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**NOVEMBER 2003 FEDERAL LAND DISPOSAL  
ENVIRONMENTAL ASSESSMENT  
LAS VEGAS FIELD OFFICE**

**ENVIRONMENTAL ASSESSMENT**

**EA Number: NV- 2003-266**

**Serial/Case File #:** N-77085, N-77087 through N-77094, N-77031 through N-77042, N-77044 through N-77049, N-76375, N-76917, N-77050 through N-77053, N-76403, N-76918 through N-76928; N-77054 through N-77065, N-76404, N-75200, N-76570, N-76789

**1.0 Proposed Action Title/Type**

Competitive Sale: The Bureau of Land Management (BLM) proposes to hold a competitive sale of federal public land in the Las Vegas Valley under the authority of and in accordance with Sections 203 and 209 of the Federal Land Policy and Management Act of 1976 (90 Stat. 2750, 43 U.S.C. 1713 and 1719), Southern Nevada Public Land Management Act of 1998 (Public Law 105-263, 112 Stat 2343) (SNPLMA) and, the Clark County Conservation of Public Land and Natural Resources Act of 2002 (Public Law 107-282). The land consists of 60 parcels of various sizes totaling 2,728.49 acres, including approximately 2,055 acres within the City of Henderson to be sold as two parcels: one approximately 1,940 acre parcel; the other an approximately 115 acre parcel, currently envisioned for development as a master planned community. See Appendices 1 and 2 for legal descriptions and maps of locations. Lands offered for sale are hereinafter known as “the subject lands.”

It is proposed that the subject lands will be sold at public auction, as part of the disposal of federal public land under SNPLMA. Following each oral auction, unsold parcels may be offered for sale on the Internet. Prior to the auction, interested parties can submit sealed bids accompanied by 10% of the bid amount. Those declared highest bidders at the auction must submit 20% of their high bid by close of business the day of the auction. Final payment is due within 180 days of the auction, which will be May 4, 2004.

**1.1 Location of Proposed Action**

The sale consists of numerous parcels throughout the Las Vegas Valley within the Federal Lands Disposal Boundary defined within the SNPLMA, as amended. A detailed legal description of the subject lands is provided in Appendix 1, and parcel maps of the subject lands are included in Appendix 2.

**1.2 Conformance with Applicable Land Use Plan**

The subject lands are within the disposal boundary adopted by Congress in SNPLMA, and have been identified as suitable for disposal under the authority of Federal Land Policy and Management Act of 1976 (90 Stat. 2750, 43 U.S.C. 1713 and 1719), Southern Nevada Public Land Management Act of 1998 (Public Law 105-263, 112 Stat 2343) (SNPLMA) and, the Clark County Conservation of Public Land and Natural Resources Act of 2002 (Public Law 107-282). The disposal of the subject lands is in accordance with the Las Vegas Resource Management Plan/Final Environmental Impact Statement (RMP) approved in October 1998. See the Record of Decision, Lands Decision LD-1, page 18 of Appendix A of the RMP. A copy of the RMP is

available for review at the BLM Las Vegas Field Office, 4701 N. Torrey Pines Dr., Las Vegas, NV.

This environmental assessment (EA) tiers to the RMP, and incorporates relevant sections of the RMP, where appropriate. BLM has used the most current information available to complete this analysis of the proposed action.

### **1.3 Need for Proposed Action**

Through the orderly disposal of public land, under the authority of Federal Land Policy and Management Act of 1976 (90 Stat. 2750, 43 U.S.C. 1713 and 1719), Southern Nevada Public Land Management Act of 1998 (Public Law 105-263, 112 Stat 2343) (SNPLMA) and, the Clark County Conservation of Public Land and Natural Resources Act of 2002 (Public Law 107-282), the BLM will offer for sale jointly selected parcels of property which are consistent with local planning and zoning requirements and recommendations pursuant to Section 4(d)(1) of SNPLMA.

Las Vegas metropolitan area is one of the fastest growing urban areas in the United States (SNPLMA, Section 2(a)(3)). Furthermore, population and employment growth will remain robust over the forecast period. Population will grow to 2.6 million in 2035, causing the Las Vegas Valley to continue being one of the fastest growing metropolitan in the United States (Schwer and Riddel, 2002).

BLM administers extensive federal public land in small and large parcels interspersed with or adjacent to private land in the Las Vegas Valley (SNPLMA, Section 2(a)(1)). Many of these parcels lie within developed areas of the Las Vegas Valley fragmenting the landscape continuity and making them difficult to manage from a Federal land and resource management perspective. As a result, the subject lands are more appropriate for disposal. (SNPLMA, Section 2(a)(1)). Therefore, Congress authorized BLM to dispose of lands within the SNPLMA boundary adopted by Congress in 1998, and amended in 2002.

Under Section 4(d)(1) of SNPLMA, the appropriate local Las Vegas government, with the Secretary of Interior, jointly selects federal public lands within the SNPLMA disposal boundary to be offered for sale. Joint selection is required under SNPLMA in order that public land disposals made under SNPLMA are consistent with local land use planning and zoning requirements and recommendations.

The subject lands were selected by the City of Las Vegas, City of Henderson, Clark County and BLM as lands to be offered for sale at public auction by BLM. This process involves months of cooperative effort between BLM and these local governments whose proposed actions are based, in part, on nominations received from the general public and developers for parcels to be offered for sale. Legislation often dictates additional parcels be offered for sale.

As required by SNPLMA, the proceeds from the sale of the subject lands and the designated uses for the funds are as follows. The State of Nevada receives 5% for its general education program. The Southern Nevada Water Authority receives 10% for water treatment and transmission facility infrastructure in Clark County. BLM invests the remaining 85% into a special account for purposes including the acquisition of environmentally sensitive lands in Nevada (SNPLMA Section 4(e)). In addition, under P. L. 107-282, Congress created a change in the disposition of

funds from the sale of a particular parcel in that the proceeds will be used to staff and develop the Sloan Canyon National Conservation Area.

#### **1.4 Relationship to Statutes, Regulations and Agency Jurisdiction**

The proposed auction is specifically authorized by SNPLMA, which is administered by the Secretary of Interior, through BLM. A complete review of the RMP was performed by BLM staff and by those preparing the EA, pursuant to 43 CFR 1610.5-3, and other public land laws and regulations administered by BLM to determine if the proposed action conforms to those requirements. No inconsistencies were identified based on this complete review.

Public land sales are regulated by 43 CFR Part 2700, which details the procedures for disposal of public land under the Federal Land Management and Policy Act, 43 U.S.C. 1701 *et seq.* (FLPMA). BLM follows these regulatory procedures when conducting sales under SNPLMA (see Exhibit C, Appendix 3, BLM's program guidance memorandum). The proposed action conforms to applicable authorities and procedures under FLPMA, SNPLMA, and 43 CFR Part 2700.

#### **1.5 Relationship to Community Development Plans**

The parcels of land nominated by the local governments to be sold by the BLM are within or near those lands encompassed by the following land use plans:

- Clark County 1988 Comprehensive Master Plan
- Las Vegas 2020 Master Plan
- Northwest General Plan, Amendment to the City of Las Vegas General Plan, December 18, 1996
- Draft Lone Mountain/Centennial Hill 2002
- Lone Mountain Land Use Plan June 17, 1997
- Enterprise Land Use Plan
- Blue Diamond Neighborhood Plan, August 21, 2002
- Decatur Boulevard Neighborhood Plan – January 3, 2001
- Southwest Las Vegas Valley Public Facilities Needs Assessment Report, January 2, 2001
- West Henderson and Section 34 Land Use and Transportation Plan CPA-02-520035 Amendment 1 - 08 April 2003

The BLM's proposed action for selling the subject land parcels, as defined within this EA, are compliant with the cited land use plans. The selling of these lands will assist these communities and neighborhoods in fully realizing the objectives and policies as stated in these respective land use plans.

#### **2.0 Proposed Action**

BLM is proposing to sell at public auction 60 parcels, consisting of 2,728.49 acres pursuant to SNPLMA. See Exhibit C, Appendices 1 and 2 for legal descriptions and maps of locations. The parcels are located in the Mojave Desert throughout the Las Vegas Valley. The proposed public auction date would be November 6, 2003 at Sam's Town, 5111 Boulder Highway, Las Vegas, Nevada 89122-6004. All interested parties are welcomed to attend. Bidders must be qualified under 43 CFR 2711.2. Any qualified bidder may purchase the land and use it lawfully in the future. Any future use and/or development of the subject lands may occur only in accordance with local land use planning and zoning laws and regulations.

BLM will not know who the successful purchasers of the property will be, nor will BLM have any knowledge of all future proposed uses and/or development, if any, on the subject lands. However, BLM has used the most current information available to reasonably predict development scenarios (apartments, homes, office buildings or moderately sized casinos) for the subject lands, and has disclosed the impacts to air quality and/or water use based on these types of development in the RMP and this EA.

### **2.1 No Action Alternative**

The subject lands would remain as federal public land under the no action alternative, and be subject to all applicable public land laws and regulations including, if applicable, mining and recreation. Additionally, the land would be subject to, among others, unauthorized use by off-road vehicles resulting in an adverse impact to air quality, continual dumping of construction and household debris creating an unsightly and possibly hazardous environment, and use of the land by homeless individuals camping without authorization resulting in unsanitary effect on orderly community development and unhealthful living conditions.

