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ENVIRONMENTAL ASSESSMENT

WASHOE COUNTY DEPARTMENT OF WATER RESOURCES
NORTH LEMMON VALLEY
ARTIFICIAL RECHARGE PROJECT

May 17, 2005

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ENVIRONMENTAL ASSESSMENT

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EXECUTIVE SUMMARY

The Washoe County Department of Water Resources is proposing to construct the North Lemmon Valley Artificial Recharge Project. The project involves expansion of the County's existing water system within an area known as the Heppner Subdivision located in North Lemmon Valley, Washoe County, Nevada. Improvements include the construction of approximately 2.4 miles of water lines, meters, fire hydrants, other water system appurtenances, and restoration of streets and all areas affected by the work. Water mains will be installed within the pavement of existing streets and service lines will be stubbed to the property line of each parcel. All land disturbance due to construction of the water lines will occur within existing paved streets, therefore there are no anticipated permanent environmental impacts. Construction along each residential street may cause temporary access constraints. The proposed construction of water lines to provide municipal water to a portion of the Heppner Subdivision is not anticipated to result in a significant impact to any environmental resources. In addition, implementation of the proposed project is designed to reduce the over-pumping of the aquifer in the basin and allow for recovery of the aquifer due to the reduced pumping.

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1.0 INTRODUCTION

1.1 PROPOSED PROJECT SUMMARY

The Washoe County Department of Water Resources is proposing to construct the North Lemmon Valley Artificial Recharge Project. The project involves expansion of the County's existing water system within an area known as the Heppner Subdivision in Lemmon Valley, located immediately north of Reno, Nevada (Figure 1). Proposed improvements include the construction of approximately 2.4 miles of water lines, meters, fire hydrants, other water system appurtenances, and restoration of streets and all areas affected by the work. Water mains will be installed within the pavement of existing streets and service lines will be stubbed to the property line of each parcel.

The Environmental Protection Agency (EPA), San Francisco Office Region 9, via a grant, is providing a portion of the project funding. As a requirement of Federal funding, the EPA is preparing an Environmental Assessment (EA) for the proposed project.

1.2 PROJECT LOCATION

The Heppner Subdivision is approximately one square mile and is located in North Lemmon Valley immediately north of Reno, Nevada (Figure 1). Specifically, the project site is located in Section 15 and the north half of Section 22 of Township 21 North, Range 19 East, MDBM. Figure 2 shows the Heppner Subdivision and the locations of the proposed water lines. The project will involve construction of water lines within existing streets in the southern half of the Heppner Subdivision. Specifically, water lines will be constructed within the following streets: Oregon Boulevard (Blvd) between Pepper Way and Deodar Way; and on Sitka Street, Pepper Way, Mistletoe Street, and Chesapeake Drive all between Oregon Blvd. and Arizona Street. Installation of these water lines would serve 147 residential lots if all hooked up. Figure 3 shows the proposed project, and shows the location of existing and future water lines to be constructed under separate funding.

1.3 PURPOSE AND NEED

The purpose is to install water lines to allow homeowners to connect to the County's municipal water supply and abandon their domestic wells, which will ultimately allow for recharge of the aquifer beneath the subdivision.

The need for supplying municipal water to Heppner Subdivision homes arises from the fact that homeowners are currently experiencing well failures from a declining water table and poor water quality from septic system effluent. In the mid-1970s it was found that the Lemmon Valley Hydrographic Basin was over-appropriated and that pumping in the basin was exceeding aquifer recharge (Harrill, 1973).

1.4 RELATIONSHIP PLANNING

Figure 3 shows the proposed project, and the location of existing and potential future water lines that may be constructed under separate funding. It is expected that construction of the proposed project would be initiated in the summer of 2005, and that construction of water lines to serve the north part of Heppner may occur in 2006 through 2009, if funding is available. The Washoe County Department of Water Resources may construct the project in phases and timing is dependent upon available funding and necessity.

2.0 ANALYSIS OF ALTERNATIVES

2.1 NORTH LEMMON VALLEY ARTIFICIAL RECHARGE PROJECT

The purpose of the North Lemmon Valley Artificial Recharge Project is to supply municipal water to a portion of the Heppner Subdivision in response to the declining water table, increasing number of domestic well failures in the area, and nitrate contamination of groundwater resulting from septic effluent recharge. Additionally, as homeowners abandon domestic wells and hook up to municipal supply, increased recharge will be possible for the aquifer beneath the subdivision.

This section provides a general description of existing facilities, the selected alternative, and other alternatives not selected.

2.2 EXISTING DOMESTIC WATER SUPPLY

There are 640 one-acre parcels located in the Heppner Subdivision, of which approximately 501 lots (78 percent) have domestic wells and septic systems for sewage disposal. Between 1984 and 2004, over 160 lots in the Heppner Subdivision deepened or redrilled their wells due to well failures. According to Washoe County, between 5 and 15 wells fail each year in this subdivision. Most of the subdivision is located above a low yield aquifer, and well failures in this area are the result of water table declines on the order of approximately one to two feet per year (Dragan, 2005). Washoe County (1994) found septic systems to be a significant source of recharge to the aquifer and the domestic wells in the area are circulating the effluent, increasing nitrate in ground water. The southeast portion of the subdivision, approximately 116 lots, are currently being served by Washoe County municipal water (Figure 2).

2.3 SELECTED ALTERNATIVE

In response to the declining water table and increasing well failures, the Washoe County Department of Water Resources is proposing to provide municipal water to service the Heppner Subdivision. Municipal water service to the subdivision would decrease the number of domestic water wells pumping at the site and thus result in the recovery of the aquifer beneath the site. The southeast portion of the subdivision, approximately 116 lots, are already served by Washoe County municipal water. Due to the financial resources and construction schedule, proposed construction of water lines associated with this EPA Artificial Recharge Grant will be extended to approximately 147 residential lots in the south half of the subdivision. The water lines and necessary storage and pumping facilities to allow for extension of service to the north half of the subdivision (294 residential lots) may be constructed in the near future under separate funding.

Southeast of the Heppner Subdivision, the aquifer grades into a much higher yielding, sand and gravel valley fill aquifer. The municipal water will be supplied from three Washoe County municipal wells (well numbers 6, 7, and 8) that are drilled just south of the subdivision into this valley fill aquifer. The municipal well depths are significantly deeper than the average domestic well depth. Washoe County's deepest well is approximately 900 feet below ground surface, and the static water table is 70 feet deep. Therefore, at the rate of water table decline of approximately one to two feet per year, the water in storage could potentially last for centuries. Additionally, the valley fill aquifer is not impacted by septic effluent and has shown to have better water quality than the fractured bedrock aquifer directly beneath the Heppner Subdivision (Dragan, 2005).

Specifically, proposed improvements include the construction of approximately 2.4 miles of water lines, other water system appurtenances, and restoration of streets and all areas affected by the work. Water system appurtenances includes elbows, connectors, valves, fittings, and taps to individual services. Water mains will be installed within the pavement of existing streets and service lines will be stubbed to the property line of each parcel with a water meter box. Washoe County would also establish 16 fire hydrants by installing a service line from the water main to the edge of the street. The hydrants will be located within the road right of way on the edge of the street. Figure 2 displays proposed locations of fire hydrants. Approximately seven square feet of previously undisturbed land within the road right of way will be permanently disturbed for each hydrant.

Homeowners will be provided the option to connect to the water line. The cost for hookup and abandonment of their domestic well would be paid by the homeowner. As domestic wells fail on lots with the water line available for hookup, the State of Nevada Division of Water Resources has indicated they will not issue waivers for well deepening or redrilling, and thus homeowners will ultimately connect to municipal water supply.

Funds from the Artificial Recharge Grant may also be used for a background water quality investigation to be conducted by Washoe County; public outreach programs regarding water resources and water quality issues in Lemmon Valley; and for conversion of strategically located domestic wells at residences that connect to the municipal system to County monitoring wells.

Construction

All proposed disturbance would occur as a result of the construction of the proposed water lines within the existing roadways of the subdivision. The constructed water line would be a six to eight inch pipe. The water line would be buried at a depth of between four and six feet, again depending on site specific conditions. The average disturbance width within the existing paved roadways would be six feet. After installation, the streets will be repaved and returned to pre-project conditions. The water lines would be constructed by a contractor hired by Washoe County. Surplus equipment fuel is not anticipated to be stored on site; however, it would be provided by fuel trucks, as needed. All solid wastes generated by the project will be disposed of in appropriate containers and ultimately to a permitted landfill.

Staging Areas
There are a number of vacant lots throughout the area that could be utilized by contractors as temporary staging areas for storage and handling of construction materials and equipment. Several lots are owned by Washoe County and many are under private ownership. In order to utilize these properties, a contractor would need to provide written permission from the owner authorizing such use. On past projects both private and county-owned lots have been used for this purpose.

