Final Environmental Assessment

for the proposed

Town of Huachuca City Water Distribution System Improvements

January 2005

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Huachuca City Water System Improvements EA

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Huachuca City Water System Improvements EA

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1.0 Background

1.1 Introduction

The United States (U.S.) Environmental Protection Agency (EPA) is charged with disbursement of grants under the Border Environment Infrastructure Fund (BEIF) program for infrastructure projects within 100 kilometers of the international boundary between the U.S. and Mexico. The Proposed Action under consideration for funding is the rehabilitation and improvement of the public water distribution system of the Town of Huachuca City, Arizona (hereinafter Huachuca City or Town, for sake of brevity). Disbursement of EPA border funds requires certification by the Border Environment Cooperation Commission (BECC). BECC certifies projects only after evaluating several factors including environmental impacts. This environmental assessment (EA) is part of the BECC certification process.

1.2 Environmental Assessment Process

EPA has determined that it will follow the National Environmental Policy Act (NEPA) and EPA regulations contained in Title 40 Code of Federal Regulations (CFR) Part 6 for environmental impacts in the U.S. from projects located in the U.S. or Mexico (EPA 1997a). Potential transboundary effects are addressed under each environmental topic, but none were identified.

1.3 Purpose and Need for Proposed Action

The purpose of the Proposed Action is to address low water pressure problems in Huachuca City, including inadequate pressures for fire protection. Users in the area west of Highway 90 in the Upper Zone have complained of low pressures in their businesses and residences during periods of high demand. This area has approximately 26 service connections. Water flow and pressures available in that area are not adequate for fire protection. In the past, the fire department has closed Highway 90 to traffic and used fire hydrants east of the road during emergencies. The low pressures and water flows are a result of the small diameter pipes (2-in and 4-in) installed along Highway 90. In addition, this portion is only connected to the main distribution system at one point (a 6-inch line along Clark St), creating long runs that dead end to the north and south. These issues have been addressed in the Feasibility Analysis Report, Huachuca City, Arizona, prepared by Nolte Associates, March 2004. The proposed water lines will improve water flow to that area to meet peak hour flow conditions (6-inch alternative) or both peak hour and fire flow conditions (8-inch alternative).

EPA intends to authorize the use of North American Development Bank (NADBank) BEIF by Huachuca City to implement the Proposed Action. These funds will be used to finance engineering, expansion and rehabilitation of the existing water supply. The proposed project will protect public health by increasing system water pressure from six pounds per square inch (psi) to more than 30 psi. Low pressures within a water distribution system present the potential for water contamination due to infiltration or backflow into the system. This could result in an impact to human health for water users in the Town. Arizona Department of Environmental Quality water system guidelines

require a potable water system to be designed to maintain a pressure of at least 20 psi at ground level at all points in the distribution system under all conditions of flow. In addition, improvements to the system would aid Huachuca City's ability to fight fires. With higher fire flow pressures, if a fire were to occur the fire department would be better able to extinguish the fire before it imposes a threat on the people who either live or work in Huachuca City.

1.4 Scope of EA

This EA focuses on a proposed water infrastructure project in Huachuca City, Arizona area and the potential direct, indirect, secondary, and cumulative (adverse and beneficial) environmental impacts to the U.S. and Mexico from construction and operation of the proposed improvements. The following general topics have been addressed within this EA:

- Physical Environment [including air quality, visibility, odor, geology, soils, surface and groundwater resources]
- Biological Environment [including vegetation, wetlands, wildlife and T& E species]
- Cultural Environment [including historic and archaeological sites]
- Social Environment [including land use, infrastructure, hazardous and solid waste, energy, natural resources, noise, public health and safety, population, economics, and environmental justice]
- Transboundary Impacts
- Cumulative Impacts

No environmental topics were eliminated for analysis prior to discussion in this document.

In preparing an EA, EPA examines various federal cross-cutting laws and Executive Orders (EOs) in accordance with 40 CFR 6.300. These laws and Eos, and their applicability to the proposed project, are described below:

National Natural Landmarks - The Secretary of the Interior is authorized to designate areas as National Natural Landmarks for listing on the National Registry of Natural Landmarks pursuant to the Historic Act of 1935, 16 U.S. Code (USC) 461 *et seq*. In conducting the environmental review of the Proposed Action, EPA is required to consider the existence and location of natural landmarks, using information provided by the National Park Service (NPS) pursuant to 36 CFR 62.6(d). No natural landmarks listed on the National Registry of Natural Landmarks were identified within the Project Area.

Cultural Resources Data - The *Archeological and Historic Preservation Act* (AHPA) of 1974, 16 USC 469 *et seq*. provides for the preservation of cultural resources if an EPA activity may cause irreparable loss or destruction of significant scientific, prehistoric, or archeological data. In accordance with the AHPA, the responsible official or the Secretary of the Interior is authorized to undertake data recovery and preservation activities. Consultation with the Arizona State Museum (ASM, the Arizona State Historic Preservation Office (ASHPO), and Native American tribes are discussed in Section 3.3.

Cultural Resources - The *National Historic Preservation Act* (NHPA), as amended, 16 U.S.C. 470, directs federal agencies to integrate historic preservation into all activities which either directly or indirectly involve land use decisions. The NHPA is administered by the National Park Service (NPS), the Advisory Council on Historic

Preservation (ACHP), State Historic Preservation Officers (SHPOs), and each federal agency. Implementing regulations include 36 CFR Part 800: *Regulations of the Advisory Council on Historic Preservation Governing the NHPA Section 106 Review Process*. Section 106 of the NHPA requires federal agencies to take into consideration the impact that an action may have on historic properties which are included on, or are eligible for inclusion on, the National Register of Historic Places (NRHP). The Section 106 review process is usually carried out as part of a formal consultation with the SHPO, the ACHP, and other parties, such as Indian tribes, that have knowledge of, or a particular interest in, historic resources in the area of the undertaking. Consultation with the Arizona State Historic Preservation Office (ASHPO), the Arizona State Museum (ASM), and tribes are discussed in Section 3.3.1. The Section 106 review process will be completed before any ground-breaking activities occur related to the Proposed Action.

Wetlands Protection - EO 11990, "Protection of Wetlands" of 1977, requires federal agencies conducting certain activities to avoid, to the extent possible, adverse impacts associated with the destruction or loss of wetlands and to avoid support of new construction in wetlands, if a practicable alternative exists. Discharge of dredge or fill material into wetlands and other waters of the U.S. are also regulated under Section 404 of the Clean Water Act. No wetlands in the U.S. would be filled or otherwise impacted by the Proposed Action.

Floodplain Management - EO 11988, "Floodplain Management" of 1977, requires federal agencies to evaluate the potential effects of actions they may take in a floodplain to avoid, to the extent possible, any adverse effects associated with the direct and indirect development of a floodplain. None of the components of the Proposed Action occurs within a U.S. floodplain (FEMA, 1989).

Important Farmlands - EPA Policy to Protect Environmentally Significant Agricultural Lands requires EPA to consider the protection of the nations' significant/important agricultural lands from irreversible conversion to uses that result in their loss as an environmental or essential food production resource. Moreover, the Farmland Protection Policy Act (FPPA), 7 USC 4201 *et seq*., and the U.S. Department of Agriculture's (USDA) implementing procedures require federal agencies to evaluate the adverse effects of their actions on prime and unique farmland, including 1-4 farmland of statewide and local importance. The project would affect, no prime, unique, or important farmland. Project facilities would be entirely located within dedicated alley, road or highway rights-of-way.

Coastal Zone Management Act - The Coastal Zone Management Act (CZMA), 16 USC 1451 *et seq.,* requires that federal agencies in coastal areas be consistent with approved State Coastal Zone Management Programs, to the maximum extent possible. If an EPA action may affect a coastal zone area, the responsible official is required to assess the impact of the action on the coastal zone. The Proposed Action would not affect a coastal zone area. The nearest coastal zone is more than 300 miles from the proposed project location.

Coastal Barrier Resources Act - The Coastal Barrier Resources Act (CBRA), 16 USC 3501 *et seq*., generally prohibits new federal expenditures and financial assistance for development within the Coastal Barrier Resources System (CBRS) and therefore protects ecologically sensitive U.S. coastal barriers. This project does not affect any coastal barrier resources.

Wild and Scenic Rivers - The Wild and Scenic Rivers Act (WSRA), 16 USC 271 *et seq*., establishes requirements applicable to water resource projects affecting wild, scenic, or recreational rivers within the National Wild and Scenic Rivers System, as well as rivers designated on the National Rivers Inventory. No designated wild and scenic rivers occur within the Project Area (NPS(a), 2002).

Fish and Wildlife Protection - The Fish and Wildlife Coordination Act (FWCA), 16 USC 661 *et seq*., requires federal agencies involved in actions that will result in the control or structural modification of any natural stream or body of water for any purpose, to take action to protect the fish and wildlife resources that may be affected by the action. No U.S. streams or water bodies would be modified by this project. Project facilities would be entirely located within dedicated alley, road or highway rights-of-way.

Endangered Species Protection - The Endangered Species Act (ESA), 16 USC 1536 *et seq*., prohibits agencies from jeopardizing threatened or endangered species or adversely modifying habitats essential to their survival. No impacts on endangered species or to critical habitats are anticipated from the Proposed Action. Project facilities would be entirely located within dedicated alley, road or highway rights-of-way.

Wilderness Protection - The Wilderness Act (WA), 16 USC 1131 *et seq*., establishes a system of National Wilderness Areas. The WA establishes a policy for protecting this system by generally prohibiting motorized equipment, structures, installations, roads, commercial enterprises, aircraft landings, and mechanical transport. No wilderness areas occur within the Project Area. Project facilities would be entirely located within dedicated alley, road or highway rights-of-way.

Air Quality - The Clean Air Act (CAA) requires federal actions to conform to any state implementation plan approved or promulgated under Section 110 of the Act. For EPA actions, the applicable conformity requirements specified in 40 CFR Part 51, Subpart W; 40 CFR Part 93, Subpart B; and the applicable state implementation plan must be met. Under the Federal Rule on General Conformity, 40 CFR Part 93, a conformity determination is required only when emissions occur in a non-attainment area. Impacts to air quality from the Alternatives are discussed in Section 3.1.1.

Environmental Justice - EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," and the accompanying presidential memorandum, advise federal agencies to identify and address, whenever feasible, disproportionately high and adverse human health or environmental effects to minority communities and/or low-income communities. Environmental justice considerations are discussed in Section 3.10.

1.4.1 Permits Required to Implement the Proposed Project

An encroachment permit from the Arizona Department of Transportation (ADOT) will be required for the proposed water lines to utilize or pass through state highway ROW, in particular at the two places where the water lines would cross under Highway 90. In addition, ADOT's approval of a project traffic safety plan will be required.

Arizona Department of Environmental Quality (ADEQ) will review the detailed engineering design for the water system improvements, and their concurrence on the design will be obtained prior to project implementation.

1.4.2 Agency Consultation

The draft EA was prepared with input from Border Environment Cooperation Commission (BECC) and from the U.S. EPA. In addition, data contacts were made with the Natural Resources Conservation Service, Arizona State Parks and Arizona State Museum, as detailed in Section 4.2. Other consultation and agency input was requested of the agencies listed in Section 4.3, as part of the A-95 review process for proposed federal actions. U.S. EPA personnel contacted Native Americans including the Hopi, the Pascua Yaqui, the Tohono O'odham Nation, Gila River Reservation and the Ak-Chin Reservation to determine if the proposed project may affect any cultural resources known to them.

2.0 Existing Conditions and Alternatives

2.1 Current Conditions

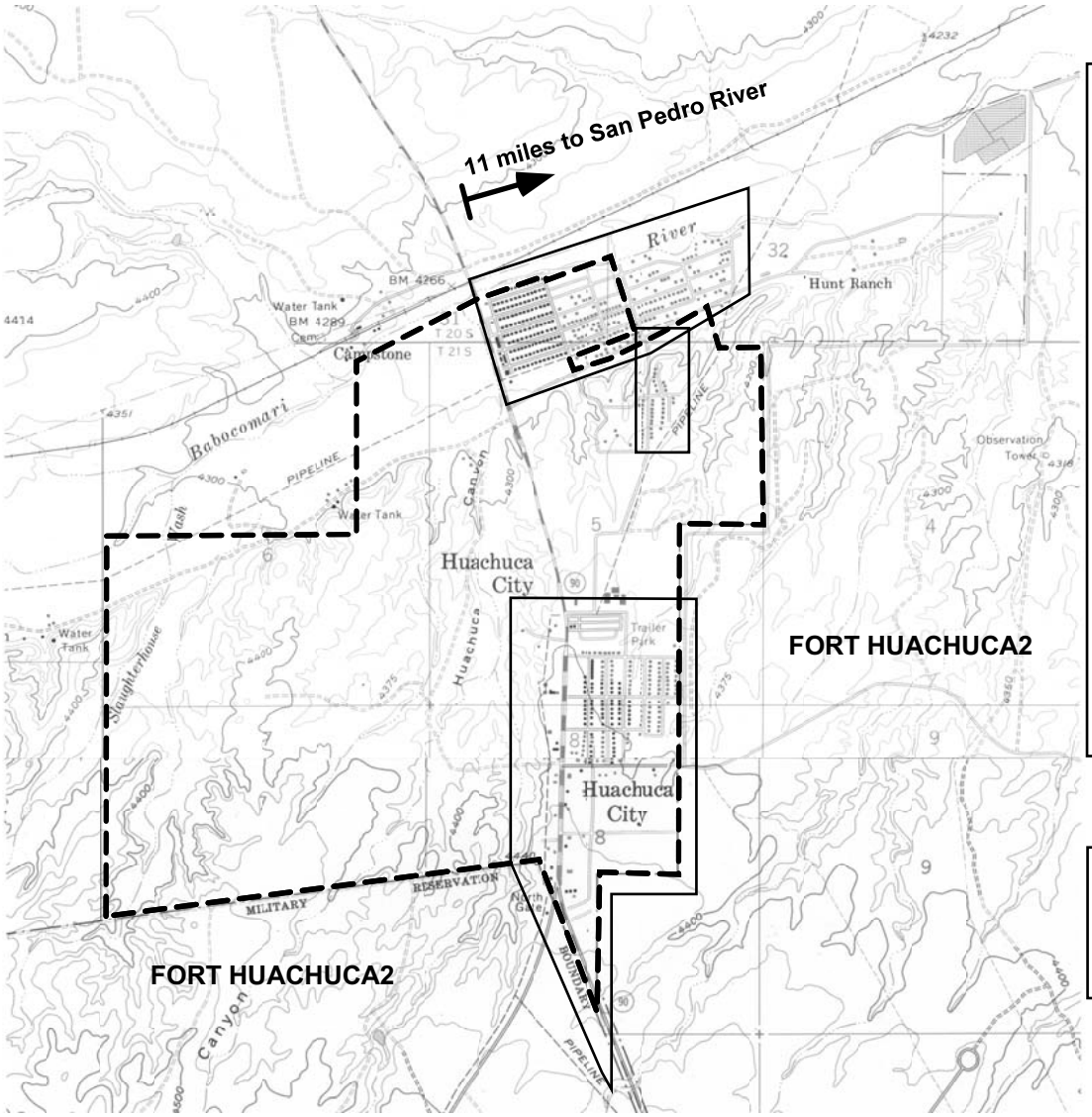
Huachuca City is located in the southeastern part of Arizona in Cochise County, along Highway 90. The Town is 20 miles from the US-Mexico border, 64 miles southeast of Tucson and 190 miles southeast of Phoenix. The Town is at an elevation of 4,245 feet. The average daily maximum temperature is about 90° F in the summer (June) and the average daily minimum about 34° F (January) in the winter. The average annual total precipitation in the area is 14.64 inches. Figure 2.1-1 provides a location map and general overview of the Town. Huachuca City was incorporated in 1958. The Town has a mayor-council form of government and provides residents with water, sewer and solid waste services, as well as local police and fire protection. The Town's economy is influenced by the United States Army's Fort Huachuca, located south and east of town.

The 2000 US Census reported a population of 1,751 habitants, a decrease from the 1,786 habitants reported in the 1990 Census.

2.1.1 Public Water Supply System

The water distribution system is divided into three main areas or service zones (upper, middle and lower) due to the topography of the area and the various sources of supply. The water system serves the entire Huachuca City and an unincorporated subdivision (Babocomari Vista) in Cochise County. The number of total connections in the system is 767, of which approximately 40 are commercial users and 727 are residential customers (Nolte, 2004).

As shown in Figure 2.1-2, the Upper Zone covers the entire area south of the storage tank. The source of water for this area is the Howard Well and La Sombre Well, in conjunction with the storage tank and the booster pump station. Due to its poor water quality the La Sombre Well is not currently used. According to the water operators, water from the La Sombre Well has a bad odor. Recent water quality tests indicate water from that well exceeds the trigger value for nitrate. A copy of the report from the testing laboratory is included in Appendix A of the Feasibility Analysis Report prepared by Nolte Associates (Nolte, 2004). Details of the existing distribution system in the Upper Zone are shown in Figure 2.1-3.



BASEMAP: USGS 7.5' Quadrangle, Huachuca City and Fort Huachuca, 1976; Nolte Associates, 2002. SOURCE: BRG Consulting, Inc., 2002.

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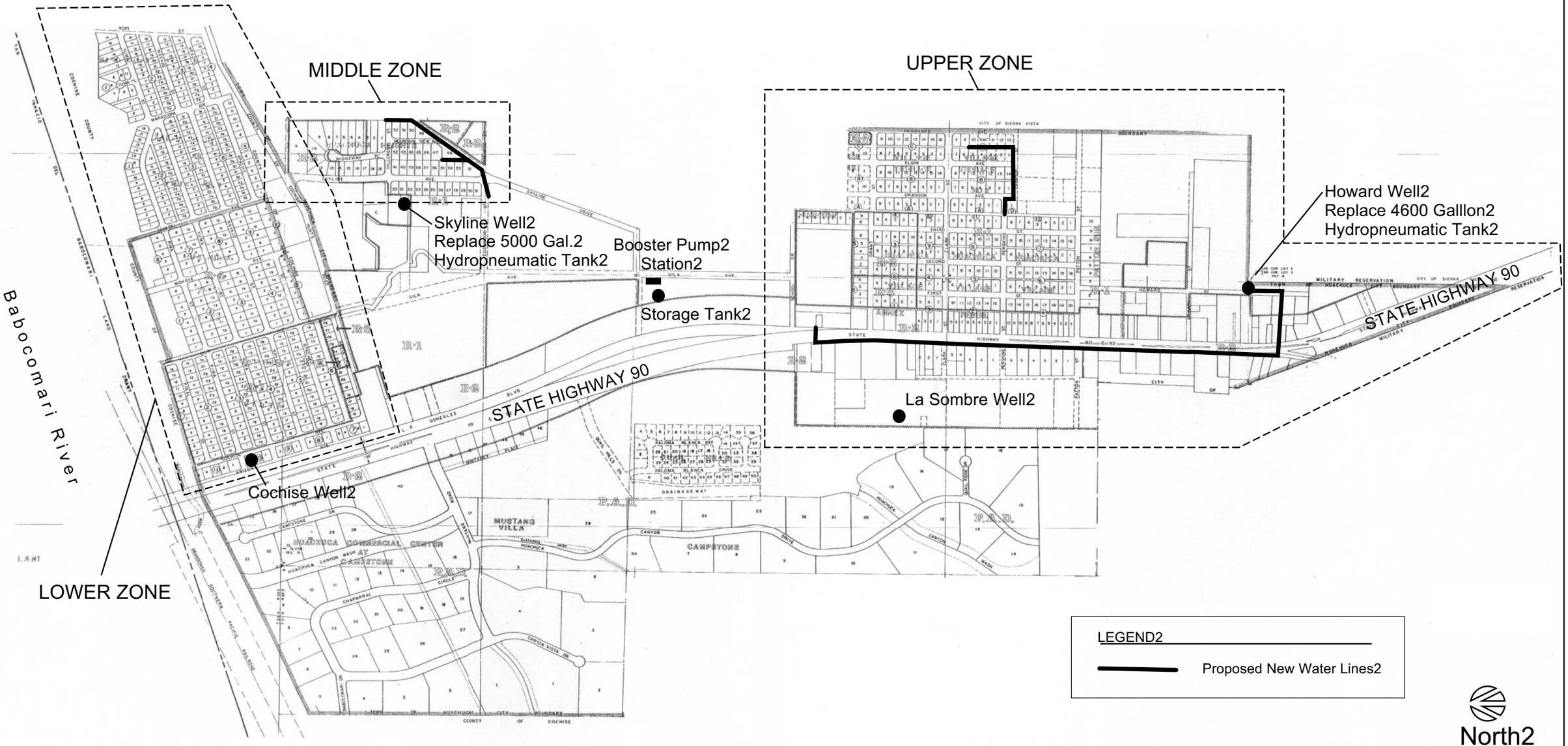
Huachuca City Water System Improvements EA2

Huachuca City Location and Vicinity Map2

FIGURE .1-12



SOURCE: Nolte Associates, 2002.

