

**U.S. Department of the Interior
Bureau of Land Management**

**Environmental Assessment
DOI-BLM-NV-S030-2014-0012-EA
December 18, 2014**

**Nevada Division of State Lands
Landfill R&PP**

APPLICANT

State of Nevada, Department of Natural Resources, Division of State Lands

GENERAL LOCATION

Mount Diablo Meridian, Nevada
T. 13 S., R. 47 E.,
Sec. 26, S1/2SW1/4, S1/2SE1/4;
Sec. 35, NW1/4NW1/4, S1/2NW1/4, NE1/4NE1/4, S1/2NE1/4

BLM CASE FILE SERIAL NUMBER(S)

Nev-057750 and Nev-057750-01

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Acronyms and Abbreviations

ACEC	Area(s) of Critical Environmental Concern
ADRS	Amargosa Desert Research Site
AMSL	Above Mean Sea Level
APE	Area of Potential Effect
ASTM	American Society for Testing and Materials
BA	Biological Assessment
BAPC	Bureau of Air Pollution Control
BLM	Bureau of Land Management
BMPs	Best Management Practices
BO	Biological Opinion
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CAP	Corrective Action Plan
CFR	Code of Federal Regulations
CIAA	Cumulative Impact Analysis Area
CMS	Corrective Measures Study
CO	Carbon Monoxide
EA	Environmental Assessment
EPCRA	Emergency Planning and Community Right-to-Know Act
EPA	Environmental Protection Agency
ESA	Endangered Species Act or Environment Site Assessment
FEMA	Federal Emergency Management Agency
FLPMA	Federal Land Policy and Management Act
GCL	Geosynthetic Clay Layer
GHG	Greenhouse Gas
GLO	General Land Office
GPS	Global Positioning System
HDPE	High-Density Polyethylene
HMA	Herd Management Area
HMRR	Hazard Management and Resource Protection
HSWA	Hazardous and Soil Waste Amendment
IPAC	Information, Planning & Conservation System
IPCC	Intergovernmental Panel on Climate Change
LCRS	Leachate Collection and Removal System
LDR	Land Disposal Restrictions
LDRS	Leachate Detection and Removal System
LLRW	Low Level Radioactive Waste
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NDSL	Nevada Division of State Lands

NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NNHP	Nevada Natural Heritage Program
NO ₂	Nitrogen Dioxide
NRC	Nuclear Regulatory Commission
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O ₃	Ozone
OSHA	Occupation Safety and Health Administration
PCB	Polychlorinated Biphenyl(s)
PID	Photo Ionization Detector
PLO	Public Land Order
PM ₁₀	Particulate Matter less than 10 microns in effective diameter
PM _{2.5}	Particulate Matter less than 2.5 microns in effective diameter
POD	Plan of Development
R&PP	Recreation & Public Purpose
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Conditions (REC)
RECO	Renewable Energy Coordination Offices
RMP	Resource Management Plan
ROD	Record of Decision
ROW	Right of Way(s)
SARA	Superfund Amendments and Reauthorization Act
SEZ	Solar Energy Zone
SHPO	State Historic Preservation Office
SNDO	Southern Nevada District Office (BLM)
SO ₂	Sulfur Dioxide
SSI	Statistically Significant Increase
SVE	Soil Vapor Extraction
SWMU	Solid Waste Management Unit
T&E	Threatened and Endangered
TOC	Total Organic Carbon
TOX	Total Organic Halides
TRI	Toxics Release Inventory
TSCA	Toxic Substances Control Act
USEN	U.S. Ecology Nevada, Inc.
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
VEA	Valley Electric Association
VOC	Volatile Organic Compound(s)
VRI	Visual Resources Inventory
WEAP	Worker Environmental Awareness Program
WO	Washington Office
WSA	Wilderness Study Areas

Identifying Information

Title:	Nevada Division of State Lands (NDSL) Landfill R&PP
BLM Case Number	Nev-057750 and Nev-057750-01
Type of Project:	Landfill R&PP
General Location	11 Miles South of Beatty, Nevada Approximately 388 Acres on the Southwest Side of US-95 Approximately 12 Acres on the Northeast Side of US-95 (Figures 2.1-1 and 2.1-2)
Location of Proposed Action:	Mount Diablo Meridian, Nevada T. 13 S., R. 47 E., Sec. 26, S1/2SW1/4, S1/2SE1/4; Sec. 35, NW1/4NW1/4, S1/2NW1/4, NE1/4NE1/4, S1/2NE1/4 on the Carrara Canyon, NV (1987) USGS Quadrangle
Preparing BLM Office:	Pahrump Field Office
Applicant Name:	Nevada Division of State Lands

1.0. INTRODUCTION

The Nevada Division of State Lands (NDSL) owns an 80 acre site through a patent and is leasing 400 additional acres of Bureau of Land Management (BLM) managed land through a Recreation & Public Purpose (R&PP) lease (Nev-57750), that serves as a buffer surrounding the 80 acre site. The NDSL has held the 400 acre R&PP lease for over 50 years surrounding the patented 80 acres. The NDSL has developed the 80 acres of patented land into a permitted Hazardous Waste Management Facility (Environmental Protection Agency (EPA) ID# NVT330010000) issued by the Nevada Division of Environmental Protection (NDEP), renewed December 2011, under the authority of Section 3006 of the Resource Conservation and Recovery Act (RCRA). The NDSL has committed to ensuring long-term, safe, permanent disposal of RCRA Subtitle C materials for citizens and commercial users in Nevada and adjoining states for over 50 years. The NDSL would like to expand the landfill operations into the 400 acres and has requested the lease be conveyed several times during the span of their lease.

The objective is to change of use from buffer under lease to disposal, requiring conveyance under the R&PP Act. The current lease expires in 2015 and the lease renewal increments were shortened since 2000. Requests for expansion began as early as the 1960s, during which time the R&PP Act did not permit direct conveyance of land for landfill, and continued until the R&PP Act Amendment of 1988, which subsequently permitted direct conveyance of land for landfill under the R&PP Act. Since 1988 the state has requested approval of expansion into, and conveyance of, the 400 acre leased area, pursuant to current regulations, culminating in this request. The NDSL is reaching landfill capacity and is requesting conveyance of the land by March 2015.

1.1. Purpose and Need

The purpose is to convert the existing R&PP classification Nev-57750 consisting of 400 acres of land adjacent to NDSL patented land, and to segregate and subsequently convey the leased land to the NDSL by conversion of an R&PP action from lease to patent of up to 400 acres, as described in BLM R&PP Handbook H-2740-1, Chapter X (D). The objective is to convert the NDSL R&PP Act lease to patent to the jurisdiction of the NDSL.

The objective is to provide long-term availability of lawful disposal of Resource Conservation and Recovery Act (RCRA), Subtitle C waste. Expansion of the existing NDSL site has been identified by the NDSL as a high priority public service infrastructure. Continued availability of a NDSL-controlled site in this area is a critical infrastructure component needed for safe handling and disposal of these materials. Public, governmental, and commercial demand for disposal of these materials continues to grow as a result of various manufacturing, commercial, medical, defense, consumer, and industrial activities. The NDSL facility is one of only a few such sites in the western United States.

The NDSL's analysis indicates that the least resource-impacting, most time and cost effective method to extend the life of the existing site, and assure safe disposal of these materials is through expansion onto the 400 acre area that surrounds the existing NDSL-owned site. The 400 acre parcel is already leased by BLM to the NDSL for buffer, security, and other landfill support purposes. The NDSL's expansion of the existing disposal site onto adjacent land of the same character would fulfill the purpose of allowing continued operations and would avoid the need to close and relocate the existing NDSL-owned site, but needs to involve the use of the 400 acre leased public land parcel.

The need for Federal action is to respond to a Federal Land Policy and Management Act (FLPMA) R&PP patent request under Sec. 212(a) (44 Stat. 741, as amended; 43 U.S.C. 869 et seq.) and respond to requests to convert right of way (ROW) under 43 Code of Federal Regulations (CFR) 2807.15(c) to expand the 400 acre parcel of public lands for the non-hazardous and hazardous waste facility to the NDSL. There are no available non-Federal lands adjacent to or near the existing NDSL-owned site that could accommodate expansion because land ownership in the area is predominantly Federal.

Once the Proposed Action is conveyed to NDSL, the BLM would not be responsible for resource management issues such as dust, weed control plans, and wildlife species, since those effects would be conveyed with the land to be under the jurisdiction and enforcement procedures of the NDEP, EPA, and County regulations.

The BLM will decide whether or not to allow segregation, change of use, and conveyance of land. The BLM will decide whether or not to permit the above.

1.2. Scoping, Public Involvement, and Issues

BLM conducted internal meetings regarding the Proposed Action and this Environmental Assessment was reviewed by all BLM staff and specialists as needed. The BLM has involved the following interested parties during the planning and NEPA process for consultation, input, and notification regarding the Proposed Action:

Interested Party	Contact Person, if Applicable	Contact Information
Nevada Department of Transportation	Helana Salazar	1263 S. Stewart Street, Carson City, NV 89712
Valley Electric Association, Inc.	Kristin Mettke	P.O. Box 237, Pahrump, NV 89041
U.S. Geological Survey	Brian Andraski	2730 N. Deer Run Road, Carson City, NV 89701
Nevada Bell	Cliff Cooper	645 E. Plumb, Room C259, Reno, NV 89520
Nevada Hospital Association	Bill Welch	5190 Neil Road, Suite 400, Reno, NV 89502-8531
U.S. Ecology Nevada, Inc.	Bob Marchand	P.O. Box 578, Beatty, NV 89003-0578

Interested Party	Contact Person, if Applicable	Contact Information
Nye County Commissioners (Pahrump)	NA	1510 E. Basin Ave., Pahrump, NV 89060
Nye County Commissioners (Tonopah)	NA	P.O. Box 153, Tonopah, NV 89049
Nye County Manager	NA	P.O. Box 153, Tonopah, NV 89049
Nevada Division of Environmental Protection	NA	901 S. Stewart Street, Carson City, NV 89701-5249
U.S. Fish and Wildlife	Michael Burroughs	michael_burroughs@fws.gov
U.S. Environmental Protection Agency	Ron Leach	leach.ronald@epa.gov

During the initial consultation and meetings with state and local officials, it was determined that the public did not require direct involvement in the initial scoping due to a lack of interest and concern for the Proposed Action.

All adjacent land to the Proposed Action is managed by the BLM. Native American Tribes were consulted (see Section 7.2.) with no issues identified.

Environmental and social issues of local importance associated with the Proposed Action are identified as follows:

- Impacts to air quality resulting from construction and activities
- Potential impacts to cultural and historical values within the analysis area
- Potential impact to fish and wildlife including migratory birds, threatened, endangered, or candidate animal species
- Potential of the establishment of invasive or noxious plant species onto adjacent BLM land
- Potential impacts to water (drinking, ground, and surface) and floodplains
- Potential impacts from hazardous and/or solid wastes
- Potential impacts to soils from construction, development, and activities
- Potential impacts to geology and mineral resources
- Potential impacts to lands and access
- Cumulative effects of development activities when combined with other ongoing and proposed developments on lands adjacent to the Proposed Action area

2.0. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1. Project Location

The proposed 400 acre expansion surrounds the existing 80 acre leased site located 11 miles south of Beatty, Nevada located mostly on the southwestern side of US-95 (Figure 2.1-1). Approximately 12 acres is located on the northeastern side of US-95 (Figure 2.1-

2). The proposed 400 acre expansion is located in Township 13 South, Range 47 East; Section 26, S $\frac{1}{2}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$; Section 35, NW $\frac{1}{4}$ NW $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$ of the Mount Diablo Meridian, on the Carrara Canyon, NV (1987) U.S. Geological Survey (USGS) Quadrangle.

2.2. Description of the Proposed Action

The proposed Federal action is to approve the NDSL application for segregation and conveyance of the land and to change the use of the 400 acre site currently leased for landfill buffer area purposes pursuant to the R&PP Act (Proposed Action). The 1988 R&PP Act Amendment allows for the direct and immediate conveyance of lands to be used for non-hazardous and hazardous waste disposal. Thus, a decision to approve the change of use would result in the immediate conveyance (patent) of the lands to the NDSL for use as a disposal and landfill site.

The 1988 R&PP Act Amendment was enacted to provide for immediate conveyance of lands classified as suitable for non-hazardous and hazardous waste disposal. If approved, the Proposed Action would result in the natural and cultural resource values present on the 400 acres being removed from the public domain and from Federal ownership. The Proposed Action land would be permanently removed from Federal ownership, which would constitute an irretrievable and irrevocable commitment of the site and its resources to the use as a disposal site. The 400 acres would also be permanently impacted and resource services would be lost to the public. There would still be federal oversight of the Proposed Action with US EPA permit under Toxic Substances Control Act (TSCA) that is enforced by the NDEP for the EPA.

A Phase I Environmental Site Assessment (ESA) would be conducted, upon BLM approval of the Proposed Action, and prior to the land conveyance. The purpose of this assessment is to identify Recognized Environmental Conditions (REC) as defined in ASTM E 1527-05 associated with the land. The term "Recognized Environmental Conditions" refers to the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.

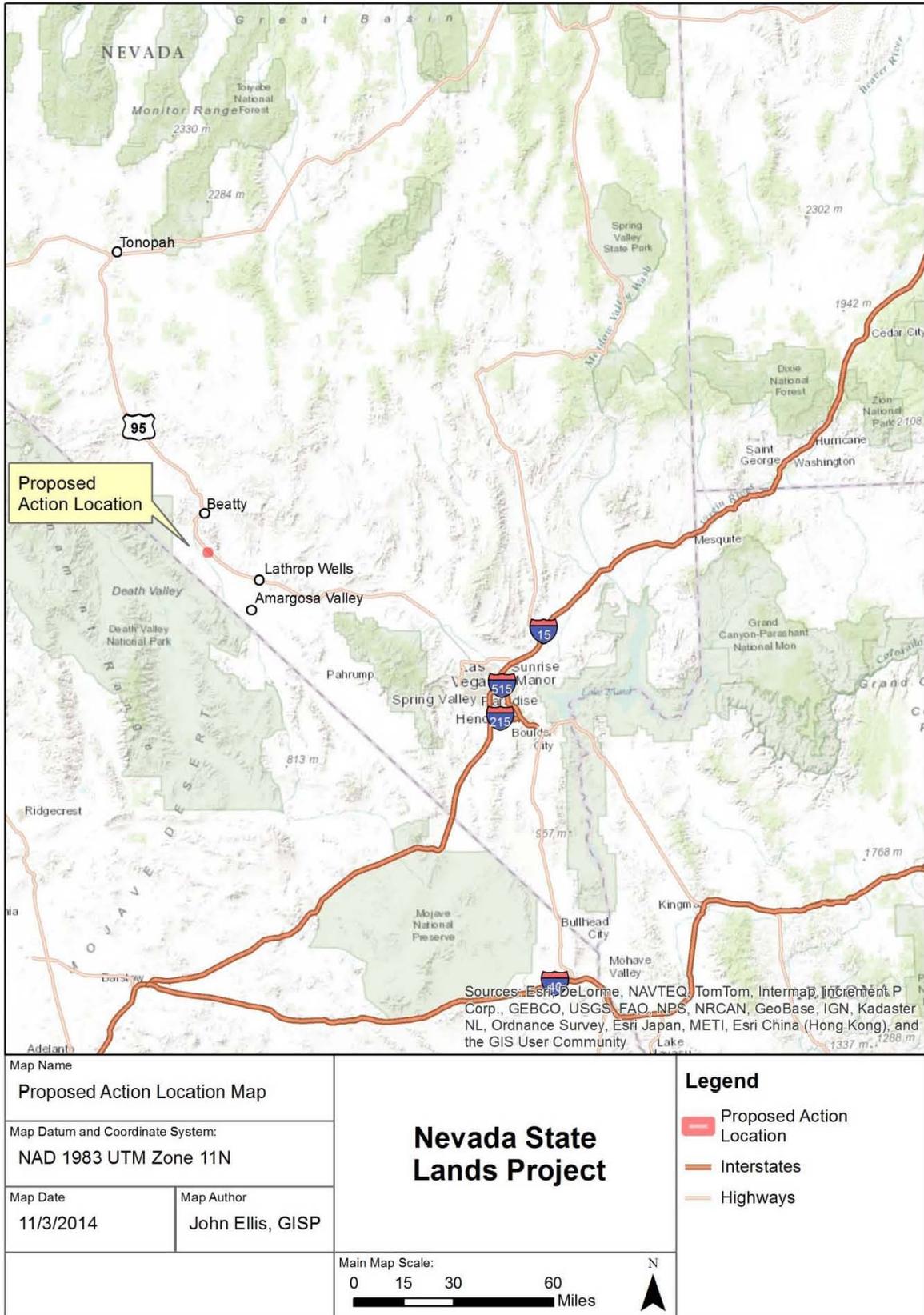
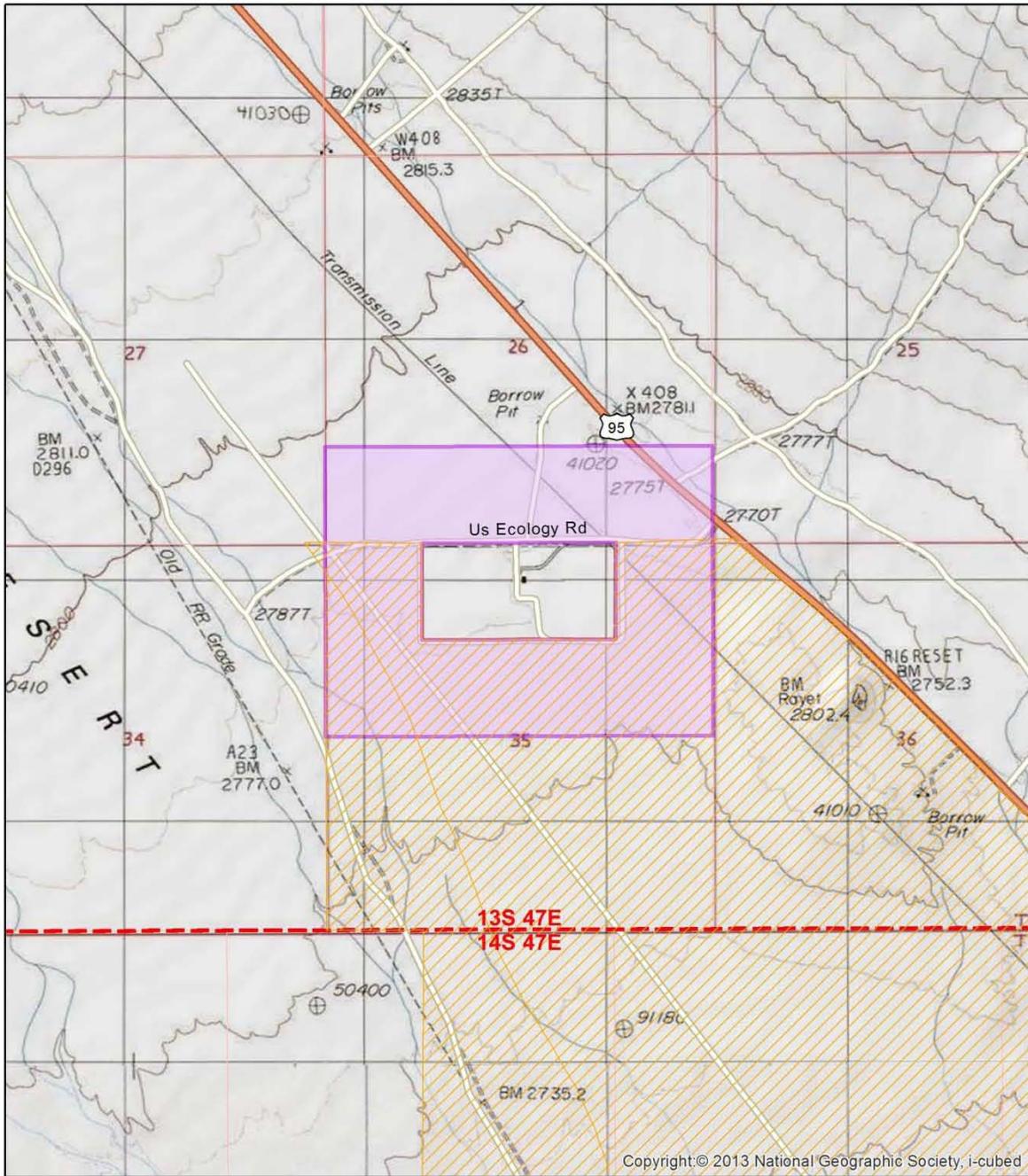


Figure 2.1-1 Proposed Action Location



Map Name Proposed Action Area Map		<h2>Nevada State Lands Project</h2>	Legend
Map Datum and Coordinate System: NAD 1983 UTM Zone 11N			
Map Date 11/3/2014	Map Author John Ellis, GISP		
Main Map Scale: 0 0.125 0.25 0.5 Miles			

Figure 2.1-2 Proposed Action Area Map

2.2.1. Background

The NDSL owns an 80 acre parcel south of Beatty, Nevada, licensed and operated to accept non-hazardous and hazardous wastes in a treatment and landfill disposal facility. The 80 acre site was acquired from the BLM by the NDSL in 1961 by Patent No. 1222512. Since that time it has been continuously owned and used by the NDSL for treatment and permanent landfill disposal of hazardous and non-hazardous wastes.

Initially, low-level radioactive waste (LLRW) was placed on the site, such as x-ray films, radioactive industrial compounds, and other industrial bi-products. However, disposal of radioactive wastes was terminated in 1992, and the disposal area containing these materials was closed and capped, and is constantly monitored by the NDSL and the U.S. Geological Survey (USGS) to assure materials remain confined in the secured designated waste area located in the southwest area of the current NDSL 80 acre facility (EPA 2014a) (see EPA 2012a 2014b; NDEP 2014; USGS 2012b for further background information). Since the cessation of disposal of radioactive waste, the site has not been licensed or used for this purpose, and the NDSL has no plans to resume disposal of these types of wastes in the future. The existing 80 acre disposal site and the proposed expansion described below would continue to be operated and monitored as a RCRA, Subtitle C landfill. The RCRA Subtitle C identification and classification of hazardous solid waste is subject to Federal and State law, and can include a variety of substances after they are stabilized or contained, such as asbestos, paint pigments, lead contaminated building materials, and polychlorinated biphenyls (PCB) contaminated electrical components, to name just a few of these kinds of materials (see Hazardous Waste Identification for further information on the EPA website located at: <http://www.epa.gov/waste/inforesources/pubs/orientat/rom31.pdf>).

Administered under current stringent rules, the Proposed Action can be expected to provide a safe and secure repository for these wastes in an arid, isolated area. Operational requirements under NDEP and EPA rules are intended and expected to reduce threats to public health and safety at or in the vicinity of the current facility and Proposed Action to practically nothing. The site would be licensed for dry solid wastes, therefore the opportunity for air or groundwater pollution is also very small. The disposed waste at the site is essentially permanent with concentrations that commit the land to be permanently removed for any socially useful purpose. Because of this, it is critical that the land be maintained, monitored, controlled, and restricted in perpetuity.

The NDSL has operated and would continue to operate this facility through contracts with private operators. Public access will continually be restricted due to public health and safety concerns associated with such a site. The NDSL maintains complete ultimate oversight and control, has no intent to dispose of the land, and no ownership or controlling interest would be conveyed to a private operator. The arrangement is similar to arrangements used on non-hazardous municipal landfills operated by the

cities, counties, and states through private operating leases or contracts. The chronology of operating contracts at the site throughout the past is:

- 1963 to 1977 – Nuclear Engineering Co.
- 1977 to 1996 – Nuclear Engineering Co.
- 1996 to 2007 – US Ecology, Inc.
- 2007 to Present – US Ecology Nevada, Inc.

The current 80 acre facility in use is suited for non-hazardous and hazardous waste disposal, with a very low population, arid climate, sparse vegetation, deep groundwater table, and lack of perennial surface waters.

A 400 acre parcel wholly surrounding the 80 acre parcel by approximately ¼ mile on each side was classified for lease to the NDSL for use as a buffer zone to adjoining NDSL-owned land. The NDSL obtained the lease for the 400 acre buffer zone on June 20, 1962, under the R&PP Act, by the BLM. The lease was renewed June 20, 1982 & 2007 and June 19, 2010 for the purpose of a buffer zone with the following stipulation: “Regulations pertaining to the Recreation and Public Purposes Act prohibit use of public lands for disposal of permanent or long term hazardous waste. Accordingly, the leased lands shall be used as a buffer area only.” The current lease expires on June 18, 2015.

The 400 acre leased area completely surrounds the 80 acre NDSL owned disposal site (see Figure 2.1-1 and 2.1-2). Uses allowed on the leased area under its current development are for a public health, safety, security, and an environmental monitoring buffer area. The leased area also provides access, clean fill soil stockpiling of State owned soil material, and placement, maintenance, and use of groundwater monitoring and production wells.

The NDSL initially requested authorization from BLM to expand disposal on the 400 acre leased area as early as the June 22, 1961. As remaining capacity on the 80 acre NDSL owned site diminished over the years, the NDSL continued to address the need to expand operations into the leased area. Before the R&PP Act Amendment of 1988, the R&PP Act did not permit direct conveyance of land for landfill. The R&PP Act Amendment of 1988 permitted direct conveyance of land for landfill under the R&PP Act. Since that time, the NDSL has requested approval of expansion into, and conveyance of, the 400 acre leased area, pursuant to current regulations, culminating in this request.