Traffic
There may be temporary street closures during water line installation and repaving. Traffic will be redirected, signage will be posted, and appropriate notice to homeowners will be provided. Street closures would be temporary, lasting less than day at a time for the duration of construction in any one area.

Operation and Maintenance
The water line would be operated and maintained by personnel from the Washoe County Department of Water Resources.

Schedule
Construction of the proposed water line would be initiated in summer of 2005 and would be completed by summer of 2006.

2.4 ALTERNATIVES TO THE PROPOSED ACTION

Water supply alternatives have been explored by the Washoe County Department of Water Resources. A brief description of the alternatives is provided in the sections below.

2.4.1 No Action Alternative

Under the No Action Alternative, the North Lemmon Valley Artificial Recharge project would not be constructed. The homes in the Heppner Subdivision would continue to pump their domestic well for water supply. The basin would continue to be over-pumped, such that pumping rates of the aquifer would be greater than recharge rates to the aquifer, thus continuing to lower the water table. Wells within the Heppner Subdivision would continue to fail. The current rate of well failure is between five and 15 wells per year. The well failures and low water quality would cause the homeowners in the Heppner Subdivision to have to consider water supply alternatives. Due to the high number of septic systems in the area, nitrate from septic effluent would likely continue to diminish the ground water quality. Nitrate in drinking water is toxic and known to cause infant methemoglobinemia, or the "blue baby" syndrome.

2.4.2 Well Deepening or Redrilling

As wells fail in the subdivision, one option for homeowners is to deepen or redrill their domestic well. According to Washoe County, the average cost to deepen or redrill is between $15,000 and $25,000. Additionally, depending upon the difficulty of drilling, costs may increase. When deepening or redrilling, there are no guarantees of success in obtaining water of adequate quantity or quality for long-term domestic supply. Wells would be redrilled or deepened into the same low-yield aquifer that is currently dropping at approximately one to two feet per year.

2.4.3 Hauling Water

For a home with no available municipal water supply and no well, it may be considered to have water supplied by truck delivery to a tank at the home site. However, after investigation of this alternative, it is not only cost prohibitive, but there are no businesses that will supply potable water to a water tank for use throughout the home. Non-potable water may be delivered to a water tank by a construction company, or potable water may be delivered in five gallon jugs.

Typically, lending agencies involved in the purchase of a home require information regarding the availability of water and the water quality. If a home utilized this alternative for water supply, there is the potential for difficulties in selling the home if a lender is involved. Additionally, should a new home be built in the area without municipal water supply available, and no well was successfully installed, the District Health Department would not provide the residence with a Certificate of Occupancy for lack of water supply.

2.5 PERMITS AND APPROVALS

The required Federal, State, or local permit approvals required for the proposed water line installation are listed below:

Nevada Division of Environmental Protection

- Surface Area Disturbance/Operating Air Quality Permit
- Construction Stormwater Permit

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The following chapter briefly describes the existing environment in the vicinity of the artificial recharge project area and describes the environmental consequences that would occur as a result of the construction and development of the project under the selected alternative. This EA has been prepared in accordance with the Council on Environmental Quality's (CEQ) Regulations for implementing the National Environmental Policy Act (NEPA 40 CFR 1500-1508).

There are no designated Wilderness Areas or Wild and Scenic Rivers located in proximity to the project site. In addition, the site does not contain shorelines, beaches (coastal areas), dunes, or estuaries. Therefore, these resources are not discussed further in this document.

3.1 WETLANDS AND FLOODPLAINS

The artificial recharge project area is located in North Lemmon Valley, Nevada. The southern edge of the project area is located approximately 900 feet north of the high water line of the Swan Lake playa. This playa is wetted during years of high runoff but may dry completely during extended periods of low precipitation. Discharge of treated effluent supports wetland vegetation in the southern portion of the playa, approximately 1.25 miles south of the project area.

Per the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, the majority of the project site is identified as being within Zone X (white). Zone X (white) is defined as areas

determined to be outside the 500-year floodplain (FEMA,1994). The southeastern portion of the project area is identified as being within Zone AE (elevation 4920). Zone AE is within the 100-year floodplain. Specifically, Zone AE is defined as areas for which the base flood elevations have been determined. For this area, the base flood elevations are cited as 4,920 feet. Accordingly, this zone is considered to be an Area of Special Flood Hazard. Since the proposed water lines would be installed within the footprints of existing roads, no effects to flood zones or flooding elevations are anticipated.

An informal field survey was performed on the project site on March 7, 2005. The field survey found no wetland areas within the project area. Several channels (potentially jurisdictional waters of the U.S.) enter the project area from the north. Any channel definition present in the steeper, northern reaches of these drainages is lost as gradient decreases within the Heppner subdivision. Created roadside ditches within the subdivision capture several of these drainages. A ditch bordering the western side of the subdivision captures any flow that originates to the west of the development. Continuous channel definition is not present in the roadside ditches. Since channels entering the project area do not share a defined bed and bank (ordinary high water mark) connection with the Lemmon Valley Playa, the channels entering the subdivision could be considered isolated and not subject to jurisdiction by the U.S. Army Corps of Engineers (ACOE). However, the roadside ditches do create a potential physical connection with the Lemmon Valley Playa, and the ACOE could take jurisdiction of channels entering the project area based on this connection. In either case, since Washoe County will be installing the new water lines within the footprints of existing roads, no impacts to potentially jurisdictional channels is envisioned.

3.2 TOPOGRAPHY, GEOLOGY, SOILS, AND FARMLANDS

Elevations in the Project area range from approximately 5,160 feet above mean sea level (AMSL) at the northwestern corner of the subdivision to approximately 4,840 feet AMSL at the south end of the subdivision.

Lemmon Valley lies on the fringe of the Basin and Range Province and is a structural depression. The edge of the depression is bound by granodiorite mountains. Geology underlying Heppner Subdivision consists mostly of Quaternary age alluvium, alluvial fan deposits, and granodiorite. The alluvial deposits range from poorly sorted sands and gravels to lacustrine clays (Bonham, 1969).

The proposed project site is located on or near several potentially active faults (dePolo et al., 1997); and the site is located in Seismic Zone 3 of the Uniform Building Code (potential for earthquake damage). Faulting is associated with the Walker Lane Structural Zone, and faulting is predominantly northeast-southwest trending. The Airport Fault runs through the center of the township. This fault is a barrier for ground water flow and subdivides Lemmon Basin into Silver Lake and East Lemmon sub-basins. The probabilities for having earthquakes in the project area (Reno-Carson City urban Corridor) over a 50-year period have been estimated by dePolo et al. (1997). These authors project the probability of at least one magnitude 6 or greater event to be between 34 and 98 percent. The probability of a magnitude 6.6 or greater event is between 9 and 64 percent, and the probability of a magnitude 7 or greater event is between 4 and 50 percent (dePolo et al., 1997). The probabilities of potentially damaging earthquakes within the region are relatively high and are commensurate with

many parts of California, a state with a well-recognized high earthquake hazard (dePolo et al., 1997).

According to the Natural Resources Conservation Service (NRCS, formerly the Soil Conservation Service, SCS), seven soil types occur within the subdivision. None of these soils are identified by the NRCS as a hydric soil (SCS, 1987). Within the proposed construction area, there are approximately three soil types: Greenbrae sandy loam, 0 to 2 percent slopes, Greenbrae sandy loam, 2 to 4 percent slopes, and Doten Variant silty clay, slightly saline (NRCS, 1983). The soil types are described below.

The Greenbrae sandy loam, 0 to 2 percent slopes, is a very deep, well drained soil located on terraces and lower alluvial fans, and forms dominantly from granitic rock. The permeability of this soil is slow, runoff is slow, and the hazard of wind and water erosion is slight. This soil has a high clay content with a moderately high shrink-swell potential. The Greenbrae sandy loam, 2 to 4 percent slopes, has the same characteristics as the 0 to 2 percent slopes, though this soil is located on more sloped surfaces. The Doten Variant silty clay, slightly saline soil is located in the southern portion of the subdivision and is a very deep, moderately well drained soil formed on low terraces. It formed in lacustrine deposits from mixed rock sources. The permeability is very slow, runoff is very slow, and the hazard of wind and water erosion is slight. The soil is affected by sodium salts, and when dry, there are surface cracks a couple inches wide and a couple feet deep (NRCS, 1983).

Prime farmland, as defined by the U.S. Department of Agriculture, is "that land that is best suited to producing food, feed, forage, fiber and oilseed crops. Prime farmland has the soil quality, growing season, and moisture supply needed to economically produce sustained high crop yields if acceptable farming methods are used.....Prime farmland is either currently used for producing food or fiber or is available for this use" (NRCS, 1983). The Soil Survey of Washoe County, Nevada, South Part identifies the Greenbrae sandy loam, 0 to 2 percent slopes and the Greenbrae sandy loam, 2 to 4 percent slopes as potential prime farmland. However, since the project area is currently developed as a subdivision, it is not available for this use. Therefore, implementation of the proposed project would not have an impact to prime farmlands.