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Huachuca City Water System Improvements EA2

Huachuca City Water System and Proposed Improvements2

FIGURE .1-2

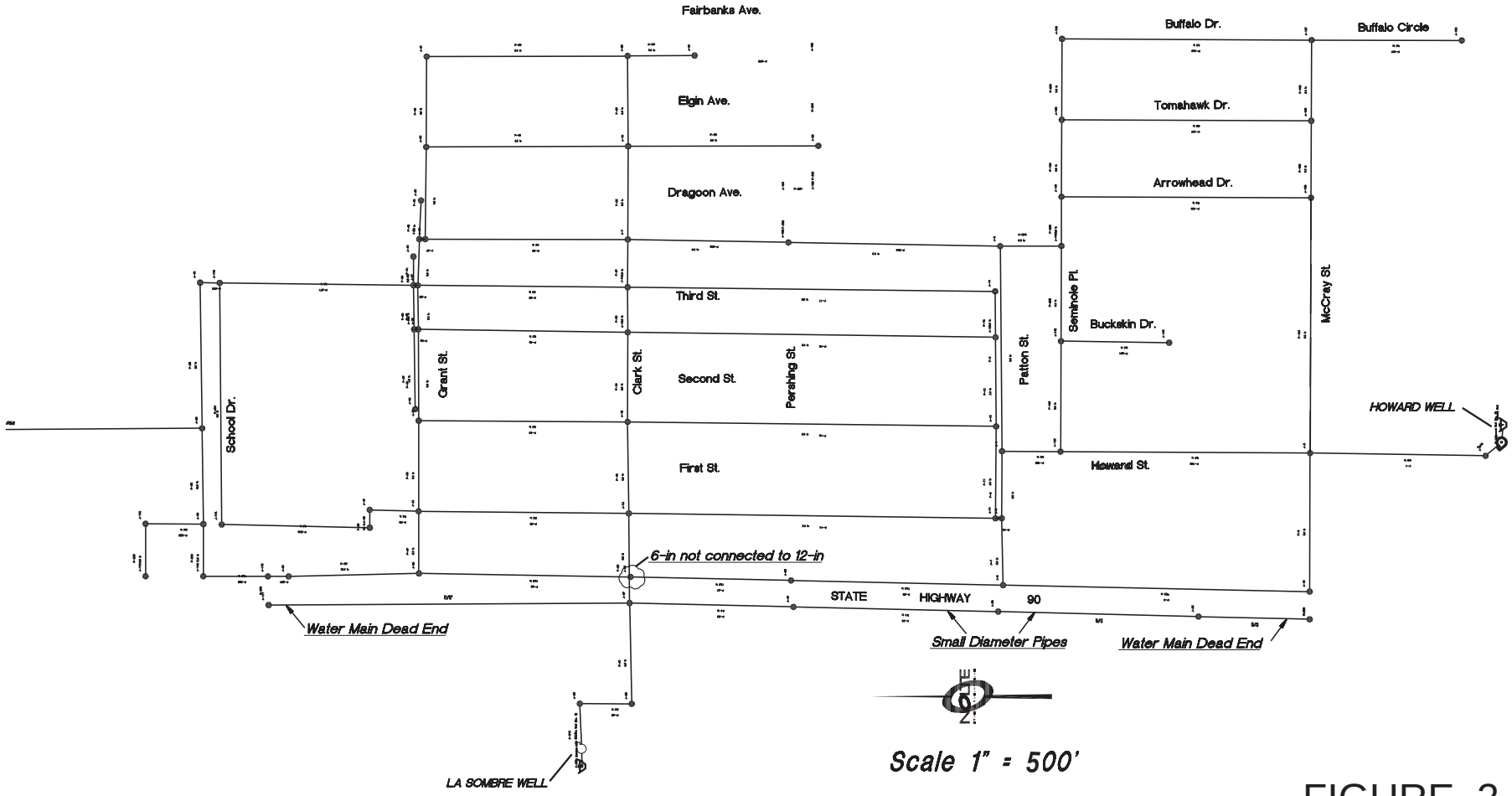

FIGURE 2.1-3

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NOLTE
BEYOND ENGINEERING
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Upper Zone
HUACHUCA CITY WATER SYSTEM

PREPARED FOR: TOWN OF HUACHUCA CITY

DATE SUBMITTED: 10/2002

SHEET NUMBER 1 OF 1 SHEETS

JOB NUMBER SD0947

The Middle Zone is served by the Skyline Well, the storage tank and booster pump station. It includes the Huachuca Heights subdivision, located northeast of the storage tank. Details of the existing distribution system in the Middle Zone are shown in Figure 2.1-4.

The Lower Zone includes the Town's northern area along the Babocomari River, and is separated by a significant change in elevation from both the Upper and Middle zones. The Cochise Well supplies water to the Lower Zone. The Lower Zone is connected by a 10-inch line to the storage tank, which serves as a secondary water supply in case of a power failure at the well. In such circumstances, water would flow by gravity from the tank to the Lower Zone. The Middle and Lower zones are also connected by an 8-inch line with a pressure-reducing valve due to the pressure differences between the two systems. However, water is transferred from the Middle Zone to the Lower Zone only if the pressure in the lower zone falls substantially. Table 2.1-1 shows the approximate elevations and the hydraulic grade line for each zone.

TABLE 2.1-1
Elevation and Hydraulic Grade Line (HGL) for the Upper, Middle and Lower Zones

Zone	Elevation (ft.)	HGL (ft.)
Upper	4,394	4,532
Middle	4,340	4,536
Lower	4,245	4,383

Source: Nolte Associates, Inc., 2004.

Huachuca City receives its entire water supply from underground wells. The well depths, static levels and well pump capacity are shown in Table 2.1-2. A hydro pneumatic tank is installed in each well site to maintain a stable pressure range and protect the pump equipment from pressure surges in the system.

TABLE 2.1-2
Well Depths, Static Levels and Well Pump Capacity

Well Site	Well Depth (ft.)	Static Level (ft.)	Well Pump Capacity
Cochise Well	316	86	500 gpm @ 300-ft TDH
La Sombre Well	311	197	326 gpm @ 478-ft TDH
Skyline Well	400	199	400 gpm @ 340-ft TDH
Howard Well	502	297	300 gpm @ 500-ft TDH

Source: Nolte Associates, Inc., 2002.

The storage tank has a total volume of 750,000 gallons. The tank provides storage for emergency water supply and flow to the Upper and Middle zones. The tank is currently filled from both the Howard and Skyline wells. The storage tank is connected by a 12-inch line along the east side of Highway 90 with the Howard Well and through an 8-inch

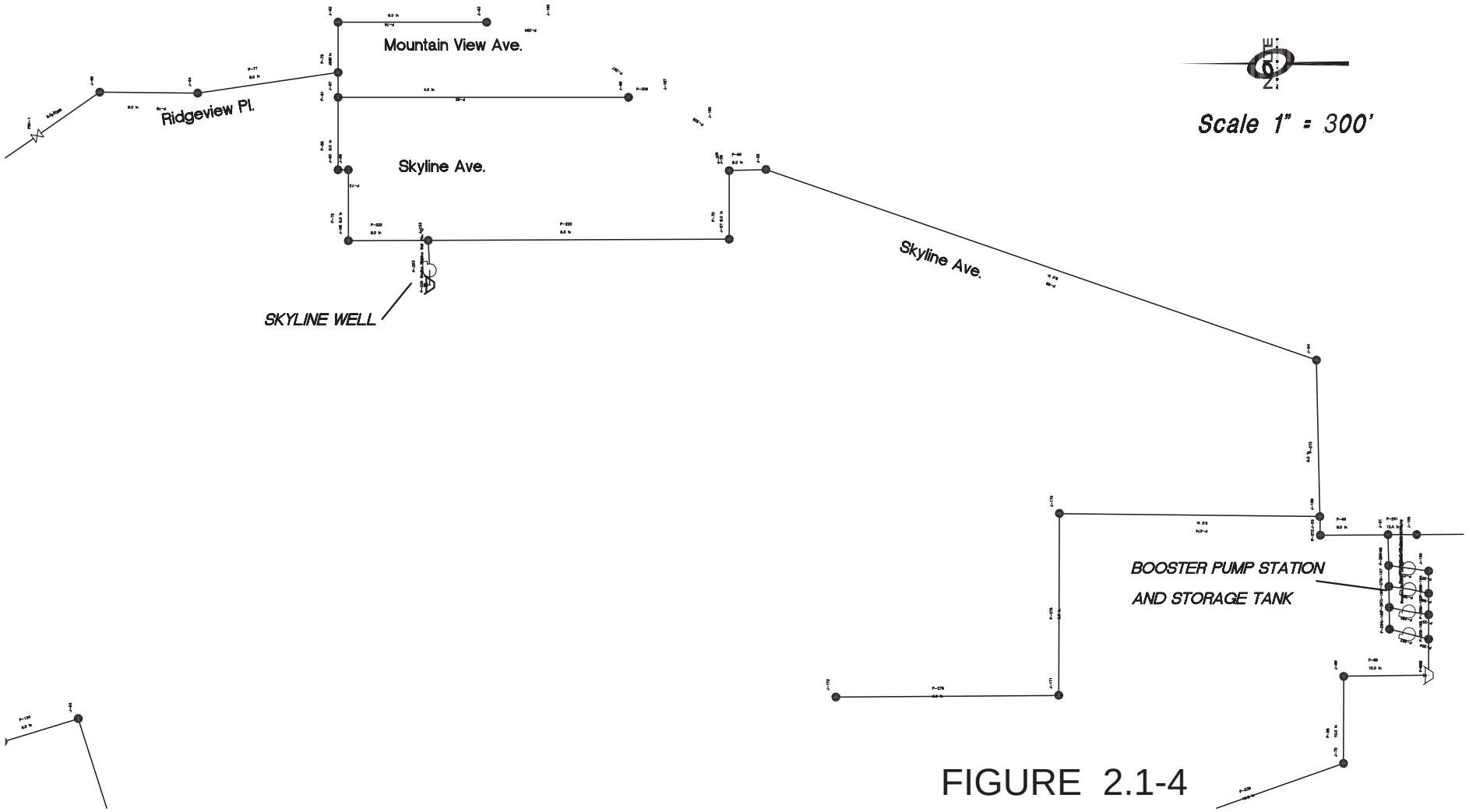

FIGURE 2.1-4

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Middle Zone
HUACHUCA CITY WATER SYSTEM

PREPARED FOR: TOWN OF HUACHUCA CITY

DATE SUBMITTED: 10/2002

SHEET NUMBER 1 OF 1 SHEETS

JOB NUMBER SD0947

line to the Skyline Well. Both lines are connected to a pressure sustaining valve used to maintain pressure in the distribution system and allowing excess water to fill the tank. The tank has a draining system for cleaning or repairs and a gravity overflow system in case the solenoid valve to fill the tank fails to close.

The booster pump station consists of five centrifugal pumps and is located by the storage tank. The booster pump station is designed to maintain a pressure of 40 psi throughout the system during maximum peak flow and a pressure of 20 psi during maximum peak flow plus fire flow. As mentioned, the booster station consists of five pumps, two 20-horsepower (HP) pumps (A and B) and three 60-HP (pumps C, D and E). Only two of the 60-HP pumps can operate simultaneously with the two 20 HP pumps. The remainder 60 HP pump is a standby.

Water is supplied to the distribution system by the water wells and/or by water drawn from the storage tank by the booster pump station. The operation of the booster pump station and the well pumps is controlled by water pressure.

Water users in the area west of Highway 90 in the Upper Zone have complained about low pressure in their houses and businesses during periods of high water use. Water operators suggest this is caused by small diameter pipes installed in that area, including some two-inch lines. In addition, there is only one connection point to the main distribution system east of the highway, creating long runs that dead end to the north and south. However, no Notification of Non-Compliance has been issued by any regulatory agency regarding the existing water system.

Unaccounted-for-water in the system was determined by comparing the total volume pumped by all wells to the volume billed to the water customers (metered). The unaccounted-for-losses amount to about 21 percent of the total water produced. This volume includes unmetered water used for irrigation of parks, restrooms in parks, the main city office building, and water used for dust control in the landfill. These unmetered uses are the likely source of most of unaccounted-for-water. Water losses in the system are not considered significant.

2.1.2 Demand Scenarios

Several water demand scenarios were examined using a hydraulic model developed by Nolte Associates using WaterCAD v.4.5 from Haestad Methods. Maximum Day plus Fire Flow presented the worst-case scenario for the water distribution and pumping system. Fire flows were placed at several locations in the distribution system to determine the pressures that would be maintained. Data obtained from the model for these scenarios are included in Appendix B of the Nolte report (Nolte, 2004).

The Huachuca City Fire Chief required a fire flow of 2,500-gpm for the commercial area west of Highway 90 and 1,500-gpm for residential areas (Nolte, 2004). These values were used in the hydraulic model.

During peak hour flow conditions, the existing system experiences low pressures in the area west of Highway 90. The model also indicates low pressures of approximately 10 psi on nodes in the south end, near McCray Park. The low pressures are caused by the small diameter pipes in that area, which experience a high head loss during peak flow conditions.

Fire flow analysis for the Lower Zone indicates that adequate pressure and a fire flow of 1,500-gpm can be maintained at the east end of the system (fire hydrant at the intersection of Hopi and Yuma St) with no system changes. The pressure-reducing valve on the eight-inch pipeline connecting the Middle Zone and the Lower Zone opens as required to supply a portion of the fire flow demand. The pressure at the nodes near the fire hydrant would be about 40 psi.

Fire flow analysis for the residential area in the Upper zone indicates that adequate pressure and a fire flow of 1,500-gpm can be maintained at the node at the intersection of Buffalo Drive and McCray Street with no system changes. The pressure in that node would be about 30 psi. For this scenario, both the booster pump station and the Howard Well pump would be operating.

2.1.3 Alternatives Selection Criteria

The project area is defined as developed areas within Huachuca City. Figure 2.1-2 shows the Project Area with proposed improvements (Alternative 2). The other physical alternatives defining the range of potential environmental impacts include No Action (Alternative 1) and installation of a smaller water line west of Highway 90 (Alternative 3). Nolte examined other system components in their engineering and economic analysis (alternative types of pumps at the booster station, repair of the existing hydropneumatic tanks instead of replacement, repair of discharge piping from the water supply wells instead of replacement, and the use of different types of control systems). None of these actions would result in environmental impacts outside the range of the three alternatives evaluated below.

2.2 Description of Alternatives (Including the Proposed Action)

2.2.1 Alternative 1 - No Action

The existing water supply systems would not be expanded or rehabilitated under Alternative 1. If the No Action Alternative is selected, the current situation would continue as the project would not be engineered and constructed. There would be continued low pressures during periods of high demand on the area west of Highway 90, and inadequate fire protection for businesses and residences in the area west of Highway 90.

2.2.2 Alternative 2 - Proposed Action

Alternative 2, the Proposed Action, would allow Huachuca City to rehabilitate and replace its potable water distribution lines consistent with the recommendations presented in the Feasibility Analysis Report, Huachuca City, Arizona, Water Distribution System Improvements (Nolte, 2004). A new eight-inch line would be installed on the west side of the highway, adjacent to the existing smaller lines.

The proposed system improvements include:

- New eight-inch diameter pipeline west of Highway 90 connected to the 12-inch line east of the highway by two eight-inch crossings under the highway (Figure 2.2-1).
- Connection of dead ends on Pershing Street and on an alley off Clark Street to create a stronger looped system in the Upper Zone (Figure 2.2-1).
- Connection of dead ends on Mountain View Avenue and adjacent alley to create a stronger looped system in the Middle Zone (Figure 2.2-2).
- Replacement of two leaking 4,600-gallon hydropneumatic tanks at Skyline and Howard Wells (Figures 2.2-1 and 2.2-2).
- Addition of two pressure zone control values at the Cochise well and the storage tank (Figure 2.1-2),
- Addition of controls, monitoring and reporting devices to the control network at the booster station and well sites.
- Replacement of existing discharge piping at the well sites.

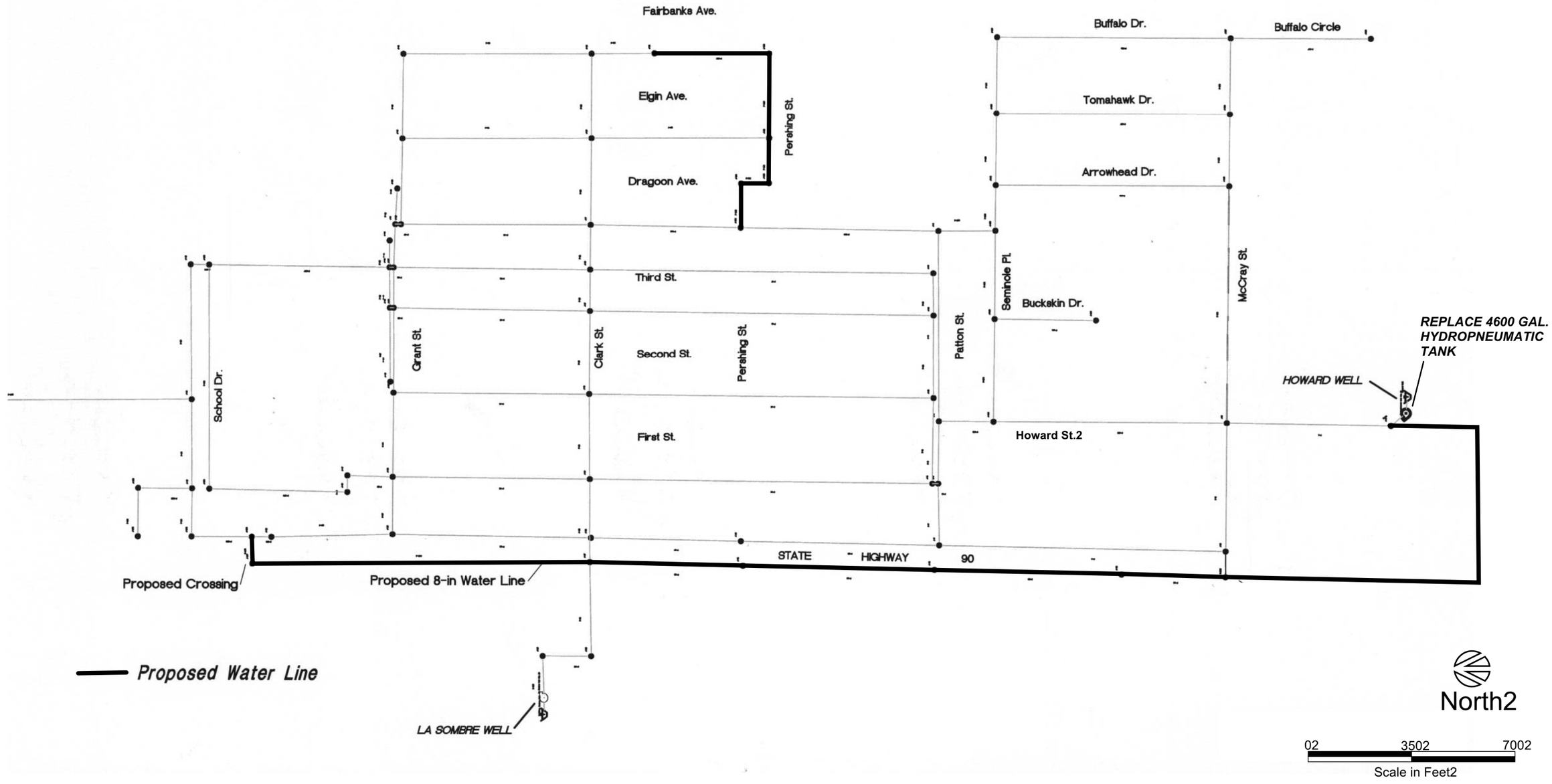
The new water lines would be installed in trenches three to four feet deep, and located within alley, street or highway right-of-way. The only exception would be the connection between Highway 90 and Howard Street, just south of Howard Well. That connection will be placed in a proposed new easement adjacent to the property line of an existing church. Approximately 200 to 300 feet of water line would be installed per day. Trenches would be backfilled or covered with metal plates to allow access by adjacent residences and businesses during construction. A permit would be obtained from ADOT for crossing of Highway 90.

One equipment staging/material laydown area, approximately 100 feet by 100 feet would be required. The staging/material laydown area would be located on any available existing vacant lot in town containing no native habitat.

A construction cost estimate was prepared for implementing the recommended improvements to the water distribution system. Total construction costs of Alternative 2 are estimated at $180,340. An additional $281,330 would be necessary to cover administrative, inspection and engineering costs. Total project costs for Alternative 2 are estimated at $461,670. A detailed discussion of cost estimates for Alternative 2 is provided in the Feasibility Analysis Report (Nolte, 2004).