Capacity of the NDSL owned 80 acre site became critical in 2011. The NDSL again requested expedited conveyance of the leased area. To forestall impending suspension of disposal operations due to lack of capacity, the NDSL’s operator, US Ecology Nevada, Inc (USEN), requested and was granted an administrative site ROW within the leased area in 2013 (N-91048), which allowed relocation of administrative offices and facilities owned by USEN from the 80 acre NDSL owned site to increase short term disposal capacity. This is a 10 year ROW for a 5 acre area that is currently covered

under section 7 under Biological Opinion (BO) 1-5-97-F-251. The area of the 80 acre site formerly containing the administrative site has been developed as Trench 12, and is currently accepting non-hazardous and hazardous waste.

2.2.2. Site Development

Site preparation would involve removal of all vegetation in phases during expansion to allow construction of landfill disposal cells/trenches and disposal operations including the necessary grading, construction, excavation, material treatment and disposal, burial, and overall monitoring including monitoring wells. It is anticipated the entire surface of the 400 acre area would be disturbed, including all vegetation, during the lifetime of the proposed project except the approximate 35 acres located in a 100 year flood zone that would not be developed. This disturbance is necessary to allow excavation and lining of landfill disposal cells/trenches, storage of stockpile clean fill, to provide vehicle and equipment access, perform overall operations and maintenance, and stabilize, cap and secure the site upon final closure which is anticipated to be in approximately 30 years. Proposed disturbance is not known for long-term (beyond 5 years) presently; however there is a preliminary plan in place for long term plans (See Figures 2.2.1 and 2.2.2). Proposed disturbance (long term) and existing disturbance within the proposed project is outlined below in Table 2.2-1. This existing habitat disturbance is within the 400 acre buffer, outside the 80 acre NDSL owned disposal site.

In order to minimize impacts to surrounding public lands and protect the public, the entire 480 acre (400 acre proposed project and 80 acre current facility) facility would be fenced with industrial grade chain link security fence that has desert tortoise exclusion fence attached to it. Water, aggregate, asphalt, and/or concrete may be used to provide level and well-drained surfaces for roadways, parking areas, and to control dust per EPA/NDEP permit requirements and the NDSL. The entire proposed project would be fenced before any development or construction occurs. The current 80 acre facility is surrounded by the proposed project, so the entire 480 acres (proposed project and current facility) would be fenced (Refer to Table 2.2-1 for a breakdown of land disturbance).

Remuneration fees for 299.3 acres of disturbance to desert tortoise habitat would be collected by the BLM before land conveyance can occur per the terms and conditions of the Biological Opinion.

The buffer area would be 300 feet wide (approximately 70 acres) to the outside edge of the proposed project from the trenches that would be used for waste disposal. The buffer is sufficient to include necessary monitoring wells and equipment for the proposed project. The best available control technology does not require as much space today as in the past allowing for a smaller buffer area. Also increased knowledge from studies in the last 50 years has improved the understanding of how materials should be contained. The original 400 acre buffer was in gross aliquot parts, based on the

expectation of future enlargement into the buffer zone which was common practice during the early 1960s when the original facility and buffer were designed.

Table 2.2-1 Disturbance within the Area of the Proposed Action

CURRENT DISTURBANCE IN PROPOSED ACTION	DISTURBANCE ACREAGE	SUBTOTAL ACREAGE	TOTAL ACREAGE
USGS Hydrological Study Site	40		
USGS Hydrological Study Site Access Road	1.4		
US Ecology Administrative ROW site	5		
Historical NDSL use (pre '89) accepted by BLM, (spoils piles, perimeter access, storm water control, monitoring wells, access, etc.)	31.8		
Other ROWS (Valley Electric Association, AT&T, US-95 etc.)	13		
Areas disturbed outside of US Ecology and State control by unregulated public access for off-highway use etc.	9.5		
Total Existing Documented Disturbance			
Undocumented Disturbance	8		
Total Undisturbed	291.3		
Total Undisturbed and Undocumented Disturbance		299.3	
TOTAL ACRES PROPOSED ACTION			400
APPROXIMATE PROPOSED ACTION DISTURBANCE	DISTURBANCE ACREAGE	SUBTOTAL ACREAGE	TOTAL ACREAGE
Proposed Trench 13 (Phases A through E)	55		
Proposed Future Trench/Stockpile Area	80		
Proposed Perimeter Road	20		
Proposed Future Administration Site, Parking, or Stockpile	6.6		
Proposed Future Stockpile Areas	46		
Proposed Buffer Area (some would be disturbed for monitoring and access)	70		
USGS Hydrological Study Site	40		
USGS Hydrological Study Site Access Road	1.4		
Other ROWs (including buffer from any landfill activities)	46		
Total Existing and Proposed Disturbance			
Total Proposed Undisturbed Area (100 year flood zone)		35	
TOTAL ACRES PROPOSED ACTION			400

2.2.3. Facility Development and Licensing

The NDSL has the financial capability to ensure development of the site for continued non-hazardous and hazardous waste disposal. The financial capability includes operation and continued monitoring of the facility during operations and after its closure. Subject to final design and engineering, a total estimated initial development cost of \$5,880,000 is anticipated for fencing, grading and excavation, groundwater monitoring wells, and to install and line a trench. This figure is derived from the State of Nevada, the State's contractor, and their engineering firm for the initial development phase. Funding cannot be appropriated or obligated at this point, as the BLM conveyance is not guaranteed. The State Legislature, bonding firms, and lenders would not obligate funds at this level until the State has the conveyance.

Prior to acceptance of non-hazardous and hazardous wastes and disposal on the expansion area, licensing must be completed with State and Federal agencies having jurisdiction. The NDEP is an independent State agency with authority delegated from the EPA to regulate non-hazardous and hazardous waste management and disposal within Nevada. Other agencies, such as U.S. Army Corps of Engineers, Nevada Department of Transportation (NDOT), Occupation Safety and Health Administration (OSHA), the Nevada State Engineer, and others have other various regulatory roles.

Licensing of the expansion with all regulating agencies is expected to take from 20-36 months. Nevada Administrative Code (NAC) applies because Nevada's Hazardous Waste Program is authorized by the EPA pursuant to 40 CFR 271. The NAC 444.733 1.2. requires proof of land ownership and regulating agencies (NDEP and EPA) would not proceed with licensing a new site until NDSL owns the site or has permission of the land owner to proceed which would not occur until the conveyance of the land for the Proposed Action. Licensing would be for non-radioactive and solid (non-liquid) substances. During the licensing period, the State cannot develop the site since all development would need to be done in conformance with NDEP/EPA licensing. Surveying, testing, and preliminary development steps as permitted by the NDEP and EPA would be the only development that could occur before complete licensing is finalized, but after conveyance of the land to NDSL.

The licensing process through NDEP/EPA is a formal process that is guided by these agencies and not by the NDSL. The permitting program for the Resource Conservation and Recovery Act (RCRA) ensures the safe treatment, storage, and disposal of hazardous wastes and includes requirements for the management of these hazardous wastes. Permits are issued by Authorized States or by the EPA Regional Offices. Authorized States are where the EPA delegates the primary responsibility of implementing the RCRA hazardous waste program to individual states in lieu of the EPA. State RCRA programs must be at least as stringent as the federal requirements (EPA 2014c). In the State of Nevada, NDEP works with the EPA for the complete permitting process. Part of retaining these permits includes extensive record keeping and reporting to the EPA/NDEP. NDEP is responsible for permitting and inspection of hazardous waste generators, disposal, transfer, storage, and recycling facilities along with enforcing state hazardous waste statutes and regulations. In addition, they are authorized to enforce Federal hazardous waste regulations for the EPA (for further information see EPA 2012b and NDEP 2014).

2.2.4. Initial Construction

Once licensing is complete, the new construction over the first 3-5 years develops and places into operation the next major disposal cell/trench by the name of Trench 13, Phase A. The construction would include additional roads as needed, additional monitoring wells, and drainage. The engineering and construction of non-hazardous and hazardous waste disposal cells would be compliant with RCRA Subtitle C in accordance with the requirements of the EPA and the NDEP would be responsible for approving all final engineering, lining, monitoring wells and other specifications

associated with landfill operations and would inspect and approve all construction activities and ongoing operations, including all landfill close-out requirements for the duration of the landfill life cycle. Development beyond 5 years is planned, but details would not be known until the development and permitting begin (See Figures 2.2-1 and 2.2-2).

The proposed new buffer area is within the proposed project area and inside the outer boundary; it is 300 feet wide. This new buffer surrounds all trench/cell activity within the proposed project area. Trench 13, Phase A is approximately 10 acres in size and can be accessed by an existing road immediately to the north of the trench. Four additional monitoring wells would be placed in the new buffer area within the 400 acre proposed project area, surrounding the proposed development. These new wells would be located to the south, southeast, and east of the Trench 13. These wells would be designed and constructed based upon the requirements of the EPA/NDEP during the permitting process. If additional roads would be required to the west, south, or east of the Trench 13 they could be up to 1,200 feet long adjacent to the trench/cell. The need for roads would not be determined until the NDEP/EPA permitting process is employed. Any new roads would be within the proposed project boundary and would be in compliance with all NDEP dust regulations for construction and maintenance over the life of the proposed project facility operations. There would be no detention basins or ponds. Operational decisions such as light poles and other support items would be decided during the second phase of consultations and permitting through the EPA and NDEP. Permitting cannot begin until NDSL owns the land or has permission of the land owner to proceed which would not occur until conveyance of the Proposed Action Land.

The initial construction and development covers approximately the first five years of the proposed project facility operations. The additional development that would continue for 20 to 30 years is speculative at this point, since the waste load and regulatory requirements for the future would be unknown. The operation of the proposed project facility would remain basically the same as the current facility. In general, no additional staff would be required since the main change in the proposed project facility operations is the location of the actual trenches/cells for waste disposal. There is no way to predict future disposal needs and whether an increase or decrease in overall material intake would occur. All details for every phase of development must be determined after the EPA/NDEP review, design, permitting, and licensing, which is a continuing process. There would be no immediate plans to develop disposal operations on the small part (approximately 12 acres) of the 400 acre area situated to the northeast of US-95. However, future expansion of the site may require development of this parcel for relocated administrative, security, and/or parking areas.

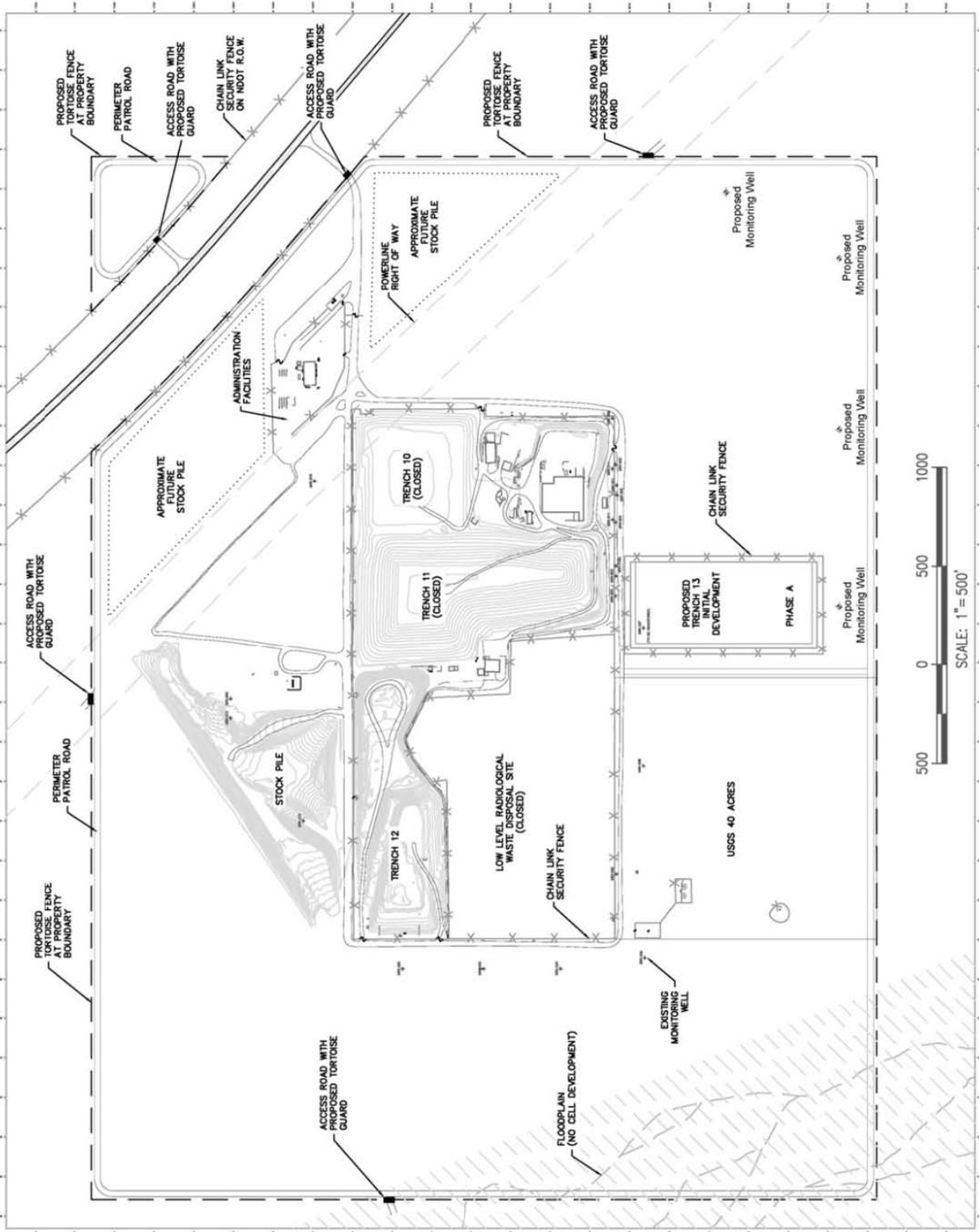


Figure 2.2-1 Five-Year Development Plan

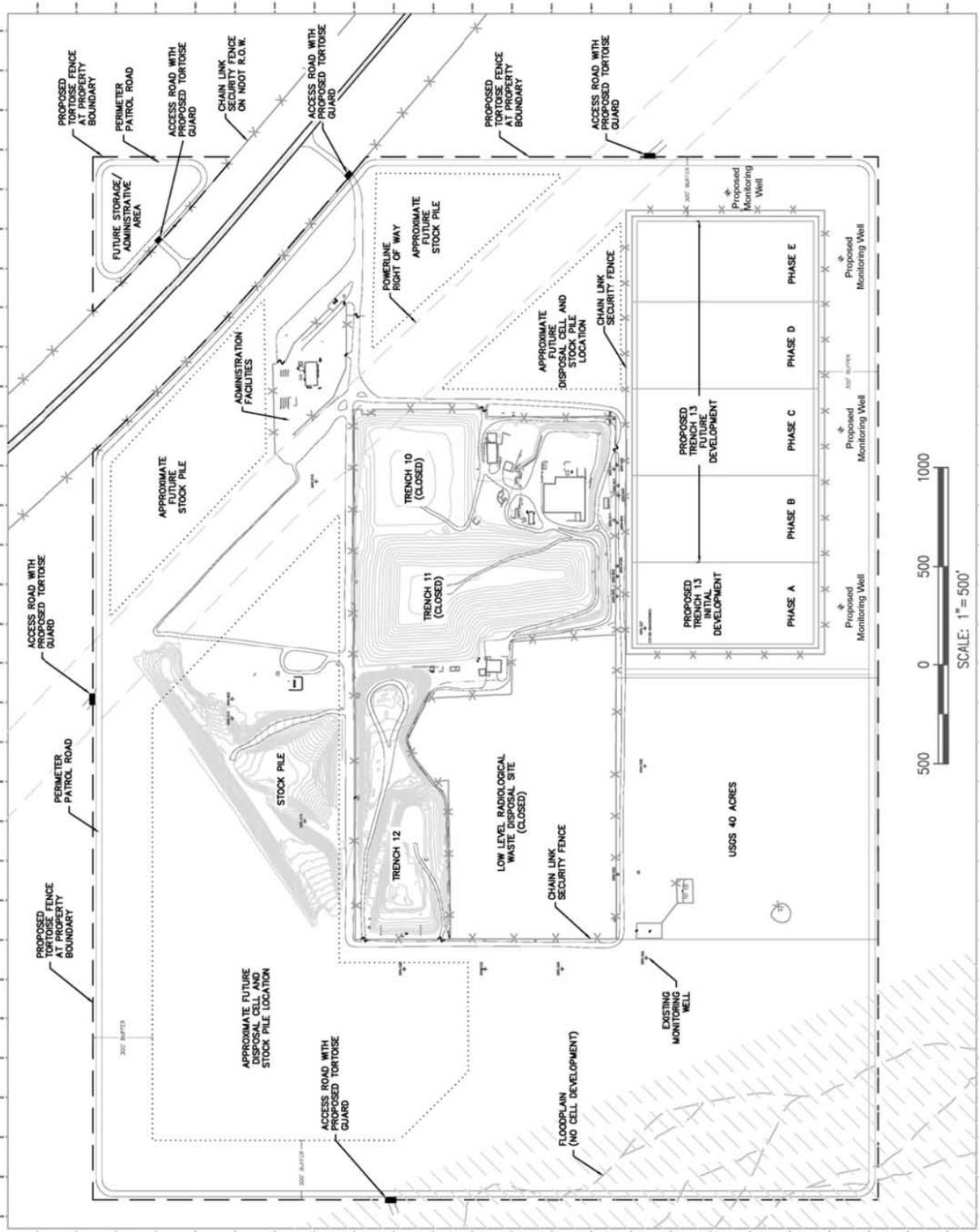


Figure 2.2-2 Twenty-Year Development Plan

Construction would involve the use of typical heavy equipment, including machines such as bulldozers, scrapers, graders, dump trucks, water trucks, backhoes, loaders, track hoes, and well drilling machines. Initial construction crew size should be fewer than 50 people, and would likely decrease to about 20-30 after the first year. Once Trench 13, Phase A is in operation, excavation and related construction activities would decline.

The installation of additional required monitoring wells is just as important as construction of the disposal trench. In addition to the prohibition of liquid wastes, the disposal cells/trenches would be fully lined and sealed to prevent escape of any contamination onto adjacent land or into groundwater through subsurface leaching or surface flows. Site construction would involve placement of numerous additional monitoring wells around new cells/trenches, and the destruction of existing wells that would be located where new cells would be built.

The trenches that would be planned would meet or exceed the minimum technology requirements of the Hazardous and Soil Waste Amendment of 1984 (HSWA) for double liner and leak detection systems. The current liner system design incorporates several liner design features tailored to site specific conditions that offer a protection level equal or superior to the minimum technology requirements. Figure 2.2-3 illustrates the liner system currently used at the non-hazardous and hazardous waste facility. The current liner systems are comprised of the following elements described from top to bottom:

- Clean soil and/or select waste to protect the underlying liner components from heavy equipment or operations that could damage the liner. No large or angular elements, debris or drums are to be placed in this layer.
- Small particle size (i.e., sand or gravel) clean soil and/or select waste to protect the underlying liner components from heavy equipment or operations that could damage the liner. No large or angular elements, debris or drums are to be placed in this layer. The soil consists of 12 inches of material in the bottom and six inches in the sidewalls.
- Primary leachate collection/removal system consisting of double sided drainage geocomposite layer that slopes to collection sumps.
- Top synthetic liner consisting of 80-mil high-density polyethylene (HDPE), textured on both sides.
- Leak detection/collection removal system comprised of a double sided drainage geocomposite which slopes to collection sumps.
- 60-mil HDPE liner.
- Geosynthetic Clay Layer (GCL), consisted of granulated bentonite sandwiched between two geotextiles placed at the trench bottom and sides (this component has a hydraulic conductivity of lesser than or equal to 1×10^{-8} cm/sec).
- Prepared fine-grained soil subgrade, nine inches thick on trench floor (this component has a hydraulic conductivity of lesser than or equal to 1×10^{-5} cm/sec, with up to 36 inches of prepared subgrade beneath sumps).

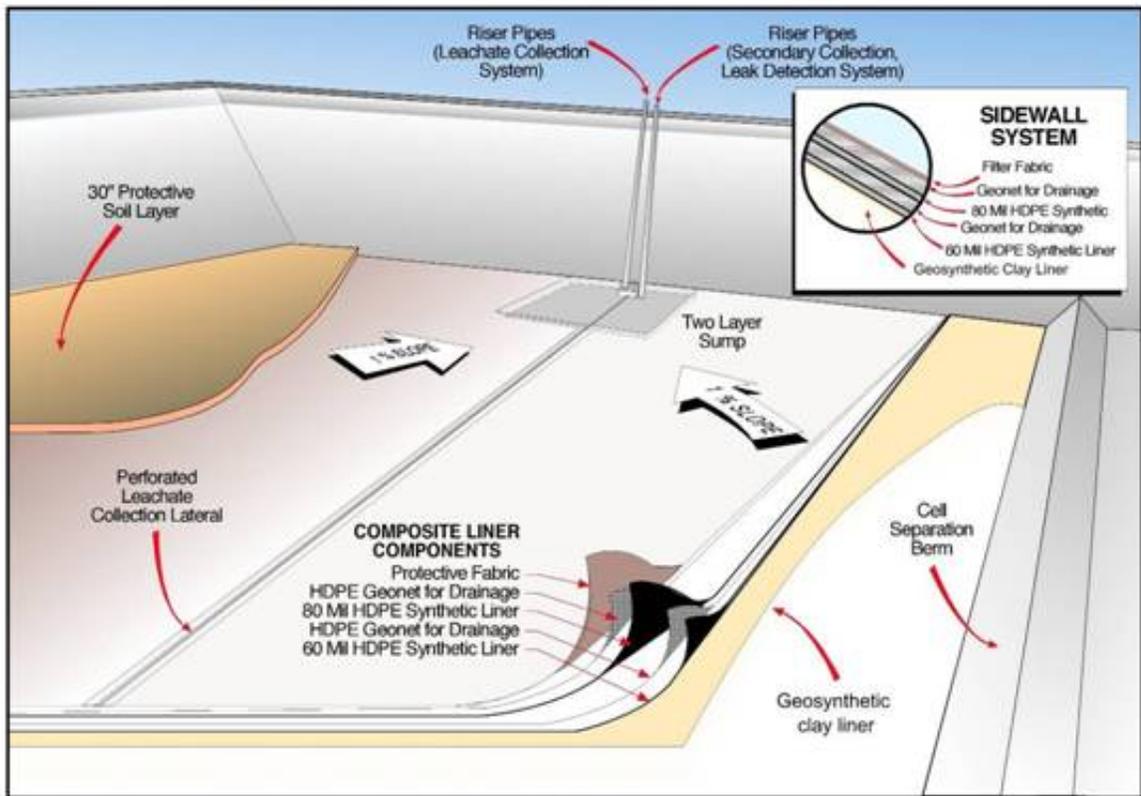


Figure 2.2-3 Schematic Trench Design.

2.2.5. Administrative and Non-hazardous and Hazardous Waste Processing Facilities

The recently relocated administrative area installed under right-of-way N-91048 by USEN on the leased area will continue to serve the administrative needs of the operation. There would be no immediate plans to develop disposal operations on the small part (approximately 12 acres) of the 400 acre area situated to the northeast of US-95. However, future expansion of the site may require development of this parcel for relocated administrative, security, and/or parking areas. Also, the non-hazardous and hazardous waste processing and treatment facilities on the NDSL-owned 80 acres of land would remain in place and in operation. Relocation of these activities may eventually be necessary to make maximum use of the total site, although no such relocation is anticipated for at least 10 years.

There may be some facility improvements that would be operational components needed for USEN (or replacement contractor) to fulfill their contract obligations to the NDSL. These operational facility improvements would be considered personal property of the contractor. Their presence at the facility does not constitute a transfer of ownership or control of the site, nor a transfer of any real property ownership interest to the contractor by NDSL. Control and ownership of the existing 80 acre NDSL facility remains with the NDSL, just as the ownership of and control of the 400 acres

for the Proposed Action currently being considered. Ownership and control of the land includes all waste that is present on the NDSL property. Under Nevada Revised Statutes (NRS) 321, the NDSL and its administrator exercise the authority of the State to acquire and manage NDSL lands.

2.2.6. Parking and Access

The existing access road from US-95 would continue to be used at the facility with the expansion, including construction. Parking is a part of the administrative area on the proposed project development plan maps (Figures 2.2-1 and 2.2-2). There is parking available to employees and construction workers at the current administrative area's parking area. Existing parking would not be expanded and would accommodate continued operations and construction activity. With the addition of landfill disposal within the proposed project 400 acre area, the combined site would continue to be operated as the original 80 acre NDSL site has been historically. If facilities would be located on the northeast of US-95 on proposed project land, an NDOT encroachment permit would be needed. No additional access rights-of-way would be needed to gain access to the facility.

The access roads used for the proposed project already exist on the southern side of US-95 and one access road would be constructed from US-95 to the north side of the highway should that area be developed into a new administrative area, parking area, and/or storage area. All access would have an approved desert tortoise guards to prevent any entry to the proposed project area by desert tortoises. Perimeter roads would be constructed on the outer edge of the proposed project within the 400 acres. All perimeter roads would be inside the proposed project fencing.

2.2.7. Support Infrastructure

Water for the project would be provided from the existing State Engineer permitted production well and water system in MDM, T. 13 S., R. 47 E., section 26, SE $\frac{1}{4}$ SE $\frac{1}{4}$. No new State Engineer permit or other permits would be required. Water rights are in place that permit the usage of 14,665,500 gallons per year. The average usage is 1,200,000 gallons per month and the water usage is not expected to change with the proposed project. Several other rights-of-way have been granted to third parties across the 400 acre site unassociated with the NDSL's landfill disposal operation, including a 138kV power transmission line, US-95, fiber optic and electric distribution lines. Also, a 40 acre site-type ROW was issued to the USGS for placement of a monitoring site and monitoring wells for purpose of monitoring the landfill and effects to the human and natural environment.