With appropriate engineering design of the water line, soils present in the area would not represent a severe limitation to construction. The site is located within previously developed areas; therefore, there are no physical conditions in the planning area that might make construction of the line unsuitable. The subdivision does lie within a seismically active area. Seismic events could affect a water line by shaking or rapid differential settlement. The County would follow existing design parameters to reduce risks from seismic activity, thus reducing potential impacts.

3.3 CLIMATE AND AIR QUALITY

Based on climate records for Reno (available at www.wrcc.dri.edu), the project area receives about 7.35 inches of precipitation per year. The average maximum temperature is 67.1°F, the average low temperature is 33.8°F. Annual pan evaporation from lake surfaces in the Reno area is 59.4 inches per year. Predominant winds throughout the Truckee Meadows area are from the west.

The project area is located within the Western Region Hydrographic Basin, Lemmon Valley, Eastern

Part (92B) Air Quality Hydrographic Basin. The project area is located outside of the Truckee Meadows carbon monoxide and PM_{10} non-attainment area (WCDHD, Air Quality Management Division). All of Washoe County is identified as a non-attainment area for ozone. The Lemmon Valley basin is classified as attainment with respect to the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants except ozone. The basin is classified as non-attainment for ozone. The appropriate air quality permits must be obtained from the Nevada Division of Environmental Protection (NDEP) prior to construction of the artificial recharge project. Because the proposed project is temporary in nature and involves temporary construction, it's implementation would not result in significant impacts to air quality. In addition, there are no local topographical or meteorological conditions that may hinder the dispersion of air emissions from the project site.

3.4 VEGETATION AND WILDLIFE

The project area has been developed as a rural subdivision. The majority of the area includes developed lots, interspersed with a small number of undeveloped lots. The vegetation community present on the majority of undeveloped lots is dominated by big sagebrush (*Artemisia tridentata*), with spiny hopsage (*Grayia spinosa*) and green ephedra (*Ephedra viridis*) also present. A sparse understory of bottlebrush squirreltail (*Elymus elymoides*, formerly *Sitanion hystrix*) and cheatgrass (*Bromus tectorum*) is present within the shrub community. Black greasewood (*Sarcobatus vermiculatus*) is common on undeveloped parcels in and near the southern portion of the project area. Scattered Utah juniper (*Juniperus osteosperma*) is present in the northern portion of the subdivision. Developed lots include a variety of native and introduced vegetation planted as landscaping.

Noxious weeds were not observed to occur within the immediate project area during the March 2005 site visit. However, due to the time of the survey (March), they may not have been present. Since implementation of the proposed project would occur within existing paved areas, it is not likely to contribute to the spread of noxious weeds.

Wildlife observed in the area included mountain cottontail rabbits (*Sylvilagus nuttallii*), black-tailed jackrabbits (*Lepus californicus*), and California ground squirrels (*Spermophilus beechyi*), as well as the tracks of coyotes (*Canis latrans*). Avian species observed in the are included California quail (*Callipepla californica*), house finches (*Carpodacus mexicanus*) and house sparrows (*Passer domisticus*), white-crowned sparrows (*Zonotrichia leucophrys*), and a single American kestrel (*Falco sparverius*). Because the proposed project would involve placing water line within existing roadways, impacts to vegetation and wildlife are not expected.

There are no State or National Parks, or National Game Preserves located on the proposed project site. The Lemmon Valley Playa (also known as Swan Lake) to the south of the project area attracts a variety of waterfowl and shorebirds, and is a popular birdwatching area.

3.4.1 Endangered Species

Information regarding threatened and endangered species was obtained by reviewing the U.S. Fish and Wildlife Service's (USFWS) list of Nevada's Endangered, Threatened, and Candidate Species by County. Letters requesting information on listed and sensitive species potentially occurring in

the project area were also sent to the USFWS, the Nevada Natural Heritage Program (NNHP), and the Nevada Department of Wildlife (NDOW). Appendix A provides agency correspondence for this project. Responses were received from USFWS and NNHP. Table 1 presents listed wildlife and vegetation species known to occur within Washoe County:

Table 1
Endangered, Threatened, and Candidate Species
That Have the Potential to Occur Within Washoe County

Common Name	*Scientific Name*	*Federal Status*
Mountain Plover	*Charadrius montanus*	Candidate
Bald Eagle	*Haliaeetus leucocephalus*	Threatened
Cui-ui	*Chasmistes cujus*	Endangered
Lahontan cutthroat trout	*Oncorhynchus clarki henshawi*	Threatened
Warner Sucker	*Catostomus warnerensis*	Threatened
Carson Wandering Skipper	*Pseudocopaeodes eunus obscurus*	Endangered
Steamboat Buckwheat	*Eriogonum ovalifolium var. williamsiae*	Endangered
Tahoe Yellow Cress	*Rorippa subumbellata*	Candidate

During the March 7, 2005 site visit, none of the species identified in Table 1 were observed within the project area or in the project vicinity. The mountain plover is an occasional migrant to Nevada. The species may rarely occur at Swan Lake (Lemmon Valley Playa), but would not be expected to linger in the area. The Lemmon Valley area is an enclosed basin and is not inhabited by either the cui-ui or the Lahontan cutthroat trout. The Warner sucker does not occur in the area.

The Carson wandering skipper is a small butterfly that occurs in saltgrass (*Distichlis spicatum*) habitats, often in association with hot springs or alkali areas. No concentrations of saltgrass were noted in the project area.

The Steamboat buckwheat occurs on altered sinter soils near the Steamboat Hot Springs, south of Reno, Nevada. No sinter soils occur in the project area.

The Tahoe yellow cress occurs along sandy shorelines in the Lake Tahoe area. Suitable habitat for the species does not occur in the project area.

The NNHP database contained no records of sensitive species within an approximately three-mile radius of the project area. The NNHP stated the project area may include habitat that could support two sensitive plant species and one sensitive wildlife species. The two plant species are the Ames milkvetch (*Astragalus pulsiferae* var. *pulsiferae*) and the sagebrush pygmyleaf (*Loeflingia squarrosa* ssp. *artemisiarum*). The Ames milkvetch occurs in open ponderosa pine forest, and sagebrush

plains or valley floors in loose, porous volcanic gravels and sands (Cronquist et al., 1989). The sagebrush pygmyleaf occurs in sand dunes and sandy flats (Hickman, 1993). Sandy soils do occur in the project area, but because construction of the project would occur within the footprint of existing roads, impacts to vegetation are not expected.

The single sensitive wildlife species identified by the NNHP as potentially occurring in the area is the Townsend's big-eared bat (*Corynorhinus townsendii*). This bat roosts in caves, abandoned mines, and occasionally buildings or other features. Townsend's big-eared bats may forage over the project area, but no impacts to potential roost sites would occur as a result of project construction.

Based on information presented above and on habitats present in the project area, and the fact the proposed artificial recharge project would be constructed within existing roads, the project is not expected to affect any listed endangered, threatened, candidate or sensitive species.

3.5 WATER RESOURCES

3.5.1 Ground Water

The predominant source of ground water in Lemmon Valley is from snow melt on Peavine Mountain. Ground water then moves north through the valley to the playa. Due to the relatively large number of homes in the basin, septic effluent is considered a significant contributor of recharge to ground water. According to Washoe County's 1994 Ground Water Contamination Study, the depth to ground water in the area is between 80 and 250 feet below ground surface depending upon ground surface elevation. The depth to ground water is deepest at the northern end of the valley. Since the early 1970s, ground water levels have dropped at a rate of one to two feet per year below the Heppner Subdivision (Dragan, 2005).

There are 640 one-acre parcels located in the Heppner Subdivision, of which approximately 501 lots (78 percent) have domestic wells and septic systems. Between 1984 and 2004, over 160 lots in the Heppner Subdivision deepened or redrilled their wells due to well failures. According to Washoe County, between five and 15 wells fail each year in this subdivision. Most of the subdivision is located above a low yield aquifer, and well failures in this area are the result of water table declines on the order of approximately one to two feet per year.

Under the proposed action, municipal water will be supplied from three Washoe County municipal wells (well nos. 6, 7, and 8) that are located south of the subdivision. These municipal wells are drilled in the high yield sand and gravel aquifer just south of the subdivision. The municipal well depths are significantly deeper than the average domestic well depth. Washoe County's deepest well is approximately 900 feet below ground surface, and the static water table is 70 feet below the ground surface. Therefore, at the rate of water table decline of approximately one to two feet per year, the water in storage could potentially last for centuries. Additionally, the valley fill aquifer is not impacted by septic effluent and has shown to have better water quality than the fractured bedrock aquifer directly beneath the Heppner Subdivision (Washoe County, 1994).