2.2.3 Alternative 3 – Smaller Water Line West of Highway 90

Alternative 3 would install a 6-inch line on the west side of Highway 90, which would meet peak hour flow demands, but not fire flow requirements. Proposed actions in Alternative 3 are similar to those in Alternative 2, however 6-inch pipes would be used, thereby reducing the overall costs. Construction costs are estimated at $358,720. Therefore, total costs of Alternative 3 are estimated at $380,365. A detailed discussion of cost estimates for Alternative 3 is provided in the Feasibility Analysis Report (Nolte, 2004).



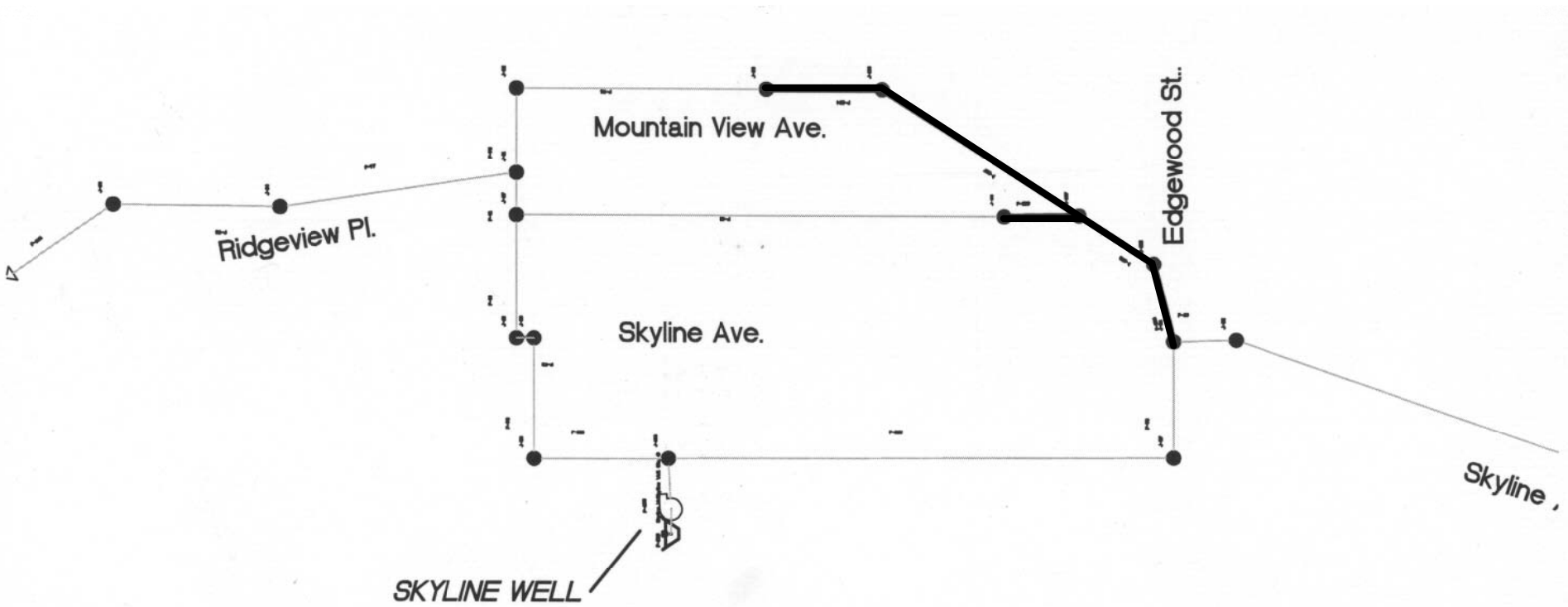
SOURCE: Nolte Associates, 2002.

03/10/04

Huachuca City Water System Improvements EA2

Proposed Water System Improvements, Upper Zone2

FIGURE .2-12



North2

02 3702 7402

Scale in Feet2

SOURCE: Nolte Associates, 2002.

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Huachuca City Water System Improvements EA 2

Proposed Water System Improvements, Middle Zone2

FIGURE .2-2

2.2.4 Comparison of the Alternatives

Table 2.2-1 presents a comparison of water service parameters under the three water distribution system alternatives.

TABLE 2.2-1
Comparison of Water Service Parameters for the Project Alternatives

Water Service Parameter	Existing Conditions	Alternative 1 – No Action	Alternative 2	Alternative 3
Meets Fire Flow?	No	No	Yes	No
Minimum Fire Flow Pressure	0 psi	0 psi	>20 psi	<20 psi
Meets Peak Hour Flow?	No	No	Yes	Yes
Minimum Peak Hour Pressure	6 psi	6 psi	>50 psi	>30 psi

Source: Nolte Associates, Inc., 2004.

Alternative 2, the Proposed Action, is preferred by the Town because it provides adequate peak hour water pressure, would meet fire flow requirements, and, with mitigation, would result in no significant environmental impacts.

3.0 Affected Environment and Environmental Consequences

3.1 Physical Environment

3.1.1 Climate, Air Quality, Visibility, and Odor

Climate for the Huachuca City area varies by both season and elevation. The daily mean maximum temperature for the warmest month, June, is 91°F. The average winter low temperature is 32°F. Average winter daytime high temperatures in the basins vary between 55 and 60°F. The area receives 12 to 30 inches of rainfall yearly. This precipitation is seasonal and distributed somewhat unevenly over the area. Less than 16 inches per year falls in the lower basin elevations, while 30 inches or more may fall in the surrounding mountains. About half of the rainfall occurs during the "monsoon" season between June and August (Danzer, 2002).

The prevailing wind direction in the Huachuca City area is from the southwest with mean speeds between 12 and 15 miles per hour. The nearest National Weather Service (NWS) station is located at the Sierra Vista Fire Station No. 1 at 1327 East Fry Blvd. Potential odor-producing facilities within the Huachuca City area include a landfill located along the eastern boundary, east of the post office, and a sewage treatment plant located northeast of Town off of Hunt Road. Facility compliance with applicable state regulations, and the prevailing southwesterly winds, result in a minimal level of odors affecting residential areas.

According to the Arizona Department of Environmental Quality (ADEQ) the Town of Huachuca City and vicinity is considered to be in attainment with all air quality standards (ADEQ, 2002). Good visibility is generally associated with good air quality. Although no visibility averages have been recorded for Huachuca City, the Chiricahua Wilderness Area, located approximately 50 miles to the northeast, is similarly located in an air quality attainment area and has visibilities ranging from 53 to 129 miles (EPA, 2002).

Environmental Consequences

Alternative 1 would result in no changes to the existing water system, or to air quality. Under Alternative 2 and 3, temporary and minor dust fugitive emissions may be created during construction. The fugitive dust could impact PM-10 concentrations and visibility in the immediate vicinity of excavations, but would not be expected to significantly contribute to air quality degradation in the Huachuca City area. Standard dust suppression techniques such as watering of active construction areas, aggregate piles and cleared areas would substantially minimize these air quality impacts. Odor would not be an issue for the proposed potable water system improvements. The land use analysis indicates that no growth would be induced which would have an effect on pollutant emissions. Therefore, Alternatives 1, 2 and 3 would have no significant impact on climate, air quality, visibility and odor.

3.1.2 Geology and Soils

Affected Environment

The project area is located within the Upper San Pedro basin of southeastern Arizona. The basin contains approximately 1,875 square miles and consists of the northwest-trending San Pedro River Valley and the surrounding mountains. Elevations along the valley floor range from 4,200 feet above mean sea level at the International Boundary to 3,300 feet above mean sea level along the basin's northern boundary. The Huachuca, Mustang, Whetstone, and Rincon Mountains form the basin's western boundary and the Mule, Dragoon, Little Dragoon, and Winchester Mountains form the eastern boundary. The bordering mountain range from 5,000 to nearly 10,000 feet in elevation (Arizona Department of Water Resources (ADWR), 1997). Project area geology consists of Pliocene to middle Miocene sedimentary rocks (AGS, 1998).

Soils within Huachuca City are classified as Libby-Gulch complex with inclusions of Ubik, Combate, Comoro, and Riveroad soils in the drainageways. Soils within the project area are formed from parent material of mixed alluvium. Project areas soils tend to be well-drained with slow to moderately slow permeability rates. In addition, the soils tend to have low to moderate runoff rates and moderate to high shrink-swell potential (USDA/NRCS, 1999). The project area does not contain any farmlands designated Prime and Unique by the U.S. Department of Agriculture (Camp, *personal communication*, 2002).

Environmental Consequences

Proposed construction activities for Alternatives 2 and 3 include improvements to existing water system pipes and the installation of approximately 6,665 feet of water lines. Construction and design of the proposed project would be consistent with the criteria contained in Engineering Bulletin No. 10, Guidelines for the Construction of Water Systems, issued by the Arizona Department of Environmental Quality. In addition, Best Management Practices (BMPs) (e.g., turbidity curtains, sediment traps, straw bales, etc.) and other mitigation measures (e.g., maintaining

vegetated buffer zones between construction areas and waters of the U.S.) will be used to minimize erosion and sedimentation around construction areas. Therefore, no significant impacts to geology and soils are expected to occur as a result of the implementation of the proposed project.

Current conditions would be expected to continue under Alternative 1.

3.1.3 Water Resources

Surface Water

Affected Environment

The San Pedro River is the Upper San Pedro basin's major surface-water drainage, and is located 11 miles east of Huachuca City. The San Pedro River enters the basin at the International Boundary near Palominas, AZ and flows northwest for approximately 62 miles before leaving the basin north of Benson at "the Narrows". The San Pedro River is mostly ephemeral and only flows in response to local rainfall. The river does have a perennial stretch of about 18 miles near Charleston, that is created by bedrock that forces groundwater to the surface (ADWR, 2002).

The Babocomari River flows east toward the San Pedro River, and is located at the north edge of Huachuca City. It is ephemeral throughout most of its length although a reach near the headwaters about 15 miles above it confluence with the San Pedro and another reach about four miles above the confluence sustain perennial flow due to special geologic conditions (ADWR, 2002). These two reaches of the Babocomari sustain perennial flow for approximately 12 miles. Flows in the Babocomari and its tributaries are not regularly gauged. Streamflow measured by Schwartzman in 1990 ranged from 0.01 cubic feet per second (cfs) to 2.72 cfs depending on the stream section in March and from 0.29 cfs and 0.35 cfs in the only three sections where measurable flow occurred in June (ADWR, 2002).

Huachuca City does not withdraw water from either the San Pedro or the Babocomari Rivers.

The Federal Emergency Management Agency (FEMA) produces Flood Insurance Rate Maps (FIRMs) used by Federal, State, and local governments, real estate analysts, insurance providers, appraisers, land developers and the public to identify flood risks based upon local hydrology, topology, precipitation, flood protection measures such as levees, and other scientific data. According to the FIRM for the Huachuca City area (Appendix A, Figure A), the entire project area lies outside the 100-year floodplain (FEMA, 1989).

Sixty miles of the San Pedro River, from the Mexican border to Tres Alamos, was listed in Arizona's 1998 Water Quality Limited Waters List (303(d) list). ADEQ identified fecal coliform, nitrates and turbidity as water quality stressors in this area (ADEQ 1998). However, the 17-mile reach from the Babocomari River to Dragoon Wash was de-listed in 2002 (ADEQ, 2002). The Babocomari River is not on the 303(d) list (ADEQ, 1998 and 2000).

The Wild and Scenic Rivers Act of 1968 designates selected rivers of the Nation which possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. These rivers are

to be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. According to the official list of Wild and Scenic Rivers, there are no designated Wild and Scenic Rivers within or in the vicinity of the project area (NPS(a), 2002).

Environmental Consequences

Alternatives 1, 2, and 3 are not expected to have any long-term adverse impacts on surface water quality in the United States or Republic of Mexico. In the short-term, construction of water supply and wastewater collection lines associated with Alternatives 2 and 3 may result in sediment discharges and increased suspended solids and turbidity downstream from construction activities. Best management practices (BMPs) (e.g., turbidity curtains, sediment traps, straw bales, etc.) and other mitigation measures (e.g., maintaining vegetated buffer zones between construction areas and waters of the U.S.) will be used to minimize erosion and sedimentation around construction areas. Sediment impacts, should they occur, will be temporary and are not expected to increase annual total suspended solid (TSS) loads over time. The current conditions would be expected to continue under Alternative 1.

In the long-term, direct, indirect, or cumulative impacts to surface water quantity of the United States are not expected from Alternatives 1, 2 or 3 because Huachuca City neither withdraws from nor discharges water to San Pedro River or any other Water of the United States. Furthermore, no substantial increase in groundwater use would occur as a result of the proposed or alternative actions (See the Groundwater Section below). Therefore, surface waters would not be affected indirectly by the proposed or alternative action. Alternatives 1, 2 and 3 would not result in impacts to surface water resources in Mexico because Huachuca City neither withdraws from nor discharges water to San Pedro River or any other river leading from or into Mexico.

Groundwater

Affected Environment

Huachuca City pumps groundwater from the Upper San Pedro Basin. The basin contains approximately 1,875 square miles and lies entirely within the Basin and Range physiographic province (ADWR, 2002). It consists of the northwest-trending San Pedro River Valley and the surrounding mountains. The Huachuca, Mustang, Whetstone, and Rincon Mountains form the basin's western boundary and the Mule, Dragoon, Little Dragoon, and Winchester Mountains form the eastern boundary. Groundwater movement in the basin is from the higher elevations in the mountains towards the valley and then northwest along the riverbed. The quality of groundwater in the Upper San Pedro basin generally is suitable for most uses (ADWR, 2002). Groundwater is discharged from the basin by pumpage from wells, evapotransportation from phreatophytes and crops, evaporation from open water in the riverbed, and discharge from springs and seeps (ADWR, 2002). Mountain-front recharge is the main source of recharge for the regional aquifer and streambed infiltration is the main source of recharge for the streambed alluvium in the San Pedro River floodplain (ADWR, 2002). The total amount of groundwater in storage in the Upper San Pedro basin is estimated to be 59 million acre-feet. (ADWR, 2002).

The water distribution system in Huachuca City is divided into three main areas or service zones (upper, middle and lower) due to the topography of the area and the various sources of supply. The water system serves the entire Huachuca City and an unincorporated subdivision (Babocomari Vista) in Cochise County.

Huachuca City receives its entire water supply from three underground wells. The well depths, static levels and well pump capacity are shown in Table 2.1-2. The La Sombre well is not used at the present time due to the presence of nitrates and a bad odor (Nolte, 2004).

The number of total connections in the system is approximately 767 (Nolte, 2002). Table 3.1-1 shows the monthly maximum, minimum, and average water consumption per capita in gallons per day for the years 2000 and 2001, and part of 2002. Water consumption per capita per year remained relatively constant.

Table 3.1-1
Maximum Month, Minimum Month and Average Water Consumption (gpcd)

YEAR	MAXIMUM MONTH	MINIMUM MONTH	ANNUAL AVERAGE
2000	220	91	136
2001	285	86	141
2002	219	23	132

Source: Nolte Associates, Inc., 2004.

Environmental Consequences

No changes are expected to occur under Alternative 1.

Alternatives 2 and 3 include the rehabilitation and expansion of the public water distribution system of Huachuca City. The addition of new pipes to the system would improve peak hour water pressure to some residents and businesses within the service area. However, no additional water use would occur. Required amounts of water would simply be available at non-peak flow rates during peak hour use. Therefore, the usage of groundwater from the residents of Huachuca City would remain unchanged and no impact to the groundwater resources of the Upper San Pedro basin would occur as a result of Alternative 2 or 3.

Alternatives 2 and 3 would not result in impacts to ground water resources in Mexico, since no additional pumping of groundwater would occur as a result of Alternatives 2 or 3.

3.2 Biological Environment

The biological environment includes the biotic or living components of the ecosystem present within the Project Area. Biotic components include vegetation; special aquatic sites such as wetlands; wildlife; and threatened, endangered, or other special status species. Descriptions of the affected environment and environmental consequences for each of these components are given below, based on the Biological Assessment for operations at Fort Huachuca, located directly to the southwest of Huachuca City (U.S. Army, 2002).

3.2.1 Vegetation and Wetlands

Affected Environment

The vegetation of the Huachuca City area is representative of the basin and range region of southeastern Arizona. Plant species composition and vegetation productivity is largely determined by rainfall distribution (as influenced by topography). At lower elevations within the San Pedro River Valley, xerophytic (adapted to life in dry environments) shrubs and grasses provide sparse vegetative cover, while on the moister slopes of the Huachuca Mountains, stands of trees and shrubs predominate (U.S. Army, 2002). The variety of vegetation present in the Huachuca City area ranges from shrublands, open grasslands, and mesquite-grass savannas of the lowlands, through the oak-grass savannas and oak woodlands of the foothills, to the pinyon-juniper and pine woodlands of upper elevations (U.S. Army, 2002).

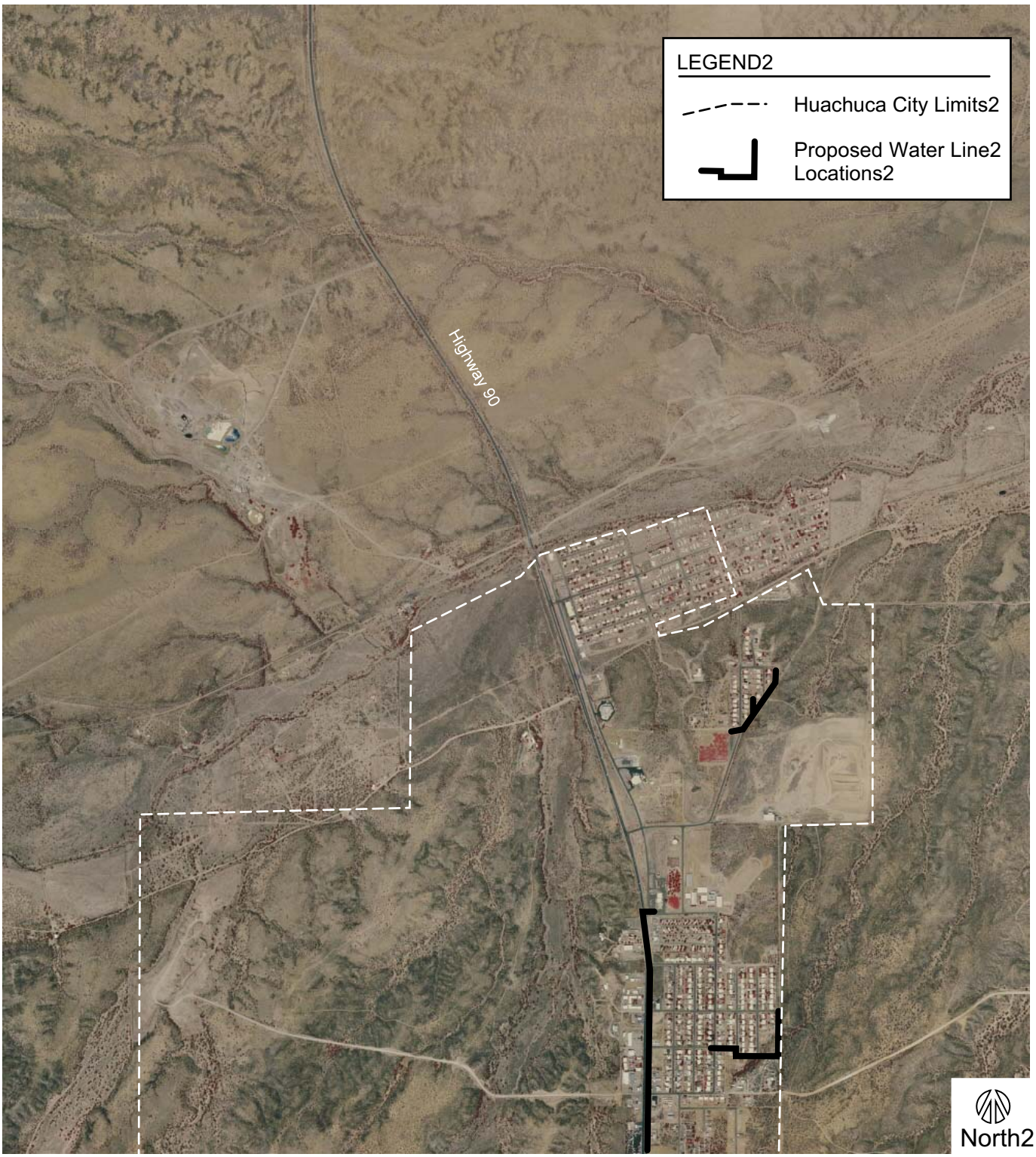
The present distribution and composition of vegetation in the region has been affected by a series of natural and human-caused disturbances. These include intense grazing until 1887, a major earthquake in 1887, fires and heavy rainfall following the earthquake, intermittent drought, woodcutting, continued moderate grazing, fire suppression, and troop training (U.S. Army, 2002). Large areas of semi-desert grassland have been invaded by velvet mesquite, *Prosopis velutina*, since the turn of the century.