The Valley Electric Association (VEA) currently provides commercial electric utility service to the site. Any changes in on-site (private property) electric use would be the responsibility of the State or its contractor, and would be completed using licensed and qualified electricians.

Commercial communication utility service is currently provided at the site by Nevada Bell AT&T through a customer interface connection. No change or relocation of the customer interface by Nevada Bell/AT&T outside of its own existing right-of-way is needed.

To handle waste water from the office and other buildings, pre-cast concrete septic holding tanks would continue to be used. Septic waste is periodically pumped and transported to an authorized off-site sewage treatment facility.

The engineered plan of development for the combined 480 acre site (the current NDSL owned 80 acres and the additional 400 acre Proposed Action) provides for storm water run-off. Disposal cells/trenches would be bounded by storm water diversion ditches, approved by NDEP/EPA, and prevent water from flowing over or out of disposal cells or treatment areas onto adjacent lands. Storm water is handled using on-site drainage ditches and existing natural water courses and slopes to keep storm water run off away from the disposal trench areas of the facility. The very low annual precipitation, and permeable and well-drained soils provide adequate natural drainage. No other storm water detention or diversion, other than natural water courses outside of the combined 400 acres proposed project and 80 acre current facility (480 total acres) is needed.

There is no Nye County building permit or inspection process in this part of the County. All structures and infrastructure would be installed in conformance, as appropriate, with the Uniform Building Code, National Electric Code, National Electric Safety Code, etc. or consistent with NDEP/EPA requirements for landfill disposal sites of this type.

If future utility transmission, communication, or other support facilities or infrastructure require an upgrade or modification affecting public land, a separate NEPA analysis would be conducted to implement these upgrades and/or modifications.

2.2.8. Operational Use

After Trench 13, Phase A has been constructed to an operational level, non-hazardous and hazardous waste would be deposited in the trench and managed pursuant to NDEP/EPA permit requirements. Different types of non-hazardous and hazardous waste require different treatment and containment prior to burial in the landfill. Relative placement of wastes in the disposal trench is also important. For example, corrosive acids cannot be placed in close proximity to reactive base substances to prevent reactions. The NDSL and its contract operator would continue to be held to strict operational requirements by NDEP and other regulatory agencies, including regular inspections and audits under Federal and State regulations. Normal general operations would include continuous dust, trash, and weed control. The BLM would not be responsible for oversight on minimization measures such as desert tortoise exclusion fencing, as the ESA section 7 federal oversight would be transferred to the EPA at the time of land conveyance.

Accepted wastes include (US Ecology 2014a):

- RCRA hazardous wastes that can be treated to meet 40 CFR 268 Land Disposal Restrictions (LDR)
- PCB-contaminated materials (capacitors, bushing, PCB filled transformers, and clean-up materials)
- Non-hazardous solid industrial, commercial, and agricultural wastes
- Bulk liquids for solidification
- Bulk or drummed solid waste
- Household hazardous waste and non-RCRA lab packs
- State-specific regulated hazardous wastes
- Wastes from Conditionally Exempt Small Quantity Generators
- Corrosive wastes and acids
- Asbestos or asbestos/RCRA debris

Prohibited wastes include (US Ecology 2014a):

- Non-stabilized liquids and other wastes prohibited from landfill by 40 CFR 268
- Explosive or reactive waste
- Low-level radioactive or RCRA/radioactive mixed waste
- Pressurized gases or gas cylinders
- Wastes containing greater than 10% cyanide or sulfide
- Wastes with pH level of less than 1 or greater than 14
- Biological or infectious waste
- Low-activity radioactive waste

Operations focus around the acceptance of non-hazardous and hazardous wastes delivered to the site by truck via US-95. All deliveries would be required to be pre-arranged and required to arrive with a complete manifest compliant with Federal regulations. On entering the site, all trucks would be required to report to the receiving area to be weighed and inspected, and the load manifest examined by qualified site personnel. Regulations require verification of all wastes shipments, including sampling and testing as appropriate. If unauthorized wastes or unacceptable chain of custody and control is encountered, non-hazardous and hazardous waste is rejected until the deficiencies can be resolved.

All non-hazardous and hazardous waste arrives at the site under specific, pre-approved contracts. On acceptance, depending on the type of waste, the load may be directed to an unloading area for rechecking and preparation for landfill placement. For some wastes, the load may be diverted to the processing center located on the 80 acre NDSL land for further processing prior to landfill disposal. Trucks leaving the site would be again weighed, to ensure the amount of manifested non-hazardous and hazardous waste is verified accurate.

Some wastes require processing prior to burial. Processing may include aeration, incineration, segregation, compaction, chemical treatment, containment, or other

processing, or combination of processing. Some treatment is performed on site in the processing facility on the NDSL owned 80 acre parcel, including sorting, segregation, and containment. Some processing treatments, such as incineration or thermal treatment, are not performed on site, and wastes requiring such treatment are forwarded to an authorized facility elsewhere. These off-site facilities are fully permitted by the EPA and the applicable state Environmental Authority. These permits are issued under the authority of the RCRA and/or the TSCA. The purpose of treatments is to reduce the volume of some waste, or to stabilize or to reduce toxic/reactive properties of the non-hazardous and hazardous waste involved pursuant to EPA/NDEP requirements prior to burial. The off-site authorized facilities used for processing treatments not performed at the current 80 acre USEN facility are currently located in several states (and one Canadian Province) including Missouri, Arizona, California, Arkansas, Kansas, Indiana, Texas, and Quebec (Canada).

After any pre-disposal treatment, as appropriate under Federal and State rules, the residual material is buried under strict supervision and inventory controls. The NDEP and other agencies of jurisdiction regularly inspect the physical operations and record keeping. All wastes entering the site must be accounted for and proper treatment and disposal documented, to comply with Federal and State regulations.

Regulatory signs include any signage required or advised by any government agency with jurisdiction. Required regulatory signs would be placed in a safe manner and in locations as directed by the regulating agency. The interior, which is the access controlled operational area of the site, is not open to the public and would contain signage as directed by the regulating agencies. Optional signs include courtesy directional signs, building identification, speed limit advisories, parking area designations, location of rest rooms, and any other posted signs USEN/NDSL deem appropriate.

Two categories of signs would be placed on the site: 1) required regulatory signs and 2) optional operational control, directional, and information signs. All signs would be maintained in a safe and readable manner. The State would not allow any commercial advertising signs to be placed. No signs would be placed on any BLM land.

2.2.9. Decommissioning and Closure

At the time of facility closure, the land would be private land and no longer under BLM jurisdiction. Typically the closure of these non-hazardous and hazardous waste facilities is done on an individual basis as required by the NDEP/EPA and under their regulations. The requirements and needs would not be known until the time of facility closure.

The current decommissioning and closure plan includes a scheduled closure and an unscheduled closure plan. Post-closure monitoring and care applies to both the scheduled and unscheduled closures.

Summary of Current Closure Plan

The current scheduled closure outlined below is summarized directly from the US Ecology Nevada *Scheduled Closure Plan* dated March 2010 and revised in August 2014 (US Ecology 2010a). An unscheduled closure plan also is present should that scenario present itself. This scenario is very similar to the scheduled closure plan and can be found in the US Ecology Nevada *Unscheduled Closure Plan* dated March 2010 and revised in March 2014 (US Ecology 2010b). The scheduled and unscheduled closure plans for the proposed project would most likely be different from the current one summarized below.

Closure Performance Standard

Closure of the facility includes performance standards that minimizes the need for further maintenance, minimizes the potential for post-closure escape of hazardous waste or constituents to the surrounding environment, and complies with the closure requirements in 40 CFR Part 264 for each unit (a unit is specific defined part of the facility).

Partial Closure

Partial closures could also occur under certain circumstances such as modifications to facility operations, replacement of units beyond useful service life, and/or unanticipated failure of units/structures. Partial closures of any unit will be completed within 180 days after final receipt of hazardous waste in that unit. If partial closure is required for landfill cell/trench, USEN will notify NDEP and EPA at least 60 days prior to beginning of partial closure.

Closure Schedule

Closure activities would begin within 180 days after receiving the final hazardous waste for disposal at the facility and if further time is anticipated USEN will request a permit change for a longer time period. Within 90 days after receiving the final hazardous waste for disposal any waste in storage or treatment units will be treated and disposed of in the landfill, or removed for off-site disposal. Each unit will be dismantled, decontaminated (if necessary), and/or disposed of. Any remaining portion of the landfill will be backfilled and a final cover placed. These actions all occur under strict requirements specified by NDEP/EPA and any other required authority. If a longer period of time is necessary for closure then the NDEP will be petitioned for an extension of closure time that demonstrates that:

- Closure activities require longer than the 90 or 180 days allowed
- The unit has capacity to receive additional waste
- There is a reasonable likelihood that a party other than US Ecology will commence operation of the facility within one year
- Closure will interfere with continued operation

Amendments to Scheduled Closure Plan

A written request can also be submitted to NDEP for modification to the approved Scheduled Closure Plan whenever:

- Changes in operating plans or facility design materially affect the Schedule Closure Plan
- In conducting partial or final closure activities, unexpected events require the modification to the approved Scheduled Closure Plan

Closure Certification

Certification of closure will be submitted to NDEP within 60 days of completion of a partial closure of any land disposal cells/trenches, or completion of scheduled final closure. This certifies that the hazardous waste management unit or facility, as applicable, was closed in accordance with the specification of the approved Scheduled Closure Plan. The certification would be signed by both a company representative and an independent professional engineer registered in the State of Nevada.

Closure Procedures for Landfill

Closure of the landfill includes backfilling below grade space from the on-site soil stockpile. Above grade waste will be contained by constructed dikes and soil backfill as necessary. When waste and backfill is within three feet of the designed top of waste elevation, final waste placement operations will start. When this occurs, waste and backfill will be mounded toward the middle of the above grade area to the design maximum waste elevations. Once the final waste slopes have been established, the final cover will be installed.

This final cover consists of an approved layered soil system. Control of percolation into the closed trench is provided by constructing a cover that holds infiltrated water in the evaporative zone of the cover until it is returned to the atmosphere. The cover basically eliminates percolation into the trench. The final landfill cover planned today satisfies all regulatory requirements for final closure of a landfill cell/trench and are completely consistent with the provisions of 40 CFR 264.110, the performance standards of 40 CFR 264.111, and the following requirements of 40 CFR 264.310(a) dealing with landfill closure:

- Provides long-term minimization of migration of liquids through the closed landfill
- Functions with minimum maintenance
- Promotes drainage and minimizes erosion or abrasion of the cover
- Accommodates settling and subsidence so that cover integrity is maintained

The cover is designed for an arid region and uses the moisture retention properties of native soils to contain and store infiltrating moisture (precipitation) until the natural

processes of evaporation and plant transpiration removes the stored moisture and releases it to the atmosphere. The cover is protective of human health and the environment, and offers long-term benefits when compared to conventional landfill cover types that incorporate compacted clay or synthetic materials as low-permeability components. These benefits include, but are not limited to:

- Use of easily obtained construction materials
- Relative simplicity of construction
- Reduced complexity of quality assurance/quality control programs
- Increased long-term cover integrity and stability

From bottom to top, the components of the arid region cover to be used currently are as follows.

INTERIM COVER SOIL LAYER

The lower layer of the final cover is a lightly compacted native soil layer at least 12 inches thick and extending across the cover to the natural ground surface on all sides of the trenches.

FINAL COVER SOIL LAYER

The upper layer of the final cover is a lightly compacted soil layer at least 24 inches thick and extending across the cover to the natural ground surface on all sides of the trenches. In conjunction with the Interim Cover Layer, it retards the downward movement of infiltrating water by providing temporary water-storage, and allowing stored water to be returned to the atmosphere by evaporation and plant transpiration.

Cover specifications for the soil material consists of natural soil obtained from USEN stockpiles and/or from future trench excavations, supplemented as needed with imported soil materials. Native and imported materials would be screened and mixed, as needed, to obtain material of satisfactory grain size. The interim soil layer would be low density layer which is important for holding moisture and allowing for establishment of vegetation. Over compaction of the interim soil layer would reduce cover effectiveness and should not be less than 12 inches thick. This layer needs to be natural soil material with no grain sizes larger than six inches.

The final cover soil layer would be lightly compacted with variations in thickness according to approved design, but the thickness should be at least 24 inches in all areas per RCRA permit requirements. The gradation specifications for the final cover layer includes no materials larger than three inches, 90 percent would be smaller than one inch, and no less than five percent passing the #200 sieve. Experience and studies on past covers make modifications necessary as information becomes available. Currently these specifications have been submitted for modification, based upon experience from the closing of a previous trench, to NDEP requesting approval to increase the maximum size of rocky materials in the final cover soil layer to six inches.

Post closure performance of the final cover would be provided by the combination of leachate monitoring (quality and quantity), basin lysimeter monitoring, and groundwater monitoring. Leachate monitoring will use sumps to remove leachate from

the landfill units. Records of leachate removal will be used to determine whether leachate production rates decline after facility closure. The drainage lysimeter provides performance monitoring of the final cover and verifies that unacceptable infiltration moisture does not penetrate the landfill cover.

Closure will be considered complete when the final design slopes have been established on the cover. Post-closure inspection and maintenance would be performed in the same manner as the other closed landfill trenches already present at the facility. The design features currently present are expected that the above-grade disposal facility would provide long-term, maintenance-free protection to the environment. Construction of the final cover will be conducted in accordance with cell/trench specifications included in the Landfill Report of the Permit Renewal Application.

Closure of Treatment and Storage Units

This closure discussion is based upon the treatment and storage units as they are currently grouped together by location at the current 80 acre facility.

PCB Processing Building and RCRA Storage Area/PCB Tank Farm/Tank Truck Loading Pad

All liquid PCBs in storage at the time of a scheduled closure will be transported to a TSCA authorized disposal facility. All RCRA waste in storage will be treated as needed and disposed of on site or transported to a RCRA authorized off-site facility for treatment and/or disposal. The steel building walls and any contaminated equipment will be dismantled and disposed of in the PCB portion of a landfill cell/trench. All of the PCB processing facility, including the concrete floor and liner system, PCB tank farm secondary containment and tank truck loading pad will be excavated and disposed of in the PCB portion of the landfill. Sampling is performed in accordance with 40 CFR 761.283(b) and will be obtained from the soil underlying the building containment system, PCB tank farm and tank truck loading pad that would demonstrate clean closure. Soil samples that have concentrations of metal and volatile organic compounds (VOCs) that are statistically at or below background levels and concentrations of total PCBs below 1mg/kg will be considered to have met the current clean closure performance standard. Soil removal will be initiated if any samples do not meet the clean closure performance stands. Soil will be removed until clean closure is obtained.

Truck Parking Storage Area

Truck parking storage areas will be treated and disposed of on-site or transported to a RCRA authorized hazardous waste management facility. The concrete pad will be decontaminated and left in place or removed to a disposal cell/trench. If the removal of the concrete pad is necessary then any removal of contaminated soil (if any) would occur until demonstration of a clean closure.

Batch Stabilization Units

Any waste inventory in the stabilization units will be treated and placed in the on-site landfill cell/trench or transported to an authorized off-site facility for treatment and/or

disposal. The stabilization vessels will be decontaminated and left in place or washed, dismantled, and placed in an on-site disposal cell/trench. The same procedure would occur as described above for the removal of the foundation, containment system, and any contaminated soil until demonstration of a clean closure.

Evaporation Pad

Any liquid waste inventory in the unit will be removed and sent off site to an authorized disposal facility. If a partial closure be necessary for this unit, the waste inventory will be removed and solidified/stabilized in the Batch Stabilization Unit. The concrete pad will be removed for off-site treatment and disposal. The same procedure (described above) will be followed for removal of the liner and contaminated soil (if any) until the demonstration of clean closure.

Dry Hazardous Waste Storage Areas

Any waste inventory in the dry hazardous waste storage area will be treated and disposed of on site or transported to a RCRA authorized hazardous waste management facility and the pad area will be excavated and removed to a disposal cell/trench. Samples would be obtained to demonstrate clean closure as required by the EPA SW-846 methods with results statistically compared to background concentrations. Soil removal will occur if samples indicate a statistically significant increase over background values for any constituent. Soil will be removed until clean closure occurs.

Container Management Building/Satellite Laboratory/Truck Unloading Docks

All wastes in storage at the time of closure will be treated and disposed on-site or transported to an appropriately authorized treatment, storage, and disposal facility. The steel building walls and contaminated equipment will be decontaminated or dismantled and disposed of in the appropriately permitted landfill cell/trench. If the structure needs to be removed, the entire building including the floor would be excavated and disposed of in the appropriate manner. All truck awnings and truck docks will be removed and disposed in the on-site landfill. Sampling will occur in accordance with 40 CFR 761.283(b) and they will be obtained from the underlying soil of the building containment system, satellite laboratory, and truck docks to demonstrate a clean closure. Soil removal will be initiated if soil contamination is present. Soil removal will continue until clean closure is obtained.

Decontamination of Equipment and Structures

At the time of closure the economic feasibility will be evaluated for decontamination as opposed to dismantling, removal, and disposal of treatment/storage units and structures. The condition of each unit or structure will also be evaluated to determine the presence of significantly deteriorated areas, which would dictate the need for unit removal and disposal. Should the decontamination option be chosen, the following steps will be taken.

- The interior surfaces of piping, valves, pumps, and other ancillary equipment associated with tank systems will be cleaned by flushing with a detergent wash and rinsing with tap water. If the facility determines that a detergent wash is not

adequate, other appropriate decontamination methods may be used (e.g. solvent wash, steam cleaning). Wash waters will be drained to the tank for subsequent removal.

- Interior tank surfaces will be pressure washed using water and cleaning agents followed by triple rinsing with tap water. Wash waters will be collected from the bottom of the tank and removed using vacuum equipment or by pumping to a tanker truck for off-site disposal.
- Tank surfaces will be visually inspected to determine whether residues have been completely removed. If residues are visually detected, then the previous step will be repeated.
- The concrete floors and structures will be cleaned with industrial floor scrubber. Floors will be pressure washed and triple rinsed. All surfaces will be visually inspected to ensure removal of visually detectable residue. The wash waters generated during the decontamination process will be removed with vacuum equipment or by pumping to a container or tanker truck for off-site disposal.
- After the decontamination and visual inspection, a final rinse with clean tap water will be performed. The decontamination would be verified by collecting and submitting one rinsate sample for each unit/structure for analysis. The sampling and analysis will follow the procedures recommend by the version of EPA SW-846 that is applicable at the time of the closure. Decontamination samples will be verified for the applicable standards in place for each constituent. For structures handling PCBs, an appropriate number of wipe samples will be collected from walls, floors, and pans (if applicable) to show the PCB levels are within the applicable standards. Unsealed concrete surfaces will have core samples collected to show that PCB levels are within the applicable standards. Core samples will be collected with latest guidance from the EPA.
- Heavy equipment and unloading docks utilized for waste handling would be cleaned with high-pressure water cleaners until all visible contamination has been removed. If this is not possible or is economically not feasible, the equipment and applicable parts will be properly disposed of in the landfill cell/trench.

The decontamination rinse water will be statistically compared to a background tap water sample for metals and VOCs. If statistically significant parameters are detected in the rinse water, the decontamination steps will be repeated until the statistical comparison is met.

Groundwater Monitoring and Leachate Collection

A minimum of one groundwater monitoring event will occur during the closure period. Groundwater monitoring will be conducted using the same procedures used during regular operations just prior to the closure process. Leachates generated during the closure period will be transported to an off-site disposal facility.

Run-On and Run-Off Controls

Already existing perimeter ditches will continue to provide run-on protection and run-off control to provide protection during the closure period. Rainfall coming into

contact with waste in active cell/trench will be collected and treated as leachate. Rainfall contacting capped portions of the cell/trench will be considered clean and allowed to run off into natural drainage courses.

Summary of Current Post-Closure Care Plan

The current post-closure care outlined below is summarized directly from the US Ecology Nevada *Post-Closure Care Plan* dated March 2010 and revised in August 2014 (US Ecology 2014c). The post-closure care plan for the proposed project would most likely be different from the current one summarized below.

The post-closure care begins upon closure of the facility and continues for 30 years. If USEN determines at any time during the post-closure care period that any of the monitoring or maintenance activities are no longer necessary or that revisions to the approved plan are required, the facility operator will petition the NDEP/EPA for modification of the post-closure plan. The modification request will be submitted at least 60 days prior to the proposed change.

Inspection and Maintenance Activities

Due to the infrequency of rainfall events, and the limited amount of damage that sparse rainfall could cause to the surface of the final cover system, the post-closure plan calls for semi-annual inspections of the final cover system and other facility features. Less frequent inspections of other facility features may be appropriate, but for convenience, all inspections will be performed concurrently with inspections of the final cover.

Maintenance of Final Cover

The landfill surface cell/trench will be inspected for subsidence, cracking, vegetative stress, burrowing animals, or erosion semi-annually. Cracks, depressions, animal burrows, and erosion ditches will be filled, if needed, with site soils from the excess materials stockpiled on site and compacted.

Maintenance and Protection of Surveyed Benchmarks

There are two reference points that form the base of the facility grid system and benchmarks are present to be used for vertical control. These benchmarks will be preserved and protected by converting them to permanent markers at the beginning of the post-closure period. The results will be visible and outside any traffic routes.

Installation and Maintenance of Run-On Controls

The run-on control system for the facility will be inspected semi-annually for any condition that could prevent their proper functioning, and repaired as needed.

Maintenance and Inspection of Security Control Devices

Any existing fences, gates, and signs will remain in place to restrain access to the facility and as points of reference. These will be inspected concurrently with all other facility features and repaired or replaced as necessary.

Maintenance and Inspection of Monitoring Wells System

It is unlikely that well screens will clog to an extent to prevent the collection of representative samples as these wells are not used for water production. The post-closure plan provides for the replacement of one well pump per year and maintenance will be performed during the regular scheduled semi-annual sampling event. The water supply well will be maintained as the source for on-site maintenance water. All monitoring wells have locks to minimize vandalism risk.

Maintenance and Inspection of Leachate Collection and Removal System

Leachate collection sump risers will be inspected to identify any damage and maintenance needs semi-annually while inspecting the landfill cap and other site features. Monitoring the leachate detection system sumps and recording of sump liquid levels will initially be conducted on a monthly basis. The monitoring/recording frequency will reduce to quarterly if the liquid level in the sump stays below the pump operating level for two consecutive months. Once two consecutive quarters of recording sump liquid levels below pump operating level occurs, the monitoring/recording frequency will be on a semi-annual basis. If at any time during the post-closure period the sump liquid levels exceed the pump operating level, then monthly monitoring will occur until the liquid levels stays below pump operating level for two consecutive months. All records of leachate generation rates will be analyzed in each post-closure report to determine whether there is a statistically significant increase in the rates. All leachate pumped from the collection pumps during the post-closure period will be stored in totes or other approved containers and be transported to an off-site facility authorized to accept F039 waste.

Facility Monitoring

Post-closure monitoring is required and is expected to proceed in the same manner as during the facility's active life. In addition, Basin Lysimeters will be monitored to determine whether rainwater and snowmelt are infiltrating the cover. It is assumed that monthly monitoring will be required for the first year, after that the monitoring/recording will be reduced to quarterly for the second year, and then semi-annually after the second year. It is expected that monitoring will demonstrate that no infiltration will take place during a single month.

Survey Plat

A survey plat will be submitted to NDEP and the Recorder's Office of Nye County, Nevada no later than the date when landfill closure certification is submitted. This survey plat will indicate the dimensions of every landfill cell/trench and their locations with respect to permanently surveyed benchmarks. The plat will be prepared and certified by a professional land surveyor and will contain a note, prominently displayed, stating the obligation to restrict disturbance in accordance with the requirements of 40 CFR 264.117(c).

Post-Closure Notices

The facility will revert to State control (facility owner), by contractual agreement, at the time of closure and the State provides post-closure care using funds already set aside for this purpose. Within 60 days after certification of landfill closure, a submission will be made to NDEP and the Recorder's Office of Nye County, Nevada, a record of the type, location, and quantities of hazardous waste disposed of within each cell/trench. Also within 60 days after closure certification, a notation will be recorded on the facility deed (as recorded in the Recorder's Office of Nye County, Nevada) that will notify potential purchasers that:

- The property has been used for disposal of hazardous waste
- The use of the property is restricted under 40 CFR 264.117(c) (relating to Post-Closure Care and Use of Property)
- The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell/trench have been filed with the Recorder's Office of Nye County, Nevada, and with the NDEP Administrator.

A certification, signed by a representative of the company, will be submitted to the Administrator stating that the above notation has been recorded in the facility deed. A copy of the deed will be provided with the certification.

Post-Closure Certification

Within 60 days of completion of the post-closure care period, USEN will submit to the NDEP Administrator and Permits Section, Land Division, US EPA Region IX, a certification attesting that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications of the approved post-closure plan. The certification will be signed by a facility representative, and by an independent professional engineer, registered in the State of Nevada.

Plan Modifications

USEN will submit a written notification of, or request for a permit modification to authorize any changes in the approved Post-Closure Plan if:

- Changes in operating plans or facility design affect the approval plan
- There is a change in the expected year of final closure
- Events which occur during the active life of the facility affect the plan

Any request for permit modifications will be submitted at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event which requires revisions to the approved plan.