According to Washoe County's records, ground water levels beneath the Heppner Subdivision form

a depression as a result of domestic pumping, such that flow directions in much of northern Lemmon Valley are towards the subdivision (Dragan, 2005). This study indicates that concentrations of nitrate in the aquifer are increasing over time. Due to the concentrated number of septic systems in the subdivision, septic effluent serves as a significant source of recharge to the aquifer.

As noted above, the North Lemmon Valley Artificial Recharge Project is being constructed to address the problem of the lowering water table and address the ground water quality degradation derived from septic effluent. The municipal water line is intended to provide homeowners with a reliable long-term source of high quality domestic water. This action is designed to reduce the over-pumping of the aquifer in the basin and allow for recovery of the aquifer due to the reduced pumping, and may also result in a reduction of the area's current recirculating of septic system effluent via domestic well pumping. As homes are connected to municipal water, Washoe County will convert strategically located domestic wells at residences in the subdivision to County monitoring wells to monitor ground water levels and water quality. Ground water is not expected to be encountered during construction of the water line.

3.5.2 Surface Water

There are no natural surface water resources existing within the project area. No springs or ponds are mapped or were noted within the subdivision. Ephemeral drainages enter the area from the north. These drainages flow only in response to snow melt or high precipitation runoff. Any evidence of channel definition in these drainages is lost, or the drainages are captured by ditches. While continuous defined channels are not present in the ditches, the ditches do drain to Lemmon Valley Playa. Accordingly, those drainages that share a physical connection with the Lemmon Valley Playa could be considered jurisdictional features. As noted above, because the water lines that would be installed for this project would be located within the footprints of existing roads, no impacts to channels in the area is expected.

3.6 Hazardous Materials

A Phase I Environmental Site Assessment was not performed on the project site. The area is a rural residential community. No commercial facilities, gasoline stations or similar businesses are present in the project area. Small-scale automotive repair appears to occur at some residences. Most or all residences in the area are serviced by propane gas; propane gas tanks are common in the subdivision. Some residences may also include home heating oil tanks. Leakage from underground home heating oil tanks could represent localized sources of environmental contamination. Similarly, residents may utilize and store small amounts of chemicals such as herbicides, pesticides, cleaning solvents, etc. The quantities of such materials are not expected to represent a significant risk of environmental contamination within the overall project area.

3.7 Historical, Architectural, and Archaeological

On February 17 and 22, 2005, a Class III cultural resource survey was performed in the project area by Kautz Environmental Consultants, Inc. (Kautz). The report, *A Cultural Resource Inventory of the North Lemmon Valley Artificial Recharge Project, Heppner Subdivision, Washoe County, Nevada,* (Kautz, 2005) was submitted to EPA under separate cover. The survey area encompassed the entire Heppner Subdivision. Because the project consists of excavating through the streets, it was

determined a pedestrian survey for archaeological resources was not necessary. A reconnaissance of the subdivision did not indicate any of the buildings were particularly outstanding or unique; however, a subsequent examination of documentation provided on the Washoe County Assessor's website did indicate that two of the buildings may have been constructed during the late historic period (1949+). However, both these residences had obviously experienced major modifications to their original form resulting in a loss of integrity, and as a consequence, neither of these two residences have been considered eligible for nomination to the National Register of Historic Places under any of its criteria. Based on Assessor's Office documentation of a sample of forty-two residences, the majority of the buildings in the Heppner Subdivision were constructed between 1975 and 1985. Consequently, as there are no cultural properties affected by the proposed water project, it will result in no effect to cultural resources. Correspondence from the State Historic Preservation Office (SHPO) regarding the survey report is included in Appendix A.

3.8 Land Use and Zoning

Lands in the vicinity of the proposed project are privately owned. These lands have been developed as a rural residential area and are located within Washoe County. These lands are zoned Low Density Suburban (LDS). Minimum lot sizes are one acre. Implementation of the proposed project would not change the land use designation of Low Density Suburban.

Lands managed as a part of the Stead Airport are located immediately west of the southern part of the project area. The Stead Airport is owned by the City of Reno and is zoned Mixed Use/Reno Stead Airport Regional Center (MU/RSARC). Lands to the west and south of the project area are zoned as open space. Lands to the east are zoned as Medium Density Suburban, and lands to the north and northwest are zoned as Rural Residential/General Rural.

The proposed project is in conformance with the approved Washoe County zoning.

3.9 Socioeconomics

The proposed project would be constructed between summer of 2005 and summer of 2006. The project would be built by a contractor under the direction of Washoe County Department of Water Resources. The relatively small scale and short-term nature of the project would result in minimal to no socioeconomic effects.

3.10 Utilities

Electrical power in the area is provided by Sierra Pacific Power Company. Most houses obtain domestic water from domestic wells. The southeastern portion of the subdivision is currently tied to municipal water supplies. Sewage is treated in individual septic systems. Most homes utilize individual propane tanks to supply gas-powered appliances. Construction contractors would review as-built specifications and locate any existing underground utilities prior to ground disturbance. Existing municipal water service would be briefly interrupted when new water lines are connected to the municipal system.

3.11 TRANSPORTATION AND ACCESS

Access to the site can be achieved by traveling north on U.S. Highway 395 from Reno, then north on Lemmon Drive to the project area. Construction crews installing the proposed water lines would utilize existing roads to access the project site. Staging areas would be located on vacant lots within the subdivision that are owned by Washoe County. Construction of the project would result in temporary and local disruptions in traffic flow within the Heppner Subdivision, and to a lesser extent on Lemmon Drive. The contractor would utilize flaggers, signs and traffic control devices to direct traffic in construction areas and to minimize impacts to traffic flow. Some residential roads may be temporarily closed during construction in the immediate area. Residents may be required to park their cars up to one block away, but street closures would be temporary, lasting less than one day at a time during construction and repaving.

3.12 NOISE

During construction, noise will be generated on the project site by equipment operations and other contractor functions. These noise impacts will be temporary and last only until construction and repaving is completed. Construction related noise will occur only during daylight hours.

3.13 ENVIRONMENTAL JUSTICE

In 1994, Executive Order 12898 was signed requiring Federal Actions to address environmental justice in minority populations and low-income populations. Federal actions are to assess whether their actions have disproportionately high and adverse human health or environmental effects on minority and low income populations. The proposed project, once implemented, would not result in an adverse human health or environmental effect on minority or low income populations.

3.14 PUBLIC NOTIFICATION AND CONTROVERSY

For the past several years, Washoe County Department of Water Resources has notified and informed the public about the proposed project. Department of Water Resources staff has attended several Citizens Advisory Board Meetings, sent out two direct mailers to local residents, and made public presentations on the issue at Washoe County Board of County Commissioner meetings.

4.0 CUMULATIVE IMPACTS

The CEQ regulations implementing NEPA require that the cumulative impacts of a Proposed Action be assessed (40 CFR Parts 1500-1508). A cumulative impact is an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions" (40 CFR § 1508.7). Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time (40 CFR § 1508.7).

Reasonably foreseeable activities within the cumulative assessment area include the potential for further phases of the project that will extend municipal water service to the northern portion of the Heppner Subdivision and the construction of a separate water tank (Figure 3).

The analysis for this EA addressed potential impacts to resources within the entire subdivision; however, surveys did not address the water tank. Construction of water lines in the northern half of the subdivision are likely to occur in the reasonable foreseeable future; however, there is no known scheduled date for such construction. These northern water lines will likely have separate funding; however, funding for such has not been secured. The construction of these water lines in the northern half of the subdivision (but not including the water tank) would have the similar environmental effects as implementation of the proposed project. Because the water line would be constructed within existing paved roads, environmental impacts are anticipated to be minimal to none.

Washoe County is also assessing the feasibility of constructing a water tank to be built on public lands administered by the Bureau of Land Management (BLM) and located north of the Heppner Subdivision. This water tank, should it be built, would serve as storage for the northern portion of the subdivision. Potential environmental impacts associated with the construction of the water tank would be addressed by the BLM, a Federal Agency, in a separate NEPA document. The BLM would act upon Washoe County's application for a right-of-way on public lands, and would serve as the lead agency for NEPA compliance for such action.

Implementation of the proposed project is considered a separate and independent action from the water lines in the northern half of the Heppner Subdivision and the water tank on public land.

Lands to the west and south of the project area are zoned as open space. Lands to the east are zoned as Medium Density Suburban, and lands to the north and northwest are zoned as Rural Residential/General Rural. Additional rural housing development in the area is expected to continue as long as demand for such housing in the area persists and adequate domestic water supply can be provided.