Congress designated the San Pedro National Conservation Area (NCA) on November 18, 1988. This 40-mile stretch of land along the San Pedro River, located approximately 10 miles to the east of Huachuca City, preserves the desert riparian ecosystem. Under the stewardship of the Bureau of Land Management (BLM), the NCA contains more than 56,000 acres of public land in Cochise County, between the U.S.-Mexican border and St. David. The NCA supports more than 350 species of birds, 80+ species of mammals, two native and several introduced species of fish (Friends of the San Pedro River, 2002).

The U.S. Army Corps of Engineers (ACE) administers Section 404 of the Clean Water Act, governing the placement of dredged or fill materials into wetlands and other Waters of the U.S. Based on a review of U.S. Geologic Services (USGS) topographic maps, no potential wetland areas have been identified within the project area (developed Huachuca City). Relationships between locations of the Proposed Action, existing developed areas of Huachuca City, and areas containing native habitats are depicted in the 1996 aerial photo in Figure 3.2-1. A map showing 2002 developed land uses in Huachuca City is also provided under Land Use, Section 3.4 of this EA.

Environmental Consequences

All construction activities would take place entirely within dedicated alley, road or highway rights-of-way. The entire area directly affected by the proposed project consists of developed urban or suburban landscapes. Under these conditions, habitat for native species is typically degraded and where vegetation exists, it is often dominated by non-native plants, and noxious or other weedy species. Therefore, no impacts to native habitat would occur. No discharges to wetlands, floodplains, riparian areas or other Waters of the U.S. from activities associated with Alternatives 2 and 3 are proposed; therefore, there would be no impacts to these resources. Alternative 1 would maintain the current situation and therefore, would not produce any effects.



BASEMAP: U.S.G.S, 1996. SOURCE: BRG Consulting, Inc., 2002.2

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BRG CONSULTING, INC.2

Huachuca City Water Improvements EA2

1996 Aerial Photo, Huachuca City2 and Vicinity2

FIGURE 3.2-1

Alternatives 1, 2 and 3 are not expected to generate any transboundary impacts to vegetation and wetlands in Mexico, since all ground disturbance would occur in the United States in the areas, approximately 20 miles downstream and downwind of the border. Furthermore, no increase in groundwater use is anticipated as a result of the proposed or alternative actions.

3.2.2 Wildlife and Threatened and Endangered Species

Affected Environment

The significant wildlife diversity found in the areas surrounding Huachuca City is directly related to the habitat diversity in this region. The isolation of the Huachuca Mountains from the other mountain ranges in the area results in "mountain islands." These areas are known for their diversity of vegetation types, usually along an elevational gradient, and typically exhibit high degrees of species endemism. In addition, proximity to Mexico results in some wildlife species here that are not known to occur elsewhere in the US, or are more commonly associated with the tropics. As a result, southeastern Arizona possesses one of the greatest diversities of bird species of any similarly-sized region in North America (U.S. Army, 2002). More than 400 species occur here each year, and a total of almost 500 species have been recorded (U.S. Army, 2002). Another example of the diversity of the region is the 75 species of amphibians and reptiles that occur in the Huachuca Mountains and Upper San Pedro River (U.S. Army, 2002). Also, more than 180 species of butterfly have the potential to occur in various habitats throughout the general vicinity of Huachuca City. Information on species abundance and trends generally has not been collected by Fort Huachuca in recent years.

The area around Huachuca City has a very diverse population of mammals. Large mammals include Coues whitetailed deer (*Odocoileus virginianus couesi*), desert mule deer (*O. hemionus crooki*), pronghorn antelope (*Antilocapra americana*), collared peccary or javelina (*Tayassu tajacu*),mountain lion (*Felis concolor*), coati (*Nasua nasua*), and black bear (*Ursus americanus*). At least 14 species of bats occur in the area, many of which are Arizona species of special concern (U.S. Army, 2002).

The U.S. Army prepared a list of all federally listed, proposed and candidate species defined by the US Fish and Wildlife Service under the federal Endangered Species Act that have occurred or may have occurred historically, and those with potential habitat within Fort Huachuca (U.S. Army, 2002). This list is considered generally applicable to Huachuca City since it is located immediately adjacent to the Fort.

Endangered Species: *species that are in imminent jeopardy of extinction*
Canelo Hills Ladies' tresses (*Spiranthes delitescens*)
Huachuca water umbel (*Lilaeopsis schaffneriana*)
Southwestern willow flycatcher (*Empidonax traillii extimus*)
Cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*)
Northern aplomado falcon (*Falco femoralis septentrionalis*)
Whooping crane (*Grus americana*)
Lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*)
Jaguar (*Panthera onca*)
Ocelot (*Felis pardalis*)

Mexican gray wolf (*Canis lupus baileyi*)
Sonora tiger salamander (*Ambystoma tigrinum stebbinsi*)
Gila Topminnow (*Poeciliopsis occidentalis occidentalis*)
Desert pupfish (*Cyprinodon macularius*)
Razorback sucker (*Xyrauchen texanum*)

Threatened Species: *species that are in imminent jeopardy of becoming endangered*
Cochise pincushion cactus (*Coryphantha robbinsorum*) 6
Bald eagle (*Haliaeetus leucocephalus*)
Mexican spotted owl (*Strix occidentalis lucida*)
Chiricahua leopard frog (*Rana chiricahuensis*)
NM ridge-nosed rattlesnake (*Crotalus willardi obscurus*)
Loach Minnow (*Rhinichthys cobitis*)
Spikedace (*Meda fulgida*)

Candidate Species: *species for which there is sufficient information to support a proposal for listing under the ESA (formerly known as Category 1 candidates).*
Lemmon fleabane (*Erigeron lemmonii*)
Huachuca springsnail (*Pyrgulopsis thompsoni*)
Yellow-billed Cuckoo (*Coccyzus americanus*)
Black-tailed prairie dog (*Cynomys ludovicianus*)
Gila Chub (*Gila intermedia*)

Proposed Species: *species that are proposed for federal listing under Section 4 of the ESA*
Mountain plover (*Charadrius montanus*)

No documented occurrences of the aforementioned species were found in Huachuca City by a review of the Arizona Department of Fish's Heritage Data Management System. No species considered endangered by the Mexican authorities are located in the project area (EPA, 2001).

Environmental Consequences

Since the construction activities of the proposed project would occur within previously disturbed areas, there would be a minimal effect on wildlife and no effect on threatened and endangered species. Alternatives 2 and 3 involve construction and rehabilitation of water pipelines which could possibly affect some wildlife temporarily through noise and dust. The nature of the construction activities would be temporary and limited in extent. In addition, the proposed water lines would be installed entirely within dedicated alley, road or highway rights-of-way and as such, would limit impacts to listed wildlife species. Project laydown and staging areas would be limited to approximately 1/4 acre, located on an existing vacant lot containing no intact native habitat. There would be no effects on threatened or endangered species since these species or their critical habitat do not occur within the developed portions of Huachuca City where the Proposed Action is located. Alternative 1 would maintain current conditions and therefore, would not produce any additional effects.

No impacts to aquatic species are anticipated from any of the Alternatives.

Since there would be no impact to wildlife and threatened and endangered species in the U.S., and no Mexican endangered species are located in the area, Alternatives 1, 2 and 3 are not expected to generate transboundary impacts to wildlife and threatened and endangered species in Mexico.

3.3 Cultural Resources

Cultural resources are any prehistoric or historic district, site, or building, structure, or object considered important to a culture, subculture, or community for scientific, traditional, religious, or other purposes. They include archaeological resources (both prehistoric and historic), historic architectural resources, and traditional cultural resources. Only significant cultural resources (as defined in 36 CFR 60.4) are considered for potential adverse impacts from an action. Significant archaeological and architectural resources are either eligible for listing, or listed on, the National Register of Historic Places (NRHP). Significant traditional cultural resources are identified by Indian tribes or other groups, and may also be eligible for the NRHP.

Affected Environment

The San Pedro River Valley and its various tributaries contain evidence of human activity dating back to 11,000 A.D. including mammoth hunting sites and evidence of Hohokam culture habitation. The "modern" era of European contact and influence began with the arrival of the Spanish explorer Coronado, who led an expedition along the San Pedro River in 1540.

Prior to 1875, ranching was the primary activity in the Santa Cruz, Sonoita and San Pedro Valleys. By 1877, Apache attacks and raids from Mexican bandits had become such a constant threat that the U.S. Army Sixth Cavalry was dispatched to develop a presence in the vicinity to protect the settlers. For this reason, the Fort is included in the National Historic Landmarks Program (NHLP) with the National Register Number of 74000443 (NPS(b), 2002). Camp Huachuca was established at the mouth of Central Canyon at the foot of the Huachuca Mountains. In 1878, Camp Huachuca was designated as a permanent Army post and was renamed Fort Huachuca in 1882. As Fort Huachuca's presence provided a progressively more settled environment, miners, ranchers, farmers and merchants settled near the Fort. These settlements eventually developed into the City of Sierra Vista. In 1954, Fort Huachuca was selected as the permanent site of the Army's Electronic Proving Grounds and a period of intense construction and development followed.

The site of present-day Huachuca City was first known as Camp Stone Station and originated as a stop on the now-abandoned Southern Pacific Railroad between Patagonia and Tombstone. Huachuca City developed at this site and was incorporated by Cochise County on December 8, 1958. Huachuca City assumed its present municipal boundary on March 10, 1960 with the inclusion of the Huachuca Vista Annex subdivision.

A request for archaeological resource data was made to the State Historic Preservation Office (SHPO) and to the Arizona State Museum. No recorded archaeological sites were found within 50 feet of the project Area of Potential Effect (APE). However, Arizona Highway 90 has been in operation at its current location for more than 50 years, and is considered an historic resource. The Arizona SHPO reviewed the Draft EA document and, in a letter dated

July 19, 2004 and included in EA Appendix B, indicated that additional cultural resource research was required to comply with Section 106 of the National Historic Preservation Act. The Hopi Tribe also recommended a Class III archaeological survey of the proposed action. As a result, Archaeological Research Services (ARS) was retained to conduct such a survey, and did so in November 2004. The ARS report is attached to this EA as Appendix C, except for locations of known cultural resource sites (Figure 1) which is not included to protect cultural resource confidentiality. Figure 1 will be provided, if requested, to agencies engaged in cultural resource preservation.

ARS conducted research at four Arizona cultural resource data repositories regarding archaeological site files and archival data for locations within 0.5 mile (0.8 kilometer) of the proposed facilities. Ten previously-recorded archaeologic sites were identified within the study area, and documentation for seven previous archaeological investigations was found. However, none of these sites would be affected by the proposed facilities. In addition, the locations of three historic roads were found within the study area, but no surface manifestations now exist as a result of more recent development. Subsequently, ARS personnel conducted a Class III, non-collection, no disturbance cultural resources survey, resulting in 100 percent coverage of the ground surface along the proposed alignments. A single linear transect in the center of each alignment was surveyed. As a result of the survey along the proposed alignments, no prehistoric sites or artifacts were found, but State Route 90, a historic archaeological site, was documented. Although portions of the original State Route 90 alignment, which was constructed between 1940 and 1947, have been recommended as potentially eligible for inclusion in the National Register of Historic Places (NRHP), that is not the case for the portion adjacent to the proposed facilities. That section was constructed in 1966 on a different route than the original highway, and is considered a non-contributing element of the site's overall NRHP eligibility.

Tribes with cultural affiliations in the area were identified based on maps provided by the Arizona SHPO. These tribes included the Hopi, the Pascua Yaqui, the Tohono O'odham Nation, Gila River Reservation and the Ak-Chin Reservation. The US EPA contacted these tribes directly to determine if the proposed action may affect any traditional cultural resources known to them. The Hopi recommended preparation of a Class III survey, and requested a copy of such a survey if one was completed. The Tohono O'odham also requested a copy of the Class III survey. EPA will provide copies of the survey to the two tribes, as requested. No natural landmarks listed on the National Registry of Natural Landmarks were identified within or in the vicinity of the Project Area (NPS(c), 2002). Also, no designated historic sites from the NRHP were identified within the project APE (NPS(c), 2002).

Environmental Consequences

The nature of the project, under Alternatives 2 and 3, limits impacts to existing road or highway rights-of-way in urban areas, where cultural resources, if they had existed previously, were removed or disturbed by the road-building. No known cultural resource sites would be crossed by the proposed pipelines, based on research by the Arizona State Museum (ASM, 2002). Based on the archaeological survey, no known prehistoric or historic properties would incur adverse impacts as a result of the proposed action. However, it is important to note that if any previously undetected, unreported cultural features or deposits are encountered during project-related construction activities, these activities must be discontinued in the immediate area of the remains, and a professional archaeologist consulted to evaluate their nature and significance. This provision will be included as part of the construction documents for this project.

Historic Highway 90 would not be changed, since the new water lines would not be installed in the portion that is considered potentially historic. Furthermore, the lines would be installed in the unpaved shoulder parallel to the pavement and under it at two crossings using "bore and jack" (hydraulic drilling) technology. Existing conditions would continue under Alternative 1. Tribes with cultural affiliations in the project area have been contacted by the EPA, and the Hopi recommended that a Class III survey be undertaken. This was done, and no cultural resources were identified that would be affected by the proposed or alternative actions. Therefore, no significant effects to cultural resources are expected to occur through the implementation of any of the Alternatives.

Alternatives 2 and 3 would not result in any impacts to cultural resources in Mexico since all ground disturbance would occur in the United States. No ground disturbance would occur with Alternative 1.

3.4 Land Use and Infrastructure

Affected Environment

Huachuca City is located in the southeastern part of Arizona in Cochise County, along State Highway 90. The Town is 20 miles from the US-Mexican Border, 64 miles southeast of Tucson and 190 miles southeast of Phoenix. The Town is at an elevation of 4,245 feet, 15 miles south of Kartchner Caverns State Park. Huachuca City was incorporated in 1958 and has a mayor-council form of government. The United States Army's Fort Huachuca, located six miles south of town, economically and socially influences the town (WLB, 2002).

Due to its location, residential construction and retirement living have increased in recent years. Huachuca City's business district consists of retail businesses, restaurants, industrial properties and manufactured home businesses. Highway 90 forms the central commercial corridor, with the most intense commercial use found from the intersection of the highway with School Avenue southward to the Town's boundary with Sierra Vista. Huachuca City's proximity to the border and land availability makes it attractive for industrial and business development (Nolte, 2004).

Available housing in the area consists of single-family dwellings, apartments and mobile homes. The Town contains three distinct residential neighborhoods: Lower Huachuca to the north, Hillcrest/Skyline in the Town's northeast and Upper Huachuca in the Town's southeastern area. The east-central area of town includes the Town Hall, fire station-police station complex, park areas, the school campus and the lands committed to the recycling center and landfill. West of Highway 90, the land area is predominantly vacant, except for the gravel pit operation and some small areas of residential use (WLB, 2002). Existing land uses in Huachuca City as of 2002 are shown in Figure 3.4-1 (WLB, 2002).

The 40-acre Huachuca Commercial Center, providing improved commercial and industrial sites, is currently under construction. In addition, several new developments are under consideration in and near Huachuca City. However, according to Marilyn Slade, Town Manager, these projects are not expected to proceed with development for a year or more (pers. comm., Slade, Nov. 6, 2002). This information was confirmed by the Town Public Works Director, Billy McLain, in March 2004. These include two residential developments comprising a total of 1,000 dwelling units are located on the north side of the Town, one north of the Babocomari River east of Highway 90, and one in the

northwestern part of Town, west of Highway 90 (Nolte, 2004). Also, a 45-acre commercial and manufactured housing project has been proposed in the northeastern part of Town (pers. comm., Slade, Nov. 6, 2002).

Environmental Consequences

Water pipelines are public utilities and are generally considered to be consistent uses within local streets and alleys. Construction activities of Alternatives 2 and 3 could potentially interfere with access to uses, thereby creating adverse effects. However, due to the temporary nature of construction and proposed construction practices (i.e., the use of trench plating to maintain access and flagmen to control traffic), the impacts related to access would not be significant.

Nearly all construction associated with Alternatives 2 and 3 would occur entirely within dedicated road or highway rights-of-way adjacent to Highway 90 or existing residential uses, or within existing well sites. Therefore, existing or planned land uses in Huachuca City would not be affected by the implementation of the proposed project. The only exception would be along the connection between Highway 90 and Howard Street. There, the Town would obtain an easement for the line along property lines, within the parking lot for Antioch Baptist Church, thus avoiding disturbance of any existing or proposed structures. The Town would also obtain a permit from ADOT to cross under Highway 90 at two locations. No disturbance to the highway use would occur, since the water lines would be installed under the pavement by hydraulic drilling.

Kartchner Caverns State Park is located 15 miles to the north and would not be affected by the installation and enhancement of the water distribution system of Huachuca City. The proposed project would alleviate an existing problem with water pressure systems. The project facilities are sized based on water pressure requirements needed to fight fires. Furthermore, Nolte population projections used in the facility modeling are more conservative than the official Southeast Arizona Governments Organization (SEAGO) projections. For the year 2005, the SEAGO projection is a population of 2,152 people, and the Nolte projection is 1,849 people. The project would not induce population growth because it does not increase the water supply, or extend water service beyond areas that are already served.

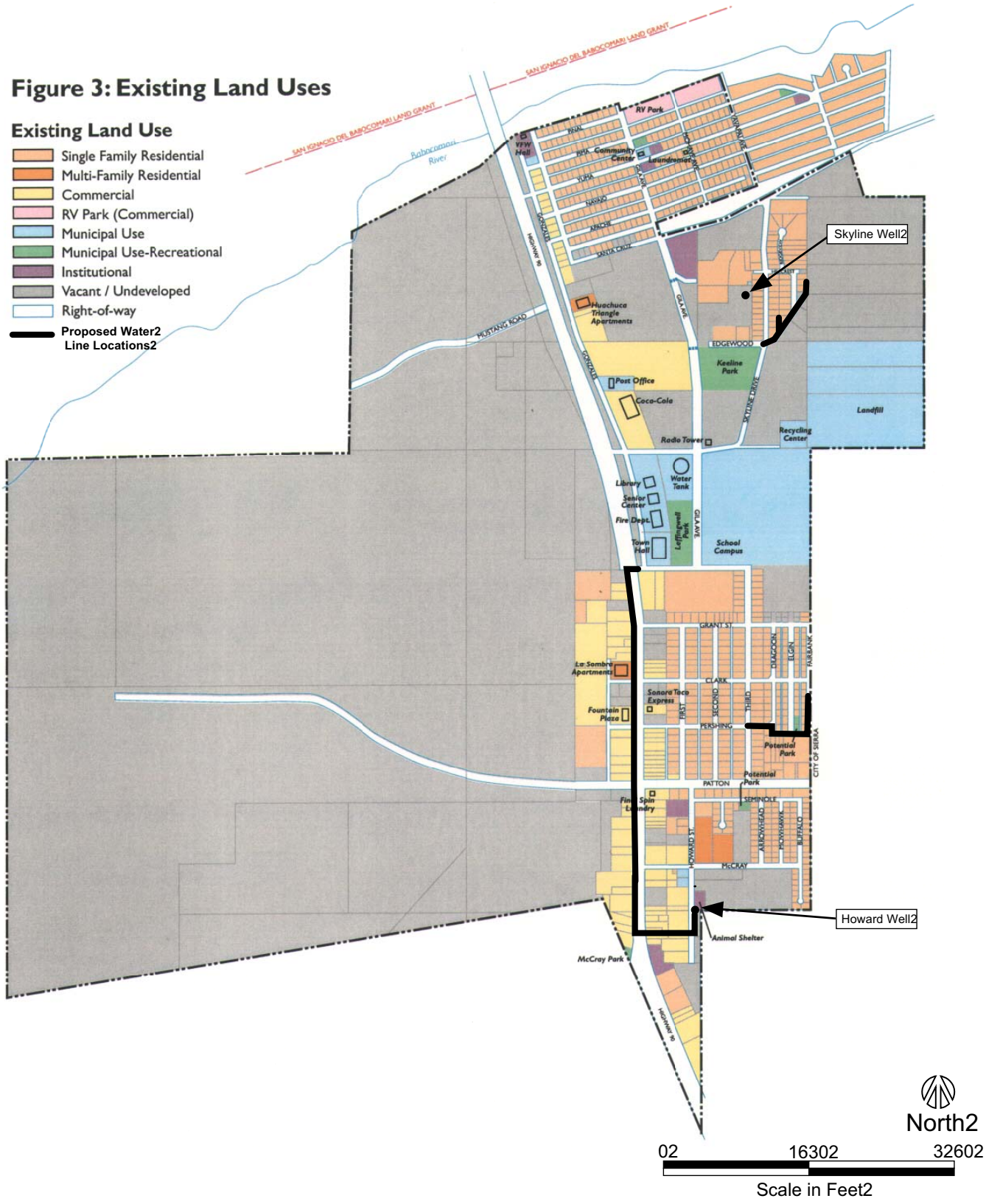
Under Alternative 1, land use and infrastructure would remain unchanged.