2.3. Monitoring and Reporting

The Proposed Action land was classified for R&PP uses in 1961 pursuant to a land use planning process under the Taylor Grazing Act, and regulations in place at that time. No

subsequent statute, regulation, or land use planning decision has changed that R&PP classification, which is still in full force and effect. Under the regulations at 43CFR 2740, no additional land use planning is needed to complete the conveyance, and would be consistent with existing land use planning.

Permits are issued by Authorized States or by the EPA Regional Offices. Authorized States are where the EPA delegates the primary responsibility of implementing the RCRA hazardous waste program to individual states in lieu of the EPA. State RCRA programs must be at least as stringent as the federal requirements (EPA 2014c). In the State of Nevada, NDEP works with the EPA for the complete permitting process. Part of retaining these permits includes extensive record keeping and reporting to the EPA/NDEP. NDEP is responsible for permitting and inspection of hazardous waste generators, disposal, transfer, storage, and recycling facilities along with enforcing state hazardous waste statutes and regulations. In addition, they are authorized to enforce Federal hazardous waste regulations for the EPA (for further information see EPA 2012b and NDEP 2014).

The NDEP and other agencies of jurisdiction regularly inspect the physical operations and record keeping. All wastes entering the site must be accounted for and proper treatment and disposal documented, to comply with Federal and State regulations.

Currently, leachate levels are checked weekly by the operator (currently USEN) in the primary leachate systems and in the secondary leak detection collection and removal systems. Both sumps are checked in the event the facility receives more than ½ inch of rainfall in a 24-hour period. Leachate is pumped and removed in accordance with action levels established in the NDEP/EPA Permit. Records are maintained for each pumping event. Pumping records indicate leachate levels before and after pumping, the volume pumped, and the on-site dispensation of the leachate.

Each non-hazardous and hazardous waste facility permitted by the NDEP/EPA is analyzed individually and therefore details of the monitoring and reporting would not be known until the permitting process through the NDEP/EPA is finalized for the proposed project.

Current Reporting for the Existing 80-Acre Facility

- Quarterly water level measurement and monthly water use to the State of Nevada, Division of Water Resources
- Monthly hazardous waste truck load report to Nye County Treasurer for tax purposes
- Quarterly hazardous waste disposal fee submittal report and payment to NDEP for RCRA Permit 2.12.2
- Monthly PCB disposal operations/process modification report to EPA, Region IX for TSCA Approval IV.N.5.f
- Semi-annual Environmental Report to EPA and NDEP for RCRA Permit 10.8.2
- Annual EPA hazardous waste export report to EPA for 40 CFR Part 262.56

- Annual tier II report (Superfund Amendments and Reauthorization Act (SARA) Title III) to NDEP for 40 CFR Part 370
- Annual RCRA report to NDEP and EPA for RCRA Permit 2.12.4
- Annual air permits – annual production hours to NDEP and Bureau of Air Pollution Control (BAPC) for Air Permit
- Annual Toxics Release Inventory (TRI) Report to EPA/TRI Data Processing Center Nevada for Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313
- PCB Annual Report for NDEP and EPA for 40 CFR Part 761.180(b)
- Annual closure/post-closure inflation cost adjustment for NDEP/Annual Report/Beatty File for RCRA Permit 14.6.3
- Annual Benzene National Emissions Standards for Hazardous Air Pollutants (NESHAP) update if changes are made to the process for the EPA
- Biennial Report to NDEP for 40 CFR Part 274.75

Summary of Current Environmental Monitoring Plan

The current environmental monitoring outlined below is summarized directly from the US Ecology Nevada *Environmental Monitoring Plan* dated October 2009 (US Ecology 2009). The environmental monitoring plan for the proposed project would most likely be different from the current one summarized below.

Overview of Environmental Monitoring Data

Currently the USEN environmental monitoring systems include data from three sources:

- Eighteen groundwater monitoring wells
- Four pairs of leachate pumps
- A soil gas extraction well

The groundwater monitoring system utilizes wells to monitor semi-annually for releases from landfill cell/trenches 11 and 12 and pre-RCRA Solid Waste Management Units (SWMUs), including Trenches 1 through 10. Water levels are measured in all wells at the time of each monitoring event to determine groundwater gradients and samples are collected and analyzed for constituents as specified in the facility permit.

Leachate from Trench 11 and 12 is sampled semi-annually from at least one sump in each Trench and analyzed for specified constituents. Leachate monitoring establishes a baseline of constituents present in leachate for comparison with groundwater monitoring data in the unlikely event of a release. In addition, leachate levels and pumping volumes are recorded and analyzed for compliance with permit conditions, and to assess the overall effectiveness of the leachate collection and detection sumps. Leachate data will also be used to assess the performance of alternative covers permitted for construction on Trench 11 and Trench 12.

Organic vapors have been detected in the vadose zone located under the facility, and a Soil Vapor Extraction (SVE) system has been installed to remove organic vapors. Extracted vapors are pumped through a carbon filter and monitored daily with a calibrated Photo Ionization Detector (PID) that tests for volatile organic compounds (VOCs) exiting the filter system. In addition, weekly PID readings are recorded from a point between the wellhead and the carbon filter, and a summa canister sample is collected annually to quantify all constituents in the vadose zone. The performance of the SVE system is evaluated through monitoring of groundwater for selected VOCs.

Background Site Geology

The details of the unconsolidated strata beneath the current facility have been determined from the various borings and well installations that have occurred since 1961. Extensive hydrogeologic studies have been conducted at the site to determine the soil properties and hydrologic characteristics.

Stratigraphic information derived from the site characterization and monitoring well installation programs for the RCRA facility describe a sequence of deposits consistent with alluvial fan and playa depositional properties. Deposits from the ground surface to a depth of approximately 300 feet are alluvial in nature. Alluvial deposits are basically gravelly sands with poorly sorted gravel or sand deposits that occur in discontinuous intervals. This alluvial gravelly sand is deeper (approximately 350 feet below ground surface) in the southwestern area of the facility, at low level radioactive waste (LLRW) portion of the facility.

The next deposits are approximately 50 to 150 feet deep and consist of silt, clay, and indurated deposits. These fine-grained sediments are typical of playa deposits and may change composition relatively quickly with depth. The silt-clay deposits were also observed in borings indicating the upper surface of the silt-clay tend to be fairly flat under the northern portion of the current facility and appears to deepen towards the southwest portion of the facility beneath the LLRW.

Drilling has suggested that the upper saturation zone occurs near the contact of the silt-clay and indurated sediments with the overlying gravelly sands. The confined aquifer occurs in a sandy gravel formation underlying the silt-clay deposits. The sandy gravel beneath the silt-clay and indurated sediments tends to become coarser as it extends to depths beyond 650 feet below ground level. The deeper gravel, cobbles, and boulders represent a higher energy, fluvial environment.

Background Site Hydrogeology

Saturated Zone

At many of the well locations, the saturation begins near the top of the 50-150 foot thick sequence of well-indurated clays, silts, and sand and the depth to saturation from the ground surface ranges from approximately 285 feet on the north side of the facility

to greater than 360 feet at the southwest area of the LLRW. The interbedding of the clays and cemented silts at these depths serves to separate the upper saturated zone from the confine gravel aquifer beneath into discrete hydrogeologic units.

The gravel aquifer is encountered beneath the fine-grained deposits at a depth of approximately 380 feet or more, consists of sandy gravel with some cobbles and boulders, and is greater than 250 feet thick at the southern boundary of the facility. The piezometric level in this aquifer occurs near 315 feet below ground surface, indicating a confined condition. The groundwater gradient in both the upper saturated zone and confined gravel aquifer is to the south and southwest, following the trend of the Amargosa Valley. All wells and boring drilled to a sufficient depth have encountered a confined gravel aquifer.

Vadose Zone

The vadose zone varies from 285 feet to greater than 360 feet beneath the current facility. Moisture content of the sediments in the vadose zone are approximately less than ten percent by weight, as determined by both core samples and in-situ neutron probe measurements. It has been concluded that the potential for contaminant transport by water flow through the vadose zone is minimal with the conditions present at the current facility (see Fisher 1992). The extreme dryness of the subsurface sediments is characterized further by water potentials from -10 to -60 bars, measured at the USGS study site (located in the proposed project area) close to the southwest corner of the current facility near the LLRW area (see Fischer 1990, 1992; Nichols 1987).

General Groundwater Monitoring

The groundwater monitoring program supplies representative samples from the up-gradient and down-gradient wells. The groundwater monitoring systems consists of detection monitoring (point of compliance) wells and background wells screened in the upper aquifer. There are currently 15 point of compliance wells and three background wells. The purpose of the groundwater monitoring program is to determine if the facility has had a significant effect on groundwater quality.

Description of Detection Monitoring

The detection monitoring program includes PCBs, pH, specific conductance, total organic halides and radionuclides and the analytical parameters are consistent with groundwater monitoring requirements of the USEN TSCA permit. Both the background and the point of compliance wells in the upper aquifer are monitored semi-annually for the following constituents:

- PCBs – Ground Water Protection Standard will be established in the future
- pH (std. units) – Ground Water Protection Standard will be established in the future
- specific conductance – Ground Water Protection Standard will be established in the future

- total organic halides (TOX) – Ground Water Protection Standard will be established in the future
- Gross Alpha – Ground Water Protection Standard 22 pCi/L
- Gross Beta – Ground Water Protection Standard 25 pCi/L
- Radium 226/228 – Ground Water Protection Standard 5 pCi/L (Combination of Radium 226 & 228)
- Tritium – Ground Water Protection Standard 250 pCi/L

The background values of the upper aquifer for the above list was developed from the statistical analysis of groundwater samples collected from 2003 to 2008. Groundwater flow rate and direction in the upper saturated zone and the confined aquifer are determined and reported annually.

After the groundwater analysis results are collected and subjected to a data quality review, the data is compared to the facility background values. USEN also uses additional lines of evidence to evaluate whether liquids have been released from the landfill to the groundwater. Leachate generation rates, leachate data, and landfill gas data are evaluated and compared with groundwater data to determine whether a source other than a currently-operating regulated unit caused an increase or that an increase resulted from error in sampling, analysis, evaluation, or natural variation in the groundwater. USEN provides the results of this analysis in semi-annual reports to the NDEP.

Point of compliance wells are evaluated statistically each time the wells are sampled. If a potential statistically significant increase (SSI) is identified, the results are verified during the next scheduled sampling event. Each semi-annual report includes analytical results for all environmental samples, and a discussion of any significant statistical increases.

A Corrective Action Plan (CAP) was submitted in 1998 and the implementation of a Corrective Measures Study (CMS) occurred in 1999. Previous studies determined that trace organic constituents detected in the upper aquifer groundwater were attributed to gas migration from regulated units and solid waste management units. The selected remedy was extraction of waste constituents from the soil vapor in the overlying vadose zone. This work has been completed with installation of a pilot SVE system. A final CMS report was submitted in 2003. To evaluate the effectiveness of the corrective measures, upper aquifer monitoring wells were sampled and analyzed semi-annually for the following constituents:

- Carbon tetrachloride – Ground Water Protection Standard 0.005 mg/L
- Chloroform – Ground Water Protection Standard 0.005 mg/L
- Tetrachloroethene – Ground Water Protection Standard 0.005 mg/L
- Toluene – Ground Water Protection Standard 0.005 mg/L
- Trichloroethene – Ground Water Protection Standard 0.005 mg/L
- Trichlorofluoromethane – Ground Water Protection Standard 0.005 mg/L

Leachate Monitoring

Leachate sampling and analysis comes from the Leachate Collection and Removal System (LCRS) and the Leachate Detection and Removal System (LDRS) from at least one sump in a trench semi-annually. Samples are analyzed and submitted with the semi-annual report. The samples are analyzed for the following:

Arsenic	Endrin
Barium	Lindane
Cadmium	Methoxychlor
Chromium	Toxaphene
Lead	2,4-D
Mercury	2,4,5-TP Silvex
Selenium	
Silver	Carbon tetrachloride
Cyanide	Chloroform
Fluoride	Tetrachloroethene
Sodium	Toluene
Sulfate	Trichloroethene
Chloride	Trichloroflouromethane
TOX	Gross Alpha
TOC	Gross Beta
pH	Radium 226/228
Specific Conductance	Tritium
Nitrate – Nitrite as N	

Soil Gas Monitoring

Extracted soil gas is pumped through a carbon filter and monitored daily with a calibrated PID that test for VOCs exiting the filter system. Additionally, weekly PID reading are recorded from a point between the wellhead and the carbon filter, and a summa canister sample is collected annually to quantify all constituents in the vadose zone.

Reporting Requirements

The current facility maintains field records concerning environmental measurements, sampling events, and related information on site and include; all lab analyses of samples collected from all sources; and copies of semi-annual reports. The narrative Environmental Report includes:

- Executive Summary – brief summary of the report, emphasizing key results and conclusions
- Alternative Source Notification (if required)
- Groundwater Quality Conditions – groundwater sample data and data evaluation

- Summary of Detection Monitoring Results, including identification of statistically significant increases
- Background data evaluation
- Leachate data, including leachate removal rates, comparison with Action Leakage Rate, leachate levels, and leachate analytical data
- Soil gas monitoring data
- Groundwater gradients
- Tables, Figures, and Appendices, including field and analytical data for sampling events and corrective measures

2.4. Description of the No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that would be developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements would be not known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The monetary needs for engineering the closing of the current facility can be as extensive as the monetary needs to open a new non-hazardous and hazardous waste disposal site (see Section 2.2.9. for further detail on the current closure plan). The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

Once the current facility reaches capacity and can no longer accept non-hazardous and hazardous waste, it would have to be closed. This would take a facility out of use causing a disruption to waste disposal that would need to be routed to another licensed facility. All waste would need to be redirected to another facility causing higher costs, a higher carbon footprint, and additional storage time at locations generating the waste. This would be negative socially, economically, and to public health and safety. The current facility would continually be monitored for any leaks or problems while closed along with having continuous security to keep the facility secure from any public access in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place the closure scenario that would include the details, needs, and requirements needed for such an event.

2.5 Alternatives Considered but not Analyzed

Alternatives considered, but dismissed for the Proposed Action include:

- Opening a new facility at a new location in the area to take non-hazardous and hazardous waste once the current facility reaches capacity and is required to close. This option would be financially prohibitive since the current 80 acre facility already has the needed administrative and operational facilities for the proposed project. Also, the disposal of non-hazardous and hazardous waste at a new facility in the area would create another completely separate area containing these types of waste, making it another area out of service to the public.

2.6. Relationship to Laws, Regulations, Policies, and Other Plans

This EA has been prepared in accordance with the following statutes, regulations, policies, and procedures:

- National Environmental Policy Act (NEPA) of 1969, as amended (Public Law 91-190, 42 United States Code [USC] 4321 et seq.)
- 40 CFR 1500 et seq.: Regulations for Implementing the Procedural Provisions of NEPA
- BLM NEPA Handbook (H-1790-1) (BLM 2008)
- Federal Land Policy Management Act (FLPMA), as amended, Sections 103(c) and 501(a)(4)
- Las Vegas Resource Management Plan (RMP) and Final Environmental Impact Statement (BLM 1998)
- National Historic Preservation Act (NHPA), as amended (16 USC 40 et seq.)
- Endangered Species Act of 1973 (ESA) (16 U.S.C.A. §§ 1531 et seq.) as amended
- Recreation and Public Purposes Act (R&PP), as amended (43 CFR, Part 2740 and 2912)

3.0. AFFECTED ENVIRONMENT

3.1. Proposed Action General Setting

The proposed project site is located 11 miles south of Beatty, Nevada with most of the proposed project area on the southwest side of US-95 (approximately 12 acres is located on the northeast of US-95). The two nearest communities to the proposed project area are Beatty and Amargosa Valley, Nevada which are both unincorporated. Beatty and

Amargosa Valley are within the southern portion of the Basin and Range province characterized by steep climbs up elongate mountain ranges alternating with flat, dry deserts. Beatty is surrounded by 3 peaks; Bare Mountain, Sawtooth Mountain, and the Bullfrog Hills. Amargosa Valley, located approximately 20 miles southeast of the Proposed Action, is named for the valley and desert in which it lies (See Figures 2.1-1 and 2.1-2).

The proposed project area and surrounding region is located in creosote bush scrub in the low-elevation arid Mojave Desert. The proposed project area is located within a valley floor, the Amargosa Desert, surrounded by desert mountain terrain to the east and west, all within Nye County, Nevada. The Grapevine and Funeral Mountains, which are part of the Amargosa Range, are located to the west, while Bare Mountain can be found to the east of the project. The highest elevation near the proposed project area is Bare Mountain peak at 6,273 feet above mean sea level (AMSL).

The nearest community, Beatty, experiences an arid climate year round, with an average annual high temperature of 74.1 degrees Fahrenheit and an average annual low temperature of 43 degrees Fahrenheit. The hottest month is July, with an average temperature of 97 degrees. The coldest months are December and January, with an average temperature of 53 and 54 degrees respectively (U.S. Climate Data 2014).

Elevation in the proposed project area ranges from 2,770 to 2,800 feet AMSL from south to north respectively. Topography consists of Mojave Desert Scrub (characterized by creosote bush – bursage shrubs) throughout a slightly sloping valley floor (essentially flat). Vegetation is sparse, consisting of widely spaced low growing plants typical of the desert pavement/creosote scrub community. A few wash channels run through the site. The substrate includes sandy soil covered with a gravel pavement except where it is cut by washes. Subsurface soils consist of a well packed silty/sandy loam.

Disturbance in the expansion area includes the USGS hydrological study site and access road, the current facilities administration center, historical use (pre 1989) by the state, other right-of-ways (roads, utilities, etc.), and uncontrolled disturbance such as a few bulldozed roads and OHV tracks (See Table 2.2-1 for further disturbance details).

3.2. Supplemental Authorities

To comply with NEPA, the BLM requires that compliance with other authorities is addressed in the NEPA document. Supplemental Authorities may be executive orders or other federal and state laws that provide procedural or substantive responsibilities relevant to the NEPA process and may “help identify issues for analysis.” Table 3.2-1 presents a list of elements dictated by Supplemental Authorities and specifies if these elements are present in the proposed project area, and if present whether they potentially would be affected by the proposed project or not affected by the proposed project and the rationale for that conclusion. Supplemental Authorities determined to be “Not Present” were not analyzed and those determined to be “Present/May be Affected” are required to be carried forward for analysis in this document.

Table 3.2-1 Table of Supplemental Authorities

Supplemental Authority	**Not Present	Present/Not Affected	***Present / May be Affected	Rationale
Air Quality			✓	Carried forward for analysis
Areas of Critical Environmental Concern (ACEC)	✓			The proposed project area is not within an ACEC or any critical habitat for any listed species.
BLM Natural Areas	✓			Resource is not present.
Cultural/Historical			✓	Carried forward for analysis
Greenhouse Gas Emissions		✓		Currently there are no emission limits for suspected Greenhouse Gas (GHG) emissions, and no technically defensible methodology for predicting potential climate changes from GHG emissions. However, there are, and will continue to be, several efforts to address GHG emissions from federal activities, including BLM authorized uses.
Environmental Justice	✓			It is unlikely that minority or low-income communities are present or near the proposed project area.
Farmlands Prime or Unique	✓			There are no prime or unique farmland designations in the district.
Fish and Wildlife Excluding Federally Listed Species			✓	Carried forward for analysis
Floodplains			✓	Part of the RP&P lease is located in a Federal Emergency Management Agency (FEMA) designated floodplain. Carried forward for analysis
Fuels/Fire Management		✓		Compliance with fire restrictions current at time of project implementation will mitigate any risks introduced by the proposed actions.
Geology/Mineral Resources/Energy Production			✓	Carried forward for analysis
Hydrologic Conditions			✓	Carried forward for analysis
Invasive Species/ Noxious Weeds			✓	Carried forward for analysis
Lands/Access			✓	Carried forward for analysis
Lands/Corridors	✓			Not present, no conflicts with Proposed Action

Supplemental Authority	**Not Present	Present/Not Affected	***Present / May be Affected	Rationale
Lands/Renewable Energy Coordination Office (RECO)		✓		One such solar energy zone was identified within the Proposed Action, (BLM case file N-87208) the Amargosa Solar Energy Zone (SEZ) withdrawal under Public Land Order (PLO) 7818 is located in the southern section. This SEZ was withdrawn from certain minerals development by the BLM for solar energy development designation; however this withdrawal of mineral development does not include sand and gravel so it will not be affected.
Livestock Grazing	✓			There are no active grazing allotments present.
Migratory Birds			✓	Carried forward for analysis
Native American Religious Concerns	✓			No known areas of cultural concern to tribes are in or nearby the proposed project area.
Paleontology	✓			High energy deposits from past glaciations not conducive to paleo deposits in this area.
Rangeland Health Standards		✓		Regional impacts to rangeland health will be negligible.
Recreation		✓		The Proposed Action is not located in an area where recreation would be affected requiring detailed analysis. There are no recognized recreation areas in the location of the Proposed Action.
Socio-Economics		✓		The proposed action of conveying lands to State of Nevada Division of Lands may provide the State and local governments with economic benefits to use the land for expanding the current landfill to accept and process waste, thus creating additional work/jobs for state and contractor employees and to businesses supporting the landfill (e.g. transportation companies, specialty products manufacturers, other compliance oversight agencies, etc.), but not be to a degree that detailed analysis would be needed. The proposed action of conveying lands to the State of Nevada Division of Lands may also provide a social benefit to the public by providing land to be used for safely storing and processing hazardous and non-hazardous waste and thus potentially reduce risk of harm to the public, but again not to a degree that detailed analysis would be needed.
Soils			✓	Carried forward for analysis
Threatened, Endangered or Candidate Plant Species	✓			Not present
Threatened, Endangered or Candidate Animal Species			✓	Carried forward for analysis

Supplemental Authority	**Not Present	Present/Not Affected	***Present / May be Affected	Rationale
Wastes (hazardous or solid)			✓	Carried forward for analysis
Water Resources/ Quality (drinking/ surface/ground)			✓	Carried forward for analysis
Wetlands/Riparian Zones	✓			No permanent surface waters or wetlands exist in or near the proposed project area.
Wild and Scenic Rivers	✓			Resource not present.
Wilderness/ Wilderness Study Areas (WSA)	✓			Resource not present.
Woodland / Forestry			✓	Carried forward for analysis
Vegetation Excluding Federally Listed Species			✓	Carried forward for analysis.
Visual Resources		✓		The project site is adjacent to an Interstate US Highway with a large setback ROW and telephone and transmission lines between roadway and State facility. Area along highway is Class III & IV Visual Resources Inventory (VRI). Most of the project's operation is below the horizon of vision from roadways; there are no neighboring communities, facilities, structures or other habitation within view of project site. Project has been in operation since 1960's without notice or concern by public or other agencies. Proposed actions would be larger but no different than current visual impact.
Wild Horses and Burros	✓			The proposed area is not located in an active Herd Management Area (HMA).
Lands with Wilderness Characteristics	✓			There is nothing related to wilderness, wilderness study areas, or lands with wilderness characteristics close to the proposed project, currently or in the various RMP Revision alternatives. All various wilderness resources are not present currently or in the reasonable foreseeable future.
<p>** Supplemental Authorities determined to be "Not Present" were not analyzed in this document. *** Supplemental Authorities determined to by "Present/May be Affected" are required to be carried forward for analysis in this document</p>				

3.3. Air Quality

The National Ambient Air Quality Standards (NAAQS) are health-based standards which define the maximum concentration of air pollutants considered harmful to public health and environment. The EPA has set standards for six (6) principal pollutants, known as “criteria pollutants”. EPA criteria pollutants are carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter less than 10 microns in effective diameter (PM₁₀), particulate matter less than 2.5 microns in effective diameter (PM_{2.5}), and sulfur dioxide (SO₂). Table 3.3-1 below shows the state and federal ambient standards for criteria air pollutants.

Table 3.3-1 State and Federal Ambient Standards for Criteria Air Pollutants

Pollutant	Averaging Period	Federal Primary Standard	Nevada State Standard
Ozone	8-hour	0.075 ppm	Same as Federal
	1-hour (daily max.)	0.12 ppm	Same as Federal
PM _{2.5}	Annual (arithmetic mean)	15.0 µg/m ³	Same as Federal
	24-hour	35 µg/m ³	Same as Federal
PM ₁₀	Annual (arithmetic mean)	NA	Same as Federal
	24-hour	150 µg/m ³	Same as Federal
Carbon Monoxide	8-hour [less than 5,000' above mean sea level (MSL)]	9 ppm	Same as Federal
	8-hour [greater than 5,000' above mean sea level (MSL)]	9 ppm	6 ppm
	1-hour	35 ppm	Same as Federal
Nitrogen Dioxide	Annual (arithmetic mean)	0.053 ppm	Same as Federal
	1-hour	0.100 ppm	Same as Federal
Sulfur Dioxide	Annual (arithmetic mean)	0.03 ppm	Same as Federal
	24-hour	0.14 ppm	Same as Federal
	3-hour	NA	0.50 ppm
Lead	Rolling 3-month average	0.15 µg/m ³	Same as Federal
	Quarterly average	1.5 µg/m ³	Same as Federal
Sources: EPA 2011, 2012c; NDEP 2010. ppm = parts per million µg/m ³ = micrograms per cubic meter			

Sources of criteria pollutants in the vicinity of the proposed project area include the fugitive dust from off-road vehicle use and emissions, and fugitive dust from vehicles traveling on US-95. No ambient air quality monitoring stations exist within or near the proposed project area. The site is not within a non-attainment area for air quality or an air quality control district.