### **2.2 Alternative Considered But Eliminated from Detailed Study**

The BLM considered an alternative that would divide the approximately 1,940 acre parcel within the City of Henderson into smaller parcels. However, BLM determined that while this alternative would still provide land for local community development, it would not be in a manner consistent with local government planning and zoning requirements and recommendations in this instance. Currently, the City of Henderson envisions a master planned community development once the land is transferred out of federal ownership. To offer the land in smaller parcels may create a situation where numerous developers could acquire title to various parcels. The City of Henderson's master planned community concept would be facilitated by the City having to deal with only one potential landowner as opposed to numerous landowners immediately following the sale. Throughout the joint selection process, the City of Henderson consistently identified its desire to have these specific +/-1,940 acres sold as one parcel. It is BLM's determination that selling the +/-1,940 acres in smaller parcels does not meet the purpose and need for disposing of land consistent with local land use planning and zoning requirements and recommendations, pursuant to Section 4 of SNPLMA.

### **3.0 Affected Environment**

## **A. Botany**

Mojave creosote bush scrub is the dominant plant community represented within the subject lands, which range in elevation from 1,980 to 2,600 feet above mean sea level (msl). Mojave creosote bush scrub generally is found below 5,000 feet msl in elevation.

Plant species typically associated with the creosote bush scrub vary slightly with soil composition and terrain but generally include: white bursage (*Ambrosia dumosa*), mormon teas (*Ephedra* spp.), rhatany (*Krameria* spp.), chaff-bush (*Amphipappus fremontii*), paper daisy (*Psilostrophe cooperi*), big galleta (*Pleuraphis rigida*), Indian ricegrass (*Achnatherum hymenoides*), and apricot mallow (*Sphaeralcea ambigua* ssp. *ambigua*) (PBS&J, 2002). Desert holly (*Atriplex hymenelytra*) is reportedly common on steeper slopes throughout the community (ibid).

One plant species of concern is known to possibly occur within the proposed action area – catclaw acacia (*Acacia greggii*). This plant species is not federally or state listed, however, it supports populations of the sensitive bird species – Phainopepla (*Phainopepla nitens*).

**Catclaw acacia** - Catclaw acacia is common over much of the northern Chihuahuan, Sonoran, and southern Mojave deserts and is generally found at elevations between 1,000 and 5,000 feet above msl (Uchytel, 1990).

Catclaw acacia is generally not a dominant plant species (Uchytel, 1990). In the Mojave Desert it is largely confined to washes (ibid.). Away from the washes catclaw acacia occurs as scattered individuals (ibid.).

## **B. Threatened and Endangered Species**

The only federally listed species known to possibly occur within the subject lands is the Mojave Desert tortoise (*Gopherus agassizii*). On August 4, 1989, the U.S. Fish and Wildlife Service (USFWS) published an emergency rule listing the Mojave population of the desert tortoise as endangered (54 FR 42270). On April 2, 1990, the USFWS determined the Mojave Desert tortoise as threatened with extinction in response to significant population decline and habitat loss, thereby bringing the species under full protection of the Endangered Species Act (ESA) of 1973, as amended (55 FR 12178).

The desert tortoise is a widespread species distributed throughout major portions of the Mojave and Sonoran deserts of California, Nevada, Utah, Arizona, and Sonora and Sinaloa Mexico (Boarman, 2002). The home range of a desert tortoise has been measured to vary between 10 acres and 450 acres at elevations up to 5,000 feet msl; however, the best habitat for the desert tortoise reportedly occurs between 1,000 and 3,000 feet msl (ibid.). The desert tortoise spends a significant amount of its time in washes where friable soil is available and productivity of plant life is higher.

Wildlife special status species include a variety of bat species, two reptiles, and a variety of birds. The more common avian species are addressed under the Migratory Bird section. BLM sensitive western chuckwalla (*Sauromalus obesus obesus*), and the banded gila monster (*Heloderma suspectum cinctum*) are two species with potential to occur within the project area. Gila monsters are more commonly found associated with ephemeral water sources and chuckwalla are found associated with rock outcrops. The subject lands lack good quality habitat for these species. The subject lands also lack caves, bridges, and/or abandoned mine tunnels, which could serve as habitat for various species of bats. Protective measures are in place to ensure habitat for these species is protected and/mitigated for outside of the Las Vegas Valley.

### **C. Migratory Bird Treaty Act**

The subject lands potentially provide breeding habitat for several species of migratory birds. The two most likely migratory birds that may occur within the subject lands are the western burrowing owl (*Athene cunicularia hypugea*) and the phainopepla (*Phainopepla nitens*). Under the Migratory Bird Treaty Act of 1918, 16 U.S.C. 703-711, it is deemed unlawful to take, kill, or possess migratory birds. A list of those protected birds can be found at 50 CFR 10.13. The subject lands are all within the Las Vegas Valley. Breeding habitat for migratory birds in much of the Las Vegas Valley has been degraded to varying degrees due to habitat fragmentation. Though development of these lands has potential to further fragment or eliminate breeding habitat for migratory birds, habitat still exists outside of the Valley. Species that utilize similar vegetative associations will be afforded some protective provisions through efforts to protect critical desert tortoise habitat such as the establishment of Areas of Critical Environmental Concern (ACEC).

### **D. Wildlife**

The wildlife species that occur throughout the project area are widespread and common in areas outside of the Las Vegas Valley. The quality of wildlife habitat within the subject area has been degraded through fragmentation and increased human use originating from developed areas surrounding the parcels. As a result, the subject lands are not likely to contain the majority of any species' population, and the proposed action will result in minimal contribution to population decline. Habitat protection for these species will occur outside the Las Vegas Valley through the implementation of the conservation measures identified in the Clark County Multiple Species Habitat Conservation Plan (MSHCP) and the terms and conditions of the programmatic biological opinions.

### **E. Soils**

The soils of the subject lands are primarily Dalian and Tencee. Gravels of varying sizes dominate the surface of a majority of the subject lands.

A majority of the parcels are between 10 and 20 percent disturbed and unstabilized. The disturbances on these parcels are mainly caused by off-road vehicle use. Parcel numbers N-75200 and N-76570 are the only two parcels removed from residential areas and are less than five percent disturbed. The remaining parcels have a higher number of unstabilized disturbances caused by construction activities and debris dispersion (i.e., rock/dirt piles, concrete slabs, cement piles). The percentages of disturbances within the parcels were evaluated as groupings of contiguous areas, as opposed to calculating every individual parcel separately. Please refer to Exhibit C, Appendix 6 – Analysis Factor Table for more specific data.

## **F. Air Resources**

The Las Vegas Valley is in attainment with the National Ambient Air Quality Standard (NAAQS) for the following priority pollutants: sulfur dioxide (SO<sub>2</sub>), ozone (O<sub>3</sub>) (Formal Designation not Completed by EPA, as of 9/11/03), nitrogen oxides (NO<sub>x</sub>), and particulate matter under 2.5 microns (PM<sub>2.5</sub>). The Las Vegas Valley is in non-attainment for particulate matter less than 10 microns (PM<sub>10</sub>) and carbon monoxide (CO). Southern Nevada's non-attainment area (Basin 212 Non-Attainment) for both CO and PM<sub>10</sub> extends 1,500 square miles and covers all urban areas in the Las Vegas Valley, including the cities of Las Vegas, Henderson, and North Las Vegas.

The Clean Air Act Amendments of 1990 require federal agencies to ensure their actions conform to the appropriate State Implementation Plan (SIP). The SIP is a plan that provides for implementation, maintenance, and enforcement of the NAAQS and includes emission limitations and control measures to attain and maintain the NAAQS. Clark County has two SIPs deemed complete by the U.S. Environmental Protection Agency (EPA) for PM<sub>10</sub> and CO.

Federally funded and approved actions or projects are subject to the General Conformity regulations. Conformity is defined as demonstrating that a project conforms to the SIP's purpose of eliminating or reducing the severity and frequency of violations of the ambient air quality standards and achieving expeditious attainment of such standards. A conformity determination is required for a project proposed to be located in a non-attainment or maintenance area if the project's total direct or indirect emissions of criteria pollutants would equal or exceed the annual de-minimis emissions levels in 40 CFR 93.153. Total direct and indirect emissions are the sum of the emissions increases and decreases from the proposed action, or the "net" change in emissions anticipated to occur as a result of the proposed project. An action is considered regionally significant if the emissions associated with the project are 10 percent (%) or more of the region's emissions for that particular pollutant.

Land sales are exempt from air conformity determinations 40 CFR 93-153(C)(2)(xiv), "transfers of ownership, interests, and titles in land, facilities and real and personal properties, regardless of the form or method of the transfer." In addition, BLM would follow all appropriate conformity regulations for any future designation of non-attainment for regulated pollutants.