5.0 CONSULTATION, COORDINATION, AND LIST OF PREPARERS

The following individuals either provided consultation and coordination during the preparation of this EA.

5.1 CONSULTATION AND COORDINATION

JBR Environmental Consultants, Inc.
- Catherine Clark, Division Manager
- Molly Reeves, Hydrogeologist
- Dave Worley, Senior Biologist

Kautz Environmental Consulting, Inc.
- Bob Kautz

Nevada Department of Wildlife
- Roy Leach

Nevada Natural Heritage Program
- Eric Miskow

Nevada State Historic Preservation Office
- Rebecca Lynn Palmer

U.S. Fish and Wildlife Service
- Robert Williams
- David Potter

Washoe County Department of Water Resources
- Dan Dragan
- Ron McHenry
- Joe Stowell
- John Nelson

5.2 LIST OF AGENCIES AND ORGANIZATIONS TO WHOM COPIES OF THE EA WILL BE SENT

The following is a list of agencies or groups that will receive a copy of the EA:

U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
U.S. Geological Survey
Federal Emergency Management Agency
Nevada Department of Transportation
Nevada Division of Forestry
Bureau of Land Management
North Valleys Citizens Advisory Board
Lemmon Valley Association
Nevada Health Division
Office of Historic Preservation
Nevada Division of Wildlife
Nevada Division of Environmental Protection
Washoe County Comprehensive Planning
Washoe County Board of Commissioners
Washoe County Department of Air Quality Management

6.0 REFERENCES

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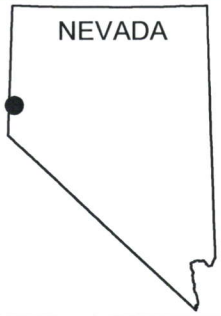
FIGURES



WASHOE COUNTY

LEMMON VALLEY ARTIFICIAL RECHARGE PROJECT

FIGURE 1
REGIONAL LOCATION

jbr environmental consultants, inc.

DESIGN BY	DRAWN BY	CH'D BY	SCALE	DATE DRAWN	REVISION
MR	RD		--	03/08/05	

FILE NAME: Clients-2005\Washoe County-02\AutoCAD\JBR UTM83.dwg

OREGON BLVD
JUNIPER STREET
OKLAHOMA STREET
MATTERHORN BLVD
OVERLAND ROAD
FIR STREET
HEARTPINE STREET
OHIO STREET
IDAHO STREET
DEODAR WAY
ARIZONA STREET
CHESAPEAKE DRIVE
MISTLETOE STREET
PEPPER WAY
SITKA STREET
TUPELO STREET
WATERASH STREET
LEMMON DRIVE
OREGON BLVD
T TANK #3
W WELL #7
W WELL #8

BASE LAYERS ADAPTED FROM WASHOE COUNTY AUTOCAD FILE

- HEPPNER SUBDIVISION BOUNDARY
- PROPOSED WATER LINES
- EXISTING WATER LINES
- PROPOSED FIRE HYDRANTS
- LOTS OWNED BY WASHOE COUNTY

1,000 0 1,000 FEET

N

WASHOE COUNTY

LEMMON VALLEY ARTIFICIAL RECHARGE PROJECT

FIGURE 2
HEPPNER PROPOSED ACTION

jbr environmental consultants, inc.

DESIGN BY	DRAWN BY	CH'D BY	SCALE	DATE DRAWN	REVISION
MR	AA		1:9,600	03/08/05	04/08/05 05/19/05

FILE NAME: Clients-2005\Washoe County-02\AutoCAD\JBR UTM83.dwg

NEW TANK (APPROXIMATE LOCATION)

TANK #3

OREGON BLVD

JUNIPER STREET

OKLAHOMA STREET

MATTERHORN BLVD

OVERLAND ROAD

FIR STREET

HEARTPINE STREET

OHIO STREET

IDAHO STREET

DEODAR WAY

ARIZONA STREET

CHESAPEAKE DRIVE

MISTLETOE STREET

PEPPER WAY

SITKA STREET

TUPELO STREET

WATERASH STREET

LEMMON DRIVE

WELL #7

WELL #8

BASE LAYERS ADAPTED FROM WASHOE COUNTY AUTOCAD FILE

- PROPOSED WATER LINES
- POTENTIAL FUTURE WATER LINES (REASONABLY FORESEEABLE FUTURE)
- EXISTING WATER LINES
- PROPOSED ACTION
- POTENTIAL FUTURE EXPANSION

1,000 0 1,000 FEET

N

WASHOE COUNTY

LEMMON VALLEY ARTIFICIAL RECHARGE PROJECT

FIGURE 3
EXISTING AND POTENTIAL FUTURE FACILITIES

jbr environmental consultants, inc.

DESIGN BY	DRAWN BY	CH'D BY	SCALE	DATE DRAWN	REVISION
MR	RD		1:9,600	03/08/05 03/24/05	

FILE NAME: Clients-2005\Washoe County-02\AutoCAD\JBR UTM83.dwg

APPENDIX A

Agency Correspondence

jbr environmental consultants, inc.

www.jbrenv.com

5355 Kietzke Lane • Suite 100 • Reno, Nevada 89511 • [P] 775.747.5777• [F] 775.747.2177

March 3, 2005

Mr. Robert Williams
U.S. Fish and Wildlife Service
1340 Financial Blvd.
Reno, Nevada 89520

RE: North Lemmon Valley Artificial Recharge Project
USFWS Species List Request
JBR Project Code Washoe-02

Dear Mr. Williams,

Washoe County Department of Water Resources is proposing to construct the Lemmon Valley Artificial Recharge Project. The project involves improvement and expansion of the County's existing water system within an area known as the Heppner subdivision. Specifically, improvements include the construction of approximately 10 miles of water mains, residential service lines and meters, fire hydrants, other water system appurtenances, and restoration of streets and all areas affected by the work. Water mains will be installed within the pavement of existing streets and service lines will be stubbed to the property line of each parcel.

The Environmental Protection Agency (EPA), San Francisco Office Region 9, via an In-Lieu Recharge Grant, is providing a portion of the project funding. As a requirement of Federal funding, the EPA is requiring the preparation of an Environmental Assessment (EA) for the proposed project.

JBR Environmental Consultants, Inc. (JBR) has been asked by Washoe County to prepare an environmental assessment for this project. The project would be constructed within portions of Sections 15 and 22, Township 21 North, Range 19 East, as shown in the attached figure.

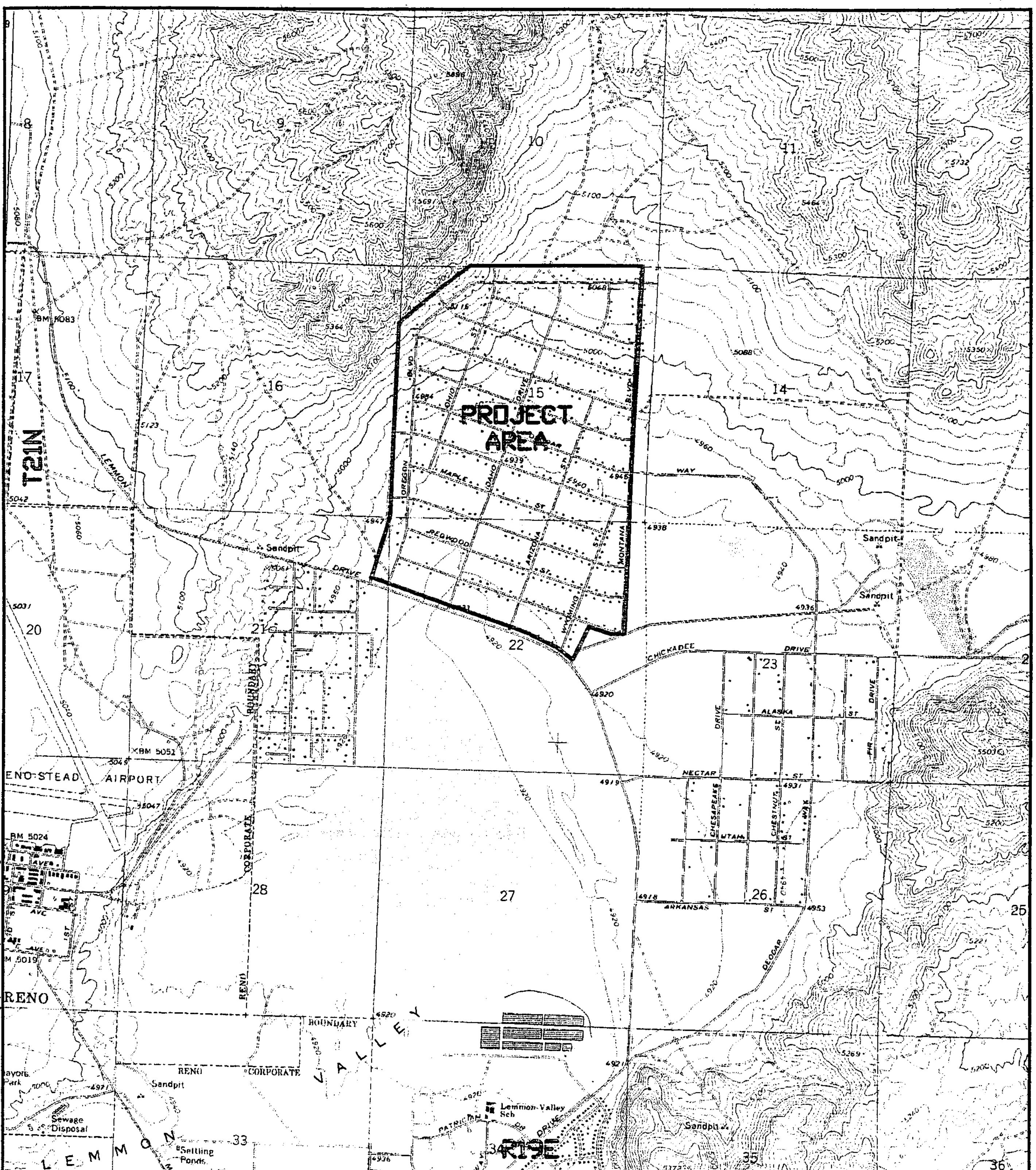
JBR is requesting a list of threatened, endangered, or candidate/sensitive species that occur or have the potential to occur within this area. If possible, please forward the species list by March 16, 2005, so that it may be incorporated into the environmental assessment. Thank you for your attention to this matter. Should you have any questions regarding the proposed project, please fell free to contact me at 747-5777. We appreciate your time and assistance.