Some Federal lands, including areas such as National Parks, National Wilderness Areas, and National Monuments are considered Federal Class 1 Areas for air quality. The only Class 1 area in Nevada is the Jarbidge Wilderness area located in Elko County in the northeastern portion of Nevada. Jarbidge is approximately 350 miles from the Proposed Action. Other Class 1 Areas include the Grand Canyon National Park, AZ located over 175 miles away, Domeland Wilderness area, CA approximately 100 miles away, Joshua

Tree National Park, CA approximately 175 miles away, and a cluster of several wilderness areas and National Parks located in central CA that are all over 100 miles away from the Proposed Action. No Class 1 Areas are a factor to the Proposed Action and do not need to be considered.

Continued scientific studies identify many impacts of “greenhouse gas” (GHG) emissions that include carbon dioxide, CO₂; methane; nitrous oxide; water vapor; and several trace gasses on global climate. Through complex interactions on a regional and global scale, these GHG emissions cause a net warming effect on the atmosphere by predominantly decreasing the amount of heat energy radiated by the Earth back into space. GHG levels have varied over the millennia, along with the corresponding variations in climatic conditions, recent industrialization and burning of fossil carbon sources have caused CO₂ concentrations to increase dramatically likely contributing to overall climate changes often referred to as global warming. The globally average combined land and ocean surface temperature show a warming average from 1880 to 2012 of 0.85°C (1.53°F) when multiple independent datasets are used. It is predicted that the increase in temperature will be from 0.3°C (0.54°F) to 0.7°C (1.26°F) during 2016-2035 relative to 1986-2005. By the end of the 21st century (2081-2100) it is predicted that the temperature increase is likely to exceed 1.5°C (2.7°F) and possibly exceed 2.0°C (3.6°F) relative to 1850-1900. Increasing GHG concentrations are likely to accelerate the rate of climate change. Different parts of the earth will most likely be affected differently (e.g. the poles will get warmer faster) as well (Hansen et al. 2006; IPCC 2014; Lacis et al. 2010).

Currently, there are no emission limits for suspected greenhouse gas (GHG) emissions, for this action, and no technically defensible method for predicting potential climate change contributions from GHG emissions during the construction and operation phases of the Proposed Action. However, there are, and would continue to be, several efforts made to address GHG emissions from the NDEP/EPA permitting requirements.

3.4. Cultural Resources

Human occupation began in the region approximately 13,000 years ago. Historically, miners began moving into the vicinity in the early 1900s. The timeline presented below (Table 3.4-1) is based upon a more standardized view of the time periods for southern Nevada as outlined by Roberts and Ahlstrom (2012) for prehistoric times. These time periods focus more directly on the Puebloan influences that fade off into the western portions of southern Nevada. The last two columns have been added to point out time periods associated with the western portions of southern Nevada.

Cultural resource studies were conducted and consisted of both Class I and Class III investigations. The Class I investigation entailed a review of local histories, examination of historic maps, and a review of previous inventory and cultural resource field survey efforts. The Class I survey area extended for a distance of one mile from the edge of the area of potential effect (APE).

The Class III investigation was designed at locating all historic properties and archaeological resources that have surface and exposed-profile indications. This was accomplished through systematic pedestrian inspection of the defined direct APE using parallel transects spaced no further than 30 meters apart. The direct APE was determined to include the proposed project area and a 15 meter buffer around the proposed project area. The field survey was performed using shapefiles of the APE that were downloaded into global positioning system (GPS) units. Site forms accompanied the field crew, and the location of any previously identified cultural resource sites were loaded onto the GPS units to assist in identification of locations in the field. The investigation did not include subsurface testing.

Table 3.4-1 Chronology as Discussed in the Prehistoric Background

Major Period	Date Range	Sub-Period		Date Range		Alternate Period for Proposed Action Area	Date Range
Post-Puebloan	650 B.P. - 174 B.P.			650 B.P. – 174 B.P.		Protohistoric Period	750 B.P. – Contact
Puebloan (Pecos)	1750 B.P. – 650 B.P.	Pueblo III (Pecos)		750 B.P. – 650 B.P.		Saratoga Springs	1,500 B.P. – 750 B.P.
		Pueblo II (Pecos)	Late	800 B.P. – 750 B.P.			
			Middle	900 B.P. – 800 B.P.			
			Early	950 B.P. – 900 B.P.			
		Pueblo I (Pecos)		1,150 B.P. – 950 B.P.			
		Basketmaker III (Pecos)		1,450 B.P. – 1,150 B.P.			
Late Basketmaker II (Pecos)		1,750 B.P. – 1,450 B.P.					
Paleo-Indian and Archaic	13,100 B.P. – 1,750 B.P.	Late Archaic	Terminal	2,150 B.P.	4,000 B.P. – 1,750 B.P.	Gypsum Period	4,000 B.P. – 1,500 B.P.
			Late Archaic				
		Middle Archaic		7,500 B.P. – 4,000 B.P.		Pinto Period	7,000 B.P. – 4,000 B.P.
		Paleo-Archaic	Early Archaic	11,000 B.P. – 7,500 B.P.		Lake Mojave Period	12,000 B.P. – 7,000 B.P.
Paleo-Indian	13,100 B.P. – 12,800 B.P.						

3.5. Fish and Wildlife Excluding Federally Listed Species

3.5.1. General Wildlife

The wildlife present in the proposed project area consists of typical southern Nevada Mojave Desert fauna, including small mammals, birds and reptiles. Common lizards were observed during the desert tortoise and botanical survey conducted by Knight and Leavitt Associates (K&LA) for the Biological Assessment (BA). These lizards

included the desert horned lizard (*Phrynosoma platyrhinos*), desert iguana (*Dipsosaurus dorsalis*), side-blotched lizard (*Uta stansburiana*), western whiptail (*Cnemidophorus tigris*), and zebra-tailed lizard (*Callisaurus draconoides*). Several Mojave Desert sidewinder rattlesnakes (*Crotalus cerastes*) were also observed within the 400 acre survey area (K&LA 2014).

The only incidental mammal encountered was the black-tailed jackrabbit (*Lepus californicus*). Other common mammals such as the coyotes, kangaroo rats, mice, and other rodents are likely present in the Proposed Action area.

The proposed project area is also located near active and inactive mining sites providing shelter and habitat for additional species such as bats, of which many bat species are protected. However, there were no historical observations of bats provided to K&LA from Nevada Natural Heritage Program (NNHP). Any bats present could be impacted by the Proposed Action by the loss of foraging habitat.

BLM sensitive species are species that require special management consideration to avoid potential future listing under ESA and that have been identified in accordance with procedures set forth in BLM Manual 6840. Mojave Desert sidewinder, banded Gila monster, chuckwalla, western burrowing owl, and desert bighorn sheep are BLM sensitive species that have potential to occur within the proposed project area and surrounding areas. The Mojave desert tortoise is protected by the BLM and is the only federally protected animal species in the proposed project area.

Table 3.5-1 provides a list of additional species that have been documented in a four mile buffer area around the proposed project area according to Nevada Department of Wildlife (NDOW) (NDOW 2014) along with the BLM sensitive species. Of the species listed in the table, only the zebra-tailed lizard was observed during the survey.

Table 3.5-1 Species Documented in the Four Mile Buffer (NDOW 2014) and Sensitive Species Noted by the BLM

banded Gila monster (SS)
California kingsnake
coachwhip
common chuckwalla (SS)
common side-blotched lizard
desert banded gecko
desert bighorn sheep (SS)
desert glossy snake (SS)
desert horned lizard
Mojave desert tortoise (F)
gophersnake
Great Basin collared lizard
Great Basin gophersnake
Great Basin whiptail
long-nosed leopard lizard

long-nosed snake
Mojave Desert sidewinder (SS)
Mojave patch-nosed snake
Nevada side-blotched lizard
northern desert horned lizard
northern desert iguana
northern desert nightsnake
Panamint rattlesnake
speckled rattlesnake
striped whipsnake
western banded gecko
western burrowing owl (SS)
western patch-nosed snake
western shovel-nosed snake includes subspecies: Mohave shovel-nosed snake (SS) Nevada shovel-nosed snake (SS)
yellow-backed spiny lizard
zebra-tailed lizard

BLM Sensitive Species= SS, Federally Listed Species= F

3.5.2. Game Mammals

There were no sensitive mammal species identified by the NNHP with potential to occur in the proposed project area, however NDOW identified bighorn sheep (*Ovis canadensis*) and mule deer (*Odocoileus hemionus*) distributions outside the proposed project area within a four mile radius (NDOW 2014). No live bighorn sheep or mule deer or sign (e.g. scat, tracks, and bones) were encountered during desert tortoise survey of the proposed project. The distributions of these animals are primarily in the mountains to the east of the proposed project area (NDOW 2014).

3.5.3. Reptiles

The BLM identified the chuckwalla (*Sauromalus ater*), banded Gila monster (*Heloderma suspectum*), Mojave shovel nosed snake (*Chionactis occipitalis occipitalis*), desert glossy snake (*Arizona elegans*), and Mojave Desert sidewinder (*Crotalus cerastes*) as potential BLM NV sensitive reptile species in the general area.

The Gila monster (*Heloderma suspectum*), is classified as a State sensitive reptile (NAC) 503.080) and is protected under Nevada state law (NAC 503.090 and NAC 503.093). The geographic range and habitat of the Gila monster overlaps with that of the desert tortoise. This venomous lizard is found below 5,000 feet elevation on rocky slopes and landscapes of upland desert scrub interspersed with desert washes. No Gila monsters were observed during the desert tortoise survey; however, this species could be encountered during construction activities in the proposed project area.

Chuckwallas (*Sauromalus ater*) are classified as a BLM Nevada Sensitive Species. The chuckwalla is restricted to rocky areas in desert flats, hillsides, and mountains where crevices are available for shelter. They are widely distributed across western Arizona, southern Nevada, southeastern California, Baja California, and northwestern Sonora. Very little potential habitat (i.e. hillsides or rocky outcrops) exists in the proposed project area, which consists of valley floor. It is not likely the chuckwalla occurs in the proposed project area.

The Mojave shovel-nosed snake (*Chionactis occipitalis occipitalis*), desert glossy snake (*Arizona elegans*), and Mojave Desert sidewinder (*Crotalus cerastes*) are classified as BLM Nevada Sensitive Species. These snakes inhabit a variety of dry desert habitats with little vegetation such as washes, dunes, sandy flats, and rocky hillsides. The proposed project area could contain potential habitat for these species and several Mojave Desert sidewinders were encountered during surveys for the proposed project area.

3.6. Floodplains

Of the 400 acre Proposed Action area, 35 acres in the southwest corner are located in a 100 year flood zone. The Amargosa River is located approximately one mile to the southwest of the Proposed Action. This river flows underground in the vicinity of the Proposed Action except during flooding events due to precipitation. The flood zone present at the Proposed Action site is part of the floodplain and channels associated with the Amargosa River. The Amargosa River flows from north of Beatty through Amargosa Valley (Nevada), into California and Death Valley Junction, past Shoshone, Tecopa Hot Springs, and Dumont Dunes, where it continues to the west and turns north (BLM 2014a; Wikipedia 2014). Most of the river is underground except for a few locations along its route. Flood events at the Proposed Action location would be generally caused from heavy rains creating runoff to the Amargosa River (Federal Emergency Management Agency 2014; USGS et al. 2014).

3.7. Geology/Mineral Resources

Mineral materials within the proposed project area are public property and administered by the BLM under the regulations at 43 CFR 3600 (Mineral Materials Disposal). Mineral materials are authorized for disposal by the Las Vegas Resource Management Plan (RMP) and Final Environmental Impact Statement (October 1998). The regulations at 43 CFR 3600 establish procedures for the exploration, development, and disposal of mineral material resources on the public lands, and for the protection of the resources and the environment. The regulations apply to free use permits and contracts for sale of mineral materials. The sale, free use or issuance of a material site right-of-way for mineral materials must be in conformance with the RMP, Minerals Management Section (Code MN), the Federal Aid to Highway Act, and the regulations found at 43 CFR 3600. Any mineral materials extracted, severed or removed from public lands without a contract, free use permit, or material site right-of-way constitutes

unauthorized use. Unauthorized users are liable for damages to the United States, and are subject to prosecution for such unlawful acts.

3.8. Hydrologic Conditions

Hydrologic resources include groundwater, surface water, and wetlands. The location of the Proposed Action, in Nye County, is located in the hydrographic region 14 named the Death Valley Region and it encompasses 2,593 square miles. Within the Death Valley Region, the Proposed Action is located within the Amargosa Desert Hydrographic Basin/Sub-basin which encompasses 896 square miles of the Death Valley Region. There are a total of eight hydrographic basins within the Death Valley Region, of which the Amargosa Desert Basin is the largest (State of Nevada Division of Water Resources 2013).

The watershed boundaries for the Proposed Action area is the California Region, Northern Mojave-Mono Lake Subregion, Northern Mojave Basin, Upper Amargosa Sub-basin, Big Dune Watershed, in the Carrara Canyon Sub-watershed (Environmental Protection Agency Office of Water 2014).

Of the 400 acre Proposed Action area, 35 acres in the southwest corner are located in a 100 year flood zone. There is no permanent surface water within the Proposed Action area; however, there are two intermittent streams/rivers. One of these intermittent drainages is located in the extreme northeast corner of the proposed project area on the northeast side of US-95 and the other located within the previously mentioned 100 year flood zone of the Proposed Action area. There are no wetlands present in the vicinity of the Proposed Action (Federal Emergency Management Agency 2014; USGS et al. 2014).

Within Nye County most of the water resources come from precipitation that mainly falls in the upper elevations located outside Nye County. This precipitation runs off into drainages and ultimately into breaks in underlying rock moving to the underground water table. Out of a total of 11 groundwater flow systems located within Nye County, the Proposed Action is located in the Death Valley system. The Death Valley system is considered one of the most important groundwater systems within Nye County (Buqo 2004).

The Proposed Action area has an already existing USGS research site on the premises that studies the unsaturated zone hydrology to learn about hydraulic characteristics in arid conditions. The program studies contaminants including Tritium, Radiocarbon, Volatile-organic compounds, and Mercury.

Tritium has been detected by the on-site monitoring wells in the upper aquifer underneath the current NDSL disposal site since 1973, from the disposal of low-level radioactive waste at the facility. The levels of tritium have significantly decreased since the maximum levels were recorded in the early 1980s. No radioactive waste has been disposed at the current facility since 1992 and the disposal area has been closed

and capped and continues to be monitored by the State and the USGS (Buqo 2004; USGS 2009).

3.9. Vegetation

The proposed project area is within Mojave Ecoregion, and vegetation at lower elevations over most of the proposed project is characteristic of the creosote bush-white bursage (*Larrea tridentata-Ambrosia dumosa*) series (Sawyer and Keeler-Wolf 1995). Other habitat types in the proposed project area include saltbush (*Atriplex* spp.) scrub.

A rare plant habitat assessment within the project area was performed by Knight and Leavitt Associates on May 1, 2014 and approved by the BLM botanist on May 2, 2014. Habitat for BLM special status plant species was not present within the project area.

Creosote Bush Scrub/Creosote Bush-White Bursage Scrub

The creosote bush-white bursage series is dominated by creosote bush and augmented by a variety of other shrubs, including four-wing saltbush (*Atriplex canescens*), all-scale (*A. polycarpa*), desertsenna (*Senna armata*), cheesebush (*Hymenoclea salsola*), sweetbush (*Bebbia juncea*), and other less common shrubs. Numerous annual plants and forbs are present to varying degrees, including pincushion flower (*Chaenactis fremontii*), bristly fiddleneck (*Amsinckia tessellate*), desert globemallow (*Sphaeralcea ambigua*), cryptantha (*Cryptantha* sp.), combseed (*Pectocarya* sp.), and Mediterranean grass (*Schismus barbatus*). Cacti are not common at lower elevation; however, they are more common at higher elevations and on steeper slopes. Cacti species present include Wiggins' cholla (*Cylindropuntia echinocarpa*), Engelmann's hedgehog cactus (*Echinocereus engelmannii*), California barrel cactus (*Ferocactus cylindraceus*), diamond cholla (*Cylindropuntia ramosissima*), and beavertail pricklypear (*Opuntia basilaris*).

Saltbush Scrub

Saltbush scrub typically has low plant species diversity, and on the proposed project is dominated by saltbush species, white bursage, and big galleta (*Pleuraphis rigida*) located in alkaline soils. Vegetation is an intermittent to open canopy, generally less than 2 feet in height.

Woodlands and Forestry

On BLM lands, cacti and yucca and native seed harvested from native plant communities are considered special forest products and government property regulated under the BLM Forestry Program. Additionally, the sale and transport of cacti and yucca are regulated by the Nevada Division of Forestry under NRS 527.060-527.120.

The proposed project is within the Amargosa desert seed collection area. BLM has issued native seed collection permits within the seed collection area. Cacti were present in low densities within the proposed project area. Less than six silver cholla (*Cylindropuntia echinocarpa*) cacti occurred as scattered individuals within the survey area. No yucca species occurred in the survey area.

Noxious Weeds and Invasive, Non-Native Species

A site assessment was made within the proposed project area. Nevada designated weed species were not found. The only non-native invasive species were observed within the existing 5 acre Administrative Area. This Administrative Area is located on the Proposed Action land, and is used as the administrative offices and visitor/client check-in area for the current facility. This area is currently operated as a lease from the BLM. Bermuda grass (*Cynodon dactylon*) was observed at the base of one of the planted pine trees. Seed of this species was likely in the soil when the pine tree was planted and has become established because the pine is artificially watered. This is not a species that will infest the desert habitat in the rest of the site; however it could spread around the bases of other planted pines. Other non-native plants occurred as decorative specimens around the foundation of the administrative buildings, including ice plant (*Delosperma sp.* or some other Ice Plant genus), golden barrel cactus (*Echinocactus grusonii*), rosemary (*Rosemarinus sp.*), and a few others. These species will not spread into the surrounding native desert habitat

3.10. Lands/Access

Currently the area is accessed directly from US-95 and existing ROWs that are present in the area. The existing ROWs are issued by the BLM to third-party users within the Proposed Action area. The ROW holders are:

- State of Nevada, for U.S. Highway 95 pursuant to Title 23 U.S.C.
- U.S. Ecology Nevada, for the existing administrative site.
- Valley Electric Association, for electric transmission and distribution lines.
- Nevada Bell/AT&T, for wire and fiber optic communication lines.
- Nevada Hospital Association, for fiber optic communication lines.
- USGS, for monitoring wells and a monitoring facility.

Listed in table 3.10-1 are the existing ROWs within the Proposed Action.

Table 3.10-1 Existing ROWs within the Proposed Action

BLM #	Applicant	Description
NVCC0018078	NDOT	400' road crossing NE corner
N-29793	VEA	Power line crossing NE corner
N-92376	USGS	40 acre reservation for monitoring site, test holes, and 12' roads located mostly in the southwest portion

BLM #	Applicant	Description
N-52952	VEA	10' power line within proposed project and existing non-hazardous and hazardous waste facility
N-73706	Nevada Bell	20' fiber optic line crossing NE corner
N-87208	BLM	Solar Energy Zone (SEZ) withdrawal under PLO 7818 in southern section
N-90056 N-90056-01	Nevada Hospital Association	Fiber optic line crossing NE corner. Short term ROW for construction, widening of ROW crossing NE corner
N-91048	USEN	5 acre administrative site
Nev-66289	VEA	10' distribution line ROW in far NW corner

3.11. Migratory Birds

Under the Migratory Bird Treaty Act of 1918 (MBTA) and subsequent amendments (16 U.S.C. 703-711), it is unlawful to take, kill, or possess migratory birds, including nests with eggs or young. A list of MBTA protected birds are found in 50 C.F.R.10.13 (<http://www.gpo.gov/fdsys/pkg/CFR-2012-title50-vol1/xml/CFR-2012-title50-vol1-sec10-13.xml>).

Numerous bird species travel through Nevada during spring and fall migrations. According to NDOW, there are many raptor species that can potentially occur in the proposed project area including: American kestrel, bald eagle, barn owl, burrowing owl, Cooper's hawk, ferruginous hawk, golden eagle, great horned owl, long-eared owl, merlin, northern goshawk, northern harrier, northern pygmy owl, northern saw-whet owl, osprey, peregrine falcon, red-tailed hawk, rough-legged hawk, sharpshinned hawk, Swainson's hawk, turkey vulture, and western screech owl all of which have distribution ranges that include the proposed project area and four-mile buffer area (NDOW 2014). NDOW indicated that only the American kestrel and red-tailed hawk have been directly observed within the proposed project area; however no raptors were incidentally observed. BLM sensitive bird species that may use the Proposed Action area for foraging include the bald eagle, Swainson's hawk, loggerhead shrike, and the golden eagle. The western burrowing owl (*Athene cunicularia*) is also a BLM sensitive species of concern for the proposed project area. Although burrowing owls were not incidentally observed during the desert tortoise survey, the Proposed Action area contains some burrowing owl habitat. Therefore, burrowing owls potentially could be affected by the Proposed Action. It is assumed that the Proposed Action area contains potential nesting and foraging habitat for a wide range of migratory birds, including the burrowing owl.

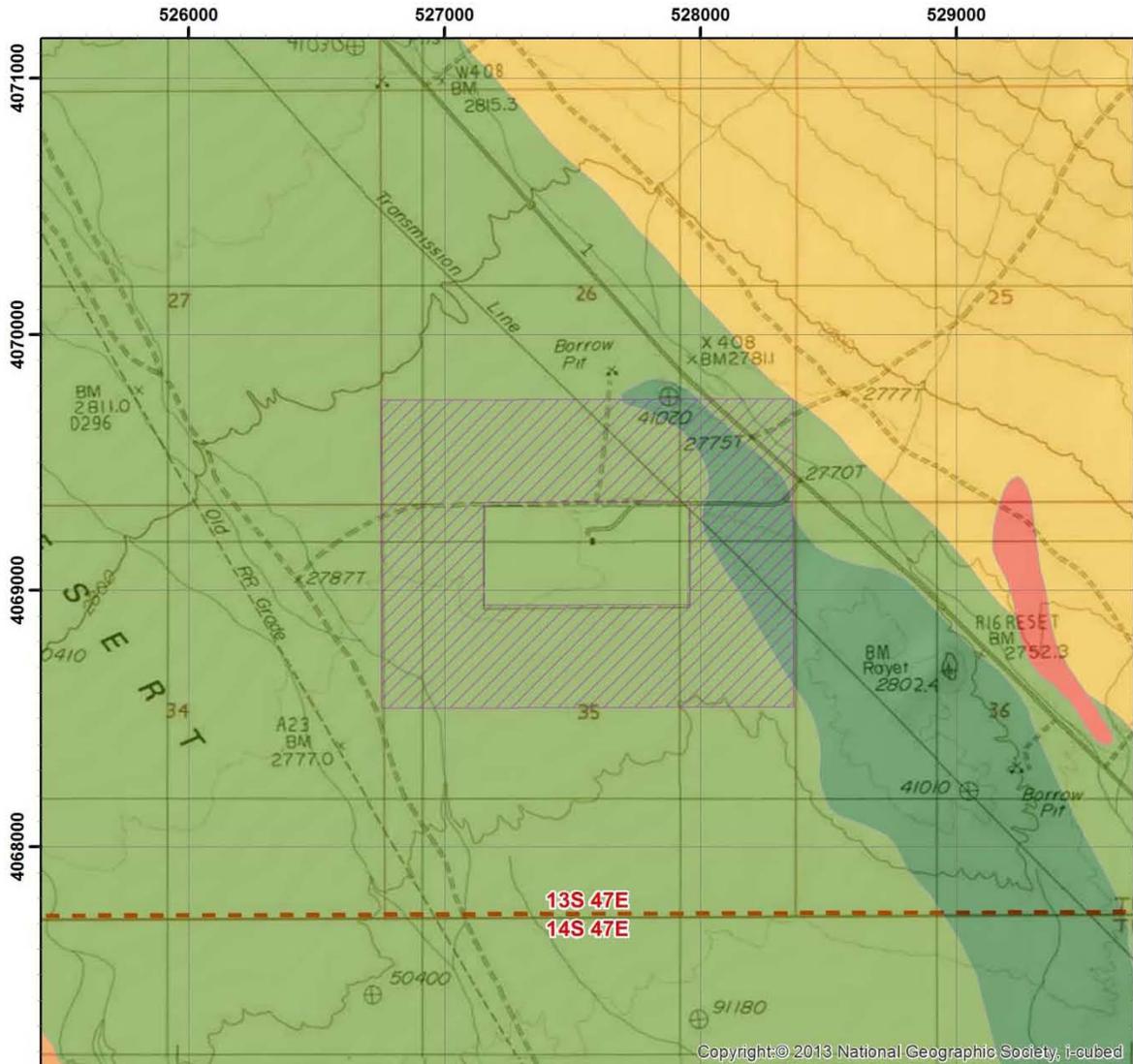
The Nevada Department of Wildlife provided raptor nest sites within ten miles of the Proposed Action. There are a total of 20 recorded, of which none are within the Proposed Action site area. The raptor nests are recorded as Buteo, Buteo/Corvid, Eagle, Eagle/Buteo, and Falcon nests. The nests are all located in hilly and mountainous terrain, around the Proposed Action area with the closest nest being approximately 3.75 miles to the north (NDOW 2014).

Typically the breeding season is when these species are most sensitive to disturbance, which generally occurs from February 15th through August 31st. The proposed project area provides nesting and foraging areas for migratory birds and they have the potential to be impacted by the Proposed Action.