Alternatives 1, 2 and 3 are not expected to generate transboundary impacts to land use and infrastructure in Mexico, since all such changes are minor, and would occur in the U.S., approximately 20 miles from the international boundary.

3.5 Hazardous and Solid Waste

Affected Environment

A broad hazardous waste assessment of the communities associated with the proposed action was performed to define the potential for contamination to be encouraged during excavation associated with the alternatives. The first step was a search of EPA's Resource Conservation and Recovery Act (RCRA) Info. RCRA Info is a database of facilities known to generate or handle hazardous waste. This search identified two facilities in the Huachuca City.



SOURCE: The WLB Group, 2002.2

05/06/04

Huachuca City Water Improvements EA2

Existing Land Uses, Huachuca City, 2002

FIGURE 3.4-12

One facility located about 4 miles north of the project area is the Precision Machine Service, which has reported hazardous waste activities. The other facility is located about four miles north of the project area and is called the Granite Construction Company, which has reported multiple use activities.

The second step in the assessment was a search of EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). The CERCLIS system is another database. This database includes facilities and sites that have been subject to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) because of releases or other circumstances that present the potential for community impacts. CERCLA sites are often referred to as "Superfund" sites. The CERCLIS search did not identify any CERCLA Superfund sites in the Project Area.

The third step in the assessment was a preliminary review of the project area's land uses and their corresponding potential to present a risk for creating known or unknown contaminant deposits in area soils or contaminant plumes in local groundwater that might overlay existing or proposed water systems. Facilities of concern included, but not limited to, gasoline service stations, dry cleaners, auto repair facilities and other businesses that handle hazardous materials, but would not be included in the RCRIS or CERCLIS databases. In summary, like most communities, the project area is expected to include small, isolated locations where leaking tanks, faulty storage facilities, failing drainage systems or inappropriate practices have lead to soil and groundwater contamination. The possibility exists that existing pipelines or proposed pipelines may pass through these areas of contamination.

Environmental Consequences

Alternative 1 would not involve excavation, so hazardous materials that may be present in the environment would not be encountered and there would be no generation of solid wastes. Alternative 1 would not have any significant hazardous or solid waste impacts.

Alternatives 2 and 3 would involve installation of new pipes for the water system. The practices to be implemented in the event that contaminated soils or groundwater encountered during excavation are standardized by local, state, and federal regulations and procedures. Local government workers and any contractors hired to perform or oversee excavation would be trained to identify locations, site circumstances and soil and water characteristics that present the potential to create a hazardous materials issue. The protocol to be followed under specific conditions is understood and followed by workers in the field. This protocol includes a series of steps to be followed from contaminant verification through handling, storage, transportation and disposal of hazardous materials and wastes. Consultation with the appropriate governmental authorities is prescribed by local, state and federal regulations, and would be followed.

Given these practices, no significant risks to workers or environmental impacts would be expected to result. Liability for the costs associated with contaminants from adjacent land uses would be based on a variety of laws and regulations associated with hazardous materials and waste. In summary, the party responsible for the discharge of waste is liable for clean-up costs. These matters will require site specific investigations and negotiations. Because the closest known hazardous waste activity is four miles from the project area, it is not expected to generate any significant impacts to the project area. The proposed project would consist of digging and filling in a trench within the existing rights-of-way of Highway 90, and several Huachuca City streets and alleys. No substantial amounts of solid

waste would be generated. Because the project involves no work in Mexico and is located downstream and downwind from Mexico, no transboundary effects related to waste would occur.

3.6 Energy and Natural Resources

Affected Environment

Huachuca City purchases electricity from Sulphur Springs Valley Electric Cooperative (ADC, 1999). The electricity distribution system appears adequate for the City's current needs as no evidence of brownouts or other forms of power shortages was identified. Southwest Gas Corporation provides natural gas to the Town of Huachuca City (ADC, 1999).

Natural resource consumption at Huachuca City is anticipated to be similar to natural resource consumption in similar communities in the southwest. Water is the natural resource potentially affected by the Proposed Action. Water use in the Project Area is discussed in the Surface Water and Groundwater sections of this EA. The current pipeline system supplies water to existing homes and businesses, and to community fire hydrants for use in extinguishing fires. Water use in 2001 totaled 888,901 hcf (Nolte, 2004)

Environmental Consequences

The Proposed Action primarily consists of laying additional pipes underground, which would not cause any increase in electricity usage. In addition, two leaking hydropneumatic tanks would be replaced. None of the alternatives proposed for the project would result in any significant impacts on energy supplies or natural resources.

Alternatives 2 and 3 are proposed to help increase the water pressure in portions of the community. The increased pressure would bring peak-hour water pressure to levels present during non-peak periods. It would also provide adequate fire-fighting water flows. Thus, the Proposed Action would not increase the amount of water used, and would not induce population growth. If the Town's population were to grow, the community would need to identify additional water supplies, in accordance with existing laws and regulations.

3.7 Noise

Affected Environment

Proposed project pipelines are located in two residential areas, one between Skyline Drive and Hillcrest Street and the other between School Drive and McCray Street, and along the west side of Highway 90. No existing background sound level measurements were made for this study. However, according to Marilyn Slade, Town Manager, sound levels in the community are generally low (Slade, 2002). The community has no noise ordinance. It is expected that background sound levels are typical of small, rural communities and are influenced by: wind, traffic, occasional construction activities, and other common community noises. Given the anecdotal information on general sound levels, it is anticipated that typical daytime sound levels in residential areas range from 50-60 dB(A), and in commercial areas along Highway 90 would be in the 60 – 70 dB(A) range.

Environmental Consequences

Project construction would utilize skip loaders, haul trucks, and backhoes. An inventory of construction equipment noise reference levels is given in Table 3.7-1 based on actual field measurements taken over a period of time at various construction sites (Bricken, 1996 and BRG Inc., 2002).

TABLE 3.7-1
Construction Equipment Noise Generation Levels at 30 Feet From the Source

Equipment Type	Maximum Level (dbA)	Average Levels (dbA)
Skip Loader	78	75
Haul Truck	72	68
Backhoe	94	83

Source: Gordon Bricken and Associates, 1996; BRG Consulting, Inc., 2002.

None of the Alternatives would result in any long-term operational impacts. These would be no change in the overall operation of the water system, and the flow of water in the new underground pipes would not be perceptible to human ears.

Background noise levels would be elevated during construction activities associated with Alternatives 2 and 3. Construction noises on a linear project like this tend to be short in duration and concentrated around the immediate work area. Construction would be completed on approximately 200 to 300 feet per day (Nolte, 2002). Thus, no individual resident or business would be affected for more than a day or two. Replacement of the two tanks would take no more than two weeks of intermittent construction work for each (Nolte, 2004). Construction-related noise would be mitigated through the use of standard procedures such as specific, weekday hours of construction. Many municipalities regulate construction noise. Typical ordinances limit construction noise to between 7 a.m. to 7 p.m., with a sound level limit of 75 decibels at the residential property line (e.g., San Diego Municipal Code, 2002). Residents are most sensitive to noise after 7 p.m. and before 7 a.m. Alternative 1 would not impose any noise impacts due to construction, because no construction would occur.

Although construction noise impacts would occur for Alternatives 2 and 3, they would be temporary as a result of construction activities continually moving along the pipeline route, and would be further mitigated through adherence to a mitigation provision that all construction occur between the hours of 7:00 a.m. and 7:00 p.m. As mitigated, Alternatives 2 and 3 would result in no significant construction noise impacts.

3.8 Public Health and Safety

Affected Environment

Current health concerns are associated with low water pressures that occur in various parts of Huachuca City. Users in the area west of Highway 90 in the Upper Zone have complained of low pressures in their businesses and residences during periods of high demand, as low as six psi. Low pressures within a water distribution system

present the potential for water contamination due to infiltration or backflow of contaminated water into the system. This could result in an impact to human health for water users in the Town. Arizona Department of Environmental Quality water system guidelines require a potable water system to be designed to maintain a pressure of at least 20 psi at ground level at all points in the distribution system under all conditions of flow. This area has approximately 26 service connections. In addition, water flow and pressures available in that area are not adequate for fire protection. In the past, the fire department has closed Highway 90 to traffic and used fire hydrants east of the highway during emergencies. The low pressures and water flows are a result of the small diameter pipes installed along Highway 90. In addition, this portion is only connected to the main distribution system at one point (a 6-inch line along Clark St.), creating long runs that dead end to the north and south. With the current low water pressures, the town is under a serious risk of fires that would be very difficult to extinguish, given the current water conditions. The Huachuca City Fire Marshal requires a fire flow of 2,500-gpm for the commercial area west of Highway 90 and 1,500-gpm for residential areas.

Environmental Consequences

Alternative 1 would result in a continuation of public health and safety concerns within the Project Area. Without proper water pressure, the Town would always be at a high risk of water system contamination and of fires. Alternative 3 would meet peak hour flow requirements, but would not have adequate fire flow pressure. Therefore, Alternative 3 could result in significant impacts to public health and safety, because the Town would not have enough water pressure to fight fires effectively. However, Alternative 2 would be beneficial to the Town and to the safety of all individuals living in Huachuca City by meeting both peak hour flow and fire flow requirements.

Construction of Alternatives 2 and 3 may create traffic safety issues where trenching work is adjacent to street or highway travel ways. Such potential safety impacts shall be mitigated by preparation and submittal of a traffic safety plan, to the satisfaction of Arizona Department of Transportation. Thus, the project's construction would be consistent with all regulations and procedures under the Arizona Department of Transportation (ADOT's) safety and health section, which protects the safety and health of both workers and residents. With mitigation, neither Alternative 2 nor Alternative 3 would impose any significant adverse impacts to public health and safety.

None of the alternatives would result in changes to the Town's water supply sources or to its treatment. The same water supply would be used for all three alternatives. The only difference would be the diameter, water-carrying capacity, and water pressure of the water system pipes. As discussed above, the existing low-pressure situation increases the potential for water system contamination and disease. Alternatives 2 and 3 would avoid this problem. Therefore under Alternative 2 and 3, there would be an improvement to the water supply regarding the potential for waterborne diseases. Standard watering procedures for construction areas, as described in the air quality section of this EA, would serve to minimize both the dissemination of project-related dust, and the spread of any disease organisms that might be present in the soil. Therefore, Alternatives 2 and 3 would not result in increased risks to human health through disease.

3.9 Population and Economics

Affected Environment

Huachuca City began as a stop on the now-abandoned Southern Pacific Railroad between Tombstone and Patagonia, and was incorporated in 1958. Huachuca City's economy is closely tied to the U.S. Army's Fort Huachuca, headquarters for the Army's Information Systems Command, Intelligence Center and School, Electronic Proving Ground and Communications Electronic Installation Agency. At 20 miles from Mexico's border, the town has potential for development under the twin plant industrial concept where manufacturing facilities are sited in northern Mexico and paired with distribution facilities in the southern U.S. The 40-acre Huachuca Commercial Center (for improved industrial/commercial sites) is being constructed. Numerous scenic attractions can be found in surrounding Cochise County and in northern Mexico.

As of the 2000 Census, Huachuca City maintained a population of 1,751; a net decrease of 31 inhabitants from the Census of 1990. Projections from the coming 30-year period illustrate continued growth for Huachuca City according to the Arizona Department of Economic Security (ADES) official projections. A second set of projections illustrates potential growth based on the growth rate recorded from 1970 to 2000. Regional trends for Cochise County projects continued population growth (see Table 3.9-1). The unemployment rate in 1999 for Huachuca City was 7.3 percent, for Cochise County was 5.3 percent, and Arizona was 5.9 percent. The median family income in 1999 for Huachuca City was $33,938, compared with $38,005 for all of Cochise County, and $46,723 for Arizona (U.S. Census Bureau 2000). Development of several residential and commercial projects are anticipated over the next few years, as discussed under Section 3.4 of this EA.

TABLE 3.9-1
Past Population and Future Projections for Huachuca City and Cochise County

	1970	1980	1990	2000	2005	2010	2015	2020	2025	2030
Huachuca City (DES)	1,241	1,661	1,782	1,751	2,152	2,229	2,298	2,362	2,419	2,469
Huachuca City (based on 1970-2000 growth rate)	1,241	1,661	1,782	1,751	1,938	2,021	2,104	2,186	2,269	2,351
Cochise County	61,918	85,686	97,625	117,755	129,580	137,775	143,793	149,990	155,429	160,049

Source: US Census Bureau (for 1970-2000 data); Arizona Department of Economic Security (for 2005-2030 period).

Environmental Consequences

Alternative 1 may affect population and economic development adversely because of continued low water pressure (unattractive to potential business interests) and because of the effect of low water pressure on local fire insurance rates. However, Alternatives 2 and 3 may also have an impact on the economics of Huachuca City. This would be dependent on the total cost of the project allocated to the Town, and on how the Town decides to pay for the project. If they decide to have residents pay for the project, then this could pose an economic impact to some households because Huachuca City, as discussed in the environmental justice section, contains a high percentage of low-income

families. However, since repayment amounts and terms have not yet been determined by BECC, based on an affordability analysis by NADBank, and since the Town has not yet determined how to allocate project costs to its water rate payers, further discussion of such issues is considered too speculative at this time.

3.10 Environmental Justice

Affected Environment

A baseline Environmental Justice (EJ) screening process was used to identify minority or low-income communities within the Project Area. Preliminary screening of potential EJ issues is based on two general statistics. First, the screening process is used to ascertain whether the minority population percentage in the affected area is either greater than 5 percent or meaningfully greater than the minority percentage in the general population of the county and state. The concept of race is used by the Census Bureau reflects self-identification by people according to the race with which they most clearly identify (U.S. Census Bureau, 1990). Second low-income populations are identified using either Department of Health and Human Services (HHS) poverty guidelines or the Department of Housing and Urban Development (HUD) statutory definition of very low-income for the purposes of housing benefits (EPA 1997b). The percentage of impoverished people in the affected area is compared with the percentage of people living below the poverty limit in the general population to determine if a significant difference exists. According to the Arizona Department of Economic Security (ADES) Census 2000 report, Huachuca City had a lower proportion of its population that were minority than the County of Cochise or the State of Arizona. However, Huachuca City did have a higher percentage of population with low-income than the County of Cochise and the State of Arizona. This means that the EJ issue within the project area must be considered (see Table 3.10-1).

TABLE 3.10-1
Poverty and Minority Status in 1999 for Arizona, Cochise County, and Huachuca City

Designated Place	% Population With Income Below Poverty	%Minorities
Arizona	13.9	36.2
Cochise County	17.7	39.9
Huachuca City	19.3	31.5

Source: Census 2000 Summary File 3

Environmental Consequences

Alternatives 2 and 3 have a potential for EJ impacts. However, as demonstrated elsewhere in this document, there would not be any environmental impact upon these individuals except for temporary impacts to access, noise, and air quality, which would be mitigated to a less than significant level. Also, the proposed improvements are designed to serve Huachuca City and will not benefit other higher-income or lower-minority populations. Therefore, there would be no significant impacts related to the environmental justice issue for Alternatives 2 and 3. Alternative 1 would be a continuation of current practices where the population would continue to experience substandard water service.

3.11 Cumulative Impacts and Other Environmental Issues Considered

3.11.1 Cumulative Impacts

NEPA Sec. 1508.7 states that "A cumulative impact is 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. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

Cumulative impacts of Alternative 2 and 3 have been analyzed for all topics included in Section 3 of this EA. As discussed there, potential impacts include temporary construction impacts relative to air quality, noise, and traffic safety issues. However, these potential impacts would be mitigated to a level less than significant by implementation of the mitigation measures listed in within appropriate sections of Section 3. Furthermore, because the part of the project associated with the installation water pipes is a linear one, project impacts would be brief (one to two days) at any one location. As explained in Section 3.8, Alternative 1 would not change the current conditions and would continue to pose an impact to public safety.

According to Billy McLain, Public Works Director, the only development project expected to proceed in Huachuca City in 2004 is a warehouse on the west side of the highway, southwest of the Town Hall. No other new development projects are proposed in the next year within Huachuca City (McLain, March 9, 2004). The town limits were chosen as an appropriate boundary within which to address potential cumulative impacts given the temporary nature of most project impacts and the localized nature of the adverse effects. Two residential projects in the northern and western parts of the community have been discussed, but no formal plans have been completed or submitted. Given the lack of specifics available at this time, any environmental analysis would be highly speculative. Based on the type of impacts identified, the short term nature of the impacts, and the lack of project proximity to any other major concurrent development project in the area, no significant cumulative impacts are expected as a result of Proposed Action implementation.

3.11.2 Significant Unavoidable Adverse Impacts

There are no significant unavoidable adverse impacts associated with the construction or operation of the Proposed Action. All potentially significant impacts such as those associated with air quality, biological resources, geology/soils, water quality, and traffic safety would either be less than significant due to absence of sensitive resources, be mitigated to less than a level of significance as a result of implementation of the listed mitigation measures or would be avoided through compliance with applicable regulations.

3.11.3 Relationship Between Local, Short-Term Use of the Environment and the Maintenance/Enhancement of Long Term Beneficial Uses

Short-term uses of the environment associated with the Proposed Action include project construction disturbances such as construction noise, dust and access restrictions. Implementation of the Proposed Action would increase the water pressure in several portions of the water system, and thereby increase the effectiveness of firefighting. In addition, low peak-hour water pressure for residential and commercial use would be corrected as well. With incorporation of the recommended mitigation measures, the proposed action would have no significant short-term or long-term direct, indirect, or cumulative environmental impacts. The sites for the proposed pipelines are within existing rights-of-way for alleys, streets and highways within Huachuca City. As such, they are already disturbed, and contain no sensitive environmental resources. Therefore, the Proposed Action would cause no adverse change in the maintenance of long-term beneficial uses of the environment in the project area.

3.11.4 Irreversible and Irretrievable Commitment of Resources

Approval of the Proposed Action would result in a short-term irreversible and irretrievable commitments of energy and other resources associated with pipeline construction, including metals, lumber and forest products, concrete, sand and gravel, asphalt, petrochemicals, and other construction materials. However, there would be no long-term commitment of resources as a result of operation of the Proposed Action. The water system would not require any additional resources or energy to operate following Proposed Action construction.

4.0 Consultation and Coordination

4.1 List of Preparers

This Environmental Assessment Report was prepared for the Town of Huachuca City and the Border Environmental Cooperation Commission by BRG Consulting, Inc., at 304 Ivy Street, San Diego, California 92101. The following persons participated in its preparation:

BRG Consulting, Inc.

Erich R. Lathers, President and Principal in Charge
Ralph C. Kingery, Project Manager
Patrick J. Zabrocki, Planner II
Kathie D. Wilkerson, Planner II
Mary E. Brady, Production Manager
Edward Arcadia, Graphics
Mettja Hong, Graphics

Carl Sepponen and Julian Palacios, Nolte Associates (provided project description information)

4.2 Agencies and Persons Contacted

During the preparation of this EA, the following individuals and organizations were contacted regarding current conditions, potential environmental impacts, and project information.

Bilsbarrow, 2005

Personal Communication with Matthew Bilsbarrow, State Historic Preservation Office, January 13, 2005.

Bilsbarrow, 2004

Personal Communication with Matthew Bilsbarrow, State Historic Preservation Office, August 2, 2004.

Camp, 2002

Personal Communication with Philip Camp, State Soils Scientist, U.S.D.A., Natural Resources Conservation Service. October 17, 2002.

Griffith, 2002

Personal Communication with Carol Griffith, Deputy SHPO, Arizona State Parks Dept., November 5, 2002.

Hulsey, 2002

Personal Communication with Charles Hulsey, Project Manager, WLB Group. October 2002.

Karl, 2002

Personal Communication with Rick Karl, AZSITE database, Arizona State Museum, November 8, 2002.

McLain, 2004

Personal Communication with Billy McLain, Public Works Director, Town of Huachuca City, March 9, 2004.

Slade, 2002

Personal communication with Marilyn Slade, Town Manager, November 6, 2002.