## **Emissions Inventory**

**Particulate Matter (PM<sub>10</sub>).** The PM<sub>10</sub> SIP for Clark County, dated June 7, 2001 (this SIP is still

under acceptance review by EPA), provides the most up-to-date inventories of emissions for PM<sub>10</sub>. The SIP specifically identifies the attainment demonstration area as the BLM Disposal Area. Two sets of inventory were completed, one for the entire non-attainment area and another for the attainment demonstration area. The following is a summary of the major categories and the percentage of total emissions attributed to the category.

**Attainment Demonstration Area.** Total emissions for PM<sub>10</sub> within this area were calculated at 171,755 tons per year. The PM<sub>10</sub> emissions for each major category area as follows: Construction 23%, Vacant Lands 39%, Paved Road Dust 26%, Unpaved Road Dust 9%, with 1% each for Mobile, Point, and Area sources. The PM<sub>10</sub> SIP provides an estimate of the emissions reduction projected based on various control measures and regulations for the enforcement of standards for the year 2001 of 170,625 tons/year. This is a reduction of 1,130 tons/year.

**Non-Attainment Area.** Total current emissions for PM<sub>10</sub> were calculated at 333,132.7 tons per year. The inventory provided categories for grouping emissions. The emissions attributed to each category are as follows: 66% from wind erosion of vacant lands, 20% from paved and unpaved road dust, and 10% from construction and wind erosion, with 4% from all other minor sources combined.

**Carbon Monoxide (CO).** The most recent projections for CO inventories are within the SIP submitted to the EPA. The Clark County CO SIP (August 2000) identifies 174,882 tons per year based on 479.13 tons per day, emitted from a number of stationary and mobile sources. The emissions projected for 2000 were estimated at 141,310 tons/year. This decrease of 33,572 tons/year is based on the use of oxygenated fuels and vehicles that burn fuels with little to no CO emissions. Potential increases in CO emissions are presented in the environmental impact section below, based on various potential residential and commercial development possibilities.

Graphs on pages 2 through 7 of the Clark County CO SIP (August 2000) show a history of exceedence days for CO. During the period 1981 to 1991, the number of exceedence days ranged from 6 in 1991 to a high of 41 in 1985. Since 1981, the trend is a decrease in exceedence days. From 1999 to the present there has not been an exceedence recorded in the Las Vegas Valley. This is consistent with EPA's trends analysis for a general reduction in the CO levels throughout the United States. This is attributed to newer vehicles that burn fuels more efficiently.

**Ozone (O<sub>3</sub>).** Ozone is a gas composed of three oxygen atoms. It is not usually emitted directly into the air, but at ground level is created by a chemical reaction between oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOC) in the presence of heat and sunlight. Motor vehicle exhaust and industrial emissions, gasoline vapors, and chemical solvents are some of the major sources of NO<sub>x</sub> and VOC that help to form ozone. Sunlight and hot weather cause ground-level ozone to form in harmful concentrations in the air. As a result, it is known as a summertime air pollutant. Many urban areas tend to have high levels of "bad" ozone, but even rural areas are also subject to increased ozone levels because wind carries ozone and pollutants that form it hundreds of miles away from their original sources (USEPA).

The length of ozone season varies from one area of the United States to another. Ozone season in Clark County typically lasts from May 1 to Oct. 1. The combination of hot, dry, stagnant weather conditions during daylight hours can contribute to elevated concentrations of ozone in the valley. Clark County Department of Air Quality Management officials will issue air quality advisories about ozone if weather conditions are likely to increase ozone concentrations to levels that could be unhealthy for children, the elderly and people with respiratory diseases such as asthma.

The U.S. Environmental Protection Agency established a more stringent health standard for ozone in 1997 to protect the public from longer periods of exposure. Instead of measuring ozone levels by a one-hour standard, the EPA now uses a more stringent eight-hour standard.

Ozone monitoring has been in effect in Clark County since 2000. Recently, Clark County identified one monitoring station has exceeded the acceptable standards and Clark County in non-attainment for Ozone. Clark County will work through EPA to initiate the process to complete a State Implementation Plan to reduce ozone to appropriate levels. If the valley is designated as a non-attainment area for ozone, residents would likely see new regulations to control emissions from motor vehicles, fueling stations, dry cleaners and other sources contributing to the valley's ozone problems (Clark County Department of Air Quality).

**Potential Health Effects for CO and PM<sub>10</sub> and Ozone.** CO can reduce oxygen delivery to the body's organs and tissue. The greatest threat is to those who suffer from cardiovascular disease. However, healthy people are also affected, but only at higher levels of exposure. Exposure to higher levels of CO is associated with visual impairment, reduced work capacity and reduced manual dexterity, poor learning ability, and difficulty in performing complex tasks. Extreme exposures can cause loss of consciousness and even death.

PM<sub>10</sub> has been linked to a number of health effects including aggravated asthma, increases in respiratory symptoms like coughing, difficult or painful breathing, chronic bronchitis, and decreased lung function. Young children, senior citizens, and people with asthma or heart and lung problems are especially susceptible to the effects of PM<sub>10</sub> pollution.

Ground-level ozone even at low levels can adversely affect everyone. It can also have detrimental effects on plants and ecosystems. Health problems attributed to ozone include irritation of lung airways causing inflammation similar to sunburn. Other symptoms include wheezing, coughing, pain when taking a deep-breath, and breathing difficulties during exercise or outdoor activities. People with respiratory problems are most vulnerable, but even healthy people that are active outdoors can be affected when ozone levels are high (USEPA).

Repeated exposure to ozone pollution for several months may cause permanent lung damage. Anyone who spends time outdoors in the summer is at risk, particularly children and other people who are active outdoors. Even at very low levels, ground-level ozone triggers a variety of health problems including aggravated asthma, reduced lung capacity, and increased susceptibility to respiratory illnesses like pneumonia and bronchitis (USEPA).

Ground-level ozone interferes with the ability of plants to produce and store food making them more susceptible to disease, insects, other pollutants, and harsh weather. Ozone damages the leaves of trees and other plants, ruining the appearance of cities, national parks, and recreation areas. Ozone reduces crop and forest yields and increases plant vulnerability to disease, pests, and harsh weather (USEPA).

## **G. Water Resources**

The Nevada State Engineer is responsible for allocating water supplies to individual uses provided water is available for appropriation. The Las Vegas Valley has experienced rapid growth and development over the last twenty years, placing heavy demands on limited water resources. Historically, groundwater was used to meet water demands. By the mid-1940's, concerns were raised about limited water supplies and declining groundwater levels. The Las Vegas Valley hydrographic basin began to be overdrafted, with more groundwater extracted than was naturally recharged. This resulted in declining groundwater levels, land subsidence, declining water quality from incursion of water with higher concentration of dissolved solids and nitrates, and the loss of vegetation dependent on groundwater (Morgan and Dettinger, 1994).

Land subsidence is a concern, because of the damage potential for property. In the Las Vegas Valley, subsidence is primarily associated with excessive pumping of groundwater and the resultant water level declines. As groundwater is extracted, pressure is reduced between grains in subsurface sediments. The grains become compacted, reducing their volume. This sedimentary compaction is seen on the land surface as subsidence. It is most common in areas containing fine-grained deposits (silts and clays). Since 1935, this compaction has resulted in nearly 6 feet of subsidence (Pavelko et al., 1999).

The Las Vegas Valley Water District (LVVWD) and the City of North Las Vegas initiated an artificial recharge program in 1987. This program artificially recharges unused Colorado River water during low demand periods in the winter into the primary Las Vegas Valley groundwater aquifer via injection wells. Through the end of 2001, about 246,000 acre-feet have been recharged (LVVWD, 2002). This represents an average of 16,400 acre-feet per year (afy) over this 15-year period.

The primary water supply for the Las Vegas Valley is Nevada's Colorado River water entitlement, which is 444,640 afy in 2001, but groundwater is still used to meet about 18 percent (79,376 afy) of the Valley's water demands (Coache, 2001). Since 1990, an average of 71,000 afy of groundwater has been pumped from the Las Vegas Valley. An average of 21,000 afy has been recharged, resulting in an average net pumpage of about 50,000 afy (Coache, 2001). Older estimates of the natural recharge or perennial yield for the Las Vegas Valley were about 30,000 afy (Malmberg, 1965; Maxey and Jameson, 1948), but current estimates indicate the natural recharge is 57,000 afy (Donovan and Katzer, 2000).

Since the recharge program was initiated, water levels have risen as much as 100 feet in the central part of the Valley (LVVWD, 2002). The rate of subsidence has decreased. In those areas

where the water level rises, subsidence has dramatically lessened or ceased (Bell et al., 2001).

There are over 5,000 domestic wells in the Las Vegas groundwater basin (Coache, 2001). A domestic well provides water to a single-family residence. There are also about 1,200 private permitted wells (wells with specific groundwater rights), and about 100 municipal permitted wells (SNWA, 2002). In particular for the municipal water purveyors, these wells help meet peak water demands during the summer. To better manage this limited groundwater resource, under state legislation passed in 1997 and 1999 (Nevada Revised Statutes, Chapters 349, 533, 534, and 572), the Southern Nevada Water Authority oversees a groundwater management program to protect the Las Vegas Valley groundwater basins from over-drafting and potential sources of contamination.

