovered artifacts or features are unearthed during construction, work will be stopped in the immediate vicinity of the find, a determination of significance made, and a mitigation plan prepared in coordination with the New Mexico State Preservation Officer and Native American Tribes that may have concerns in the project area.

3.4 Land Use and Socioeconomic Considerations

The City of Deming is the social and economic center for Luna County, providing most services to both county and city residents, including the Village of Columbus located 30 miles to the south on the international border. The total population of Deming in 2004 was estimated to be 16,500 by Engineers Inc. based on US Census data and estimates by the Bureau of Business and Economic Research of the University of New Mexico, Albuquerque (BBER-UNM). The overall population of Deming is estimated to have increased by approximately 17% since 2000. Much of this growth has occurred south of Deming in Luna County where one subdivision is currently under development, and several others are reported to be planned.

The project area is located in Luna County to the south of Deming within one to two miles of the city limits. Land to the north of Solana Road falls within the Extra-territorial Zone where joint planning jurisdiction is shared by both the City and the County. Zoning districts from the corner of Hermanas Grade Road and Dona Ana Road south to Solana, and east to 8th Street (Sections 8 and 9, T. 24 S, R. 9 W) are Rural Agriculture and Single Family Dwelling. From 8th Street to McCann Road (Sections 10-12, T. 24 S, R. 9 W) zoning districts include Rural Agriculture; Single Family Dwelling; and Commercial in the area of NM Highway 11. From the corner of McCann Road and Solana to the WWTP (Sections 6-7, T. 24 S, R 8 W) zoning districts are Rural Agriculture; Single-Family Dwelling; and Industrial. A map of the Extra-Territorial Zone is included in Appendix L.

Land use in the project area consists of a mix of rural, residential, agricultural and commercial activities. The Wastewater Treatment Plant in the northeast corner of the project area is located near the Deming Industrial Park in an industrial zone. Agricultural activities include chile and cotton production primarily in the western part of the project area, and pecan orchards in the eastern portion. The United States Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) reports that it "has no objection to the proposed action". (Correspondence with USDA-NRCS is included in Appendix M).

U.S. census data for Luna County indicates that the population is composed primarily of residents of Hispanic origin with low to moderate incomes. Within Luna County the ethnic background is: Hispanic, 59.6%; 'White', 38.1%; African-American, 1.8%; Native American, 1.2%; and Asian, 0.0%. According to BBER-UNM, per capita money income in Luna County for 2003 was $17,145. The average monthly annual unemployment rate for Luna County in 2006 was 6.3% (New Mexico Department of Labor).

Beneficial impacts from the proposed construction of the water and sewer main are expected for residents in the southern portion of Deming, and within unincorporated portions of Luna County currently without adequate water or wastewater services.

3.5 Human Health and Safety

The purpose of the proposed wastewater and water system improvements is to provide adequate and safe wastewater collection and water distribution to residents living in the southern portion of Deming, and Luna County as well as to accommodate future expansion to these areas of the community currently without wastewater collection or water distribution service. Currently, most of the residents in the project area rely on individual septic systems for their wastewater disposal needs, and private water wells for their drinking water needs.

Since 1990, Deming has experienced an annual growth rate of 2.79%, which is reported to be the second highest rate of all municipalities in New Mexico. Assuming that the annual growth rate of 2.79% will continue, the population of Deming is expected to increase from an estimated 16,500 residents in 2004 to 21,850 residents by 2020. Most of this growth is expected to occur in the southern part of Deming where one subdivision is being developed, and several others being planned (Engineers, Inc.). The No Action alternative would result in an increase of

individual septic systems and private wells for new residences in the southern portion of Deming, which could create potential groundwater contamination from nitrates.

In addition to providing a healthy and sanitary source of water and wastewater disposal for residents living in the southern part of Deming in Luna County, the water distribution improvements will provide water to two new schools constructed in 2005 and 2007 as well as another school proposed to be constructed in 2010.

3.6 Environmental Justice

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

The Southside Sewer and Water Improvements project would be conducted under Section 595 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 *et seq.*) as amended. This program is largely intended to provide needed assistance (technical, financial, etc.) to communities in which water resources are degrading and in need of improvement. As such, this project would benefit an area within a minority and low-income community. No adverse impacts on minority and low-income populations are expected. Under the definition of Executive Order 12898, there would be no adverse environmental justice impacts under the proposed action.

3.7 Cumulative Impacts

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

The footprint of the proposed project lies within a rural area. The construction corridor consists of county and state right-of-way, and land owned by the City of Deming. These areas have been disturbed by previous and current activities associated with road construction and maintenance, and utility installation. Environmental impacts from these activities have stabilized and are considered the baseline against which impacts of the proposed project have been compared.

Installation of the proposed sewer main, lift station, and water main would occur on already disturbed ground. This would not significantly impact the current conditions of the local environment.

Residential development of the south side of Deming and adjacent Luna County has increased at a relatively rapid rate over the last ten years, and is expected to continue as the City grows. The proposed action would provide a centralized water and wastewater system that meets state and federal regulations. When combined with past, present, or future activities within the City of Deming and adjacent lands within Luna County, the proposed project is not anticipated to significantly add to or raise local cumulative environmental impacts to a level of significance.

4.0 CONCLUSIONS AND SUMMARY

The proposed action evaluated in this Environmental Assessment (EA) addresses the method and potential effects for the installation of approximately 7.0 miles of new 18-inch wastewater collection piping, and approximately 5.7 miles of new 12-inch water distribution piping as well as a new lift station.