3.12. Soils

Soils data for the proposed project area were compiled from U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) data from soil survey area reports and spatial data for Nye County, Nevada, Southwest Part (USDA 2014). The project site is a relatively flat area, with a firm desert pavement surface of sand and small gravels, and a well packed silty/sandy loam layer beneath. The proposed project area occurs within three soil map units, 2053 (Yermo-Greyeagle-Arizo association), 2054 (Yermo, hot-Yermo-Arizo association), and 2393 (Commski-Yermo association). The major soil unit was 2054 making up 84.4%, then 2393 with 15.6%, and lastly 2053 with less than 0.02%. Figure 3.12-1 identifies soil types within the Proposed Action and surrounding areas. None of the soil identified by the NRCS meets the criteria to be considered prime or unique farmlands.

The two typical soils that occur within this area are Yermo, hot-Yermo-Arizo association, and Commski-Yermo association. Yermo, hot-Yermo-Arizo association is located on 2-4% slopes and is well drained. The surface layer (0-6 inches) is composed of very gravelly sandy loam; while the underlying layer (6-60 inches) is stratified with extremely gravelly sandy loam to gravelly loam. Commski-Yermo association is located on 2-4% slope and is well drained. The surface layer (0-5 inches) is composed of very gravelly fine sandy loam, the middle layer (5-14 inches) is composed of extremely gravelly sandy loam, and the bottom layer (14-60 inches) is composed of extremely gravelly coarse sandy loam.



Legend

- Proposed Action
- Dumps, mine
- Yermo, hot-Yermo-Arizo association
- Arizo very gravelly sandy loam, moist, 0 to 2 percent slopes
- St. Thomas-Tecopa-Rock outcrop complex, 15 to 75 percent slopes
- Yermo-Greyeagle-Arizo association
- Commski-Yermo association
- Weiser-Canoto association

Map Name Soil Survey Map		Nevada State Lands Project
Map Datum and Coordinate System: NAD 1983 UTM Zone 11N		
Map Date 11/3/2014	Map Author John Ellis, GISP	
Base Map: USGS 7.5' Series CARRARA CANYON, NV (1987)		Main Map Scale: 0 0.25 0.5 1 Miles N

Figure 3.12-1 Soil Survey Map

3.13. Threatened, Endangered or Candidate Animal Species

A list of Threatened or Endangered (T&E) species and candidate species of concern for the proposed project area (Nye County) was obtained from the U.S. Fish and Wildlife Service Information, Planning, and Conservation System (IPAC) and from the United State Fish and Wildlife Service (USFWS) website

http://www.fws.gov/nevada/protected_species/species_by_county.html.

Threatened and endangered species are placed on a federal list by the USFWS and receive protection under the Endangered Species Act of 1973 (ESA), as amended. The most recent list available from the USFWS website at the time of this EA preparation was October 31, 2014. The Endangered Species Act (ESA) listed animal species for Nye County (USFWS 2012) were reviewed to determine their status in the proposed project area. The USFWS IPAC Version 1.4 was also consulted for Endangered Species Act Listed Species (USFWS 2014). IPAC returned 16 potential threatened, endangered, or candidate species within Nye County. These include:

1. Columbia Spotted frog (*Rana luteiventris*) – Candidate
2. Greater sage-grouse (*Centrocercus urophasianus*) – Candidate
3. Southwestern Willow flycatcher (*Empidonax traillii extimus*) – Endangered
4. Yellow-Billed Cuckoo (*Coccyzus americanus*) – Threatened
5. Yuma Clapper rail (*Endangered*) – Endangered
6. Ash Meadows Amargosa pupfish (*Cyprinodon nevadensis mionectes*) – Endangered
7. Ash Meadows Speckled dace (*Rhinichthys osculus nevadensis*) - Endangered
8. Devils Hole pupfish (*Cyprinodon diabolis*) – Endangered
9. Hiko White River springfish (*Crenichthys baileyi grandis*) – Endangered
10. Lahontan cutthroat trout (*Oncorhynchus clarkia henshawi*) - Threatened
11. Railroad Valley springfish (*Crenichthys nevadae*) – Threatened
12. Warm Springs pupfish (*Cyprinodon nevadensis pectoralis*) – Endangered
13. White River spinedace (*Lepidomeda albivallis*) – Endangered
14. White River springfish (*Crenichthys baileyi baileyi*) – Endangered
15. Ash Meadows naucorid (*Ambrysus amargosus*) – Threatened
16. Desert tortoise (*Gopherus agassizii*) - Threatened

The proposed project should have no direct or indirect impacts to any other federally protected species. The water use is permitted and controlled by the State Engineer under an existing authorization that has been in place for over 50 years, and no additional use above historical use is anticipated. Water is used for dust control and the limited needs of the staff. There is no evidence to indicate that the continuation of this historical use would pose any threat to any of the Ash Meadows listed species from the water use. Much larger water users are extant and closer to Ash Meadows. Historic water use has been approximately 1,200,000 gallons per month and is not expected to change with the Proposed Action. Also, the groundwater and the area between the ground level and groundwater are continually monitored for any evidence of spills or leakage (see Section 6.12 Water Resources/Quality for further information) preventing

the potential for any impact to Ash Meadows listed species. The Proposed Action should have no direct or indirect impacts to any other federally protected species and will not be discussed further.

After reviewing these lists, only one federally listed species, the Mojave desert tortoise (*Gopherus agassizii*), was documented to occur within the Proposed Action area. There is no designated critical habitat for this species within the Proposed Action area.

The Mojave population of the desert tortoise was listed as Endangered under an emergency rule in August 1989. In October 1989, the Mojave population was officially proposed for listing and on April 2, 1990, the Mojave population was federally listed as threatened (USFWS 1990). Tortoises found within the proposed project area are part of the federally listed Mojave population and can be further designated as the eastern Mojave subpopulation. In the Mojave region, the desert tortoise occurs primarily on flats and bajadas, with soils ranging from sand to sandy-gravel characterized by scattered shrubs and abundant inter-shrub space for herbaceous plant growth. They are also found on rocky terrain and slopes. Historical survey data indicate that the area surrounding the project site is low density desert tortoise habitat.

The BLM does not have any existing data for desert tortoise in the proposed project area. A 2009 desert tortoise survey conducted on the Proposed Action parcel by JBR Environmental Consultants did not detect any tortoise or tortoise sign. A May 2014 tortoise survey was recently conducted and also did not detect any live tortoises. However, according to the survey, a total of 58 burrows and pallets were detected in the 400 acre buffer boundary. There were a total of four Class 2 and 26 Class 3 burrows, providing indication of tortoise presence. Tortoises have not been found in the proposed project area; however there is undisturbed habitat in and adjacent to the proposed project site. Because burrows were present within the proposed project area, there is a potential for tortoises to be present. There is currently no section 7 coverage for the 400 acre R&PP lease, although it was last renewed in 2010. All tortoise and desert tortoise burrows must be avoided to comply with section 9 of the Endangered Species Act (ESA). The 5 acre administrative site, located within the 400 acre Proposed Action land, is covered by section 7 under BO 1-5-97-F251. Any take of a listed species, defined under the ESA, is punishable by law. Based on suitable habitat and presence of burrows and pallets in the proposed project area, the Proposed Action may impact this species.

3.14. Wastes (hazardous or solid)

The NDSL currently operates the State's RCRA Subtitle C landfill and disposal site on an 80 acre parcel of land surrounded by the 400 acre Proposed Action area that serves as a buffer and for ancillary needs for the current facility. The existing landfill site has operated for over 50 years, receiving, treating, and disposing of hazardous and non-hazardous waste materials on the site. The wastes accepted include solid and liquid materials subject to the 'cradle to grave' requirements of RCRA.

Current accepted wastes include (US Ecology 2014a):

- RCRA hazardous wastes that can be treated to meet 40 CFR 268 Land Disposal Restrictions (LDR)
- PCB-contaminated materials (capacitors, bushing, PCB filled transformers, and clean-up materials)
- Non-hazardous solid industrial, commercial, and agricultural wastes
- Bulk liquids for solidification
- Bulk or drummed solid waste
- Household hazardous waste and non-RCRA lab packs
- State-specific regulated hazardous wastes
- Wastes from Conditionally Exempt Small Quantity Generators
- Corrosive wastes and acids
- Asbestos or asbestos/RCRA debris

Current prohibited wastes include (US Ecology 2014a):

- Non-stabilized liquids and other wastes prohibited from landfill by 40 CFR 268
- Explosive or reactive waste
- Low-level radioactive or RCRA/radioactive mixed waste
- Pressurized gases or gas cylinders
- Wastes containing greater than 10% cyanide or sulfide
- Wastes with pH level of less than 1 or greater than 14
- Biological or infectious waste
- Low-activity radioactive waste

The engineering and construction of non-hazardous and hazardous waste disposal cells are compliant with RCRA Subtitle C in accordance with the requirements of the EPA and the NDEP. The EPA/NDEP are responsible for approving all final engineering, lining, monitoring wells and other specifications associated with landfill operations and inspect and approve all construction activities and ongoing operations, including all landfill close-out requirements for the duration of the landfill life cycle. Additionally, liquid wastes are not stored in disposal cells/trenches, which are prohibited, and are completely lined and sealed to prevent escape of any contamination onto adjacent land or into groundwater through subsurface leaching or surface flows. Monitoring wells are installed around cells/trenches to detect if there is any contamination leaching from the cell so it can be contained, further protecting the surrounding environment.

After a disposal cell/trench is constructed to an operational level, non-hazardous and hazardous waste is deposited in the trench and managed pursuant to NDEP permit requirements. Different types of non-hazardous and hazardous waste require different treatment and containment prior to placing in the landfill. Relative placement of wastes is also important. For example, corrosive acids cannot be placed in close proximity to reactive base substances to prevent reactions. The NDSL and its contract operator continues to be held to strict operational requirements by NDEP/EPA and other regulatory agencies, including regular inspections and audits under Federal and State

regulations to lessen the risk of these types of reactions and protecting the surrounding environment.

Operations of the facility center on the acceptance of non-hazardous and hazardous wastes delivered to the site by truck via US-95. All deliveries are pre-arranged and must arrive with a full manifest compliant with Federal regulations. On entering the site, trucks must report to the receiving area to be weighed and inspected, and the load manifest examined. Regulations require verification of wastes, including sampling and testing as appropriate. If unauthorized non-hazardous and hazardous waste or unacceptable chain of custody and control is encountered, non-hazardous and hazardous waste is rejected until the deficiencies can be resolved. All non-hazardous and hazardous waste arrives at the site under specific, pre-approved contracts. On acceptance, depending on the type of waste, the load may be directed to an unloading area for rechecking and preparation for landfill placement. For some wastes, the load may be diverted for further processing prior to landfill disposal.

Some wastes require processing prior to burial. Processing may include aeration, incineration, segregation, compaction, chemical treatment, containment, or other processing or combination of processing. Some treatment is performed on site in the processing facility on the State-owned 80 acre parcel, including sorting, segregation, containment, etc. Some processing treatments, such as incineration or thermal treatment are not performed on site and wastes requiring such treatment are forwarded to an authorized facility elsewhere. The purpose of treatment is to reduce the volume of some wastes, to stabilize or reduce toxic/reactive properties of the non-hazardous and hazardous waste involved pursuant to EPA and NDEP requirements prior to disposal.

After any pre-disposal treatment, as appropriate under Federal and State rules, the residual material is buried under strict supervision and inventory controls. The NDEP and other agencies of jurisdiction regularly inspect the physical operations and record keeping. All wastes entering the site must be accounted for and proper treatment and disposal documented to comply with Federal and State regulations.

Waste water from offices and other building is held in pre-cast concrete septic holding tanks. Waste is periodically pumped and transported to an authorized off-site sewage treatment facility. Solid waste generated includes food and beverage containers and similar trash. Trash containers are emptied on a regular basis.

The combined 480 acre site would be a self-contained operation, and all hazardous wastes or materials would be confined inside the fenced and controlled operational areas similar to the current operations of the 80 acre facility. There is no danger to the public in use of the public lands outside the combined site. The public is excluded from the site for their safety through signage, fencing, and 24-hour presence of State or USEN staff. The NDSL recognizes its responsibility for the permanent care and protection of the site, and intends to hold the entire 480 acre proposed facility in perpetual State ownership to ensure adequate control and public safety. This permanent

retention serves to protect the public and limit liability exposure for the State and eliminate liability to the United States. All federal, state, and local regulations and permits are in compliance, and all appropriate stipulations are entered into the record.

The affected environment of the Proposed Action for hazardous materials include air, water, soil, and biological resources that may potentially be affected from an accidental release of hazardous materials during transportation to/from the proposed project area, storage, and in construction and operation. Sensitive areas for hazardous materials releases include areas adjacent to water bodies, above aquifers, and areas where humans or wildlife could be directly impacted.

3.15. Water Resources/Quality (drinking, surface, ground)

Permanent surface water resources are not present near the Proposed Action; however there are two intermittent and ephemeral stream drainages in the extreme northeast and southwest corners. The Amargosa River is located approximately one mile to the southwest of the Proposed Action, this river flows underground except during flooding events due to precipitation. The groundwater in the area is located in valley fill with the Basin and Range basin-fill aquifers. A monitoring well located in the Proposed Action area reported the water level at approximately 372 feet below ground level (USGS et al. 2013; USGS 2013).

The watershed boundaries for the Proposed Action area is the California Region, Northern Mojave-Mono Lake Subregion, Northern Mojave Basin, Upper Amargosa Sub-basin, Big Dune Watershed, in the Carrara Canyon Sub-watershed (Environmental Protection Agency Office of Water 2014). The Proposed Action is also within the Death Valley regional groundwater flow system (Belcher et al. 2006).

Most of Nevada's groundwater occurs in what is termed the 'Basin and Range aquifers' or basin-fill aquifers, which are generally produced by basin-fill deposits that range from unconsolidated to consolidated sand and gravel, volcanic, or carbonate rocks. Generally these basin fill aquifers are very productive and are drained into individual basins that are separated by mountains (USGS 2012a). The range of the depth varies greatly, but basin-fill aquifers can be and often are several hundred meters in depth. Unconsolidated sand and gravel aquifers are generally very vulnerable to contamination because of their naturally high hydraulic conductivity (USGS 2009a) which allows water to move easily and swiftly through the aquifer.

Groundwater flow systems in the basin-fill aquifers typically do not flow to a water body that flows into the ocean. Most flow into sinks or basins and terminate within the basins that are hydraulically connected. Basin and Range aquifers typically are confined to a few basins, but areas can be linked together for extended distances due to the underlying carbonate rock. Studies indicate that large amounts of groundwater flow through these carbonate rock layers from basin to basin even though each basin has its own basin-fill aquifer overlying the carbonate rock. Evidence does suggest that these systems act as one hydrologic unit. Carbonate rock is eroded, faulted, and deformed to

such a degree that many of these carbonate rock areas form separate aquifers. The rock in the central portion of Nevada, however, has a corridor that is connected for over 250 miles running north/south. This phenomenon has been studied in southern Nevada to a degree that two flow systems have been identified. One discharges in the Death Valley area and the other at the Muddy River Springs (Planert and Williams 1995). The Death Valley regional groundwater flow system has been modeled to help address contaminant cleanup in the region associated with the underground nuclear testing that occurred at the Nevada Test Site from 1951-1992 (located to the north of the Proposed Action) and to address needs for the Yucca Mountain Project (geologic repository for high-level nuclear waste located to the within the Nevada Test Site). The model of the groundwater flow system indicates a general flow from north to south with recharge precipitation originating in the mountains in southern and central Nevada and discharging in Ash Meadows, Oasis Valley, and Death Valley along with a decline in water levels near Pahrump Valley, Amargosa Desert, and Penoyer Valley likely occurring from pumping (Belcher et al. 2006).

Groundwater is continually being studied in order to further understand the characteristics of aquifers; most studies are based upon flow and quality. An assessment was completed for a few wells that have been in operation for more than a decade to help understand how human activities and natural features affect aquifers. These studies were fairly broad and the finding concluded that shallow groundwater contaminants are widespread but in lower concentrations. Deeper aquifers tend to be more protected than shallow aquifers, except in carbonate material because water can flow quickly and more deeply, making them more susceptible to contaminants. The aquifer in the vicinity of the Proposed Action is in valley fill. Water, and any contaminants within the water, can move quickly through aquifers that are sand and gravel, alluvial, and carbonate, making the aquifer in the Proposed Action vicinity susceptible to this kind of contamination (Lapham, Hamilton, and Myers 2005).

A groundwater assessment was conducted for the southwest region of the United States (Anning et al. 2009). Studies and testing are just now establishing baseline data and the understanding of groundwater is still in its early stages. This study, conducted by Anning, et. al (2009), was completed to understand the exposure and risk of contamination of basin-fill aquifers by establishing baseline data. Groundwater is typically limited to arid and semi-arid regions, making it very important for sustaining populations. Modern activities using groundwater have created a discharge rate higher than the recharge rate; i.e., more water is being used than returned to the aquifers. As a result, groundwater movement has increased and groundwater is therefore much more prone to contaminants and degradation. If a contaminant is introduced, especially in a basin-fill aquifer, its presence will be most likely irreversible because of the high cost of treatment and the almost impossible treatment options. Shallow aquifers are especially exposed to chemicals, fertilizers, and oxidation due to irrigation. These shallow aquifers can move to deeper aquifers because there is more discharge (use) than recharge, making their contamination a threat to deeper aquifers. Pesticides and increased salinity caused by evaporation can pose similar risks as well.

The Amargosa Desert Research Site (ADRS) is managed by the USGS. This USGS research area is located adjacent to the existing disposal facility that the proposed project plans to expand. The existing 80 acre disposal facility was the first commercial low-level radioactive waste site in the United States and was used for this purpose from 1962 to 1992. Once low-level radiation material was no longer being disposed of at the facility, the area was capped with a minimum of two meters of stockpiled dirt/soil. Hazardous chemical waste has been disposed at this facility since 1970 and that is the function of the current facility. Trench linings were not required for chemical waste until 1988 (USGS 2009).

The ADRS is located on the proposed project property and has been doing research since 1976 on the water resources in the area including the unsaturated zone between the ground surface and the saturated zone of groundwater. The research site was placed in this location because of the low-level radioactive waste disposed of in the current facility. This is part of the USGS Low-Level Radioactive Waste Program. In the 1990s it was discovered that there were elevated concentrations of tritium and carbon-14 in the unsaturated zone underneath the ADRS facility and consequently the USGS broadened their research in 1995 to include the processes affecting the transport of contaminants through the unsaturated (vadose) zone. In 1997 the ADRS became part of the USGS Toxic Substances Hydrology Program and serves as a field laboratory for numerous researchers and research related organizations (universities, laboratories, individual researchers, etc.). The movement of substances (water, gas, chemical, etc.) through the vadose zone is being studied and supported by numerous lines of data. These studies are a main contributor to understanding and characterizing arid-site processes. The findings are critical for water resources management in terms of non-hazardous and hazardous waste disposal and groundwater quality (USGS 2009; 2012b).

Information from the latest monitoring results of the current 80 acre non-hazardous and hazardous waste facility is discussed in the following paragraphs using the reference of US Ecology 2014b. This information is based upon the required monitoring and reporting by the NDEP/EPA at the current 80 acre facility. NDEP/EPA is the overseer of these monitoring requirements.

The current disposal facility has a total of 23 groundwater monitoring wells, seven pairs of leachate sumps, and a soil gas extraction well. Eighteen of the 23 groundwater monitoring wells are for the upper water-bearing zone and five are for the lower water-bearing zone. The wells and sumps monitor for releases from the disposal areas at the current facility. The vapors detected in the vadose zone under the facility are monitored with the soil gas extraction well (US Ecology 2014b).

In the latest results of these wells for the second half of 2013, the groundwater exceeded the quality standard for chromium in five wells in the third quarter and three wells in the fourth quarter, arsenic in nine wells in the third quarter and no wells in the fourth quarter, chloride in four wells during the third quarter and two wells in the fourth quarter, and sodium in three wells in the third quarter and no wells in the fourth quarter. Four wells exceeded the standard in the third quarter and 12 wells during the fourth

quarter for Total Organic Halides (TOX). None of the wells reported radio-nuclides or pesticides above groundwater quality standards. Carbon tetrachloride was above groundwater protection standards in two wells in the third quarter and one well in the fourth quarter. Carbon tetrachloride is a Volatile Organic Compound (VOC) and the sporadic detection of a limited family of VOCs in the wells corresponds with the presence of soil vapors. Soil vapor testing also indicates that VOCs are present in the vadose zone above the groundwater (US Ecology 2014b).

The soil gas testing suggests that there are overall concentrations of volatile organics in the soil gas present. The samples indicate the total VOC concentration of approximately 11.5 parts per million by volume. Leachate is also measured at the current disposal facility. These measurements indicate that the leachate generation rate is less than the acceptable rate and the data supports that no leachates have been released into the groundwater. The data also indicates that inorganic constituents that exceed the groundwater quality standard are not the result of releases from the current disposal area but variations in natural groundwater quality (US Ecology 2014b).

4.0. ENVIRONMENTAL EFFECTS

4.1. Air Quality

4.1.1. Proposed Action

It is anticipated there would be both short-term and long-term emissions associated with the proposed project expansion. Short-term air emissions associated with the project would be expected to be chiefly associated with fugitive dust during construction from ground-disturbing activities, including expansion of the existing non-hazardous and hazardous waste facility. Other short-term sources or emissions would be associated with engine exhaust from construction equipment and from transportation of goods and construction workers.

Construction of the proposed project would result in short-term criteria pollutant emissions during construction activities resulting from construction employees and vehicles, traffic, and heavy equipment moving across the site during construction. Exhaust and fugitive dust emissions generated from construction equipment and vehicles would increase ambient concentrations of air pollutants. Wind-driven emissions of fugitive dust would be generated following disturbance by construction activities, including travel on roads. However, these emissions of engine exhaust and fugitive dust would not be expected to contribute to exceeding of regional criteria air pollutant NAAQS.

While the construction phase would temporarily cause fugitive dust related to grading and other construction activities, the applicant, in order to comply with NDEP dust control requirements, would use water and aggregate to control dust, particularly in areas of loose soils, or non-toxic surface treatments and palliative if approved. Currently, only water is approved for dust control within potential threatened and

endangered (T&E) species habitat. NDEP would regulate air quality as part of licensing for the facility. The proponent would apply for a Surface Area Disturbance Permit from NDEP which would outline specific measures for regulating dust during operations. NDEP would require active dust control under the permit it issues for operation of the site. The proponent would be responsible for ensuring the mandatory permits or other measures would be in compliance for air quality at the project site and for the duration of the construction and operation.

Long-term emissions would remain approximately the same as current emissions once the facility is operational. The closing of the facility, once it reaches capacity would have similar emissions to the construction activity described above under short-term emissions. The entire proposed project from construction, to operations, and closure would adhere to the NDEP/EPA requirements for dust. There would continue to be contributions to air emissions from heavy equipment and vehicles in the form of dust and exhaust however, these emissions would be expected to be minimal, and relative to NAAQs, would be negligible and not approach thresholds.

4.1.2. No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that would be developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements would be not known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Under this alternative, there would be no additional impacts to air quality and fugitive emissions associated with the development and operation of a 480 acre landfill of non-

hazardous and RCRA Part C hazardous wastes. Additionally, once the facility fills to capacity and closes, it is anticipated that impacts to air quality and other fugitive emissions associated with an 80 acre landfill of non-hazardous and RCRA Part C hazardous waste, would be reduced as operational activities, trucking, waste disposal, etc. would cease and authorized monitoring and mitigation measures would commence in accordance with regulatory requirements. However, the fact that all waste that would have been brought to this facility would likely have to travel a longer distance to dispose of their waste would have a negative impact to the air quality in general, but not at the current facilities location. The closing process of the current facility could have a negative impact during the closing process with the capping of the waste disposal areas and other possible activities associated with closing. These details, however, would not be known until the closing process is coordinated with the NDEP/EPA and the NRC and all requirements would be known for the closing process to occur.

4.2. Cultural Resources

4.2.1. Proposed Action

The Class I files and literature review identified nine previous projects and four previously recorded sites that were within one mile of the proposed project APE. The most common previously identified site type was prehistoric lithic scatters (three, one with possible hearths) and there was one historic feature (rock pile). The study of the historic Land Patents and General Land Office (GLO) records, along with other historic maps, were also reviewed. These records indicated that there are two historic railroads and one historic road within one mile of the proposed project area APE.

The Class I files and literature review which also included an additional two mile buffer, for a total of a three mile buffer, was performed to identify potential sites that may be visually impacted by the proposed project (indirect APE). This research identified an additional nine previous projects and 14 previously recorded sites (including one of the railroads mentioned in the above paragraph). The sites include prehistoric lithic scatters, historic trash scatters, historic railroad and railroad related sites, a historic dugout, a mining townsite, water pump station, pipeline, historic road, and a utility line.

No sites within the Proposed Action area are recommended eligible to the National Register of Historic Places (NRHP) and one site outside of the Proposed Action area but within the proposed project direct APE is recommended eligible to the National Register of Historic Places (NRHP). There are nine sites that are within the indirect APE (three mile radius of the Proposed Action area) that are considered eligible to the NRHP for this Proposed Action. These nine sites would not be further affected visually due to the prior existence and impacts from the current landfill facility and US-95.

The BLM has undertaken consultation with local Tribes that may attach religious and/or cultural significance to historic properties that may be affected by the Proposed Action. Should any mitigation plans be prepared the appropriate Tribes would be

requested to review and provide comments for these sites potentially affected by the Proposed Action.