## **H. Flood Plains**

The November 2003 Land Disposal parcels are located in valleys and hills of Clark County surrounding the cities of Las Vegas, North Las Vegas and Henderson. The parcels are undeveloped with the exception that some may provide drainage easements for neighboring developments. Most of parcels are situated in the broad open desert basin known as the Las Vegas Valley. Several separate creeks many referred to as washes drain the valley. The most prominent of these is the Las Vegas Wash.

Clark County is arid with the average annual precipitation at just under 4 inches. The land is dry except during and shortly after storm events. When a storm occurs, much of its precipitation collects rapidly as surface runoff and concentrates in various low spots in a very short period of time. The soils of the area have a tendency to harden when dried and become nearly impervious to water (Tanko and Kane, 2000). This characteristic results in high volume of runoff, even from relatively moderate precipitation events. As a result, flooding may occur quickly.

There are two different types of storms that contribute to flooding in Las Vegas Valley. The winter storms cover large areas and the precipitation is widespread. These storms can contribute to the more frequent and less significant flooding within the region. The summer storms are more localized than the winter storms, but the high intensity of these summer thunderstorms cause most of the flooding in Clark County.

The highest flows ever recorded for the Las Vegas Valley occurred July 8, 1999 when a series of thunderstorms produced 3 to 5 inches of rain per hour in the Las Vegas metropolitan area (Tanko and Kane, 2000). Street flooding was widespread as major streets collected and channeled runoff. Erosion, channel scour and sediment deposition occurred in many of the washes across the valley. Floodwater from this event damaged or destroyed more than 350 homes and caused damage to public property amounting to over \$20 million (Tanko and Kane, 2000).

The Federal Emergency Management Agency (FEMA) has delineated the boundaries of the 100-year flood for many of the creeks and washes in Clark County and its incorporated communities of Las Vegas, North Las Vegas, and Henderson (FEMA, 2002). These delineations may not show

all areas that will be inundated during a 100-year event, particularly if the area of interest is undeveloped land at some distance from the cities. In addition, some of the areas shown on the FEMA maps as being in the floodplain may no longer be subject to flooding (Weber 2003) due the construction of a flood control project after completion of the FEMA delineation. Some of the BLM parcels in November 2003 Land Disposal are in the flood boundaries delineated by FEMA. (The July 1999 event occurred after the period of record (USGS stream flow gauging data) used in the FEMA delineation. Therefore, the FEMA maps may not depict all areas inundated during that July 1999 event.)

## **I. Cultural Resource Management**

Section 106 of the National Historic Preservation Act of 1966 requires that Federal agencies take into account the effects of their undertakings on historic properties. Efforts to identify and evaluate cultural resource properties for this project according to 36 CFR 800.4 are described in Las Vegas District Class I Cultural Resource Report 5-2121, Justification Proposal to Limit Archaeological Survey on BLM Lands in Las Vegas Valley, Southern Nevada, by Keith Myhrer, BLM Archaeologist, April, 1991. The existing data review, Cultural Resource Report 5-1990, A Review of Fifteen Years of CRM on BLM Land in Southern Nevada, August, 1990, provided documentation that a relatively large number of inventories, where few sites were identified, had been previously conducted within the Las Vegas Valley. The results of the surveys indicate that with the exception of four identified sensitive sub-zones, the lands within Las Vegas Valley are considered to be of very low sensitivity for the presence of cultural resources eligible for nomination to the National Register of Historic Places. CR 5-2121 also provided a recommendation to exempt additional field inventory for Federal actions outside the sensitive sub-zones with project area less than 200 acres in size. The State Historic Preservation Officer (SHPO) concurred with this proposal in a letter, dated May 15, 1991. CR5-2121 was amended to reflect the Las Vegas RMP disposal boundary.

The Las Vegas Valley is unique in the realm of Cultural Resource Management in the sense that a relatively large amount of acreage has been inventoried within its parameters. One result of the numerous cultural resource studies completed is the identification of areas or sub-zones of low and high sensitivity. Cultural Resources Report 5-2121, as amended in 1996 with SHPO concurrence in a letter dated August 8, 1996, provides a rationale to limit the amount of acreage surveyed for Federal actions on BLM lands in the Las Vegas Valley located outside the sensitive sub-zones, areas rated high in sensitivity. For projects over 200 acres in size a 20 percent sample inventory is employed, at Class II standards, depending on the size and type of the project area as determined by the BLM archaeologist in consultation with the SHPO. The size and location of the subject lands for this sale does not meet the criteria for Section 106 exemption outlined in CR5-2121. Based on the field surveys conducted by the BLM, SHPO determined that these parcels are not adjacent to historic buildings or within the four sensitive subzones. Therefore, SHPO granted a waiver from the Section 106 procedures and stated that the subject lands require no further evaluation. No cultural resources were found present on the parcels inventoried. The subject lands are not within any archaeologically sensitive subzone.

Cultural Resources Report CR5-2121 is used by BLM as guidance to ensure that BLM meets all requirements of the National Historic Preservation Act of 1966. Any additional cultural resource inventory completed includes the required consultation and concurrence with SHPO.

**J. Hazardous Materials**

"Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. 9601 *et seq.* (CERCLA), and its implementing regulations. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. 6901, *et seq.*, and its implementing regulations. The term hazardous materials also includes any nuclear byproduct material as defined by the Atomic Energy Act of 1954, 42 U.S.C. 2011, *et seq.* Preliminary Environmental Site Assessments (ESAs) for the 57 small parcels have been completed. Not hazardous materials were found on any of these sites. The ESAs for the 3 large parcels are being done by contract and have not been completed to date. Final ESAs will be completed on all sold parcels prior to transfer from federal ownership.

**K. Environmental Justice**

Executive Order 12898 of February 11, 1994 states that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Marian Islands.” The subject lands are distributed throughout the northwest, west and southern areas of the Las Vegas Valley. The profile of Clark County’s population by race is as follows (US Census Bureau):

Race	Percent
White	71.6
Black/African American	9.1
Asian	5.2
Native American / Alaska Native	0.8
Native Hawaiian & Other Pacific Islanders	0.5
Other	8.6
Two or more races	4.2

Of the total collective Clark County population for all races, 22% of the population lists their heritage as either Hispanic or Latino (*ibid*).

The Clark County housing stock was reviewed. Housing type categories that are most probable to accommodate low-income persons or low-income families were identified as mobile homes, duplex/3-plex/4-plex, and apartments, which make up 35% of the total available housing stock in Clark County. Evaluation of the zip code areas that encompass the subject lands revealed these housing types make-up 24% of the total available housing stock (Clark County Department of Comprehensive Planning).

#### 4.0 Environmental Impacts of the Proposed Action

##### A. Summary

Critical Element	Affected	Critical Element	Affected
Air Quality	Yes	T & E Species	Yes
ACECs	No	Wastes, Hazard/Solid	No
Cultural Resources	No	Water Quality	No
Farmlands, Prime/Unique	No	Wetlands/Riparian Zones	No
Floodplains	No	Wild & Scenic Rivers	No
Environmental Justice	No	Noxious Weeds	No
Native American Religious Concerns	No	Wilderness	No

##### B. Description of Impacts for the Proposed Action

It should be noted, the act of transferring title of property causes no direct impacts to the environment. All impacts to the environment will be indirect as the local governments issue permit for construction projects, sometime in the future. However, we are required to assess the indirect impacts of reasonably foreseeable development.

Because of the general uncertainty of whether all of the subject lands will actually sell at auction, and of not knowing actual development proposals for all the lands that may occur on sold lands, BLM has analyzed the indirect impacts of general development on several environmental elements. For example, for impacts to water, BLM makes the conservative estimate that developed urban land uses 2.5 acre-feet per year irrespective of whether that development is residential, commercial, industrial, etc. For impacts to air quality specifically, BLM has analyzed two development scenarios and the impacts of those scenarios on the environment. This is because future land uses such as residential, commercial, industrial, etc., have different air emission impacts. BLM has no information that shows there is any meaningful difference to the impacts on other resources based on different development scenarios. Any development is

expected to have the same general impacts to the remaining resources.

### **C. Botany**

The proposed land sale itself will not disturb sensitive plant species. Following the sale of the land, however, catclaw acacia and other forms of vegetation that may be present within the subject parcels may be impacted through development and increased levels of human access. A majority of the subject lands exist within or adjacent to disturbed, residential settings; thus, impacts to undisturbed area lands would occur within close proximity of already impacted habitats. The introduction of exotic species may occur from disturbance activities within the subject lands during development.

### **D. Threatened and Endangered Species**

The subject lands are located within the Las Vegas Valley Programmatic Section 7 Area and are covered by Biological Opinion, File No. 1-5-96-F-23R.2 (October, 2001). The Opinion identifies tortoise populations in the Las Vegas Valley as isolated from high quality habitat and contiguous high-density habitat mainly because of habitat fragmentation. Tortoise habitat in the Las Vegas Valley continues to be fragmented and degraded caused by development and urbanization. This urbanization has already decoupled tortoise habitat north and south of Las Vegas, which resulted in closing any opportunity to provide a corridor on the west side of the valley. Consequently, the USFWS issued the above Biological Opinion authorizing take of 125,000 acres of habitat within the Las Vegas Valley. As disposal of lands change title only, there are no direct effects of the proposed action on the desert tortoise. The impacts of the indirect effects associated with the eventual development of these parcels through land disposal actions on the desert tortoise were evaluated in the Las Vegas Valley Programmatic Biological Assessment and corresponding Biological Opinion. The USFWS determined the effects of disposal of up to 125,000 acres within the Valley would not jeopardize the continued existence and recovery of the Mojave Desert tortoise in the wild. The development of these parcels would occur when private parties own these parcels.