Sincerely,

JBR ENVIRONMENTAL CONSULTANTS, INC.

Catherine Clark

Catherine Clark
Division Manager



BASE IMAGE: USGS DRG

PROJECT BOUNDARY

900 0 900 FEET

N

WASHOE COUNTY

NORTH LEMMON VALLEY RECHARGE

PROJECT LOCATION

jbr environmental consultants, inc.

DESIGN BY	CC	DRAWN BY	RD,AA	CH'D BY		SCALE	1:10800

DATE DRAWN 03/03/05

REVISION

FILE NAME: 2005-Clients\Washoe County\Washoe-02 Lemmon Val Rechg\AutoCAD\JBR UTM83.dwg

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1340 Financial Blvd., Suite 234
Reno, Nevada 89502
Ph: 775-861-6300 ~ Fax: 775-861-6301

TAKE PRIDE IN AMERICA

March 16, 2005
File No. 1-5-05-SP-098

Catherine Clark
JBR Environmental Consultants, Inc.
5355 Kietzke Lane, Suite 100
Reno, Nevada 89511

Dear Ms. Clark:

Subject: Species List for the Lemmon Valley Artificial Recharge Project, Washoe County, Nevada

This responds to your request received March 4, 2005, requesting a species list for the proposed Lemmon Valley Artificial Recharge Project. The project involves improvement and expansion of Washoe County's existing water system within the Heppner subdivision (T 21N, R 19E, Sections 15 and 22). Project construction will be restricted to areas that have been previously disturbed as part of the subdivision (e.g., existing roads). To the best of our knowledge, no listed, proposed, or candidate species occur in the subject project area. This response fulfills the requirement of the Fish and Wildlife Service to provide a list of species pursuant to section 7(c) of the Endangered Species Act of 1973, as amended, for projects that are authorized, funded, or carried out by a Federal agency.

The Nevada Fish and Wildlife Office no longer provide species of concern lists. Most of these species for which we have concern, are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we are adopting Heritage's sensitive species list and partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or are in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

For a list of sensitive species by county, visit Heritage's website at www.heritage.nv.gov. For a specific list of sensitive species that may occur in the project area, you can obtain a data request form from the website or by contacting Heritage at 1550 East College Parkway, Suite 137, Carson City, NV 89706, 775-687-4245. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Endangered Species Act.

During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address. Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (see http://www.leg.state.nv.us/NAC/NAC-503.html). Before a person can hunt, take, or possess any parts of wildlife species classified as protected, they must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (visit http://www.ndow.org or call 775-688-1500).

Please reference File No. 1-5-05-SP-098 in future correspondence concerning this species list. If you have any questions or require additional information, please contact me or David Potter at (775) 861-6300.

Sincerely,

for Robert D. Williams
Field Supervisor

Enclosure

cc:
Groundwater Office, Environmental Protection Agency, San Francisco Office Region 9
(Attn: Kate Rao)

ENCLOSURE A

FEDERAL AGENCIES' RESPONSIBILITIES UNDER SECTIONS 7 (a) AND (c)
OF THE ENDANGERED SPECIES ACT

SECTION 7 (a): Consultation/Conference
Requires:

1) Federal agencies to utilize their authorities to carry out programs to conserve endangered and threatened species;

2) Consultation with the Fish and Wildlife Service (Service) when a Federal action may affect a listed endangered or threatened species to insure that any action authorized, funded or carried out by a Federal agency is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The process is initiated by the Federal agency after determining the action may affect a listed species or critical habitat;

3) Conference with the Service when a Federal action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat.

SECTION 7 (c): Biological Assessment - Major Construction Activity 1/
Requires Federal agencies or their designees to prepare a Biological Assessment (BA) for major construction activities. The BA analyzes the effects of the action on listed and proposed species. The process begins with a Federal agency requesting from the Service a list of proposed and listed threatened and endangered species. The BA should be completed within 180 days after its initiation (or within such a time period as is mutually agreeable). If the BA is not initiated within 90 days of receipt of the list, the accuracy of the species list should be informally verified with the Service. No irreversible commitment of resources is to be made during the BA process which would foreclose reasonable and prudent alternatives to protect endangered species. Planning, design, and administrative actions may proceed; however, no construction may begin.

We recommend the following for inclusion in the BA:

1. An onsite inspection of the area affected by the proposal which may include a detailed survey of the area to determine if the species or suitable habitat are present.

2. A review of literature and scientific data to determine species distribution, habitat needs, and other biological requirements.

3. Interviews with experts, including those within the Service, State conservation departments, universities, and others who may have data not yet published in scientific literature.

4. An analysis of the effects of the proposal on the species in terms of individuals and populations, including consideration of cumulative effects of the proposal on the species and its habitat.

5. An analysis of alternative actions considered.

6. Documentation of study results, including a discussion of study methods used, any problems encountered, and other relevant information.

7. Conclusion as to whether or not a listed or proposed species will be affected.

Upon completion, the BA should be forwarded to our office with a request for consultation, if required.

1/ A construction project (or other major undertaking having similar physical impacts) is a major Federal action significantly affecting the quality of the human environment as referred to in NEPA (42 U.S.C. 4332 (2) C).

jbr environmental consultants, inc.

www.jbrenv.com

5355 Kietzke Lane • Suite 100 • Reno, Nevada 89511 • [P] 775.747.5777• [F] 775.747.2177

March 3, 2005

Mr. Eric Miskow
Nevada Natural Heritage Program
1550 East College Parkway, Suite 145
Carson City, Nevada 89706

RE: North Lemmon Valley Artifical Recharge Project
NNHP Data Request
JBR Project Code Washoe-02

Dear Mr. Miskow,

Washoe County Department of Water Resources is proposing to construct the Lemmon Valley Artificial Recharge Project. The project involves improvement and expansion of the County's existing water system within an area known as the Heppner subdivision. Specifically, improvements include the construction of approximately 10 miles of water mains, residential service lines and meters, fire hydrants, other water system appurtenances, and restoration of streets and all areas affected by the work. Water mains will be installed within the pavement of existing streets and service lines will be stubbed to the property line of each parcel.

The Environmental Protection Agency (EPA), San Francisco Office Region 9, via an In-Lieu Recharge Grant, is providing a portion of the project funding. As a requirement of Federal funding, the EPA is requiring the preparation of an Environmental Assessment (EA) for the proposed project.

JBR Environmental Consultants, Inc. (JBR) has been asked by Washoe County to prepare an environmental assessment for this project. The project would be constructed within portions of Sections 15 and 22, Township 21 North, Range 19 East, as shown in the attached figure.

JBR is requesting a data search and species list of threatened, endangered, or candidate/sensitive species that occur or have the potential to occur within this area. If possible, please provide any data search information no later than March 14, 2005, so that it can be incorporated into the environmental assessment. Thank you for your attention to this matter. Should you have any questions regarding the proposed project, please feel free to contact me at 747-5777. Thank you for your time and assistance.

Sincerely,

JBR ENVIRONMENTAL CONSULTANTS, INC.