Under the Proposed Action, no eligible cultural resource sites would be present within the proposed project area. One eligible cultural resource site is located outside the proposed project area and within the 15 meter buffer around the Proposed Action within the direct APE. This site can be avoided during construction since it is outside the Proposed Action area. Nine eligible sites would be within a three mile radius of the Proposed Action and may be affected visually as a result of this project.

4.2.2. No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that would be developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements would be not known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Under the No Action Alternative, the proposed project would not be constructed and no additional impacts to cultural resources would occur as a result of this project. There would be no additional impacts to cultural resources whether the current facility remains open or ceases operation due to reaching its capacity. No eligible cultural resources would be located in the proposed project area.

4.3. Fish and Wildlife Excluding Federally Listed Species

4.3.1. Proposed Action

Wildlife species, including sensitive species, would be displaced as lands would be disturbed within the proposed project area. The primary direct impacts of the project on wildlife would be killing and maiming of ground dwelling animals and less mobile species (such as reptiles) during construction, operation and/or maintenance activities, displacement of individuals, the permanent loss and fragmentation of habitat, and increased potential for harassment of wildlife. Indirect impacts may include noise, increase erosion, and spread of weeds by the construction, operation and/or maintenance activities. Additional impacts associated with mortality from vehicular traffic may also be realized upon the completion of construction and subsequent use of the proposed project area. Indirect effects may include habitat fragmentation and disruption of normal activity patterns. With the proposed project any number of the species listed in Section 3.5.1 could be displaced, injured, or killed during the construction phase. The Proposed Action would result in disturbance of the entire 400 acre expansion area containing desert habitat. The loss of some individuals and/or their habitat would have a negligible impact on populations of the species throughout the region. Impacts to BLM sensitive species would not be anticipated to lead to further decline of the species range wide, as the total disturbance for this project is 400 acres. Displacement of wildlife is inevitable and the focus should be avoiding injury or death in the proposed project area. Inactive burrows for kit fox, burrowing owls, and other species would be collapsed during the desert tortoise clearance survey to discourage and protect species. Fencing (including desert tortoise exclusion fence) around the proposed project area could potentially deter some animals from entering.

Hazardous wastes are poisonous byproducts of manufacturing, farming, city septic systems, construction, automotive garages, laboratories, hospitals, and other industries or households. This non-hazardous and hazardous waste can harm animals if they encounter these toxins buried in the ground, in stream runoff, in groundwater that supplies drinking water, or in floodwaters. While some chemicals may be harmless, others can cause damage, such as chemicals that persist in the environment, accumulate in the bodies of wildlife and contribute to decline in health. The proposed project has detection monitoring wells in place and would install additional detection monitoring wells around the proposed expansion. These detection monitoring wells would be there for preventative measures. If a leak or spill did occur, proper protocol and reporting would be followed. The entire 480 acre (proposed project 400 acres and current facility 80 acres) would be completely fenced keeping most species out of the proposed project area. See section 2.3. and 3.15. for more details.

Litter can be very harmful to wildlife, such as broken glass that can cut the feet of foxes, coyotes, or badgers. Unbroken bottles present a hazard to various lizards, which often crawl inside bottles or cans to bask in the warm interior or to seek protection or search for food, but may find it difficult to squeeze out again and can die of overheating (Barbalace 1999). Small mammals in search of food often get their heads caught in the

jar openings. Litter also attracts wildlife as a food source. Foxes and coyotes can thrive off human garbage that contains food items, which may interfere with digestion, make the animals sick, or cause them to become dependent on these food sources.

Fence surrounding the proposed project should offer some protection to wildlife in the local area from accessing non-hazardous and hazardous waste in the proposed project area, but it is expected wildlife in the area may be impacted by the activities occurring at the facility. These impacts would be minor relative to the wildlife populations and habitat in the surrounding desert. Wildlife species in the general area are common and widely distributed throughout the area and the loss of some individuals and/or their habitat should have a negligible impact on populations of the species range wide. Impacts to BLM Sensitive Species would not be anticipated to lead to further decline of the species range wide. Any impacts to BLM Sensitive Species would be minimized through project specific stipulations. Additional mitigation measures and best management practices (BMPs) for the wildlife, including BLM sensitive species, can be found in Section 6.3 Fish and Wildlife Excluding Federally Listed Species.

4.3.2. No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that would be developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements would not be known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Under this alternative there would be no further impacts to wildlife species as the facility would not be expanded into the 400 acre buffer area. When the current facility

closes once it reaches capacity, then there would be less activity in the area leading to fewer impacts to wildlife species. The closing process of the current facility could have a negative impact during the closing process with the capping of the waste disposal areas and other possible activities associated with closing. These details, however, would not be known until the closing process is coordinated with the NDEP/EPA and the NRC and all requirements would be known for the closing process to occur.

4.4. Floodplains

4.4.1. Proposed Action

The Proposed Action has the potential of affecting the floodplains associated with the 100-year flood zone identified by FEMA. Should the floodplain area be developed, it would affect the floodplain characteristics at the Proposed Action and surrounding area. The potential of flooding into a disposal area would also be present without adequate protection (e.g. diversion channels and berms) from flooding. Flooding in a disposal area could affect water quality as it flows out of the area towards its destination. No development associated with the proposed project would occur in the flood zone.

4.4.2. No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that would be developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements would not be known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Under the No Action Alternative, the proposed project would not be constructed and no additional impacts to floodplains would occur as a result of this project. There would be no impact to the floodplains whether the current facility remains open or closes once it reaches capacity. There are no flood zones present at the current facility.

4.5. Geology/Mineral Resources

4.5.1. Proposed Action

The proposed project would produce excess mineral materials, at least temporarily. These mineral materials would need to be used within the R&PP Patent area, stockpiled within the R&PP conveyance land for future use at this or another location or disposed of in accordance with the regulations found at 43 CFR 3600 in the form of a contract, free use permit or material site ROW before the materials can be removed from the right-of-way. If mineral materials are to be excavated and stockpiled within the proposed project area for future use, the materials must be obtained by the user, including the patentee, in accordance with the regulations found at 43 CFR 3600 or under the Federal Aid to Highways Act in the form of a contract, free use permit or material site ROW before the materials can be excavated and reused.

If a contract, free use permit, or material site ROW is necessary for the export of excess mineral materials or the import of federally owned mineral materials, the BLM would issue the required contract, free use permit, or material site ROW so long as it falls within the associated R&PP conveyance land.

4.5.2. No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that are developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements are not known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste

(non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin coordination with NDEP/EPA and the NRC to develop a closure scenario that would include the details, needs, and requirements needed for such an event. Details of the process of the closing, continued monitoring, security, and other items associated with maintaining the closed site would not be known until the closing process is coordinated with the NDEP/EPA and the NRC and all requirements are known for the closing to proceed while applying the requirements specified. Under the no action alternative, the continued R&PP lease would need to allow for mineral development as the spoils from the NDSL land now stockpiled on the leased land would need to be used to cap the disposal areas located at the current NDSL facility. What remains of the stockpile could be contoured and remain in place or completely removed after capping based upon BLM guidance.

4.6. Hydrologic Conditions

4.6.1. Proposed Action

The Proposed Action has the potential of causing further environmental effects on the hydrology of the area. The on-going studies have identified and assisted in the proper handling of the material brought to the current non-hazardous and hazardous waste facility. Further disposal of non-hazardous and hazardous waste would always pose some risk to the environment, but with the required disposal standards and water monitoring of today this risk is minimized.

The design of the proposed project insures no non-hazardous and hazardous waste disposal would occur where potential water may come through the area; water diversion channels would be built and maintained to insure that any water drainage in the vicinity is diverted around the entire facility deterring potential water contamination. No non-hazardous and hazardous waste disposal would occur near US-95, power lines, or the USGS research facility. Figure 4.6-1 shows proposed surface water management for the proposed project.

4.6.2. No Action Alternative

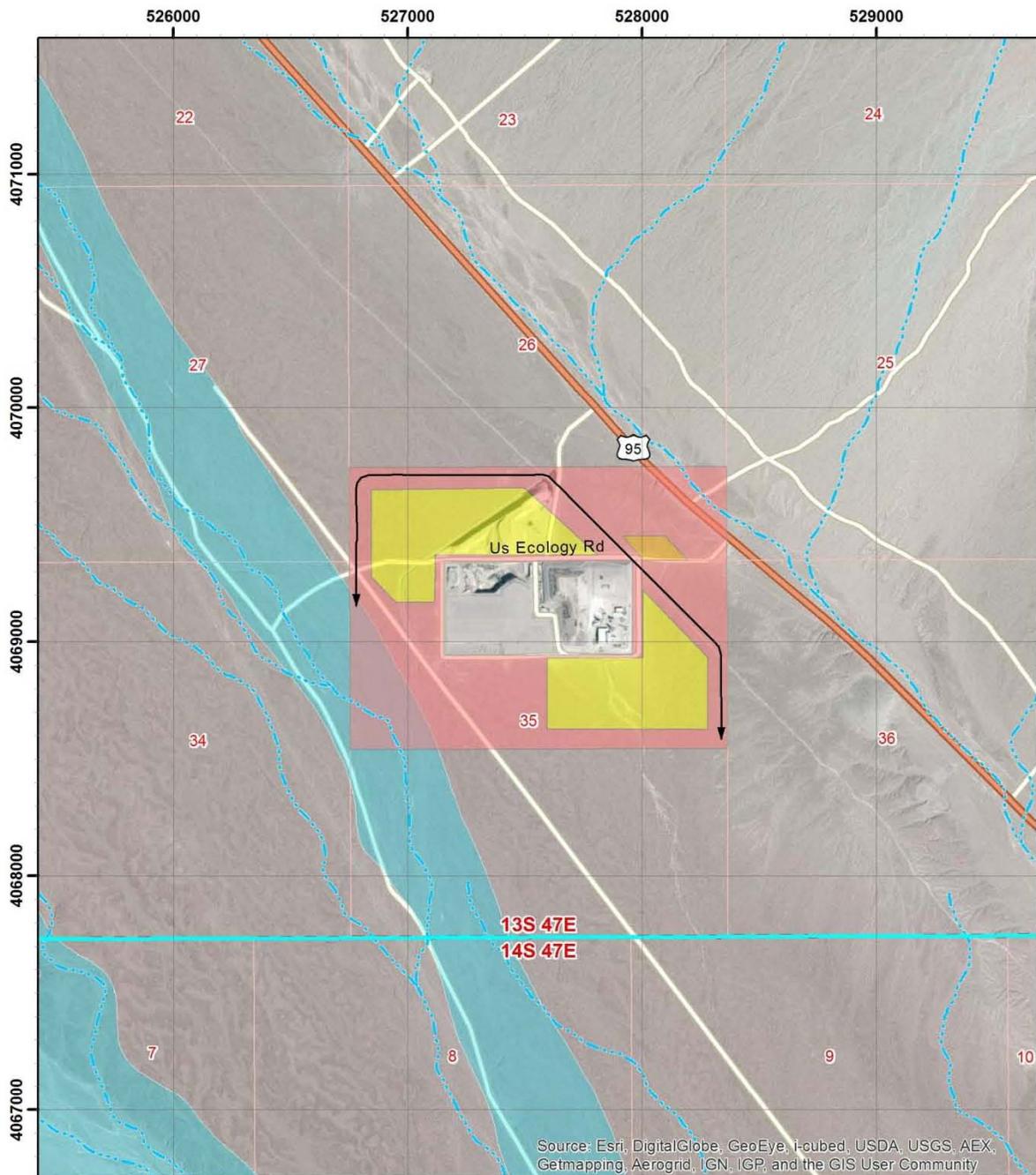
The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that are developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements are not known until the process of

closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Details of the process of the closing, continued monitoring, security, and items associated with maintaining the closed site would not be known until the closing process is coordinated with the NDEP/EPA and the NRC and all requirements are known for the closing to proceed while applying the requirements specified. Under the no action alternative, the project would not be developed so there would be no additional effect on hydrologic conditions other than what is occurring at present.



Map Name Future Waste Management Plan Map		Nevada State Lands Project	Legend Water Diversion Intermittent Flow Administrative Area Buffer Area Proposed Waste Management Area Highways Local Traffic
Map Datum and Coordinate System: NAD 1983 UTM Zone 11N			
Map Date 11/3/2014	Map Author John Ellis, GISP		
Main Map Scale: 0 0.125 0.25 0.5 Miles		N	

Figure 4.6-1 Proposed Surface Water Management

4.7. Vegetation

4.7.1. Proposed Action

Vegetation:

The proposed project would result in the removal of 400 acres of creosote bursage and saltbush scrub vegetation. Expansion of the landfill would result in direct disturbance of native vegetation and the ecosystem services and beneficial uses it provides. Expansion of the facility could indirectly impact the quality of adjacent native vegetation by affecting seed production, dispersal and landscape connectivity of native plant species which could affect the ability of native plant communities to recover from future disturbance (such as OHV activity or fire). BLM special status plant species are not present; therefore, there would be no direct or indirect impacts to BLM special status plant species.

Woodlands and Forestry:

The Proposed Action would result in the loss of 400 acres within the Amargosa desert seed collection area. This could directly affect the ability of BLM to issue future seed collection contracts to native seed collectors. The primary native species collected in the area would be creosote bush and bursage because both species are common; the reduction in seed collection area would be minor. Because of the extremely low density of cacti and yucca present, the project area is not valuable as a salvage area for cactus and yucca. Impacts of the Proposed Action on the BLM forestry program would be negligible. For the purposes of this project the salvage of cactus and yucca is not necessary. Any cactus and yucca present would be transferred to the State of Nevada when the lands would be patented.

Noxious Weeds and Invasive, Non-Native Species:

Nevada designated weed species were not observed during the botanical survey, though a chance for introduction of weeds still exists. Due to the large footprint, volume of vehicle and equipment traffic, and soil disturbance there is a considerable risk of introducing invasive or noxious species. Non-native grasses would be a main focus to avoid due to their interference with the Mojave Desert ecosystem. The increase in non-native grasses, especially cheat grass (*Bromus tectorum*), raises the probability of wildfires and loss of natural resources. The spread of non-native grasses commonly occurs due to vehicles collecting seeds along roads and highways then transferring them to new areas.

To avoid the potential for establishment of invasive or noxious plant species and the potential impacts that could result on adjacent BLM lands, the project proponent would adhere to the State of Nevada invasive and noxious weed program which would be managed by NDEP under licensing.

4.7.2. No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that are developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements are not known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Vegetation:

Under the no action alternative there would be no new ground disturbance in the additional 400 acre area. There would be no change in current conditions.

Woodlands and Forestry:

Under the no action alternative there would be no new ground disturbance in the additional 400 acre area. There would be no change in current conditions.

Noxious Weeds and Invasive, Non-Native Species:

Under the no action alternative there would be no new ground disturbance in the additional 400 acre area. Therefore, the risk of infestation or spread of noxious weeds would remain the same as under current conditions in the pre-existing 80 acres. There would be no change to current conditions while the current facility is open; however once that facility closes when it reaches capacity, there would be less traffic through the area making the introduction of invasive species less likely.

4.8. Lands/Access

4.8.1. Proposed Action

With the addition of the landfill disposal within the added 400 acre area, the combined site would continue to be operated as the original 80 acre site has been historically. The existing access road from US-95 into the current facility would continue to be used for the proposed project. There would be no immediate plans to develop disposal operations on the small part of the 400 acre area situated to the northeast of US-95 (approximately 12 acres). However, future expansion of the site may require development of this parcel for relocated administrative, security, or parking areas. If facilities would be located on the northeast of US-95 on proposed project land, an NDOT encroachment permit would be needed. The NDOT right-of-way would be excepted and reserved in the patent, so those lands cannot be utilized by NDSL without BLM and NDOT permission. No additional access ROWs would be anticipated.

All uses associated with the landfill disposal operation would be confined to the combined 480 acre site, including all highway access, utilities, fencing, surface disturbance, monitoring wells, air monitoring, and other uses. Impacts to the 400 acre expansion area would result in creation of new access roads and surface disturbance, but no additional need for adjacent public lands would be anticipated at this time. The combined 480 acre site would be a self-contained operation, and all hazardous wastes or materials would be confined inside the fenced and controlled operational areas. Any unintentional leaks, spills, or other accidents have the potential to place toxins in the air, soil, and/or water which could possibly cause danger to the human and ecological environment. The public would be excluded from the site for their safety through signage, fencing, and 24-hour presence of State or USEN staff.

4.8.2. No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that are developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements are not known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Details of the process of the closing, continued monitoring, security, and other items associated with maintaining the closed site would not be known until the closing process is coordinated with the NDEP/EPA and the NRC and all requirements are known for the closing to proceed while applying the requirements specified. Under the no action alternative there would be no new land use. There would be no change to current conditions while the current facility is open; however once that facility closes when it reaches capacity, the requirements and guidelines from the NDEP/EPA and NRC would apply which are not presently known. The continued R&PP lease for the Proposed Action area would need to remain in place for continued monitoring and reporting of the current facility, even after the closure was complete.

4.9. Migratory Birds

4.9.1. Proposed Action

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et. seq.) protects migratory birds and their nests (nests with eggs or young). Destruction of breeding or nesting migratory birds results in a violation of the MBTA. Under the MBTA, active nests of migratory birds may not be harmed, nor may migratory birds be killed.

Operational decisions such as lighting and any associated light poles that could create perches, roosting, and/or nesting opportunities for avian predators would not occur until the second phase of consultation and permitting through the EPA and NDEP. Should these types of items be necessary, the design would include elements to deter the use of these for perches, roost area, or nesting using the BMPs recommended.

Migratory birds could be injured or killed during vegetation removal and grading activities. Adult birds may be able to flee the area; however, during migratory bird nesting season, eggs and juvenile birds that would be confined to nests may be killed. During the proposed expansion, migratory birds may be displaced by habitat removal and/or noise disturbance during construction, operation and/or maintenance activities, but this should be minor relative to habitat surrounding the project and the amount of habitat within the action area. Habitat within the proposed project would be completely lost over time as development progresses. The development of the proposed non-hazardous and hazardous waste disposal expansion would occur in phases as expansion

is needed. Migratory birds, including the BLM sensitive species and their nests, may be present on and around the project site. Impacts to BLM sensitive species would not be anticipated to lead to further decline of the species range wide. Any impacts to BLM sensitive species would be minimized through project specific stipulations. Additional mitigation measures and best management practices (BMPs) for the migratory birds can be found in Section 6.8 Migratory birds.

4.9.2 No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that are developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements are not known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Details of the process of the closing, continued monitoring, security, and other items associated with maintaining the closed site would not be known until the closing process is coordinated with the NDEP/EPA and the NRC and all requirements are known for the closing to proceed while applying the requirements specified. Under the no action alternative there would be no new ground disturbance. There would be no change to current conditions while the current facility is open; however once that facility closes when it reaches capacity, the requirements and guidelines from the NDEP/EPA and NRC would apply which are not presently known. There would be no further impacts to migratory birds as the facility would not be expanded into the 400 acre buffer area. When the current facility closes once it reaches capacity, then there would be less activity in the area leading to fewer impacts to migratory birds. The closing process of the current facility could have a negative impact during the closing

process with the capping of the waste disposal areas and other possible activities associated with closing. These details, however, would not be known until the closing process is coordinated with the NDEP/EPA and the NRC and all requirements are known for the closing process to occur.

4.10. Soils

4.10.1. Proposed Action

The Proposed Action would impact the soils in the form of permanent alteration within the 400 acres of land for excavation of trenches, construction of access roads, monitoring wells and other facilities. The removal or disturbance of soil would result in a permanent modification to the soil structure. With the occurrence of ground disturbance within the proposed project area there is potential for wind and water erosion to occur.

To minimize erosion from storm water runoff, disposal cells/trenches would be bounded by diversion ditches, approved by NDEP, and would prevent water from flowing over or out of disposal cells or treatment onto adjacent lands. The existing access road from US-95 and all interior operational and service roads would continue to include adequate drainage ditches and runoff berms. Shallow berms and ditches would protect facilities and prevent runoff from any disposal cell or non-hazardous and hazardous waste storage area. Storm water is currently handled using on-site drainage ditches and existing natural water courses and slopes.

Currently, a storm water diversion structure intercepts potential surface-water flowing toward the facility (originating from a conservative design storm) from west and north of the USEN facility and diverts flow around the facility on the western side. It is possible if areas would be developed north of the current operation, the existing storm channel would need relocating. Therefore, a proposed channel would be constructed in the north central portion of the buffer zone and would wrap around the buffer's perimeter. See Figure 4.5-1 in Section 4.5 for proposed surface water management.

Due to the low annual precipitation (3-5 inches) and permeable, well drained soils, there is adequate natural drainage in the proposed project area as reflected in the engineering design. In addition to shallow berms, ditches, and storm water diversion channels, soil erosion and runoff would be controlled by ensuring access roads and work areas would be maintained consistent with best management practices such as ensuring work only occurs within the designated work areas and restoring temporary disturbance areas upon project completion.

The Proposed Action would permanently disturb the soils within the 400 acre proposed area that includes areas of development and the buffer area. There has been moderate disturbance in the 400 acres due to off road vehicles and use by USEN and USGS. The soils present in the proposed project area are present in the surrounding area in abundance which should result in an insignificant impact to the overall habitat. The

soils in the remaining buffer area can potentially support plant growth, rodent burrowing, and other ecological processes that would allow the area to function while expansion occurs.

4.10.2. No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that are developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements are not known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Details of the process of the closing, continued monitoring, security, and other items associated with maintaining the closed site would not be known until the closing process is coordinated with the NDEP/EPA and the NRC and all requirements are known for the closing to proceed while applying the requirements specified. There would be no change to current conditions while the current facility is open; however once that facility closes when it reaches capacity, the requirements and guidelines from the NDEP/EPA and NRC would apply which are not presently known. The need for the current R&PP lease would continue and would need to allow for mineral development as the spoils from the NDSL land now stockpiled on the leased land would need to be used to cap the disposal areas located at the current NDSL facility. What remains of the stockpile could be contoured and remain in place or completely removed after capping based upon BLM guidance.

4.11. Threatened, Endangered or Candidate Animal Species

4.11.1. Proposed Action

The proposed project would be in compliance with section 7 of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531 et seq.) for consultation with the USFWS on effects to federally listed species. The above action has a “may affect, likely to adversely affect” determination for the threatened desert tortoise and a “no effect” for its critical habitat. Although desert tortoises have not been found in the proposed project area, since there is undisturbed habitat within and adjacent to the project site and burrows within the project site, there is potential for tortoises to be present in the proposed project area. If not noticed and avoided during construction and maintenance activities, desert tortoises could be either injured or killed (by crushing) or harassed (by being moved out of harm’s way).

Direct effects to the desert tortoise would be the risk of a “take”, (which means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct); during construction and future use of the site. The primary direct impacts of the Proposed Action on federally protected species would be killing or maiming of ground dwelling animals during construction, operation, and/or maintenance activities, displacement of individuals, the permanent loss and fragmentation of habitat, and increased potential for harassment of federally protected species. Death or injury would result if a tortoise is crushed by a piece of heavy equipment or service vehicle during construction. Tortoises could also take refuge under parked vehicles during construction activities, and be killed or injured when the vehicle or heavy equipment is moved. Any open excavations or open pipes on the project could become a trap for desert tortoises resulting in mortality or injury. Noise and ground vibrations from construction equipment may also disturb desert tortoises in the surrounding area.

The proposed project would result in the loss of 400 acres of suitable desert tortoise habitat, of which an estimated 250 acres would be used as disposal cells/trenches, while the remaining 150 acres would be used for security, public safety and to secure EPA required monitoring and buffer space. Permanent loss of habitat results from destruction of vegetation that desert tortoises use for forage and cover. Excavation activities during project construction would disturb and compact the soils in which desert tortoise burrows are constructed. Any desert tortoise burrows located directly in the construction impact area would be destroyed and any potential desert tortoises occupying them would be permanently displaced. The burrows could also be nesting sites for desert tortoises, resulting in disruption of desert tortoise reproduction. The 400 acres would be fenced and developed resulting in some minor fragmentation of habitat, however the surrounding habitat would remain available resulting in minor displacement of tortoises that may have inhabited the 400 acres.

One main focus for success of the Desert Tortoise Recovery Plan (USFWS 2011) is to maintain functional connectivity between critical habitats located within the recovery

units. Connectivity helps to maintain gene flow between isolated populations resulting in maintenance of diversity. Connective corridors are essential for low mobility species such as the Mojave desert tortoise since it may take an extended period of time for an individual to pass through. The Proposed Action would result in a 400 acre loss of potential desert tortoise habitat. However the location of the Proposed Action does not occur within a critical habitat unit for the desert tortoise; nor does it interfere with current proposed low cost connectivity corridors (Averill-Murray et al. 2013). The proposed project is in an area of low potential habitat for desert tortoise and an unlikely connective corridor. With the expansion of the 400 acres there is minimal negative effects to the desert tortoise population and does not conflict with the Desert Tortoise Recovery Plan.

Hazardous wastes such as poisonous byproducts of manufacturing, farming, city septic systems, construction, automotive garages, laboratories, hospitals, and other industries or households could also harm desert tortoises if they were to be exposed. These chemicals could cause damage by accumulating in their bodies from the environment and contributing to decline in health (National Geographic Society 1999-2014). Solid litter could also be harmful to tortoises. Broken glass could cut the feet of tortoises resulting in injury that could expose them to death or contribute to predation (Barbalace 1999). Other forms of solid non-hazardous and hazardous waste could result in entrapment of tortoises, such as a limb getting tangled up in the waste, or make tortoises sick if ingested.