In September 1999, Clark County prepared a MSHCP pursuant to Section 10(a) of the Endangered Species Act of 1973. The goal of the plan is to conserve a wide variety of potentially sensitive species and their habitats throughout the county. The MSHCP identifies those actions necessary to maintain the viability of natural habitats in the county for approximately 232 species including the threatened Mojave Desert tortoise. While the MSHCP addresses all 232 species, it proposes that 79 of these species be covered by a Section 10(a) permit issued by the Service to Clark County. In November 2000, the USFWS issued a biological opinion covering incidental take of 78 of the species (chuckwalla were not covered due to commercial collection pressures) proposed by Clark County (File No. 1-5-00-FW-575). The impacts of development of private lands within Clark County on all 78 species were analyzed in this biological opinion. As mitigation, this biological opinion requires that all actions on private lands be assessed a mitigation fee of \$550 per acre of disturbance. This mitigation fee funds conservation, recovery, and protective actions to aid in the preservation of these 78 species on lands outside of the Las

Vegas Valley.

The MSHCP delineated three distinct management boundaries based on the biological sensitivity of the area and the corresponding management intensity. The three areas are Intensively Managed Area (IMA), Less-Intensively Managed (LIMA) and Multiple-Use Management Area (MUMA) and are defined further within the MSHCP document. A stipulation to this permit is that no net unmitigated loss or fragmentation of habitat within the IMAs and LIMAs would occur and included MUMAs where they represent the majority of the habitat for the covered species.

Although the MSHCP was prepared in part to fulfill the requirements under the ESA for the issuance of Clark County's incidental take permit for actions on non-federal lands, the Bureau, as a signatory to this document, has agreed to minimize and mitigate impacts to those covered species by incorporating the conservation actions identified within the plan into actions on public lands under the Bureau's purview. A vast majority of the acres associated with IMAs and LIMAs occur on BLM land. Through implementing protective measures and higher management standards within these areas, all species covered under the take permit, as well as other species that are not covered but who share the same habitat requirements, will benefit from the protection of these lands. Thirteen of the 78 species are federally listed, and of those only the desert tortoise occurs within the project area.

On February 8, 1994, the USFWS designated approximately 6.4 million acres of critical habitat for the federally listed Mojave population of the desert tortoise in portions of California, Nevada, Arizona, and Utah (59 FR 5820). These 6.4 million acres of critical habitat became effective on March 10, 1994. Critical habitat is composed of specific geographic areas that consist of the biological and physical attributes essential to the species' conservation within those areas (i.e., space, food, water, nutrition, shelter, cover, and sites conducive for reproduction) (Recon, 2000). Approximately 1.2 million acres of land were designated as critical habitat in Nevada (ibid.). Critical habitat units (CHUs) were based on recommendations for Desert Wildlife Management Areas (DWMAs) outlined in the Draft Recovery Plan for the Desert Tortoise (Mojave Population) (ibid.). These DWMAs are also identified as desert ACEC by the BLM. The Las Vegas Valley, including the project vicinity, is not within desert tortoise critical habitat and does not include desert tortoise ACECs (ibid.).

## **E. Wildlife**

Impacts resulting from the sale of the subject lands may include loss of habitat features such as cover, forage, and loss or displacement of individuals through development. Highly mobile species such as birds, jackrabbits, and coyotes are less likely to be lost. In contrast, less mobile species such as small reptiles, small mammals, and the desert kit fox (*Vulpes macrotus*) are more likely to be injured or killed during construction activities.

As stated above, Clark County prepared a MSHCP pursuant to Section 10(a) of the Endangered Species Act of 1973. The MSHCP identifies those actions necessary to maintain the viability of natural habitats in the county for approximately 232 species including the western chuckwalla,

western burrowing owl, and the banded Gila monster. While the MSHCP addresses all 232 species, it proposes that 79 of these species be covered by a Section 10(a) permit issued by the Service to Clark County. In November 2000, the USFWS issued a biological opinion-covering incidental take of 78 of the species proposed by Clark County (File No. 1-5-00-FW-575).

#### **F. Migratory Bird Treaty Act**

The sale of land, in itself, is a paper exercise; therefore, there are no direct effects of the proposed action on the migratory birds. The impacts of the indirect effects associated with the eventual development of these parcels on migratory birds were evaluated in the Las Vegas Valley Programmatic Biological Assessment and corresponding Biological Opinion.

As previously mentioned, Clark County prepared a MSHCP pursuant to Section 10(a) of the Endangered Species Act of 1973. The MSHCP identifies those actions necessary to maintain the viability of natural habitats in the county for approximately 232 species including migratory birds. While the MSHCP addresses all 232 species, it proposes that 79 of these species be covered by a Section 10(a) permit issued by the Service to Clark County. In November 2000, the USFWS issued a biological opinion-covering incidental take of 78 of the species proposed by Clark County (File No. 1-5-00-FW-575).

#### **G. Air Quality**

##### **Air Emissions Analysis**

In accordance with the Clean Air Act amendment requirements, this conformity analysis focused on non-attainment priority pollutants CO and PM<sub>10</sub>. An action is considered regionally significant if the emissions associated with the project are 10 percent or more of the region's emissions for that particular pollutant. The regionally significant thresholds are 12,100 tons/year for CO and 17,800 tons/year for PM<sub>10</sub> based on the total budgets identified in each respective SIP. The following section summarizes the quantification of emissions using the June 2003 Land Sales Air Quality Analysis Model derived by BLM Senior Air Quality Specialist Scott Archer (EA Number: NV-050-2003-89). The analysis included emission calculations for all six priority pollutants (CO, PM<sub>10</sub>, NO<sub>x</sub>, SO<sub>2</sub>, VOCs, and PM<sub>2.5</sub>), as well as CO<sub>2</sub>.

##### **Emission Factors**

The emission factors used for this emission analysis were generated by BLM Senior Air Quality Specialist, Scott Archer, and are provided in EA Number: NV-050-2003-89 (assumptions presented in Appendix 4 of the EA). The emission factors take into account vehicle miles traveled, vehicle exhaust, vehicle road dust, natural gas use (hot water and furnace), electricity use (Reid Gardner Power Plant), and developed property fugitive dust. Construction emission estimates are not included as part of this analysis because there are no widely accepted standard emission factors, the impacts are temporary, not cumulative and not additive. The emission

estimates projected in the analyses are additive once the land is developed. The calculated emission factors for each criteria pollutant/land use are provided in the units of measurement of tons/year.

### **Air Pollutant Inventory Emissions Factors**

Criteria Pollutant	Single Family Home	Office Building	Convenience Store	Apartment Complex	Moderate Casino	City Park
CO	0.37 T/ac	0.29 T/ac	5.40 T/ac	1.37 T/ac	1.06 T/ac	0.01 T/ac
CO2	642 T/ac	318 T/ac	1,593 T/ac	2,142 T/ac	924 T/ac	7.37 T/ac
NOx	1.14 T/ac	0.86 T/ac	8.77 T/ac	4.35 T/ac	2.55 T/ac	0.02 T/ac
SO2	0.08 T/ac	0.07 T/ac	0.17 T/ac	0.32 T/ac	0.15 T/ac	<0.01 T/ac
VOC	0.23 T/ac	0.25 T/ac	6.82 T/ac	0.94 T/ac	1.05 T/ac	0.01 T/ac
PM10	0.44 T/ac	0.45 T/ac	8.72 T/ac	1.62 T/ac	1.50 T/ac	0.08 T/ac
PM2.5	0.16 T/ac	0.14 T/ac	1.85 T/ac	0.54 T/ac	0.41 T/ac	0.03 T/ac

### **Assumptions**

Several assumptions were made to assist in the air emission analysis. These assumptions include the designation of projected future land uses and the anticipated duration for development of these lands.

**Land Use.** The evaluation of emissions for this land sale assumed current lands are converted to the following land uses: single family homes; apartment complexes; office buildings; convenience stores; moderate size casino/hotels; and city parks. Based on data provided by the Clark County Comprehensive Planning Department, the percentage of the total land sale acreage assigned for each land use is shown in the table below. The total acreage associated with each land use is based on this assigned percentage.

EXPECTED DEVELOPMENT OF HENDERSON PARCEL 2055 ACRES

<b>Development</b>	<b>Percent of Acreage</b>	<b>Acres</b>
Single Family Home	69	1417.95
Office Building	1	20.55
Convenience Store	4	82.2
Apartment Complex	6	123.3
Moderate Casino/Hotel	0	0
City Park	20	411
	<b>Total Acres</b>	2055

This table is based on the expected development as noted in recent meetings with City of Henderson representatives. The possibility of this changing during the 18 year build-out is not know at this time

EXPECTED DEVELOPMENT OF REMAINING PARCELS 673.49 ACRES

<b>Development</b>	<b>Percent of Acreage</b>	<b>Acres</b>
Single Family Home	65	437.77
Office Building	13	87.55
Convenience Store	2	13.47
Apartment Complex	15	101.02
Moderate Casino/Hotel	3	20.20
City Park	2	13.47
	<b>Total Acres</b>	673.49

This table is based on the expected development as noted in previous environmental analysis and remains consistent with potential build out possibilities. This land is estimated to be developed within a 5-year time frame.