Catherine Clark
Division Manager

Nevada Natural Heritage Program

Department of Conservation and Natural Resources
1550 East College Parkway, Suite 137 * Carson City, Nevada 89706-7921
voice: (775) 687-4245 fax: (775) 687-1288 web: www.heritage/nv.gov/

07 March 2005

Catherine Clark
JBR Environmental Consultants, Inc.
5355 Kietzke Lane, Suite 100
Reno, NV 89511

RE: Data request received 04 March 2005

Dear Ms. Clark:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or sensitive plant and animal taxa recorded within or near the North Lemmon Valley Artificial Recharge project area. We searched our database and maps for the following, a three mile radius around:

Township 21N Range 19E Sections 15 and 22

There are no sensitive taxa recorded within the given area. However, habitat may be available for the Ames milkvetch, *Astragalus pulsiferae* var. *pulsiferae*, a California Bureau of Land Management (BLM) Sensitive Species; the sagebrush pygmyleaf, *Loeflingia squarrosa* ssp. *artemisiarum*, a California BLM Sensitive Species; and the Townsend's big-eared bat, *Corynorhinus townsendii*, a Nevada BLM Sensitive Species. We do not have complete data on various raptors that may also occur in the area; for more information contact Ralph Phenix, Nevada Division of Wildlife at (775) 688-1565. Note that all cacti, yuccas, and Christmas trees are protected by Nevada state law (NRS 527.060-.120), including taxa not tracked by this office.

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,

Eric S. Miskow
Biologist III/Data Manager

NEVADA NATURAL HERITAGE PROGRAM DATA REQUEST FORM

rev. W97-1999-11

Use this form to query the Nevada Natural Heritage Program database for sensitive species location information. Please fill out this form as completely and specifically as possible, attaching additional sheets as needed. For more information on available species and data fields, fees, limitations, and restrictions, please visit our web site <www.state.nv.us/nvnhp/> or contact us for printed information. We cannot guarantee our response time; normal time is about two weeks, and we will strive to (and usually can) meet more urgent deadlines.

Date signed: 2/17/05 **Date needed:**2/23/05

Organization: JBR Environmental Consultants, Inc.

Mailing Address: 5355 Kietzke Lane, Suite 100, Reno, Nevada, 89511

Phone: 775 747 5777 **FAX:** 775 747 2177 **email:** dworley@jbrenv.com

Project or Site Name: Washoe County Artificial Recharge Project, JBR Project Number Washoe-02

How will the information be used? Sensitive species surveys and impact analysis

KIND OF SEARCH

(see current fee schedule <www.state.nv.us/nvnhp/fees.htm> for descriptions, costs, and examples)

XX **Standard (one-time),** OR... **Annual Subscription:** ____ **first year** ____ **continuation**

LIMIT SEARCH BY THE FOLLOWING CRITERIA

(check or complete all that apply to ensure you purchase only the records you want)

Location (please specify by township-range-section, map quadrangle, watershed, or other boundaries, and attach map(s) when possible; for GIS requests, submit polygon(s) of area(s) in unprojected [decimal-degree] NAD27 coordinates as ArcView® shapefiles if possible):

Sections 15 and 22, Township 21 North, Range 19 East and nearby areas (see also attached figure)

Species: XX **all plants** XX **all animals** XX **All vertebrates** XX **all invertebrates**

other (specify groups/taxa):

Status: XX **all sensitive** XX **all federal T/E/candidate** XX **all state T/E** ____ **all watch list**

Additional Limiting Criteria (please specify; see data catalog <www.state.nv.us/nvnhp/datafids.htm> for searchable fields):

FORMAT AND CONTENT OF SEARCH RESULTS

(see fee schedule <www.state.nv.us/nvnhp/fees.htm> and data catalog < . . . /datafids.htm> for format descriptions and available fields)

XX **Standard Summary Records** (name, status, location, precision, date), **specify:** XX Printed ____ ASCII text file

____ **OR Complete or Customized** (enter desired fields below) **Records, specify:** ____ Printed ____ ASCII text file

____ **OR ArcView® GIS shapefile** (complete records only, excludes long-text fields unless requested below), **specify:**

Projection (none=geographic decimal-degrees): Datum (blank=NAD27):

Custom Fields (enter names or types of ALL data fields to include for custom records, or specify "GIS text fields" if needed):

HOW YOU WANT THE RESULTS SENT

Please Send: XX **search results immediately** ____ **Cost estimate first** ____ **exact cost first**

Send by any of the following checked methods: XX **U.S. Mail** XX **FAX** ____ **email** ____ **FedEx**

For FedEx, include PHYSICAL address above, and specify account to charge:

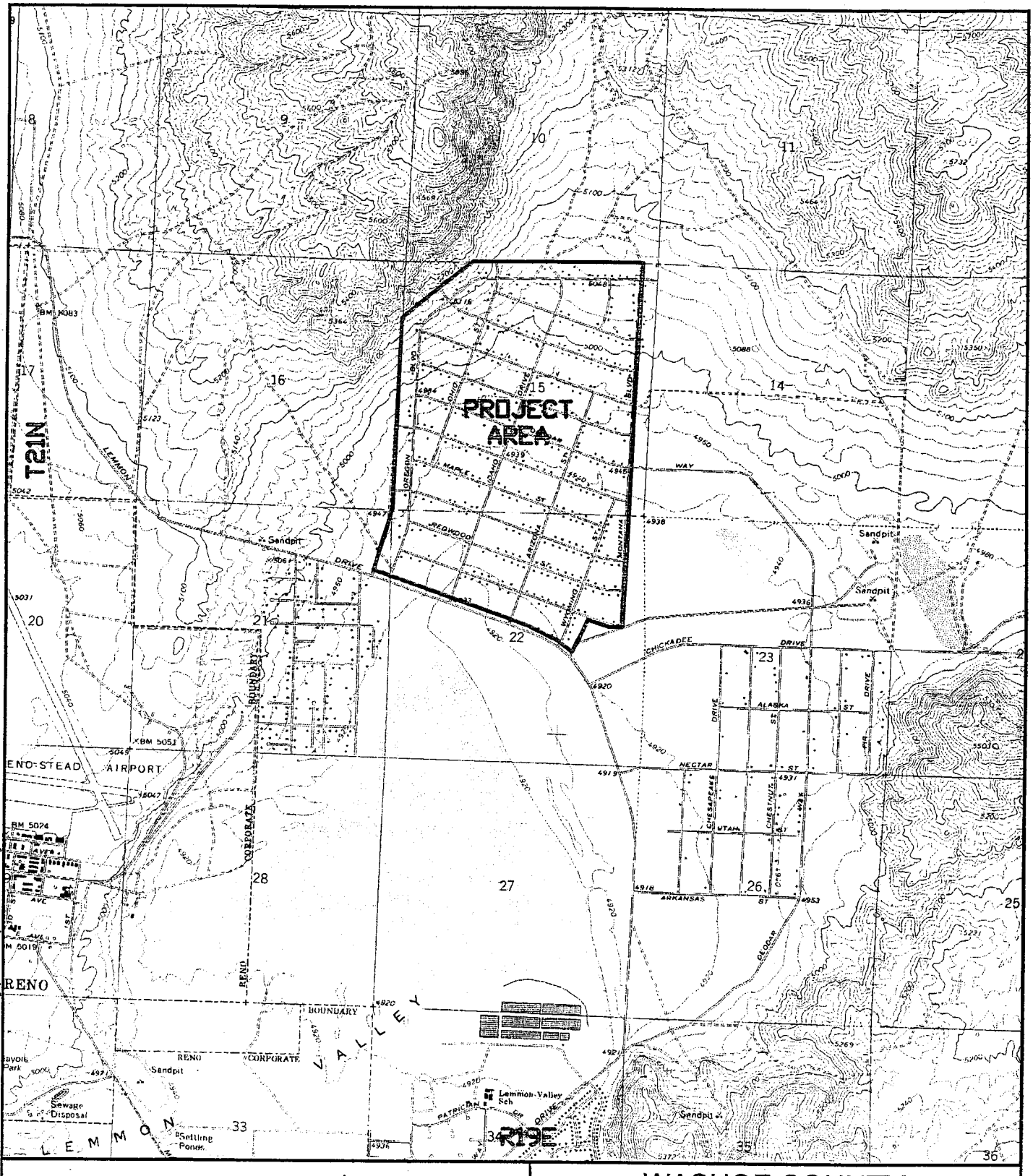
BY SIGNING BELOW, I acknowledge that I have read and agreed to abide by the Nevada Natural Heritage Program's (NNHP's) current fee schedule <www.state.nv.us/nvnhp/fees.htm> and its data limitations and restrictions < . . . /limitats.htm> (contact us for printed copies). I also agree that (1) all data supplied, and the analytic tools and processes from which they are derived, are the privileged, confidential property of NNHP, and/or The Nature Conservancy, Inc., and/or those who supplied the data to NNHP, and will not be provided to any other party without our consent; (2) in any use of the data, NNHP will be cited as a source, along with the year and month it supplied the data; and (3) while NNHP strives for accuracy and completeness, the data it supplies depend on the observations and research of many individuals and organizations, new data are constantly received, and in no case will the data be represented as a complete survey of any species or area.