Due to the previously disturbed and developed region of the project area, impacts to the environment would be non-significant and short-term. The water and sewer main would benefit existing residents as well as new residents. The proposed project would not result in any moderate or significant, short-term, long-term, or cumulative adverse effects. Therefore, construction of the proposed project would not significantly alter the quality of the human environment and is recommended for implementation.

5.0 PREPARATION, CONSULTATION AND COORDINATION

5.1 Preparation

This EA was prepared for the City of Deming in conjunction with Engineers Inc. by Gila Conglomerate of Silver City, New Mexico. Individuals and agencies primarily responsible for preparation include:

Randy Chulick	Environmental Consultant, Gila Conglomerate, Silver City
John Willow	Engineering Technician, Gila Conglomerate, Silver City
Laura Michalik	Archaeologist, Archaeological Services, Las Cruces
John Gwynne	Professional Engineer, principal, Engineers Inc., Las Cruces
Edgar Marrufo	Engineering in Training, Engineers Inc., Las Cruces

5.2 General Consultation and Coordination

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

Mr. Rob Lawrence
US Environmental Protection Agency, Region 6

Office of Planning and Coordination

Mr. Jim Mace
US Army Corps of Engineers
El Paso Field Office

Ms. Danielle A. Galloway
US Army Corps of Engineers
Albuquerque District

Dr. Michael D. Porter
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Dr. Joy Nicholopoulos / Wally Murphy
US Fish and Wildlife Service
Albuquerque Office

Mr. Robert Sivinski
NM Forestry and Resources Conservation Division
Energy, Minerals, and Natural Resources Department

Mr. Mark Watson
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Mr. Bill Olson
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New Mexico Historic Preservation Division
Office of Cultural Affairs

President Mark Chino
Mescalero Apache Tribe

Chairman Jeff Houser
Fort Sill Apache Tribe

Chairman Ivan Sidney, Sr.
Hopi Tribal Council

President Joe Shirley, Jr.
Navajo Nation

Chairman Dallas Massey, Sr.
White Mountain Apache Tribe

Mr. Mike Synder
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Office of New Mexico State Engineer

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New Mexico State Office

Ms. Gwyneth Duncan
New Mexico Department of Transportation
Environmental Section

Federal Emergency Management Agency
Region 6

Mr. Frank Almanza
Luna County Flood Plain Coordinator

Mr. Rick McInturff
City Administrator
City of Deming

A draft letter sent out to the above agencies by Gila Conglomerate is included in Appendix N. Agencies initially contacted by letter for comments regarding the proposed action were also notified of the availability of the completed Environmental Report for public review. A draft letter is included in Appendix O.

6.0 REFERENCES

Brown, David E. Desert Plants: Biotic Communities of the American Southwest-United States and Mexico. University of Arizona, Superior, Arizona, 1982

Brown, David E. and C.H. Lowe. Biotic Communities of the Southwest Map. USDA Forest Service, Fort Collins, Colorado, 1977.

Bureau of Business and Economic Research, University of New Mexico, Albuquerque. http://www.unm.edu/~bber/demograp2.htm.

Clemons, Russell E., Geology of the Florida Mountains, southwestern New Mexico. New Mexico Bureau of Mines & Mineral Resources, Memoir 43; Socorro, 1998.

Cox Dellon H., Soil Survey of Hidalgo County, New Mexico. United States Department of Agriculture, Soil Conservation Service in cooperation with NM Agricultural Experiment Station.

Dick-Peddie, William A. New Mexico Vegetation: Past, Present, and Future. University of New Mexico Press, Albuquerque, New Mexico, 1993.

Engineers Inc., Las Cruces, New Mexico. City of Deming South Side Sewer and Water Improvements, Prepared for the City of Deming, Luna County; December 2007.

Environmental Data Resources, Inc. The EDR-Radius Map with GeoCheck for Deming Safety Zone, Tapia Road, Deming, NM 88030, February 20, 2007.

FEMA - Flood Insurance Rate Map, Luna County, New Mexico and Incorporated Areas, Community-Panel No. 35029C0425 B, September 14 1990;
http://map1.msc.fema.gov/idms/IntraView.cgi?KEY

- Flood Insurance Rate Map, Luna County, New Mexico and Incorporated Areas, Map Number 35029C0410 B, September, 14, 1990;
http://map1.msc.fema.gov/idms/IntraView.cgi?ROT

"Final Preliminary Assessment: Former Deming Airfield, Deming, New Mexico, Property No. K06NM038000", prepared for US Army Corps of Engineers – Albuquerque, District by HydroGeoLogic, Inc., 340 East Palm Lane, Suite 240, Phoenix, Arizona 85004; August 3, 2005.

Hawley, John W., "Physiographic Provinces". New Mexico in Maps, 2nd Edition, ed. Jerry L. Williams, University of New Mexico Press, Albuquerque, 1986.

League for the Hard of Hearing. Noise Center, 2004. http://www.lhh.org/noise/decibel.htm.

Neher, Raymond and Buchanan,William, Soil Survey of Luna County. United States Department of Agriculture, Soil Conservation Service in cooperation with NM Agricultural Station, 1980.

Nellessen, Jim. 2000. New Mexico State Highway and Transportation Department Environmental Section. Noxious Weed Management Guidelines. 9 pp

New Mexico Department of Labor. http://www.dws.state.nm.us/dws.data.

New Mexico Rare Plant Technical Council. New Mexico Rare Plants List, 2005. http://nmrareplants.unm.edu.

Ruiz, Tom. Personal communication with Gila Conglomerate, 7/7/07.

Sivinski, Bob. Personal communication with Gila Conglomerate, 1/3/08.