Based on existing development near the parcels, it is reasonable to assume future land sold by the BLM will be developed, with many acres developed as single-family homes, apartments, etc. The assumptions made in this analysis for the 673.49 acres are derived from the Southwest Las Vegas Valley Public Facilities Needs Assessment Report, dated January 2, 2001 as well as the, percentages derived from West Henderson and Section 34 Land Use and Transportation Plan for the 2055 acres. These are the best projections available to complete a reasonable analysis.

**CRITERIA POLLUTANT EMISSION ESTIMATES FOR 2,055 HENDERSON PARCEL**

Criteria Pollutant	Single Family Home 69% 1417.95 ac	Office Building 1% 20.55 ac	Convenience Store 4% 82.2 ac	Apartment Complex 6% 123.3 ac	Moderate Casino 0% 0 ac	City Park 411 ac 20%	Totals 2055 ac
CO	524.64	5.96	443.88	168.92	0	4.11	1,147.51
CO2	910,323.9	6,534.9	130,944.6	264,108.6	0	3,029.07	1,314,914.07
NOx	1616.46	17.67	720.89	536.36	0	8.22	2,899.6
SO2	113.44	1.44	13.97	39.46	0	4.11	172.42
VOC	326.13	5.14	560.60	115.90	0	4.11	1011.88
PM10	623.96	9.25	679.79	199.75	0	32.88	1545.63
PM2.5	226.87	2.88	152.07	66.58	0	12.33	460.73

**CRITERIA POLLUTANT EMISSION ESTIMATES FOR 673.49 ACRE LAND SALE**

Criteria Pollutant	Single Family Home 65% 437.77 ac	Office Building 87.55 ac	Convenience Store 2% 13.47 ac	Apartment Complex 15% 101.02 ac	Moderate Casino 3% 20.20 ac	City Park 13.47 ac 2%	Totals 673.49 ac
CO	161.97	25.39	72.74	138.4	21.41	1	420.91
CO2	281,048.34	27,840.9	21,457.71	216,384.84	18,664.8	99.27	565,495.86
NOx	499.06	75.29	118.13	439.44	51.05	1	1,183.97
SO2	35.02	6.13	2.29	32.33	3.03	1	79.80
VOC	100.69	21.89	560.60	94.96	21.21	1	800.35
PM10	192.62	39.39	111.39	163.65	30.30	1.1	538.45
PM2.5	70.04	12.26	24.92	54.55	8.28	1	171.05

**Land Use Development.** Based on communication with the City of Henderson, the Henderson parcel would be developed over an 18-year period. It is uncertain as to how long it will take to develop of the remaining 673.49 acres, so for this analysis we will assume 5 years for the remaining lands, which is a reasonable estimate based on observations in the Las Vegas Valley and development plans. Base on the above assumptions the PM10 increase would be 193.56 tons/year ( $1545.63/18 + 538.45/5 = 193.56$ ).

**Estimated PM<sub>10</sub> Emissions**

The BLM has estimated that of the 2,729 (number rounded up for ease of calculation) acres appropriated for land disposal, approximately 90% of the total acreage is stable or native (2,456

acres) and 10% (273 acres) is disturbed. It is worthy to compare the potential amount of emission reduction by development of these lands. Taking a relatively simple approach, we can assign an average tons per acre of PM10 emission from one acre of land for the major categories, which can be tied to BLM activities. Average emission factors were calculated using data obtained from Table 3-3 of the PM10 SIP Clark County (June 2002). Calculated emission factors for stable/native and disturbed lands are 0.13 and 2.59 tons/acre/year, respectively. Therefore, the potential reduction in PM10 emissions by source identified for the disposal of the 2,729 acres is within the following projections: 319 tons for stable/native and 707 tons for disturbed lands totaling 1,026 tons overall. This number would be offset due to the increase in PM10 based on development emissions of 2,084.08 tons of PM10. Therefore, an increase of 1,058.08 tons of PM10 over the entire defined period of development is expected. This estimate does not take into consideration those lands that may not be developed and left as native habitat. This implies a PM10 increase representative of the 2,729 acres identified for sale as follows:

For the first five years an increase of 109.21 tons is expected with the following 13 years decreasing to an increase of 39.38 tons. ( $708.91/18 = 39.38$  tons/year and  $349.17/5 = 69.83$  tons,  $39.38 + 69.83 = 109.21$ )

### **Regional Significance as Defined By EPA**

As demonstrated by the analysis, the project will not result in emissions that would be considered “regionally significant” with regard to air pollution emissions. EPA defines an action to have a regionally significant impact if air emissions will exceed 10% of the total regional emissions budget for a criteria pollutant. BLM is using the most conservative approach to measure regional significance by focusing on the attainment demonstration area emissions. If we used the entire 212-basin, the regional significance assessment would be determined on 10% of 333,132.7 emission inventory or 33,133 tons/year, for PM10.

The regionally significant thresholds are 17,800 tons/year for PM<sub>10</sub> and 12,100 tons/year for CO, based on the total budgets identified in the SIP, for the attainment demonstration area. Estimated emissions for the development of 2,729 acres of land over the defined time frames are 1058.08 tons of PM10 and 1568.42 tons of CO, well below the 10% threshold set by EPA. Yearly emission totals for PM10 are even lower as shown above 109.21 tons for the first 5 years and 39.38 for the remaining 13 years of development. Therefore, impacts from BLM actions are unlikely to become regionally significant. All other criteria pollutants fall within acceptable limits, and the Las Vegas Valley is in attainment for each of these pollutants

### **BLM Emission Reduction Actions**

The BLM has worked with Clark County to stabilize disturbed lands in the non-attainment area. In fact the BLM has reduced the emissions on an estimated 1,057.37 acres of disturbed lands, as of 6/09/03. Remediation actions can range from placing signs to fencing and watering disturbed parcels. This has realized an estimated decrease in PM10 emissions from BLM administered lands by about 1,691.79 tons ( $1,057.37$  acres x  $1.6$  tons/acre =  $1,691.79$  tons). Three parcels were

jointly selected for this sale based on the existing emissions concerns and 16 parcels were sold during the last 2 land sales, where emission remediation actions were completed. Additional parcels with air emission concerns will be offered in future sales.

## **H. Soils**

During the construction phase of development on the subject lands, the exposed soil surfaces are likely to be affected by wind erosion and soil losses or movement. Soil erosion occurs during construction when the protective vegetation and organic materials are removed. Excavation and fill stockpiles or grading can also create steep, erodible slopes. However, after a surface is prepared, applying water or other erosion control applications to the prepared surface can reduce erosion from wind. Access roads can also be a potential source of erosion unless the preliminary design calls for paved roads and holding areas. Erosion control measures are recommended within the subject lands during construction until the remaining unpaved disturbed areas are stabilized. Therefore, dust emissions are a short-term concern. In addition, completed developments will stabilize surfaces throughout the subject lands.

## **I. Water Resources**

The increase in water demand based on the sale and potential development of the land was analyzed in the RMP, at page 4-9, and is incorporated in this EA by reference. The proposed action would privatize 2,728.49 acres. The following calculation does not take into account any return flow credits realized from treatment of the water and returning it to Lake Mead through the Las Vegas Wash. Therefore, BLM estimates that the proposed action may increase water demand by 6,821 acre-feet a year. According to the Southern Nevada Water Authority (SNWA), developed urban land uses 2.5 acre-feet per year for each acre developed. BLM has no information that would suggest if all acres sold are developed, water needs could not be met. (See page 10 of this EA for water resources available)

The SNWA has implemented multiple strategies to obtain additional water supplies to meet the demands of future growth. 1) SNWA holds rights to tens of thousands of acre-feet of ground water in undeveloped areas of southern and eastern Nevada outside of Las Vegas Valley; as needed, infrastructure will be built to deliver this water to populated areas. 2) Efforts are currently underway to negotiate an increase in the amount of water withdrawn from the Colorado River under terms of existing agreements, compacts, and decrees. 3) SNWA has banked significant quantities of surplus Colorado River water as part of artificial ground-water recharge projects in the Las Vegas Valley and Arizona; this water can be pumped to meet a portion of future water demands. 4) SNWA has intensified efforts to promote water conservation and hopes to dramatically decrease the 2.5 acre-feet per year needed for each acre of developed urban land.

## **J. Floodplains**

The November 2003 Land sale may result in the development of the parcels in a variety of ways with different land uses and development densities. Land development typically increases the

volume of precipitation that becomes surface runoff and potentially increases the velocity, depth, and duration of the surface runoff. However, development projects usually include construction of flood control and detention facilities specific to the development or these facilities may be provided through regional authorities. In Clark County, developers must submit plans for addressing drainage from the proposed project as well as drainage into and out of the property. These plans are reviewed on a case-by-case basis to check that any increase to the runoff, expansion of flood boundaries, increase in depth or velocities of runoff, are, or will be mitigated during the development of the property (Weber, 2003).