4.3 Organizations to Which Copies of the Draft EA Were Mailed for Review and Comment

Border Environment Cooperation Commission (BECC/COCEF)
U.S. Environmental Protection Agency
U.S. Department of Agriculture, Rural Development
U.S. Army Corps of Engineers
U.S. Federal Emergency Management Agency
U.S. Fish and Wildlife Service
Arizona Department of Environmental Quality
Arizona Department of Transportation
Arizona State Historic Preservation Office
Cochise County, Arizona, Planning Department
Cochise County Arizona, Highway and Floodplain Department

Comments from BECC and from EPA have already been obtained and incorporated into this draft document. EPA sent letters to Native American groups with cultural affiliations in the area based on maps provided by the Arizona SHPO, including the Hopi, the Pascua Yaqui, the Tohono O'odham Nation, Gila River Reservation and the Ak-Chin Reservation. The Hopi Tribe recommended that a Class III archaeological survey be conducted in the locations for the proposed facilities. This was done, as is discussed in Sections 3.3 and 4.4 of this EA.

Comments from the other agencies listed have been solicited directly. In addition, a public notice was published in the July 1, 2004 Sierra Vista Herald describing the proposed project, anticipated impacts, proposed mitigation measures, and contact persons for additional information. Three comment letters were received from the Cochise County Highway and Floodplain Department; from the U.S. Federal Emergency Management Agency (FEMA), and from the Arizona State Historic Preservation Office. The comment letters are reproduced in Appendix B of this document, along with the distribution list for the Draft EA, and a copy of the newspaper notice. All comments received have been addressed in Section 4.4 below.

4.4 Responses to Comments

The Cochise County letter of July 15, 2004 included no comments on the project itself. However, it did note that any construction to be done in a County ROW or floodplain requires an appropriate permit. The project will comply with that condition.

The FEMA letter of July 16, 2004, made no specific comments about the proposed project. Rather, it listed requirements for projects proposed within various types of flood areas. The EA addresses potential flood issues on pages 18 and 19. A copy of the Flood Insurance Rate Map (FIRM) for the project area is provided in EA Appendix A, which shows that none of the project components would be located within areas of potential flooding. The project will comply with all applicable FEMA flood regulations, but most are anticipated to be non-applicable due to the project setting.

The letter of July 19, 2004 from the Arizona State Historic Preservation Office requested additional information in order for their office to accept the submitted EA as being in compliance with requirements for consultation under Section 106 of the National Historic Preservation Act. On July 30, 2004, BRG Consulting, Inc. provided additional information in a letter to the Arizona SHPO regarding cultural resources studies conducted for the project. As stated in the Assessment, page 25, BRG contacted the Arizona SHPO office in November 2002 regarding potential cultural resources in the vicinity, and were provided with a list of tribes with cultural affiliations in the area. Those tribes have been identified in the EA (pages 25-26), and were contacted by the US EPA relative to the proposed project.

BRG was also referred at that time to the Arizona State Museum for information about specific sites that might be in the area. BRG personnel talked with Rick Karl at the State Museum, who provided BRG with a cultural resources (AZSITE) map of the project vicinity, and the statement that "no cultural resources are recorded in AZSITE within the project area you specified." According to the map, the nearest sites are no closer than 400 meters from the proposed water line locations. BRG also checked with the National Park Service regarding the location of sites on the National Register of Historic Places, and found none that would be affected by the proposed water lines. Given that

information, and the fact that the proposed water lines would be located within disturbed areas within existing road rights-of-way, led us to conclude that the project would result in no significant effects to cultural resources.

Based on a telephone conversation on August 2, 2004 with Matthew Bilsbarrow of the SHPO office, the remaining issue regarding Section 106 compliance was consultation with the tribes having cultural affiliations in the project area. The U.S. EPA contacted the tribes identified, and requested their input regarding whether any cultural resources important to those tribes would be affected by the proposed project. The only response received was from the Hopi Tribe, who recommended that a Class III survey be done where the facilities are proposed, and requested a copy of the survey report when completed. The Tohono O'odham also requested a copy of the report by email to EPA. A copy of the Hopi letter to EPA is included in Appendix B, along with the letters of other agencies.

Based on input from the Arizona SHPO, and from the Hopi Tribe, the firm Archaeological Research Services, Inc. was retained to conduct both site file research and a Class III survey along the alignments proposed for the water system improvements. This work was completed and documented in November 2004, and, as described in Section 3.3 and Appendix C of this EA, no known prehistoric or historic resources were found at the project sites, or would be affected by the proposed action. A project condition will be implemented, that if any previously undetected, unreported cultural features or deposits are encountered during project-related construction activities, these activities must be discontinued in the immediate area of the remains, and a professional archaeologist consulted to evaluate their nature and significance.

Therefore, no significant impact to archaeological, historic or tribal cultural resources is anticipated as a result of the proposed project.

5.0 REFERENCES

Archaeological Research Services, Inc., 2004

Archaeological Research Services, Inc. *A Class III Cultural Resources Survey of the Existing Municipal Water Distribution System and Proposed New Alignments in Huachuca City, Cochise County, Arizona November 16, 2004. (See Appendix C of this EA).*

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WLB, 2002

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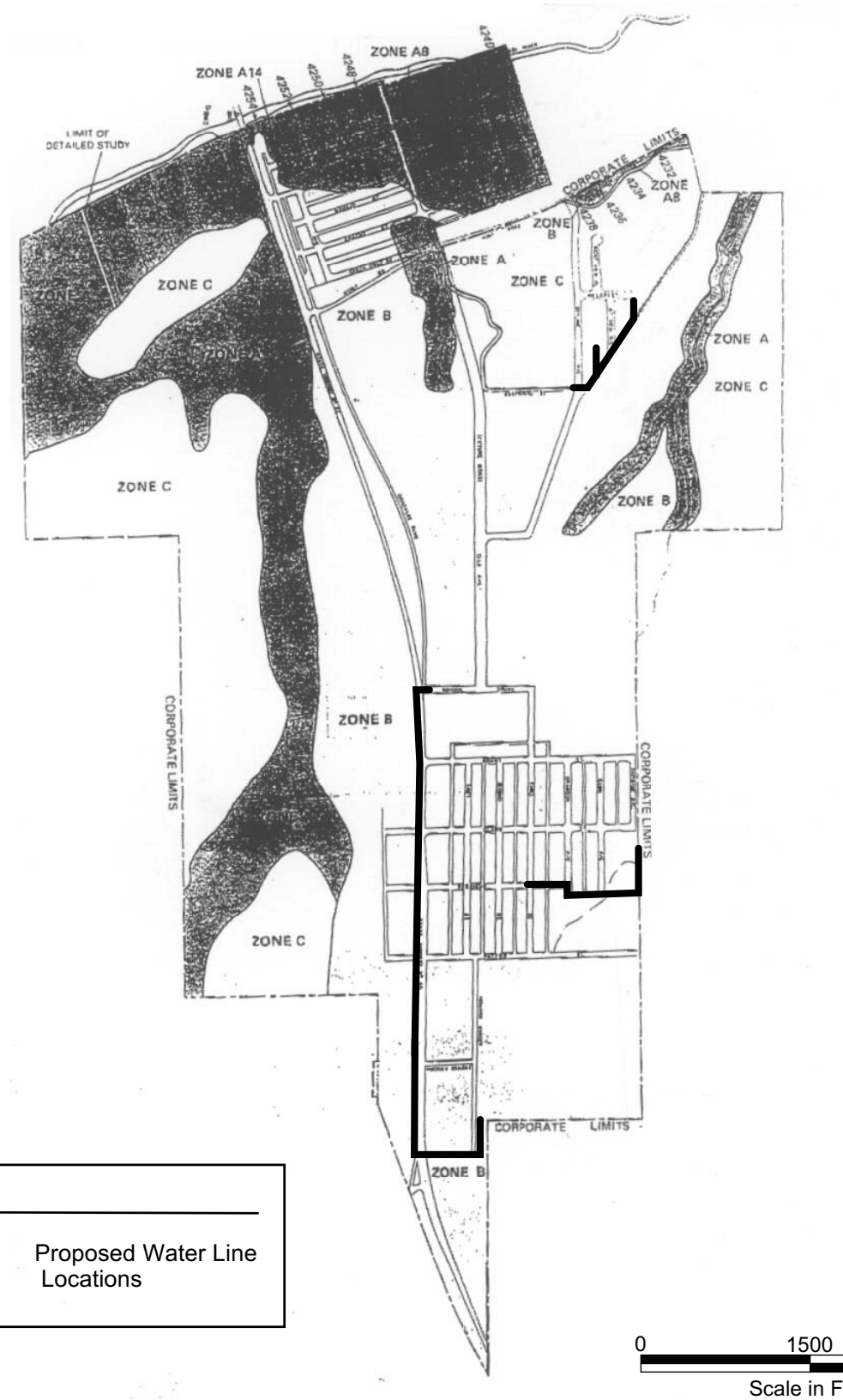
Appendix A. Flood Insurance Rate Map, Huachuca City, Arizona



SOURCE: FEMA, 1989.

05/06/04

BRG CONSULTING, INC.

Huachuca City Water Improvements EA

Flood Hazard Zones, Huachuca City, Arizona

FIGURE

A-1

Appendix B. Distribution List, Newspaper Notice, and Comment Letters Received on Draft EA

DISTRIBUTION LIST, HUACHUCA CITY WATER SYSTEM IMPROVEMENTS EA

State of Arizona Agencies

Arizona Dept. of Transportation
206 S. 17th Avenue, Mail Drop 101A Room 135
Phoenix, Arizona 85007

Ms. Linda Taunt, Manager – Water Quality Section
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, AZ 85001

(602) 771-4665

James Garrison, Arizona State Historic Preservation Officer
Arizona State Parks Dept.
1300 W. Washington Street
Phoenix, Arizona 85007

(602) 542-4009

Cochise County Agencies

James E. Vlahovich, Director
Cochise County Planning Department
1450 Melody Lane, Bldg. E
Bisbee, AZ 85603

(520) 432-9240
fax (520) 432-9278

Allon Owens, PE, Director
Cochise County Highway and Floodplain Dept.
1450 Melody Lane
Bisbee, AZ 85603

(520) 432-9300

U.S. Federal Agencies

U.S. Fish & Wildlife Service
ARIZONA ECOLOGICAL SERVICES FIELD OFFICE
2321 WEST ROYAL PALM ROAD, SUITE 103
PHOENIX, ARIZONA 85021-4915

Telephone: 602 242-0210
FAX: 602 242-2513

FEMA, Region IX
1111 Broadway, Suite 1200
Oakland, CA 94607

(510) 627-7100

USACE, Los Angeles District
915 Wilshire Blvd. Suite 980
Los Angeles, CA 90017

213-452-3425

USDA Rural Development
Bob Jones, Rural Development Manager
658 North Bisbee Avenue
Willcox, AZ 85643

Phone: (520) 384-3529 (Extension 4)
Fax: (520) 384-2735

STATE OF ARIZONA)
:ss.
COUNTY OF COCHISE)

PUBLIC NOTICE

DRAFT ENVIRONMENTAL ASSESSMENT (EA), TOWN OF HUACHUCA CITY WATER SYSTEM IMPROVEMENTS

An Environmental Assessment has been prepared for the subject project in accordance with National Environmental Quality Act requirements, as directed and reviewed by representatives of the Border Environmental Cooperation Commission (BECC/COCEF) and the U.S. Environmental Protection Agency (EPA). Copies of the EA document are available for review at the Town of Huachuca City offices, 500 North Gonzales Boulevard, Huachuca City, Arizona, 85616. We request that you provide any comments that you wish to make on this proposed project in writing to the Town by July 19, 2004.

The Proposed Action, would allow Huachuca City to rehabilitate and replace its potable water distribution lines consistent with the recommendations presented in the Feasibility Analysis Report, Huachuca City, Arizona, Water Distribution System Improvements (Nolte Associates, 2004). A new eight-inch water line would be installed on the west side of the Highway 90, adjacent to the existing smaller lines. The proposed system improvements include:

- A new eight-inch diameter pipeline west of Highway 90 connected to the 12-inch line east of the highway by two eight-inch crossings under the highway.
- Connection of dead ends on Pershing Street and on an alley off Clark Street to create a stronger looped system in the Upper Zone.
- Connection of dead ends on Mountain View Avenue and adjacent alley to create a stronger looped system in the Middle Zone.
- Replacement of two leaking 4,800-gallon hydropneumatic tanks at Skyline and Howard Wells.
- Addition of two pressure zone control valves at the Cochise well and the storage tank.
- Addition of controls, monitoring and reporting devices to the control network at the booster station and well sites.
- Replacement of existing discharge piping at the well sites.

The new water lines would be installed in trenches three to four feet deep, and located within alley, street or highway right-of-way. The only exception would be the connection between Highway 90 and Howard Street, just south of Howard Well. That connection would be placed in a proposed new easement adjacent to the property line of an existing church. Approximately 200 to 300 feet of water line would be installed per day. Trenches would be backfilled or covered with metal plates to allow access by adjacent residences and businesses during construction. A permit would be obtained from ADOT for crossing Highway 90. One equipment staging/material laydown area, approximately 100 feet by 100 feet would be required. The staging/material laydown area would be located on any available existing vacant lot in town containing no native habitat.

No significant environmental impacts associated with the proposed project were identified under the topics of climate, visibility, odor, geology, water quantity, groundwater quality, biological habitats, native wildlife, threatened and endangered species, wetlands, historic resources, archaeological resources, land use, induced growth, energy use, solid waste, public health, environmental justice, cumulative impacts, or transboundary effects. Potentially significant impacts were identified regarding air quality (dust), erosion/sedimentation of soils, water quality, land use access, hazardous materials, construction noise, and traffic safety. However, all of these potential impacts would be reduced to less than significant through use of standard mitigation measures, including regular watering of the construction area to suppress dust; use of water quality Best Management Practices (BMPs) to minimize potential erosion, sedimentation and water quality impacts; the use of trench plating and flagmen to maintain access to adjacent properties; preparation of ADOT approval of a traffic safety plan for the project; restriction of construction activities to daylight hours; and implementation of standard, approved procedures to avoid hazardous materials that might be encountered in trenching, and how to handle them if such materials are encountered.

If you have any questions about this project, contact Billy McLain, Town of Huachuca City Public Works Director, at (520) 456-1354. Questions about the environmental analysis or document should be directed to Ralph Kingery, BRG Consulting, Inc., Project Manager, at (619) 298-7127, or by email at ralph@brginc.net.

PUBLISH: July 1, 2004

AFFIDAVIT OF PUBLICATION

KIMBERLY L. HICKS being first duly sworn, deposes and says: That (he) (she) is the Agent to the Publisher of the SIERRA VISTA HERALD and the BISBEE DAILY REVIEW newspapers printed and published six days a week in the County of Cochise, State of Arizona, and of general circulation in the cities of Sierra Vista and Bisbee, County of Cochise, State of Arizona and elsewhere, and thehereto attached

DRAFT ENVIRONMENTAL ASSESSMENT (EA) TOWN OF HUACHUCA CITY WATER SYSTEM IMPROV-MENTS

was printed and published correctly in the regular and entire issue of said SIERRA VISTA HERALD and BISBEE DAILY REVIEW for 1 issues, that the first was made on the 1st day of JULY 20 04 and the last publication thereof was made on the 1st day of JULY 20 04 that said publication was made on each of the following dates, to wit:

07/01/04

Request of

HUACHUCA CITY TOWN OF

Sierra Vista Herald
Bisbee Daily Review

By

Subscribed sworn to before me this 1st day of JULY 20 04

JOAN HANCOCK
Notary Public - Arizona
Cochise County
My Comm. Expires May 21, 2008

Notary Public in and for the County of Cochise, Sate of Arizona

My Commission Expires:

5/21/08

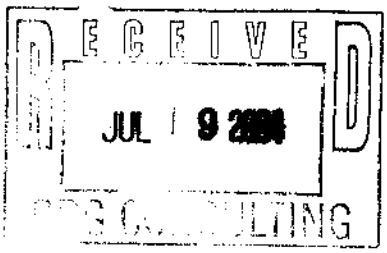
Telephone: (520) 432-9300
Fax: (520) 432-9337

Toll Free: 1-800-752-3745

COCHISE COUNTY

HIGHWAY AND FLOODPLAIN DEPARTMENT

1415 W. MELODY LANE, BISBEE, AZ 85603



July 15, 2004

BRG Consulting, Inc.
304 Ivy Street
San Diego, CA 92101-2030

Attn: Mr. Ralph Kingery

Dear Mr. Kingery,

This letter is to follow up with your request for comments on the Draft Environmental Assessment for the proposed Town of Huachuca City Water Distribution System Improvements, June 2004.

The Cochise County Highway and Floodplain Department does not have any comments on this proposal. However, any construction conducted within a County right-of-way or floodplain, requires an appropriate permit obtained from this department. Copies of those applications are included for you use.

Should there be further questions, please contract us at 520-432-9300.

Sincerely,

Shon Brady

Shon Brady
Hydrologist

enclosures

MAIL APPLICATION TO:

COCHISE COUNTY FLOOD CONTROL DISTRICT
1415 WEST MELODY LANE, BUILDING "B"
BISBEE, ARIZONA 85603

FLOODPLAIN USE PERMIT APPLICATION: NON-RESIDENTIAL

THE UNDERSIGNED HEREWITH APPLICATION FOR A PERMIT TO ENTER UPON A PORTION OF THE 100-YEAR FLOODPLAIN WITHIN COCHISE COUNTY, ARIZONA ON PROPERTY DESCRIBED IN THIS APPLICATION. FOR AND IN CONSIDERATION OF THE GRANTING OF A PERMIT FOR THE PURPOSE SET FORTH HEREIN THE APPLICANT HEREBY AGREES TO COMPLY WITH ALL CONDITIONS AND RESTRICTIONS AS STATED IN COCHISE COUNTY FLOODPLAIN MANAGEMENT REGULATIONS DATED JULY 30, 1984, REVISED REGULATIONS MAY 28, 1987 AS AMENDED, ALSO, ANY AND SPECIAL CONDITIONS AND/OR RESTRICTIONS THAT THE COCHISE COUNTY FLOODPLAIN BOARD MAY REQUIRE.

NAME OF APPLICANT: _____

MAILING ADDRESS OF APPLICANT: _____

TELEPHONE NUMBER: _____

NAME OF COMPANY: _____

PROPERTY OWNER & ADDRESS: _____

ADDRESS OR LOCATION OF PROJECT: _____

CONTRACTOR'S NAME AND ADDRESS (IF APPLICABLE): _____

PHONE: _____ LICENSE NO.: _____

ASSESSOR'S TAX PARCEL NO.: _____

LEGAL DESCRIPTION: _____

_____1/4 _____1/4 SECTION: _____ TOWNSHIP: _____ RANGE: _____

SUBDIVISION: _____

PROPOSED USE (TYPE OF CONSTRUCTION): _____

COMMERCIAL: _____ UTILITY: _____ SAND & GRAVEL OPERATION: _____

OTHER (PLEASE LIST): _____

WHAT TYPE OF OTHER CONSTRUCTION ACTIVITIES ARE INVOLVED? _____

_____

A. PLEASE ANSWER THE FOLLOWING QUESTIONS: YES OR NO.

1. WILL THE PROPERTY BE FENCED? _____

2. WILL THE EXCAVATION OF SAND, GRAVEL, OR OTHER MATERIALS TAKE PLACE ON THE PROPERTY? _____ IF YES, LIST QUANTITIES OF EACH MATERIAL FOR PROJECTED YEAR: _____

3. WILL FILL OR THE STORAGE OF FILL TAKE PLACE ON THE PROPERTY? _____

B. TO WHAT EXTENT WILL WATERCOURSE BE ALTERED OR RELOCATED AS A RESULT OF THE USE YOU PROPOSE? _____
_____

C. A LAYOUT PLAN DETAILING THE PROPOSED USE MUST BE ATTACHED. THE PLAN SHOULD SHOW DIMENSIONS AND ORIENTATION (N-S-E-W) OF THE PROJECT, LOCATIONS OF PROPOSED AND EXISTING STRUCTURES AND METER BOXES (WITH DIMENSIONS TO LOT LINES) AND NAMES OF ADJACENT STREETS.

D. HAS THE U.S. ARMY CORPS OF ENGINEERS BEEN CONTACTED FOR A "SECTION 404-CLEAN WATER ACT" PERMIT? _____

E. LIST ANY ADDITIONAL INFORMATION THAT MAY BE USEFUL IN REVIEWING THIS APPLICATION. _____
_____

* WHEN THIS APPLICATION IS REVEIWED BY FLOOD CONTROL DISTRICT STAFF, ENGINEERING REQUIREMENTS WILL BE DETERMINED. THESE REQUIREMENTS WILL APPEAR ON THE FLOODPLAIN USE PERMIT AND MUST BE CERTIFIED AFTER CONSTRUCTION BY A PROFESSIONAL ENGINEER.

MAKE CHECK OR MONEY ORDER PAYABLE TO "COCHISE COUNTY TREASURER".

PROJECT COSTS ARE AS FOLLOWS (APPLICANT SHALL FURNISH ESTIMATE COSTS ON USE PERMIT APPLICATION; COUNTY WILL REVIEW COSTS AND APPROVE OR ESTABLISH OTHER ESTIMATE, WHICH SHALL BE USED FOR PERMIT FEE DETERMINATION:

A) COST OF $250,000 OR LESS - $150.00
B) COST OVER $250,000 - $250.00

THIS APPLICATION HAS BEEN DULY SIGNED THIS _____DAY OF _____,20_____.