Catherine Clark — Signature

Catherine Clark — Name (please print)

Division Manager — Title

Please MAIL or FAX completed and signed form to: Nevada Natural Heritage Program, attn: Data Manager, 1550 E College Pkwy, ste 145, Carson City NV 89706-7921. FAX (775) 687-1288, phone (775) 687-4245.



BASE IMAGE: USGS DRG

PROJECT BOUNDARY

900 0 900 FEET

N

WASHOE COUNTY
NORTH LEMMON VALLEY RECHARGE

PROJECT LOCATION

jbr environmental consultants, inc.

DESIGN BY	DRAWN BY	CH'D BY	SCALE	DATE DRAWN	REVISION
CC	RD, AA		1:10800	03/03/05	

FILE NAME: 2005-Clients\Washoe County\Washoe-02 Lemmon Val Rechg\AutoCAD\JBR UTM83.dwg

jbr environmental consultants, inc.

www.jbrenv.com

5355 Kietzke Lane • Suite 100 • Reno, Nevada 89511 • [P] 775.747.5777• [F] 775.747.2177

March 3, 2005

Mr. Roy Leach
Nevada Division of Wildlife
380 W. B St.
Fallon, Nevada 89406

RE: North Lemmon Valley Artificial Recharge Project
NDOW Data Request
JBR Project Code Washoe-02

Dear Mr. Leach,

Washoe County Department of Water Resources is proposing to construct the Lemmon Valley Artificial Recharge Project. The project involves improvement and expansion of the County's existing water system within an area known as the Heppner subdivision. Specifically, improvements include the construction of approximately 10 miles of water mains, residential service lines and meters, fire hydrants, other water system appurtenances, and restoration of streets and all areas affected by the work. Water mains will be installed within the pavement of existing streets and service lines will be stubbed to the property line of each parcel.

The Environmental Protection Agency (EPA), San Francisco Office Region 9, via an In-Lieu Recharge Grant, is providing a portion of the project funding. As a requirement of Federal funding, the EPA is requiring the preparation of an Environmental Assessment (EA) for the proposed project.

JBR Environmental Consultants, Inc. (JBR) has been asked by Washoe County to prepare an environmental assessment for this project. The project would be constructed within portions of Sections 15 and 22, Township 21 North, Range 19 East, as shown in the attached figure.

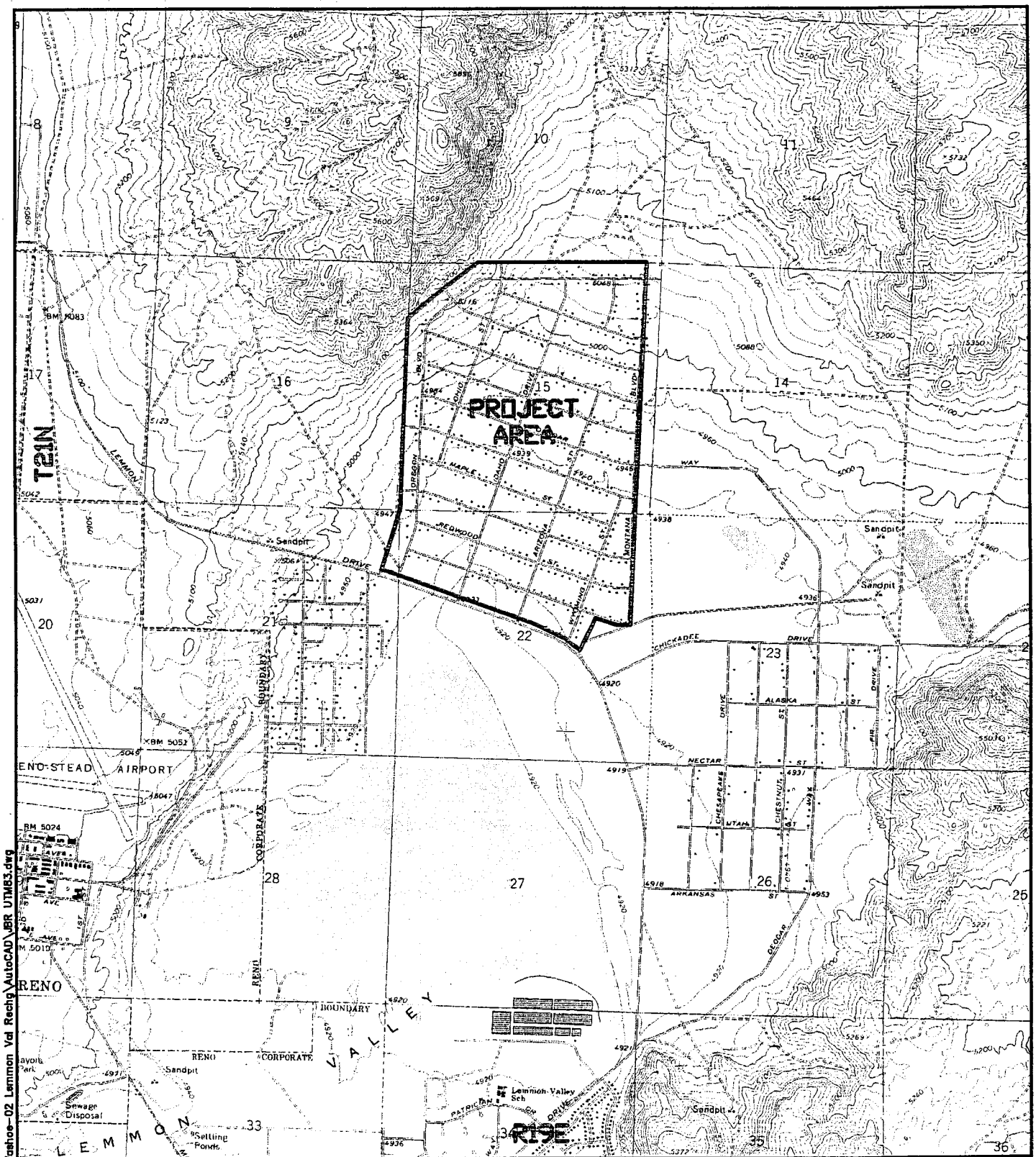
JBR is requesting your input on any wildlife concerns, including the potential occurrence of threatened, endangered, or candidate/sensitive species that you may have about this project. Thank you for your attention to this matter. Should you have any questions regarding the proposed project, please fell free to contact me at 747-5777. We appreciate your time and assistance with this matter.

Sincerely,

JBR ENVIRONMENTAL CONSULTANTS, INC.

Catherine Clark

Catherine Clark
Division Manager



BASE IMAGE: USGS DRG

PROJECT BOUNDARY

900 0 900 FEET

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WASHOE COUNTY
NORTH LEMMON VALLEY RECHARGE

PROJECT LOCATION

jbr environmental consultants, inc.

DESIGN BY	DRAWN BY	CH'D BY	SCALE	DATE DRAWN	REVISION
CC	RD, AA		1:10800	03/03/05	

FILE NAME: 2005-Clients\Washoe County\Washoe-02 Lemmon Val Rechg\AutoCAD\JBR UTM83.dwg

STATE OF NEVADA
DEPARTMENT OF CULTURAL AFFAIRS
Nevada State Historic Preservation Office
100 N. Stewart Street
Carson City, Nevada 89701
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KENNY C. GUINN
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RONALD M. JAMES
State Historic Preservation Officer

May 11, 2005

Katherine R. Rao
Ground Water Office
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco CA 94105-3901

RE: Lemmon Valley Artificial Recharge Project, Heppner Subdivision in North Lemmon Valley, Washoe County (EPA Grant #XP-96909501).

Dear Ms. Rao:

The Nevada State Historic Preservation Office (SHPO) reviewed the subject undertaking. This cultural resource inventory report was completed following an intensive archaeological and historic inventory of the project area. No historic properties were found within the area of potential effects (APE) for the subject undertaking. As a result, the SHPO concurs with the U.S. Environmental Protection Division determination that historic properties will not be affected by the proposed undertaking.

If buried or previously unidentified resources are located during project activities, the SHPO recommends that all work in the vicinity of the find cease and this office be contacted for additional consultation per NRS 383.150-383.190.

If you have any questions concerning this correspondence, please contact me by phone at (775) 684-3443 or by E-mail at rlpalmer@clan.lib.nv.us.

Sincerely,

Rebecca L Palmer

Rebecca Lynn Palmer
Historic Preservation Specialist