### **K. Hazardous Material Assessment/Inspection**

The public land recommended for transfer out of federal ownership via competitive sale has been physically inspected and existing records have been examined in accordance with Section 120(h) of Superfund Amendment and Reauthorization Act. No evidence was found to indicate that any hazardous substance was stored for one year or more or disposed of or released on the property. BLM employees conducted ESAs for the smaller parcels while contracts were issued for the larger parcels.

### **L. Cultural Resources**

BLM completed an existing cultural resources data review for the 60 parcels within the subject lands. The subject lands do not lie within the four sensitive subzones nor is there is no evidence of the presence of cultural and historic resources on the subject lands or on lands adjacent. The BLM coordinated and presented this information to the SHPO, who concurred with the findings that there are no eligible sites relative to the proposed sale of the subject lands (See exhibit C, Appendix 5).

### **M. Environmental Justice**

The neighborhoods surrounding the various parcels of the subject lands were evaluated for the presence of potential issues relevant to Environmental Justice. A field tour was conducted for each parcel within the subject lands to evaluate the potential for Environmental Justice issues based on the demographic information collected. The field tour revealed that the private and non-federal public parcels adjacent to the subject lands are either undeveloped, public facility, commercial or residential forms of development. Those properties developed were observed to be either recently developed properties or are properties under construction. The field tour observations led to the conclusion that there are no environmental justice issues relative to the sale of the subject lands.

### **4.1 No Action Alternative Impacts**

Since the defined need for the proposal, privatizing federal land around Las Vegas and promoting orderly disposal which conforms to local land use requirements and policies, cannot be met if the no action alternative is chosen, analysis of the impacts of not meeting the defined need for the

proposal is provided.

A substantial impact of not selling federal public land in the Las Vegas Valley is that no proceeds would be available. If this sale, does not occur, the source of funds would be eliminated for acquiring environmentally sensitive lands in Nevada and for making contributions to the State of Nevada for general public education and to the Southern Nevada water Authority for water treatment and transmission facility infrastructure, (SNPLMA Section 4(e)), Proceeds would also be eliminated for the staffing and development of the Sloan Canyon National Conservation Area. (P. L. 107-282). Environmentally sensitive lands are critical to protect Threatened and Species habitat, as well as riparian areas. In many cases, acquiring the last parcel of private land in a sensitive area completes the management area, which provides better control of activities that may be harmful to species we are trying to protect.

If the subject lands are not transferred to private ownership, then lands remaining under their current Federal status would not be added to the current tax base for local governments, thus not contributing to tax revenue levied on private holdings. Not selling the subject lands will increase local government infrastructure service cost resulting from the “leap frog” form of development. Dollars currently being used to support maintenance of federal recreational facilities will not be maximized, potentially reducing the quality of experience provided by these facilities to both local and outside visitors. This would, in effect, reduce the quality of recreational experience for all visitors.

The no action alternative would provide no monies to the State of Nevada for education under SNPLMA. As the population of the State of Nevada grows, there is a tremendous burden put on communities to provide quality education for the children. The dollars generated from the sale of lands in the Las Vegas Valley for education is important for the overall quality of the school system. Finally, the Southern Nevada Water Authority would need to find another funding source to help build the infrastructure for water delivery. It is entirely possible that taxes would need to be increased to meet the ever increasing needs for funds to build schools, provide good education for the children of Nevada and to ensure a dependable water supply is available to all those who live in the Las Vegas Valley.

The SNPLMA clearly defines the intent of Congress to provide lands in the Las Vegas Valley for community development. The no action alternative is contrary to the intent of Congress and would remove the ability of the local communities to identify lands they want for orderly disposal and community development in the Las Vegas Valley. Private and federally owned land would remain interspersed throughout the Valley.

It is possible, that if BLM were to retain the subject lands in federal ownership, such retention would not help improve the air quality in the Las Vegas Valley. Since vacant native desert is the second highest contributor to the dust problems in the Las Vegas Valley non-attainment area, BLM sees an increase in disturbance highly likely as the Las Vegas Valley continues to grow. Use by the public with ATV and other off-road vehicles create disturbed vacant land, which is up to 23 times greater in dust emissions once disturbed. This is explained in the proposed action

impact calculations of the amount of dust/PM10 reduction expected by developing vacant lands. An increase in the other category pollutants is not anticipated, if the public lands are not developed. As the population increases, and because the lands are open to public use, an increase in disturbance of vacant public lands available for disposal in the Las Vegas Valley is anticipated. There are many parcels of public land that Las Vegas residents use to recreate. These lands, once disturbed, emit much higher levels of PM10 than the stable vacant native desert lands in the Las Vegas Valley. The BLM is currently working with the Clark County Department of Air Quality Management to stabilize public land parcels identified as unstable by their enforcement officers. It is also possible that as land develops around BLM parcels, additional dumping of trash and hazardous material is likely to increase on BLM managed lands.

## **4.2 Cumulative Impact Assessment**

The geographic area for this cumulative impact analysis is defined as that portion of hydrographic basin 212 identified for attainment demonstration also defined as the BLM disposal boundary, which contains approximately 74,000 acres of BLM managed lands. This is the area where the vast majority of the community development will occur. The analysis completed in the Las Vegas RMP covered the entire basin 212 and is tiered to as noted below. BLM does not consider the sale of the subject lands as a growth inducing action, because Las Vegas is growing independent of any land BLM may sell at auction. However BLM has presented a detailed analysis in both the environmental consequences section and this cumulative impacts analysis. One basic assumption will be made as a premise for this analysis; all lands in the disposal area will be disposed of and potentially developed, some land may remain in its natural state.

### **A. Botany**

Disposal and future development of BLM lands would lead to the loss of 90% of the native vegetation within the Las Vegas Disposal area. It is expected that approximately 10% of the land would remain in its natural state. This loss of habitat would represent less than 1% of the total habitat existing within the Las Vegas planning area.

### **B. Threatened & Endangered Species**

Disposal and future development of BLM lands would lead to the loss of 100% of the desert tortoise habitat within the Las Vegas Disposal area. It is expected that if tortoise are encountered most of them would be transported to the desert tortoise center for handling. Under its Biological Opinion, File No. 1-5-96-F-23R.2 (October, 2001), the USFWS determined that the disposal of up to 125,000 acres of BLM lands within the Valley would not reduce appreciably the likelihood of survival and recovery of the Mojave population of the desert tortoise in the wild, or diminish the value of critical habitat both for survival and recovery of the desert tortoise because:

1. the disposal lands do not lie within any areas recommended for recovery of the desert tortoise or areas designated as critical habitat;
2. the Valley is rapidly developing and habitat within this area is expected to continue to be fragmented and degraded;

3. remuneration fees collected by the BLM to compensate for the loss of desert tortoise habitat will benefit recovery of desert tortoise;
4. the desert tortoise is a wide-ranging species occurring over a large area; and
5. The proposed disposal of up to 121,000 acres of desert tortoise habitat and 4,000 acres of previously disturbed desert tortoise habitat (no longer suitable for desert tortoise) would represent a loss of approximately 4% of the 4,900 square miles of desert tortoise habitat estimated to occur in Clark County. Effects on desert tortoises within the Las Vegas Valley represent a small impact to the Mojave population of the desert tortoise when total desert tortoise population numbers and geographical extent are considered.

### **C. Migratory Bird Treaty**

Disposal and future development of BLM lands will lead to the loss of 90% of the native vegetation within the Las Vegas Disposal area. It is expected that approximately 10% of the land would remain in its natural state. It is not known at this time if migratory birds would continue to inhabit any native vegetation areas not developed over time. The Las Vegas Valley is not likely to contain the majority of any species' population. The loss of 125,000 acres of habitat would represent a loss of approximately 4% of the 4,900 square miles of similar habitat estimated to occur in Clark County; therefore, it is expected that the proposed action will result in minimal contribution to migratory bird population declines.

### **D. Wildlife**

Disposal and future development of BLM lands will lead to the loss of 90% of the native vegetation within the Las Vegas Disposal area. It is expected that approximately 10% of the land would remain in a natural state. It is not known at this time if wildlife would continue to inhabit any native vegetation areas not developed over time. The loss of 125,000 acres of habitat would represent a loss of approximately four percent of the 4,900 square miles of similar habitat estimated to occur in Clark County; therefore, it is expected that the proposed action will result in minimal contribution to wildlife population declines.

### **E. Soils**

Disposal and future development of BLM lands would lead to the disturbance of 90% of the soil surfaces in the Las Vegas Valley, within the Las Vegas Disposal area. It is expected that approximately 10% of the land would remain in its natural state.

Disturbance of most of the surficial soils on BLM lands within the disposal boundary is considered not to be substantial because the nature of disturbance is only temporary. As the lands are developed from natural areas to urbanized settings, construction and grading activities will disturb large areas. These temporarily disturbed areas will be stabilized as streets and sidewalks are paved, buildings and houses are built, urbanized areas are landscaped, flood control conveyances are constructed, etc. The RMP/EIS does recommend erosion control measures be implemented during construction to minimize soil loss while these temporary disturbances occur

as lands are developed.