SIGNATURE OF REPRESENTATIVE: _____

TITLE OF REPRESENTATIVE: _____

R
O
W

COCHISE COUNTY HIGHWAY & FLOODPLAIN DEPARTMENT

1415 MELODY LANE, BLDG. B, BISBEE, AZ 85603-3090
Phone: (520) 432-9300

Permit Application
For Construction in County Right-of-Way

CONSTRUCTION ADDRESS		SECTION	TWP	RGE
SUBDIVISION NAME	PERMITTEE JOB NUMBER	FRANCHISE ☐ YES ☐ NO		

DESCRIPTION AND PURPOSE OF CONSTRUCTION

AGENT (IF APPLICABLE)	PHONE NO.	OWNED BY (PERMITTEE)	PHONE NO.
ADDRESS	PHONE NO.	ADDRESS	PHONE NO.
CITY / STATE	ZIP	CITY / STATE	ZIP

INSTRUCTIONS – This application form shall be accompanied by a drawing, map, or similar exhibit to clearly show the location, type, scope and method of proposed installation or work. Applicant must be either the owner or the agent of the owner, however, if the work is not to become the property of Cochise County, the owner shall sign the application form to indicate that he agrees to the conditions of the permit. Please be sure to read and understand all of the attached **General Conditions** pertaining to this application.

I herewith make application for a permit to enter upon and use the above-described right-of-way. I agree to the conditions set forth on the second page of this application and understand that the work must be done in conformity with the regulations of the County of Cochise and the State of Arizona.

SIGNATURE OF APPLICANT x _____ Date _____

PERMITTEE is responsible to call Cochise County Inspection Division at least 48 hours prior to starting work.

FOR OFFICE USE ONLY

Permit No.:	DATE ISSUED:	DATE OF EXPIRATION:

PERMIT FEES

QUANTITY	UNIT	ITEM	UNIT COST	AMOUNT
		TOTAL FEE		

PERMIT FEES (Not Refundable)	BOND RETURNED	CHECK No.	DATE ISSUED	BY	☐ CASH BOND ☐ BLANKET ☐ OTHER ☐ SURETY BOND	AMOUNT
☐ Cash ☐ Check ☐ Account	NAME & ADDRESS OF INSURANCE COMPANY				NAME & ADDRESS OF DEPOSITOR OR BONDING AGENCY	
Supervisor Dist.:	**Road No.:**	TYPE: A B C R			**Major** ☐	**Minor** ☐

Map No.:

Permit Valid When Signed

Approved by County Engineer or Designee Date:

By: _____ /

GENERAL CONDITIONS

1. Except as specified below, no person, association, corporation, or other entity shall be eligible to obtain a permit under this Ordinance unless each applicant also has a valid franchise authorizing from a franchise to act as its agent in connection with the permitted work, or other legal right to use the public right-of-way. Any permit applied for by an agent, including contractors and subcontractors, shall be issued in the name of the entity and will be held responsible for compliance with the terms and conditions of this Ordinance and the permit so issued. For purposes of this Ordinance, such responsible entity shall be designated as the applicant. This requirement shall not prevent a property owner, owning land adjacent to a public right-of-way from obtaining an appropriate permit for construction of a driveway, culvert or other improvement related to access to such property.

2. The applicant assumes the responsibility for all liability for any injury or damage to any person or property, or to the road and right-of-way itself, caused by or arising out of the work performed pursuant to the Permit. The applicant shall indemnify, defend and hold harmless Cochise County, its officers, departments, employees and agents from an d against any and all suits, actions, legal or administrative proceedings, claims, demands or damages of any kind or nature, including all costs of legal defense, arising our of the exercise of the permit which are attributed to any act or omission of applicant, its agents, employees, or anyone acting under its direction, control or on its behalf.

3. All work shall be at no cost of expense to the County and shall be done at such time to inconvenience the public for the shortest possible time as directed by the County Engineer. Emergency work shall not continue beyond 24 hours during the normal workweek or the next full work day following a weekend or holiday without written application for a permit being submitted.

4. If the work performed under the Permit or in an emergency fails to pass final inspection, the applicant shall remove or replace such work within such time as specified by written notice from the County Engineer.

5. When the proposed work is completed the Permittee shall repair the roadbed and replace the surfacing material thereon and will leave the said road in as good a condition as it is now, so far as road is affected by the permittee. Temporary pavement replacement shall be placed during the same shift in which the backfill to be covered is completed. A competent, qualified contractor shall complete permanent pavement repairs within fifteen (15) days.

6. The applicant shall provide, install and maintain traffic control devices as prescribed by the Traffic Control Manual for Highway Construction and Maintenance, Arizona Department of Transportation, and shall take such other measures of precaution as applicable, with a Traffic Control Plan for approval.

7. The applicant shall be responsible for verifying the location of all underground utilities in accordance with the Blue Stake laws prior to the commencement of any excavation and shall protect said utilities from damage.

8. All work shall be accomplished in accordance with applicable requirements of the County Articles for Issuance of Permits.

9. If at any time the right-of-way or any portion thereof occupied and used by the applicant is needed or required by the County, the applicant, at no cost or expense to the County, shall remove, relocate, or abandon in place all property belonging to the applicant.

10. Applicants, excluding only those for Type "B" permits, adjacent property owners intending to construct improvements for access only, and political subdivisions, shall be required to submit a certificate of insurance.

INSPECTOR'S REMARKS / SPECIAL CONDITIONS

U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

FEMA

July 16, 2004

Mr. Ralph Kingery
Project Manager
BRG Consulting, Inc.
304 Ivy Street
San Diego, CA 92101-2030

Re: Draft EA Water System Improvements Project
The Town of Huachuca and Cochise County

Dear Mr. Kingery:

This letter serves to respond to your recent request for Agency input with respect to the referenced Draft Environmental Assessment prepared for the Water System Improvements Project, planned for development within The Town of Huachuca and Cochise County, AZ.

Please review the current effective Flood Insurance Rate Maps (FIRMs) for the referenced communities and any other jurisdictions impacted by the project site. The Town of Huachuca and Cochise County are participants in the National Flood Insurance Program (NFIP), and keep Flood Insurance Rate Maps (FIRMs) on file and available for review within their respective Town Administration and Engineering Departments. Any development within these jurisdictions must comply with the requirements of each of their flood prevention ordinances, which regulate development within any high-risk Special Flood Hazard Areas (SFHA) and meets the minimum Federal requirements established in Volume 44, Code of Federal Regulations (44CFR). The NFIP floodplain management building requirements are described in Sections 59 through 65 of the Code.

Selected NFIP definitions and floodplain management building requirements are summarized as follows:

- The term **development** means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.

- If the area of development is located within a Regulatory Floodway as delineated on the FIRM, any development must not increase base flood elevation levels. A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.

- If implementation of the proposed project would result in a rise of the BFE, the requirements for revising the FIRM must be implemented (44CFR § 65.12). These regulations may include obtaining a Conditional Letter of Map Revision (CLOMR) from FEMA prior to the start of any development that will cause any rise within a floodway or that will alter or relocate a watercourse.

- Until a regulatory floodway is designated for the SFHA zones pertaining to this project site location, the Communities shall assure that no new development (including fill) shall be permitted within the SFHA unless it is demonstrated that the cumulated effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the (100-year) base flood more than one-foot at any point within the communities.

- Upon completion of any development that results in physical changes that increase or decrease the BFE or otherwise changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate technical, hydrologic and hydraulic data to FEMA for a flood map revision as soon as practicable, but not later than six months after such data becomes available, in accordance with CFR44, § 65.3. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at: http://www.fema.gov/mit/tsd/dl_mt-2.htm.

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor of a residential building is at or above the BFE in accordance with the effective Flood Insurance Rate Map.

- Public Utilities: Proposed new development in a flood-prone area shall be reviewed to assure that: all public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage, and-

- Sanitary sewage systems: The Communities (The Town of Huachuca and Cochise County) shall require within flood-prone areas: new and replacement sanitary sewage systems to be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters and; onsite waste disposal systems to be located to avoid impairment to them, or contamination from them during flooding.

- Altering a watercourse: The NFIP-participating communities (The Town of Huachuca and Cochise County) shall notify, in riverine situations, adjacent communities and the Arizona State Coordinating Officer prior to any alteration or relocation of a watercourse, and submit copies of such notifications to the FEMA Administrator; and,

- Assure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained.

The full text of Volume 44, Code of Federal Regulations (44CFR) may be found on the Internet at: http://www.fema.gov/nfip/laws1.shtm

Please Note:

Many communities participating in the NFIP have adopted building requirements and regulations that are more restrictive or comprehensive than the minimum federal criteria set forth in CFR No.44 for purposes of floodplain management and regulation of development in the floodplain. You can contact the City of Huachuca Floodplain Administrator at (520) 456-1354 and the Cochise County Floodplain Administrator at (520) 824-3472 for further information on local permitting requirements.

If you have any questions, or if you need further assistance, you may contact me by telephone at: (510) 627-7036, or by email at: clare.polansky@dhs.gov.

Sincerely,

Clare C. Polansky

Clare C. Polansky
Natural Hazards Program Specialist
Environmental Review Coordinator
Mitigation Division, Region IX
(510) 627-7036

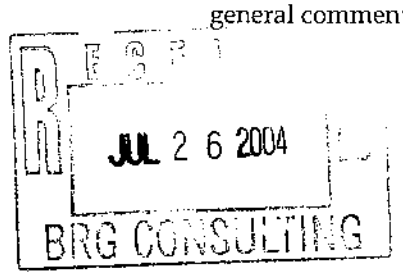
Cc: Brian Cosson, State NFIP Coordinator, Arizona

Arizona State Parks

"Managing and conserving natural, cultural, and recreational resources"

In reply, please refer to:
SHPO-2004-1123 (20395)
general comments

July 19, 2004



Ralph Kingery, Project Manager
BRG Consulting, Inc.
304 Ivy Street
San Diego, California 92101

RE: Proposed Town of Huachuca City Water Distribution System Improvements, Cochise County, Arizona

Dear Mr. Kingery:

Thank you for initiating consultation with this office regarding the above-mentioned federal undertaking that entails construction of underground water pipes and/or modifying existing pipes. Your firm is working on behalf of the U.S Border Environmental Cooperation Commission and the U.S Environmental Protection Agency. I received the documents on June 21, 2004 and offer the following comments pursuant to Section 106 of the National Historic Preservation Act as implemented by 36 C.F.R. 800.

This National Environmental Policy Act (NEPA) submittal does not constitute consultation under Section 106 of the National Historic Preservation Act. The provisions at 36 C.F.R. 800 must be followed in order for this office to accept NEPA documents as Section 106 compliance consultation.

In addition, some identification efforts, such as consultation with consulting parties like Indian tribes, are underway as mentioned in the document. Please complete your identification efforts.

We look forward to receiving a summary of the efforts made to identify historic properties, justification for the level of identification effort, and the results for review and comment. We appreciate your agency's cooperation with this office in considering the impacts of federal undertakings on important cultural resources situated in Arizona pursuant to the National Historic Preservation Act. If there are any questions, please contact me at (602) 542-7137 or via mbilsbarrow@pr.state.az.us.

Sincerely,

Matthew H. Bilsbarrow, RPA
Planner/ Archaeologist
Arizona State Historic Preservation Office

Arizona State Parks
1300 W. Washington
Phoenix, AZ 85007

Tel & TTY: 602.542.4174
www.azstateparks.com

800.285.3703 from (520 & 928) area codes

General Fax: 602.542.4180

Director's Office Fax: 602.542.4188

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

DEC – 2 2004

November 29, 2004

Ralph Kingery
BRG Consulting, Inc.
304 Ivy Street
San Diego, CA 92101

Re: Huachuca City Water Distribution Project Environmental Assessment

Dear Mr. Kingery,

I had a chance to review the new draft of the EA and will pass my comments, if any, on to Temis Alvarez. But I did want to point out that it was the AZ SHPO that requested the Class III Cultural Resources Survey; the Hopi just recommended one (see attached letter). I also received an email from Peter Steere of the Tohono O'odham Nation requesting a copy of the survey, if it had been done. I will send copies of the survey to both tribes.

Also, I consulted with five Tribes: the Hopi, Tohono O'odham, Pascua Yaqui, Gila River and AK-chin. I did not consult with the Yavapai Apache.

Call me if you need anything else for the final draft, (4150 972-3408.

Thanks,

Tom Konner
Environmental Engineer
WTR-4

Encl.

THE HOPI TRIBE

Wayne Taylor, Jr.
CHAIRMAN

Caleb Johnson
VICE-CHAIRMAN

July 9, 2004

Thomas Konner, Environmental Engineer, Water Division (WTR-4)
United States Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, California 94105-3901

Dear Mr. Konner,

Thank you for your correspondence dated July 2, 2004, regarding Huachuca City water system improvements. As you know from our previous letters, the Hopi Tribe claims cultural affiliation to prehistoric cultural groups in Arizona, and therefore we appreciate your continuing solicitation our input and your efforts to address our concerns.

As you also know, the Hopi Cultural Preservation Office supports the identification and avoidance of prehistoric archaeological sites and Traditional Cultural Properties. We understand that no previously recorded archaeological have been identified within 50 feet of the project area of potential effect, and we are not aware of any Hopi Traditional Cultural Properties in this project area.

However, as a federally assisted undertaking, we recommend a Class III cultural resources survey of the area of potential effect. If the State Historic Preservation Office requests a Class III survey for this proposal, please provide us with a copy of the survey report for review and comment.

If you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office at 928-734-3619. Thank you again for consulting with the Hopi Tribe.

Respectfully,

Leigh J. Kuwanwisiwma, Director
Hopi Cultural Preservation Office

xc: Arizona State Historic Preservation Office
Peter Steere, Tohono O'odham Nation

P .O. BOX 123 KYKOTSMOVI, AZ. 86039 (928) 734-3000

Arizona State Parks

"Managing and conserving natural, cultural, and recreational resources"

In reply, please refer to:
SHPO-2004-1123 (22365)
National Historic Preservation Act
no historic properties affected

January 18, 2005

Tom Konner, Environmental Engineer
U.S. Environmental Protection Agency, Region IX, Water Division (WTR-4)
75 Hawthorne Street
San Francisco, California 94105

RE: Proposed Town of Huachuca City Water Distribution System Improvements, Cochise County, Arizona

Dear Mr. Konner:

Thank you for continuing to consult with this office regarding the above-mentioned federal undertaking that entails construction of underground water pipes and/or modifying existing pipes. Historian Bill Collins and I reviewed the documentation submitted and offer the following comments pursuant to Section 106 of the National Historic Preservation Act as implemented by 36 C.F.R. 800.

After repeated phone calls/email to the archaeological consultant during the past four weeks, we finally received a complete survey report after 4 pm on January 14, 2005. We expect reports sent to us by agency officials to be complete at the time of submission.

According to the cultural resources survey report, one historic period structure—State Route 90—is present within the undertaking's area of potential effect. We agree that this segment of State Route 90 (AZ EE:7:176 ASM) does not contribute to the structure's Register eligibility status.

Based on the above, we concur with your agency's finding of no historic properties affected for this undertaking. Should unanticipated effects or previously unidentified historic properties be discovered during undertaking-related activities the Agency official shall make reasonable efforts to avoid, minimize or mitigate any adverse effects and follow the procedures outlined at 36 C.F.R. 800.13 covering post-review discoveries. Please notify this office promptly of any such discoveries. In cases involving archaeological resources, we recommend that they be avoided by and protected from ground-disturbing activities until inspected by an archaeologist. If a discovery involves human remains or funerary objects and occurs on state, city, or private land, procedures implementing state law (A.R.S. § 41-844 or 865) must be followed.

We appreciate your agency's cooperation with this office in considering the impacts of federal undertakings on important cultural resources situated in Arizona pursuant to the National Historic Preservation Act. I can be reached at (602) 542-7137 for any questions.

Sincerely,

Matthew H. Bilsbarrow, RPA
Planner/ Archaeologist
Arizona State Historic Preservation Office

cc. Bill Collins, SHPO
Ralph Kingery, BRG Consulting; 304 Ivy St; San Diego, CA 92101

Arizona State Parks
1300 W. Washington
Phoenix, AZ 85007

el & TTY: 602.542.4174
www.azstateparks.com

800.285.3703 from
(520 & 928) area codes

General Fax:
602.542.4180

Director's Office Fax:
602.542.4188

Appendix C. Cultural Resources Technical Report, Prepared by Archaeological Research Services, Inc.

A CLASS III CULTURAL RESOURCES SURVEY OF THE EXISTING MUNICIPAL WATER DISTRIBUTION SYSTEM AND PROPOSED NEW ALIGNMENTS IN HUACHUCA CITY, COCHISE COUNTY, ARIZONA

[Arizona State Museum Blanket Permit No. 2004-007bl]

By

Bradford W. Stone

Submitted by:

Lyle M. Stone, Ph.D., RPA
Archaeological Research Services, Inc.
2123 South Hu-Esta Drive
Tempe, Arizona 85282

Prepared for:

Ralph Kingery
BRG Consulting, Inc.
304 Ivy Street
San Diego, California 92101

November 16, 2004

Archaeological Research Services, Inc. Project Report No. 2004:154

Archaeological Research Services, Inc.

Serving Arizona Since 1974

– Offices In –

Tempe • Tucson • Tubac • Prescott Valley

ABSTRACT

Agency: Arizona State Museum

Project Title: A Class III Cultural Resources Survey of the Existing Municipal Water Distribution System and Proposed New Alignments in Huachuca City, Cochise County, Arizona.

Project Description: The survey was completed in advance of the proposed upgrading of the existing municipal water system and the installation of additional distribution infrastructure in Huachuca City. A 20 foot (6 meter) wide corridor centered on the existing and proposed alignments was examined at a Class III (Intensive Field Inventory) level.

Location: The project area occurs on privately-owned and municipal lands and Arizona Department of Transportation right-of-way within a portions of Section 5 and the northern 2/3 of Section 8, T21S, R20E (USGS Huachuca City, AZ., 7.5', 1958/1982; USGS Fort Huachuca, AZ. 7.5' 1958/1983 [Gila and Salt River Baseline and Meridian]), and is bounded on the north, east, south and west, respectively by the following Universal Transverse Mercator coordinates: Zone 12 coordinates: 563566 meters east, 3500734 meters north; 563660 meters east, 3499072 meters north; 563069 meters east, 3498340 meters north; and 563065 meters east, 3499068 meters north.

Number of Surveyed Acres: 5.5 (2.23 hectares).

Number of Sites: 1

List of Register Eligible Properties: none

List of Ineligible Sites: AZ EE:7:176 (ASM)

Comments: Based upon the results of this study, no **known** prehistoric or historic properties will be adversely impacted by the proposed upgrading and construction of the water distribution system.

It is important to note that if any previously undetected, unreported cultural features or deposits are encountered during project-related construction activities, these activities must be discontinued in the immediate area of the remains, and a professional archaeologist consulted to evaluate their nature and significance.

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INTRODUCTION

On October 28, 2004, Archaeological Research Services, Inc. (ARS) conducted a Class III (Intensive Field Inventory) non-collection, no disturbance cultural resources survey of private and municipal (Huachuca City) land and Arizona Department of Transportation (ADOT) right-of-way (ROW) in Huachuca City, Cochise County, Arizona. The survey was conducted for BRG Consulting, Inc. on behalf of Huachuca City, and occurs within portions of Section 5 and the northern 2/3 of Section 8, T21S, R20E (USGS Huachuca City, AZ., 7.5', 1958/1982; USGS Fort Huachuca, AZ. 7.5' 1958/1983 [Gila and Salt River Baseline and Meridian] - **Figure 1**). The study area is bounded on the north, east, south and west, respectively by the following Universal Transverse Mercator coordinates: Zone 12 coordinates: 563566 meters east, 3500734 meters north; 563660 meters east, 3499072 meters north; 563069 meters east, 3498340 meters north; and 563065 meters east, 3499068 meters north.

The survey was performed to determine if important cultural resources were present within or immediately adjacent to the project area which could be directly or indirectly impacted by the proposed upgrading of the existing municipal water system and the installation of additional distribution infrastructure in Huachuca City. Cultural resources may include historic or prehistoric archaeological sites or objects, historically or architecturally significant structures, buildings, or cultural landscapes and traditional cultural places of significance to modern Native American communities, and which may be eligible or potentially eligible for inclusion in the National Register of Historic Places (NRHP).

An Area of Potential Effect (APE) with a 0.5 mile (0.8 kilometer) radius was defined for this project and described below in the **Field Investigations** section of this report. Background research was performed by Pamela Rainey and Shearon Vaugn; fieldwork was conducted by Bradford W. Stone. The Projects Manager was Tammi A. Sullivan and Dr. Lyle M. Stone served as Principal Investigator. Survey of municipal land was conducted under the conditions and authority of Permit 2004-007BL (accession number 2004-1743), issued to ARS by the Arizona State Museum (ASM); the ASM was notified of ARS's intent to perform the study by letter of October 8, 2004. Verbal authorization to conduct survey of Arizona Department of Transportation right-of-way was obtained by Mr. Jerry Keifer of the ADOT Safford District Office. Maps of the survey area alignment were provided by Mr. Billy McLain, Public Works Director for the Town of Huachuca City.

PROJECT AREA SETTING

Physical Setting

The three survey alignments (Survey Areas 1, 2 and 3 on **Figure 1** and **2**) are located within the southeastern Basin and Range Physiographic Province of southern Arizona (Hendricks 1985) at elevations of between 4300 and 4420 feet (1310 and 1347 meters) above mean sea level (AMSL), and occur in urbanized sections of Huachuca City. Survey Area 1 totals approximately 2450 feet (747 meters) in length and runs north from the intersection of Edgewood Street and Skyline Drive approximately 950 feet (290 meters), east for 400 feet, and then south and southeast along a dirt road for 1100 feet (335 meters). Survey Area 2 begins immediately north of the intersection of Elgin Street and Pershing Street, runs south across two vacant lots owned by Huachuca City, and then west to a point approximately 100 feet (30 meters) south of the intersection of Pershing Street and Dragoon Street. Survey Area 3 is located within the ADOT

Figure 1. Location of the Project Area and Identified Cultural Resources.

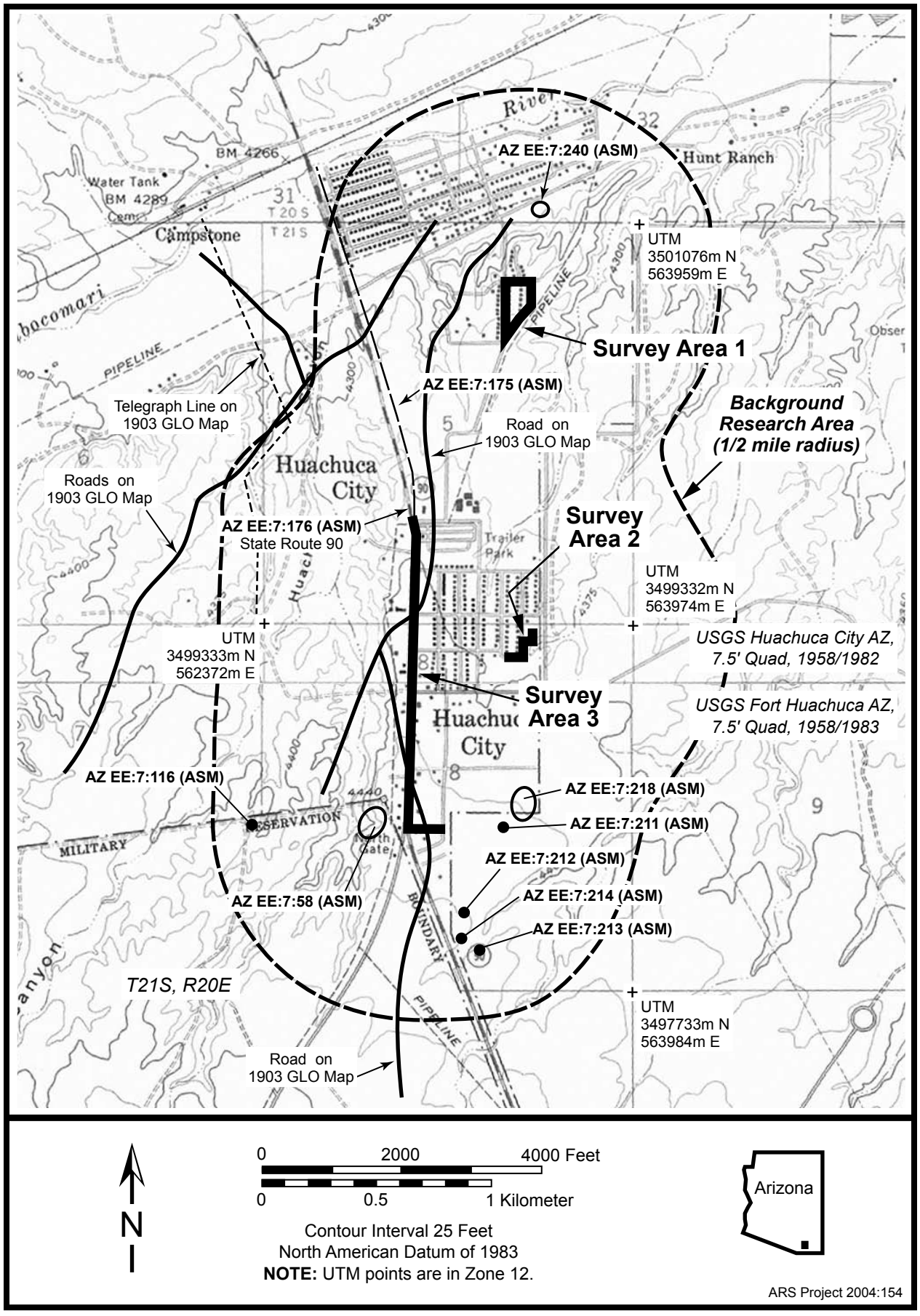
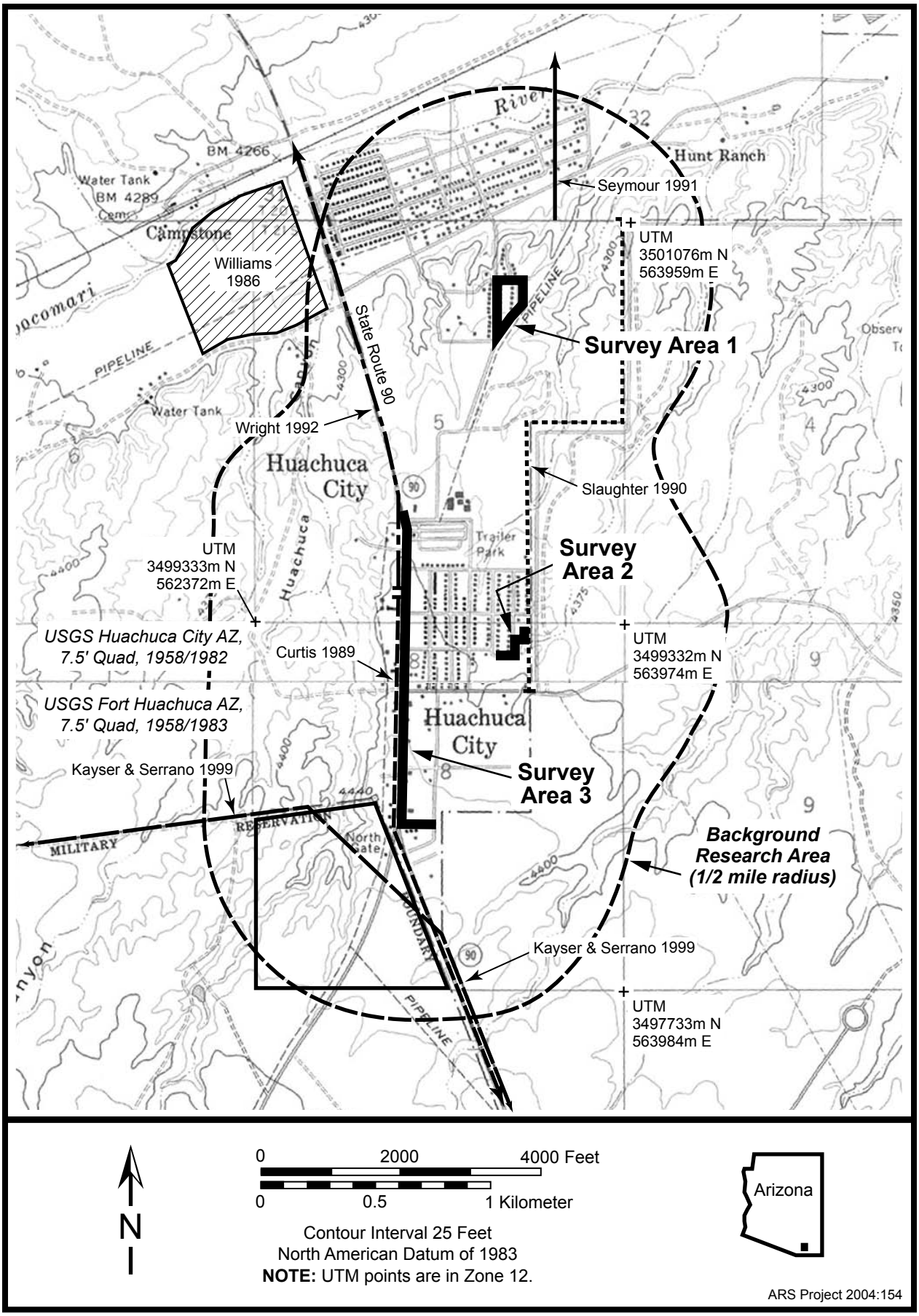


Figure 2. Location of the Project Area and Previous Archaeological Studies.



ROW along both sides of SR 90 between mileposts ca 313 (in the north) and 313.79 (in the south); at milepost 313.79 the alignment continues east onto private property for approximately 400 feet (122 meters). With the exception of an 1100 foot (335 meter) segment of Survey Area 1, a 300 foot (91 meter) segment of Survey Area 2 and the ADOT ROW along State Route 90, the project alignments are located along paved roads. Ground surface visibility in those portions of Survey Areas 1, 2 and 3 which were not heavily disturbed ranged from 90-to-100 percent. Vegetation endemic to the surrounding vicinity is typical of the Semidesert Grassland community, and includes mesquite, catclaw, agave, ocotillo, barrel cactus, sotol and various annual grasses and composites.

Cultural Setting

The cultural history and environmental setting of the southeastern region of Arizona, including the current project area, is the subject of two overviews (Whittlesey et al. 1994; Bronitsky and Merritt 1986). According to Whittlesey et al. (1994), the San Pedro River Valley has been occupied periodically since the Paleo-Indian period (8000-10,000 B.C.). Historically, an overland stagecoach stop was established at the San Pedro River in the vicinity of Benson in 1871 (Trimble 1986:23). Following the construction of the Southern Pacific Railroad, the town of Benson was founded in 1880, and became a major railroad shipping point for Tombstone and other mining towns in the area (Granger 1983:60).

STUDY PROCEDURES

Background research was conducted within a 0.5 mile (0.8 kilometer) radius of the survey alignments. This research consisted of a search of site file and archival data on file with the Arizona State Museum (ASM) as well as the online database known as AZSite, the Arizona State Office of the U.S. Bureau of Land Management (BLM) in Phoenix, the Arizona State Historic Preservation Office (SHPO) and at ARS. The National Register Information System (2003) was reviewed online at ARS on October 20, 2004 for listed properties.

The survey alignments were subjected to a Class III (Intensive Field Inventory) non collection, no disturbance cultural resources survey, resulting in 100 percent coverage of the ground surface. Field survey procedure consisted of one archaeologist walking a single linear transect along the center of each alignment in order to identify surface evidence of cultural resources.

STUDY RESULTS

Archival Studies

Background research identified 10 previously recorded archaeological sites (summarized in **Table 1**) and seven previously conducted archaeological investigations (summarized in **Table 2**) within a 0.5 mile (0.8 kilometer) radius of the survey alignments. In addition, a General Land Office (GLO) map of Township 21 South, Range 20 East (No. 2451, filed 6-22-1903) was reviewed and indicated three historic roads in the vicinity. No surface manifestations of these roads remain intact due to development of the surrounding area.

Table 1. Previously Identified Cultural Resources in the Vicinity of the Project Area			
Site Number	**Site Type**	**Location in Relation to Project Area**	**Reference**
AZ EE:7:240 (ASM)	Prehistoric/historic hearth.	Approximately 800 feet (244 meters) north of Survey Area 1.	Sullivan 1994
AZ EE:7:175 (ASM)	Historic Road Alignment	Approximately 180 feet (55 meters) east of Survey Area 3.	Wright 1992
AZ EE:7:176 (ASM)	Modern Road Alignment	Within Survey Area 3.	Harmon 1996
AZ EE:7:116 (ASM)	Lithic Scatter	1950 feet (595 meters) west of Survey Area 3.	AZSITE Number 86796
AZ EE:7:58 (ASM)	Historic Trash Scatter	250 feet (76 meters) west of Survey Area 2.	AZSITE Number 86797
AZ EE:7:218 (ASM)	Historic Trash Scatter	900 feet (274 meters) northeast of Survey Area 3.	AZSITE Number 86800
AZ EE:7:211 (ASM)	Historic Trash Scatter	700 feet (213 meters) east of Survey Area 3.	AZSITE Number 86799
AZ EE:7:212 (ASM)	Historic Rock Alignment	1000 feet (304 meters) south of Survey Area 3.	AZSITE Number 6665
AZ EE:7:213 (ASM)	Historic Rock Pile	1600 feet (488 meters) southeast of Survey Area 3.	AZSITE Number 6650
AZ EE:7:214 (ASM)	Historic Trash Scatter	1400 feet (427 meters) southeast of Survey Area 3.	AZSITE Number 86798

Table 2. Previously Conducted Archaeological Investigations in the Vicinity of the Project Area			
Project Type	**Reference**	**Relationship to Project Area**	**Comments**
Survey	Williams 1986	2150 feet (655 meters) west of Survey Area 1.	No archaeological sites identified.
Survey	Altshul and Jones 1988	100 feet (30 meters) southwest of Survey Area 3.	8600 acre (3483 hectare block survey).
Survey	Curtis 1989	Encompasses southern 2300 feet (701 meters) of Survey Area 3.	One historic archaeological site identified, not within current project area.
Survey	Slaughter 1990	Immediately adjacent to (west of) Survey Area 2.	No archaeological sites identified.
Survey	Seymour 1991	800 feet (244 meters) northeast of Survey Area 1.	Six archaeological sites identified, none within current project area.
Survey	Wright 1992	Encompasses northern 3550 feet (1082 meters) of Survey Area 1.	Six archaeological sites identified, none within current project area.
Survey	Kayser and Serrano 1999	Immediately adjacent to (south of) Survey Area 3.	Five archaeological sites identified, none within current project area.

Field Investigations

As a result of the present study, one historic archaeological site was identified and documented within the project area. This site is plotted on **Figure 1**, and further described below.

Site AZ EE:7:176 (ASM): State Route 90

Location: Site 176 (ASM) occurs throughout the entirety of Survey Area 3, within portions of the E 1/2, SE 1/4, SW 1/4 of Section 5 and the E 1/4, E 1/2, NW 1/4 of Section 8, T21S, R20E (USGS Huachuca City, AZ 7.5' 1958/1982; USGS Fort Huachuca, AZ. 7.5' 1958/1983 - **Figure 1**).

Description: Within the project area this site consists of the in-use alignment of State Route 90, represented by a ca 75 foot (23 meter) wide, five lane asphaltic concrete roadway (**Appendix A**). The road is in excellent condition and appears to have been recently resurfaced.

Discussion: Although portions of the original State Route 90 alignment, constructed between 1940 and 1947, have been recommended as potentially eligible for inclusion in the NRHP (Wright 1992), the segment within the current study area was constructed in 1966 on a different route than the original highway and is a non-contributing element of the site's overall NRHP eligibility.

SUMMARY AND CONCLUSIONS

On October 28, 2004, Archaeological Research Services, Inc. conducted a Class III (Intensive Field Inventory) non-collection, no disturbance cultural resources survey of private and municipal (Huachuca City) land and Arizona Department of Transportation right-of-way in Huachuca City, Cochise County, Arizona. The survey was conducted for BRG Consulting, Inc. on behalf of Huachuca City, and occurs within portions of Section 5 and the northern 2/3 of Section 8, T21S, R20E (USGS Huachuca City, AZ., 7.5', 1958/1982; USGS Fort Huachuca, AZ. 7.5' 1958/1983 [Gila and Salt River Baseline and Meridian]). The study area is bounded on the north, east, south and west, respectively by the following Universal Transverse Mercator coordinates: Zone 12 coordinates: 563566 meters east, 3500734 meters north; 563660 meters east, 3499072 meters north; 563069 meters east, 3498340 meters north; and 563065 meters east, 3499068 meters north. Survey of municipal land was conducted under the conditions and authority of Permit 2004-007BL (accession number 2004-1743), issued to ARS by the Arizona State Museum (ASM); the ASM was notified of ARS's intent to perform the study by letter of October 8, 2004. Verbal authorization to conduct survey of Arizona Department of Transportation right-of-way was obtained by Mr. Jerry Keifer of the ADOT Safford District Office.

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As a result of the survey, one previously identified archaeological site was identified and documented with the study area.

Site AZ EE:7:176 (ASM), within the current study area, is represented by the in-use alignment of State Route 90. Although portions of the original alignment of State Route 90 are considered potentially eligible for inclusion in the NRHP, the segment within the survey area was constructed in 1966 along a different route than the original highway and is not considered to be a contributing element to its NRHP eligibility.

Based upon the results of this study, no **known** prehistoric or historic properties will be adversely impacted by the proposed upgrading and construction of the water distribution system.

It is important to note that if any previously undetected, unreported cultural features or deposits are encountered during project-related construction activities, these activities must be discontinued in the immediate area of the remains, and a professional archaeologist consulted to evaluate their nature and significance.

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APPENDIX A

View of Site AZ EE:7:176 (ASM), State Route 90, Facing North

View of Site AZ EE:7:176(ASM), SR 90, facing north.

FINDING OF NO SIGNIFICANT IMPACT

Town of Huachuca City Water Distribution System Improvements
Huachuca City, Cochise County, Arizona

PROJECT LOCATION AND DESCRIPTION

The Town of Huachuca City, Arizona is proposing to upgrade its water distribution system to address low water pressure problems and eliminate water line dead ends.

Huachuca City is a small residential community of about 1,751 inhabitants located in Cochise County, Arizona about 20 miles north of the US-Mexico border and 64 miles southeast of Tucson on Highway 90. The proposed action involves installation of a new eight-inch pipeline west of Highway 90, connections of dead ends on Pershing Street, an alley off Clark Street, Mountain View Avenue and an adjacent alley, and the addition of two 4,600 gallon, hydropneumatic tanks at Skyline and Howard Wells.

The new water lines will be installed in trenches three to four feet deep, and located within alley, street or highway right-of-way. The only exception will be the connection between Highway 90 and Howard Street, which will be placed in an easement adjacent to the property line of an existing church.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to address low water pressure problems in Huachuca City. Users in the area west of Highway 90 in the Upper Zone have complained of low pressures in their businesses and residences during periods of high demand. The low pressures and water flows are a result of small diameter pipes installed along Highway 90. In addition, this portion is only connected to the main distribution system at one point creating long runs that dead end to the north and south. The lack of looping and low line pressure may promote cross contamination of water lines, stagnant water at dead ends with associated deposition and other public health risks. The proposed water lines will improve water flow to this area and enable the lines to meet peak flow needs.

ENVIRONMENTAL CONSEQUENCES AND CONDITIONS

In compliance with the National Environmental Policy Act, EPA has prepared an Environmental Assessment (EA) that examines the potential environmental impacts of the proposed project. After considering a wide range of regulatory, and socio-economic factors, the EA did not identify any significant impacts to the environment that would result from the implementation of this project.

PUBLIC REVIEW

The EA is on file, along with other project materials, and is available for public inspection at the EPA Region 9 office in San Francisco, California. Copies of the EA are also available for public review in Huachuca City at the Town Hall, 500 N. Gonzalez Blvd., (520) 456-1354, contact: Pat Ohare. In addition, the EA will be posted on the EPA website at http://www.epa.gov/region09/border.

Interested persons, including those who disagree with this proposal, may submit comments to EPA Region 9 within 30 calendar days from the date this document is issued. No administrative action will be taken on this proposed project prior to the expiration of this comment period, which ends April 17, 2005. Comments, via letter, fax or email, should be sent to Tom Konner at the address listed below.

Tom Konner (WTR-4)
U.S. EPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105
Telephone: (415) 972-3408
Fax: (415) 947-3537
Email: konner.thomas@epa.gov

After EPA assesses any comments received, those comments, EPA's responses, and this Finding of No Significant Impact (FNSI) will be forwarded to the Regional Administrator for review and signature. If the Regional Administrator signs this FNSI, it will not be re-circulated for review but will be available to any individual upon request.

FINDING

After review of the EA and any comments received, EPA has determined that the proposed project will not have a significant impact on the environment and that an Environmental Impact Statement will not be prepared for this project.

_____ _____

Wayne Nastri Date
Regional Administrator