### F. Air Quality

A cumulative impacts analysis was completed in the RMP on pages 4-53 to 4-55, which addressed both PM10 and CO increases over the next 20 years based on 25,540 acres of public land disposal and 54,000 acres of private land development over the same period and is tiered to and incorporated by reference. It is clear from the analysis that the use of best management practices and any new technology may be required to ensure SIP budgets are not exceeded. The BLM will work closely with the CCDAQM on any land disposal action within the non-attainment area.

The following formulas were used to calculate the emissions for the criteria pollutants for the designated land use. The formulas are a function of assumed (percentage of total land sale assigned to given land use and construction duration) and calculated (emission factors) parameters.

Total Emissions (Tons) = Emission Factor x Total Acreage (given land use)

Total Emissions (Tons/Year) = Total Emissions (Tons) / Construction Duration (10 Years)

The calculated emissions are intended as estimates based on trends in development within the Las Vegas Valley. These estimates may or may not represent the final development that occurs on the lands, but these projections are reasonable, based on past and future development proposed within the Las Vegas Valley. The 4,800 acres was provided by Clark County Planning Staff as the number of acres that are currently being developed each year as of 2002.

#### CRITERIA POLLUTANT EMISSION ESTIMATES IN TONS/YEAR FOR DEVELOPMENT OF 4800 ACRES IN ONE YEAR

Criteria Pollutant	Single Family Home 65% 3120 ac	Office Building 624 ac	Convenience Store 2% 96 ac	Apartment Complex 15% 720 ac	Moderate Casino 3% 144 ac	City Park 96 ac 2%	Totals 4,800 ac
CO	1,154	181	518	986	153	1	2,993
NOx	3,557	537	842	3,132	367	2	8,437
SO2	250	44	16	230	22	1	536
VOC	718	156	655	677	151	1	2,358
PM10	1,373	281	794	1,166	216	8	3,838
PM2.5	499	87	178	389	59	3	1,215

## **Regional Significance as Defined By EPA**

As demonstrated by the analysis, development occurring in one-year would not result in emissions that would be considered “regionally significant” with regard to air pollution emissions. EPA defines an action to have a regionally significant impact if air emissions will exceed 10% of the total regional emissions budget for a criteria pollutant.

The regionally significant thresholds within the attainment demonstration area are 17,800 tons/year for PM<sub>10</sub> and 12,100 tons/year for CO, based on the total budgets identified in the SIP, for the attainment demonstration area. Estimated emissions for the development of 4,800 acres of land over a one-year time period are 3,838 tons of PM<sub>10</sub> and 2,993 tons of CO, well below the 10% threshold set by EPA. Therefore, impacts from both BLM and Private development are unlikely to become regionally significant. It is important to note that even using all lands developed in one year there still is not an issue with regional significance. All other criteria pollutants fall within acceptable limits, and the Las Vegas Valley is in attainment for each of these pollutants

## **G. Water Resources**

A cumulative impacts analysis was completed in the RMP on pages 4-55 to 4-56, which addressed the increased water demand expected based on development of 54,000 acres of private land and 26,000 acres of currently Federal land which would be subsequently developed when privatized. Over a 20-year period it is expected that an additional 200,000 acre-feet of water may be required to meet future demands for water. It is clear from the analysis that additional water allocations will be needed to sustain growth. The Southern Nevada Water Authority is in the process of completing a water and treatment facility, with an extensive pipeline network, which would nearly double the existing pumping and delivery potential. They are also working with the Secretary of the Interior to acquire additional water rights from Lake Mead to meet projected future needs.

All projections for water use, which may result from the sale of the subject lands, fall within the estimate presented in the RMP.

## **H. Floodplains**

The cumulative impact of the November 2003 Land Disposal on floodplains could be increased in the volume, depth, velocity, and duration of flooding. However, these impacts will be mitigated during development of each parcel individually by the developer, as required by local government or collectively through a regional authority. This mitigation will be in the form of constructing adequate flood control facilities that could include underground drainage pipes, channel stability measures, surface impoundments, or other features. The Clark County Department of Development Services reviews the design for these facilities.

## **I. Cultural Resources**

Disposal and future development of BLM lands would lead to the disturbance of 90% of the land surfaces in the Las Vegas Valley, within the Las Vegas Disposal area. It is expected that approximately 10% of the land would remain in its natural state. Any cultural resources found on any parcel would be identified and appropriate mitigation would be required based on site characteristics.

### **4.3 Description of Mitigation Measures and Residual Impacts**

Under the Biological Opinion no mitigation fee is collected upon the sale of this land. The fees will be collected prior to development in accordance with the Clark County MSHCP.

Residual impacts to air quality include a short-term increase in dust emissions from construction phases of any development of the land, and vehicle activity. In addition, an increase in hydrocarbon and combustion emissions from internal combustion engines would be expected in the project area. No long-term residual adverse effects on Air Resources are expected from the proposed action. The impacts are expected to occur during development after the land is sold. Once developed, the dust emissions would be minimal to none for the entire project area and a slight increase in hydrocarbons would be expected due to additional combustion engine vehicles continually being operated in the area, during and after construction. However, new technology for combustion engines has reduced the CO emission, which results in a minimal increase in CO.

The land purchaser will be required to take measures to control fugitive dust, in compliance with the Clark County Department of Air Quality Management permitting regulations.

### **4.4 Recommendation and Rationale**

Recommendation:

It is recommended that the subject lands be offered for sale to the general public by auction under the authority of FLPMA, SNPLMA, and all other applicable laws and regulations.

The patents, when issued, will contain the following reservations to the United States:

1. A reservation of all leaseable and saleable mineral deposits in the land so patented, and to it, its permittees, licensees and lessees, the right to prospect for, mine, and remove the minerals owned by the United States under applicable law and such regulations as the Secretary of the Interior may prescribe, including all necessary access and exit rights.
2. A right-of-way thereon for ditches and canals constructed by the authority of the United States, Act of August 30, 1890, 26 Stat. 391, 43 U.S.C. 945.
3. All land parcels are subject to all valid and existing rights.

4. All land parcels are subject to reservations for roads, public utilities and flood control purposes, both existing and proposed, in accordance with the local governing entities Transportation Plans.
5. All purchasers/patentees, by accepting a patent, agree to indemnify, defend, and hold the United States harmless from any costs, damages, claims, causes of action, penalties, fines, liabilities, and judgments of any kind or nature arising from the past, present, and future acts or omissions of the patentee or their employees, agents, contractors, or lessees, or any third-party, arising out of, or in connection with, the patentee's use, occupancy, or operations on the patented real property. This indemnification and hold harmless agreement includes, but is not limited to, acts and omissions of the patentee and their employees, agents, contractors, or lessees, or any third party, arising out of or in connection with the use and/or occupancy of the patented real property which has already resulted or does hereafter result in: (1) Violations of federal, state, and local laws and regulations that are now, or may in the future become, applicable to the real property; (2) Judgments, claims or demands of any kind assessed against the United States; (3) Costs, expenses, or damages of any kind incurred by the United States; (4) Other releases or threatened releases of solid or hazardous waste(s) and/or hazardous substances(s), as defined by federal or state environmental laws; off, on, into or under land, property and other interests of the United States; (5) Other activities by which solids or hazardous substances or wastes, as defined by federal and state environmental laws are generated, released, stored, used or otherwise disposed of on the patented real property, and any cleanup response, remedial action, or other actions related in any manner to said solid or hazardous substances or wastes; or (6) Natural resource damages as defined by federal and state law. This covenant shall be construed as running with the patented real property and may be enforced by the United States in a court of competent jurisdiction.

Rationale:

1. The land is physically suitable or adaptable for the use and purpose proposed (43 CFR 2410.1(a)).
2. Lands found to be valuable for public purposes will be considered chiefly valuable for public purposes (43 CFR 2430.2(b)).
3. The recommendation to dispose of the subject lands is consistent with the FLPMA, SNPLMA, RMP and all other applicable federal public land laws and regulations.
4. Will result in revenues being paid directly to the State of Nevada, which will receive 5% for its general education program and to the Southern Nevada Water Authority, which will receive 10% for water treatment and transmission facility infrastructure in Clark County. 85% of the revenues will be used to purchase sensitive lands in Nevada that are more consistent with the policies stated in the RMP's and conservation values defined within

the Clark County Conservation of Public Land and Natural Resources Act of 2002.

5. Road reservations are in accordance with the governing entities' Transportation Plans.
6. Proposed action is in the best interest of local growth policies and land use plans, as established and approved by the local governments within the Las Vegas Valley.

**5. Persons/Agencies Consulted:**

Kristen Murphy, Biologist, Division of Resources - Las Vegas Field Office (LVFO)  
Stan Rolf, Archaeologist, Division of Resources – LVFO  
Judy Fry, Realty Specialist, Division of Lands – LVFO  
Scott Archer, Air Quality Specialist, BLM, Denver  
Layne Weber, Clark County Development Services  
Clark County Department of Air Quality Management  
Clark County Comprehensive Planning  
Clark County Public Works  
City of Henderson  
City of Las Vegas  
Nevada Power Company  
Southwest Gas Corporation

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