Indirect impacts may include noise, increased erosion, and spread of weeds by the construction, operation, and/or maintenance activities. Indirect effects to the desert tortoise would be the risk of death, injury, or collection of any tortoise populations inhabiting the surrounding area during the construction period and future use of the site. It is documented that desert tortoise habitat exists in the surrounding desert. There is the possibility that tortoises may wander onto the proposed project area during construction and future use of the area. Injuries or losses of desert tortoises may result from accidental human encounters, collection of tortoises for pets, encounters with domestic pets, and accidental encounters with maintenance workers and activities in the area. These types of encounters would be particularly likely near the US-95 highway and project access roads where there is no existing tortoise exclusion fence. An example of this would be the result of “take” of desert tortoise due to vehicles crushing animals on the R&PP conveyance land or as a result of desert tortoises taking refuge under parked vehicles. Litter serves as a food source for predators such as foxes, coyotes, and ravens which can thrive off human garbage that contains food items. Food generated litter would come from the motorists littering along the highway or from workers in the area. These predators could be drawn to the proposed project area by the presence of this litter resulting in increased predation on desert tortoises in the area surrounding the project.

The landfill only handles solid hazardous waste, no municipal or bio mass waste of any kind is taken in, handled, processed, or deposited at this facility. The waste is not an attractant for predators such as coyotes, foxes, or ravens. NDEP sets specific standards

for landfills in Nevada that prevent raven attraction as well. The current facility permit has these standards and any new permit would also include these deterrents.

Fence, including desert tortoise exclusion fencing, surrounding the entire proposed project offers protection to desert tortoises in the local area from accessing the proposed project area. Clearance of the project area and tortoise fencing of the entire facility would prevent tortoises from wandering in and being injured or killed by the project's construction or operation and reduce the risk of exposure to non-hazardous and hazardous waste.

The proposed R&PP land conveyance consists of more than 20 acres and therefore requires formal consultation with the Fish and Wildlife Service (USFWS) and must be appended to the Southern Nevada District Office Programmatic biological opinion for the federal action of land conveyance. Section 7 Consultation for this project would be covered under the BLM's Programmatic Biological Opinion (84320-2010-F-0365.R003) contingent on compliance with the terms and conditions. This project would disturb a total of 299.3 acres of undisturbed (including 8 acres previously disturbed) tortoise habitat (see Table 2.2-1). The proponent would be required to pay remuneration fees of \$250,214.80 based on the current year's rate of \$836/acre of disturbance, subject to increase after March 1, 2015. Terms and conditions and minimization measures in the above Biological Opinion contain measures to avoid and minimize potential impacts, including take, to desert tortoise. A copy of the terms and conditions would be provided once consultation is complete (NV-052-15-028). The BLM would work with the USFWS to determine roles and responsibilities of the parties involved and would be included in the biological opinion. Once the land conveyance occurs, and land is no longer under the ownership of the BLM, the section 7 lead and oversight for the Proposed Action would be under the USEPA for the federal permit connected to the Proposed Action. Additional recommended mitigation measures and BMPs to protect the desert tortoise are outlined in Section 6.10.

4.11.2 No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that are developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements are not known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Details of the process of the closing, continued monitoring, security, and other items associated with maintaining the closed site would not be known until the closing process is coordinated with the NDEP/EPA and the NRC and all requirements are known for the closing to proceed while applying the requirements specified. Under the no action alternative there would be no new ground disturbance. There would be no change to current conditions while the current facility is open; however once that facility closes when it reaches capacity, the requirements and guidelines from the NDEP/EPA and NRC would apply which are not presently known. After the facility is closed, there would be less traffic coming into the current facility since no more waste-laden trucks would enter the area. Less traffic could have a smaller impact on desert tortoises or habitat near the area.

4.12. Wastes (hazardous or solid)

4.12.1. Proposed Action

Hazardous materials being transported and stored on the proposed project could have an impact on air, water, soil, and biological resources in the area as a result of an accidental release. Prior to the acceptance and disposal of all non-hazardous and hazardous wastes at the 480 acre landfill site, all regulatory compliance requirements, including licensing, permitting, etc. would be met in accordance with Federal, State, and Local agencies, with jurisdiction. This reduces environmental impacts, ensuring all non-hazardous and hazardous wastes would be transported, handled, stored, and disposed of according to regulatory requirements. The NDEP is an independent State agency with authority delegated from EPA to regulate non-hazardous and hazardous waste management disposal within Nevada. In addition, the U.S. Army Corps of Engineers, NDOT, OSHA, the Nevada State Engineer and others have various regulatory roles. The NDSL and its operator would work with these agencies to ensure the facility is in compliance with non-hazardous and hazardous waste management.

4.12.2. No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and

conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that are developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements are not known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Details of the process of the closing, continued monitoring, security, and other items associated with maintaining the closed site would not be known until the closing process is coordinated with the NDEP/EPA and the NRC and all requirements are known for the closing to proceed while applying the requirements specified. There would be no change to current conditions while the current facility is open; however once that facility closes when it reaches capacity, the requirements and guidelines from the NDEP/EPA and NRC would apply which are not presently known. The NDSL would be responsible for containing, maintaining, monitoring, security, and any other closure items under the guidance and regulations of the NDEP/EPA and the NRC. Any contamination that may have occurred on BLM land would fall onto the BLM to remedy.

4.13. Water Resources/Quality (drinking/surface/ground)

4.13.1. Proposed Action

Surface water and groundwater quality effects would be denoted by changes in the measured water quality parameters. The potential hydrological effects can be measured by any differences in quality and normal flow movement resulting from activities in the proposed project. Erosion, drainage pattern, and channel morphology changes would also suggest changes in the physical hydrology of the water which can affect water resources/quality.

Disturbance of the ground surface has the potential to affect surface water quality from an increase in sedimentation and runoff. Erosion would be more likely to occur where the ground surface has been disturbed and/or stripped of vegetation, which could cause increased sediment in surface water during runoff events. Runoff can pick up substances that would be considered detrimental to the quality of the surface water including, but not limited to, salts, chemicals, metal, and organic materials that can be carried with the sediment to the surface water. Accidental spills of hazardous substances also have the potential to affect surface water and groundwater.

There is no permanent surface water located at the proposed project site, but there is a 100 year flood zone located in the southwest corner along with an intermittent drainage. Another intermittent drainage is located on the extreme northeast corner of the proposed project across US-95.

The total disturbance resulting from the construction of the proposed project would be less than 400 acres as the flood zone and intermittent drainage areas would be planned to remain undeveloped. There is no permanent surface water present in the proposed project area. The two intermittent drainage areas that cross the proposed project would not have planned disposal development in those areas. One of these intermittent drainages is also located in a 100 year flood zone that crosses the proposed project in the far southwest corner. The other is located in the extreme northeast corner of the proposed project where there would be no plans for development of any disposal areas.

The Proposed Action could have an effect on the groundwater in the proposed project vicinity due to the nature of non-hazardous and hazardous waste disposal if it is not handled and managed adequately. The existing disposal facility has continued to upgrade their disposal methods and introduce new ways of determining potential dangers in conjunction with the USGS research facility located on the Proposed Action lands. Consistent and continual monitoring along with standards regulated by the NDEP and EPA keep these potential dangers monitored and regulated at the current facility and this would continue with the proposed project expansion of that facility. Cutting edge research by the USGS ADRS is continually researching the existing disposal facility and working together to improve all aspects of disposal practices to insure the best practices would be in place for the facility.

Of concern with water quality is a liquid release from one of the disposal trenches, that could release contaminants into the vadose zone and ultimately into the groundwater. It was determined that groundwater contamination was occurring at the existing disposal facility. This was discovered from the monitoring wells in place. The contamination occurred by the soil vapor contamination from an existing disposal area. Corrective action was put in place that extracts soil vapors with the installation of a soil vapor extraction well. The air is extracted, and the moisture is condensed and removed, then the remaining air is cleaned with a set of activated carbon canisters before release. The vadose zone (unsaturated zone between ground level and groundwater or saturated zone) is important to monitor because this is the area that any contaminants must pass through in order to make it to the groundwater. In addition, USEN has installed a way

to introduce oxygen to the vadose zone to promote degradation of the contaminants (US Ecology 2014b).

4.13.2. No Action Alternative

The No Action Alternative means the segregation and subsequent conveyance of the leased land to the NDSL would not occur. Without the proposed patent and conveyance, the expansion of the non-hazardous and hazardous waste facilities would not occur and no future non-hazardous and hazardous waste disposal could occur at the site location. The current site would have to be closed once it reaches capacity. Closing the current facility would include a final cap on the disposal area that addresses surface drainage, monitoring, and security that are developed specifically for each facility by the EPA/NDEP and, in this case, the Nuclear Regulatory Commission (NRC). The EPA/NDEP and NRC requirements are not known until the process of closing the site occurs and the EPA/NDEP and NRC begin their closure requirement process. The current R&PP lease expires June 19, 2015. A lease renewal would be needed if the Proposed Action is not approved to insure proper monitoring and continued safety at the current facility in perpetuity.

The Proposed Action area, which is currently the leased buffer zone, would continue to be needed for permanent security and monitoring of the closed radioactive waste site (per the Nuclear Regulatory Commission), permanent security and public access exclusion of the remainder of the RCRA Subtitle C non-hazardous and hazardous waste (non-radioactive) disposal cells, and for continuing surface and groundwater monitoring for the overall site per NDEP and EPA requirements.

In order to close the current facility the NDSL would have to begin to coordinate with NDEP/EPA and the NRC to put in place a closure scenario that would include the details, needs, and requirements needed for such an event.

Details of the process of the closing, continued monitoring, security, and other items associated with maintaining the closed site would not be known until the closing process is coordinated with the NDEP/EPA and the NRC and all requirements are known for the closing to proceed while applying the requirements specified. Under the no action alternative there would be no new ground disturbance in the additional 400 acre Proposed Action area. There would be no change to current conditions while the current facility is open; however once that facility closes when it reaches capacity, the requirements and guidelines from the NDEP/EPA and NRC would apply which are not presently known. There would be no change to the effects on water resources than what is currently present under this alternative.

5.0. CUMULATIVE IMPACTS

Cumulative impacts consist of past, present, and future actions that could have a cumulative effect when combined with the Proposed Action. Past actions are those that are presently existing, present actions are considered to be those occurring at the time of this evaluation, and

future actions are those that are in planning stages with a reasonable expectation of occurring in the near future.

The geographic area for the cumulative effects analysis is the area within a one mile radius of the Proposed Action for most resources. The geographic area was chosen to capture the majority of cumulative uses in the nearby area. Existing and pending uses within the geographic area include highway development, mining, and utilities associated with telephone, power and data transmission. Specific resources (i.e. Cultural Resources), with different cumulative effects analysis as a result of a different geographic scope, are noted in their specific sections.

Past and current actions surrounding the proposed project area include recreation such as truck/buggy/motorcycle events, mining, transportation and utility development. There would be several existing land users and ROW's issued by BLM to third-party users within the Proposed Action area. The land users within the Proposed Action include:

- State of Nevada, for U.S. Highway 95 (pursuant to Title 23 U.S.C.)
- U.S. Ecology Nevada, for the existing administrative site.
- Valley Electric Association, for electric transmission and distribution lines.
- Nevada Bell/AT&T, for wire and fiber optic communication lines.
- Nevada Hospital Association, for fiber optic communication lines.
- USGS, for monitoring wells and a monitoring facility.
- BLM Amargosa Solar Energy Zone (SEZ) – and foreseeable future renewable energy actions within the zone
- Historic Railroads
- Mining activities that are current (i.e. Sterling Mine, Cind-R-Block Co.), historic (Carrara Mine), and any mining activities that may occur in the future

The cumulative impacts of additional developments, existing actions, and past actions all could have impacts on resources. Many actions have already occurred and it is possible these actions could result in future development as a result of upgrades or maintenance on lands near the proposed project area. New activities could include mining, development of the SEZ, or any other developments approved in the area.

The land adjacent to the Proposed Action is managed by the BLM and there is no private land in the immediate vicinity. The closest private land is located approximately 3.25 miles to the north of the Proposed Action. The next closest parcels to the Proposed Action not managed by the BLM include three private land parcels approximately 7, 10.25, and 12.25 miles away, Department of Defense land approximately 8.75 miles away and Department of Energy land approximately 13 miles away. Any future actions near the Proposed Action would need to be approved by the BLM.

The Amargosa Valley SEZ is located to the south and southeast of the Proposed Action and its developable area is 8,479 acres. This area has the potential of being fully developed, as solar facilities, in the future. Currently, BLM is processing at least two solar energy development projects within the SEZ and expects continued public interest in renewable energy development in the zone. As a result of development, cumulative impacts to some resources, from solar development projects, could increase.

5.1. Air Quality

The Proposed Action and all of the past and future actions included in the cumulative impacts area would be regulated by the NDEP/EPA as part of licensing for these actions which includes a Surface Area Disturbance Permit that would outline specific measures for regulating dust during operations. Fugitive emissions from construction activities would be temporary in nature and would not create any lasting impacts to the environment. All heavy equipment used during the construction phase of the Proposed Action would be in compliance with current smog control regulations and would meet all state required emissions standards for the construction industry. Fugitive dust from soil disturbing activities would be minor and would be reduced in accordance with all dust control plan and permit stipulations for the duration of the project. Best management practices (BMPs) to mitigate fugitive emissions from the project site would be implemented and enforced during work and non-work hours, including weekends.

Past and present actions in the area that contribute to the existing air quality conditions include the construction and maintenance of transportation and utility facilities, and mining activities. Most of the dust generated during these actions has been temporary and minor in nature, however combined with the Proposed Action there would continue to be contributions to air emissions from heavy equipment and vehicles in the form of dust and exhaust as the facility continues to operate. These emissions combined with present and foreseeable future actions would be expected to be minimal and relative to NAAQs would be negligible and not approach thresholds. In general, emissions from individual point sources may vary from year to year, but they would not be anticipated to change considerably unless major modifications are made. Moreover, fugitive emissions from all sources require management through best management practices (BMPs), thus notably reducing cumulative impacts in the region.

The non-hazardous and hazardous waste emissions could include volatile organic compounds (VOCs), carbon emissions, and possible precursors to ozone. All emissions from the waste is monitored and regulated by the NDEP/EPA through their permitting of the non-hazardous and hazardous waste facility. This monitoring would continue in perpetuity as part of the NDEP/EPA permitting process.

Climate change, in general, is a cumulative process across the earth as a whole and therefore its scope is global. Currently GHG emissions are attributed as the likely main source for climate change due to the release of these gases into the atmosphere by the increased use of fossil fuels among other things caused by the industrialization of our

society over the last few hundred years (See Section 3.3. for more details). Climate change involves the general warming of the earth's surface causing the melting of ice sheets, rising of ocean levels, and extreme storms as a few examples. There is no defensible method for predicting potential climate change contributions from GHG emissions during the construction and operation of the proposed project. Currently no emission limit is present for suspected GHG emission for the proposed project, but there are, and would continue to be, several efforts made to address GHG emissions from the NDEP/EPA permitting requirement.

5.2. Cultural Resources

The direct cumulative impact analysis area (CIAA) for cultural resources is defined as the proposed project area with a 15 meter buffer (direct APE) and the indirect CIAA is defined as the three mile radius around the Proposed Action. This three mile radius is determined by the BLM. Disturbance and/or loss of other unidentified sites or artifacts resulting from the implementation of the proposed project, when added to other existing and/or reasonably foreseeable actions, could add to the cumulative loss of information about our heritage in the analysis area and in the region if these sites and resources are not identified and inventoried prior to disturbance. Any loss or damage to unidentified cultural or historical sites or resources associated with the Proposed Action would be substantial. However, such losses would not be expected because mitigation measures would be implemented.

5.3. Fish and Wildlife Excluding Federally Listed Species

Past, present, and future actions near the Proposed Action have or would result in the death or displacement of wildlife and disturb habitat for these species. While the Proposed Action would have negligible impacts on populations of wildlife species in the general area because they are common and widely distributed, the action combined with other actions would result in cumulative loss of wildlife and habitat. However, since these species are common, the cumulative effects would be negligible compared to populations of the species throughout the region. The loss of 400 acres along with approximately 67 acres of current ROWs within one mile of the Proposed Action totals a cumulative loss of approximately 467 acres of habitat. There is a total of approximately 5,520 acres in the one mile around and including the Proposed Action totaling approximately 8.5% habitat loss. These impacts would not be expected to result in further decline of the species wide range as all of these actions would be mitigated to minimize the impacts on these species.

5.4. Floodplains

Cumulative impacts to the floodplains include the possibility of repeated flood events over non-hazardous and hazardous waste disposal areas that can potentially contaminate the floodwaters moving through the area that could ultimately affect the groundwater and soils it flows over. The diversion of floodwaters could possibly change the overall route of the floodwaters through the area as well.

Activities and developments already present include ROW areas for US-95, utilities, and the current disposal facility. Implementation of operator-committed mitigation measures, continued research, monitoring, etc., and those recommended in the Storm Water Pollution Prevention Plan would minimize impacts to the floodplains in the Proposed Action. There would be no development within the approximate 35 acre 100 year flood zone located in the southwestern portion of the proposed project.

5.5. Geology/ Mineral Resources

The potential use of 365 acres (400 acre proposed project minus 35 acres not disturbed because of flood zone) for mineral development out of a total of approximately 5,520 acres in the one mile around and including the Proposed Action totals approximately 6.6% of land potentially used for mineral development. When added to existing and reasonably foreseeable actions, the cumulative impacts to geology and minerals would be minimal, considering all mineral materials would be subject to BLM regulations found at 43 CFR 3600 or under the Federal Aid to Highways Act in the form of a contract, free use permit, or material site ROW before they can be utilized, pursuant to BLM Washington Office (WO) Instruction Memorandum No. 2014-085. Mineral material would be stockpiled for future patentee use or for disposal by the BLM and a free use permit would be part of the Proposed Action.

There is no data to indicate or support specific or unique mineral development. A mineral potential report would be completed to inform the decision maker of mineral potential prior to conveyance and all specific or unique minerals would be retained by the United States.

5.6. Hydrologic Conditions

Cumulative impacts to the hydrologic conditions include the possibility of further contamination of the water (surface and ground) around the vicinity of the Proposed Action. The expansion of the current facility would create an increase of potential risks because of the increased volume of non-hazardous and hazardous waste being present. No permanent surface water is present in the Proposed Action area. The continued monitoring of the water in the area shows that the contamination peaked in the early 1980s and has fallen significantly since that time due to the continued improved methods and standards required for non-hazardous and hazardous waste disposal. The required precautions in place for non-hazardous and hazardous waste disposal minimize the cumulative effects of the Proposed Action.

Activities and developments already present include ROW areas for US-95, utilities, and the current disposal facility. The proposed project is an expansion of the current disposal facility so this could potentially add to the cumulative effects to the hydrology of the area. Implementation of operator-committed mitigation measures, continued research, monitoring etc., and those BMPs recommended in the Storm Water Pollution Prevention Plan would minimize impacts to the hydrology from the Proposed Action.

5.7. Vegetation

Vegetation:

The Proposed Action would result in an incremental addition to current declines in the quality and quantity of creosote-bush and bursage scrub in the Mojave ecoregion. Revegetation of the land fill would stabilize soil and facilitate recovery of native vegetation on the site reducing the cumulative impacts of the proposed project; however, because vegetation recovery rates are slow in the Mojave ecoregion, full recovery would not be expected for many decades.

Woodlands and Forestry:

The Proposed Action would result in an incremental addition to current declines in the ability of BLM to issue native seed collection permits (under the forestry program) for the Amargosa desert seed collection area.

Noxious Weeds and Invasive Non-Native Species:

Best management practices and recommended mitigation measures for controlling the establishment and spread of invasive, non-native species would lessen the impacts of invasive species and noxious weeds as a result of this project combined with past, present and future projects. The projects would have the potential to introduce weeds via transport on vehicles and equipment, and contribute to the removal of native vegetation increasing the susceptibility of the area to establishment of noxious weeds and non-native plant species. Past actions in this area have not caused the introduction of noxious weeds or non-native species to infiltrate the proposed project area. Mitigation measures would be in place to prevent the spread of weeds at present time and future actions would be assessed on a case-by-case basis.

5.8. Lands/Access

The Proposed Action would result in the expansion of the current 80 acre facility to a combined 480 acre site. The action would result in additional access roads and surface disturbance that would exclude the public from the controlled operational area. Additionally, the ROWs and existing facilities under BLM permit within the property would continue to be protected and in place during operations and after conveyance. While the Proposed Action combined with present and foreseeable future actions would have an impact on public lands access and permit holders, these impacts would be expected to be minimal since actions on federal land would be analyzed under separate consultations.

5.9. Migratory Birds

The Proposed Action combined with present and future actions would continue to have an impact on migratory birds. Migratory birds could be injured or killed during vegetation removal and grading activities. Adult birds may be able to flee the area;

however, during migratory bird nesting season, eggs and juvenile birds that would be confined to nests may be killed. The loss of 400 acres along with approximately 67 acres of current ROWs within one mile of the Proposed Action totals a cumulative loss of approximately 467 acres of habitat loss for migratory birds. There is a total of approximately 5,520 acres in the one mile around and including the Proposed Action totaling approximately 8.5% migratory bird habitat loss. Some native plant communities that provide habitat to nesting migratory birds would be eliminated. These impacts could be minimized by employing a biologist to survey for nests and young prior to ground disturbance during bird breeding season or avoiding ground disturbing activities during the nesting season.

5.10. Soils

The Proposed Action combined with past, present, and foreseeable future actions would impact soils in the area. Soil impacts have already occurred on the current 80 acre site from excavation of trenches, monitoring wells, and the construction of roads and facilities. Currently 108.7 acres of the 400 acres has been disturbed (see Table 2.2-1). It is expected that a total of approximately 365 acres of the 400 acres would be disturbed over the lifetime of the proposed project. Approximately 35 acres are located in a 100-year flood zone and would not be developed (See Table 2.2-1 for details). By implementing BMPs such as maintaining disturbance within designated work areas, providing berms, ditches and channels to prevent soil erosion and runoff, and restoration of work areas upon completion of construction these impacts would be minimized. It is anticipated present or foreseeable future actions would be analyzed and permitted under separate consultations and mitigation measures would be implemented to lessen the impacts on soil resources.

5.11. Threatened, Endangered or Candidate Animal Species

The USFWS IPAC Version 1.4 was consulted for Endangered Species Act Listed Species (USFWS 2014). IPAC returned 16 potential threatened, endangered or candidate species for within Nye County. These include:

1. Columbia Spotted frog (*Rana luteiventris*) – Candidate
2. Greater sage-grouse (*Centrocercus urophasianus*) – Candidate
3. Southwestern Willow flycatcher (*Empidonax traillii extimus*) – Endangered
4. Yellow-Billed Cuckoo (*Coccyzus americanus*) – Threatened
5. Yuma Clapper rail (*Endangered*) – Endangered
6. Ash Meadows Amargosa pupfish (*Cyprinodon nevadensis mionectes*) – Endangered
7. Ash Meadows Speckled dace (*Rhinichthys osculus nevadensis*) - Endangered
8. Devils Hole pupfish (*Cyprinodon diabolis*) – Endangered
9. Hiko White River springfish (*Crenichthys baileyi grandis*) – Endangered
10. Lahontan cutthroat trout (*Oncorhynchus clarkia henshawi*) - Threatened
11. Railroad Valley springfish (*Crenichthys nevadae*) – Threatened
12. Warm Springs pupfish (*Cyprinodon nevadensis pectoralis*) – Endangered

13. White River spinedace (*Lepidomeda albivallis*) – Endangered
14. White River springfish (*Crenichthys baileyi baileyi*) – Endangered
15. Ash Meadows naucorid (*Ambrysus amargosus*) – Threatened
16. Desert tortoise (*Gopherus agassizii*) - Threatened

One federally listed species, the Mojave desert tortoise (*Gopherus agassizii*), was documented to occur in the proposed project area. The other species on the list were not documented in the project vicinity by NDOW, USFWS, or during the biological survey completed for the Proposed Action. The Desert Tortoise is the only species that would be affected by the proposed project.

The section 7 consultation for this project would be covered under the current Programmatic Biological Opinion (BO) (84320-2010-F-0365.R002) for the BLM Southern Nevada District Office contingent on compliance with the terms and conditions. Minimization measures in the above biological opinion contain measures to reduce potential impacts to desert tortoise. By complying with the terms and conditions of the Programmatic BO, any past, present, or future actions on federal lands within the cumulative impacts area would be expected to have minimal impact.

As future development occurs in the area, so does the cumulative loss of wildlife habitat, including desert tortoise habitat. Continued expanding development creates physical barriers to tortoise movements and gene dispersal. Desert tortoise habitat would continue to be fragmented, reduced in quality, and quantity. Local isolated pockets of tortoises could become extirpated or habitat inhabitable. These pockets of extirpation would grow together and increase in size. These localized impacts could remove important gene pools from the overall larger tortoise population and recovery unit. The loss of 400 acres along with approximately 67 acres of current ROWs within one mile of the Proposed Action totals a cumulative loss of approximately 467 acres of habitat loss. There is a total of approximately 5,520 acres in the one mile around and including the Proposed Action totaling approximately 8.5% habitat loss. Cumulative impacts to these resources from the Proposed Action would be anticipated to be minimal as the Proposed Action would only create limited disturbance in relation to the species overall range in southern Nevada, and impacts identified in the EA would be reduced through compliance with the minimization measures identified in the EA and the terms and conditions of the current Programmatic Biological Opinion (84320-2010-F-0365.R002) for the BLM Southern Nevada District Office.

5.12. Wastes (hazardous or solid)

Any historical information regarding the original patent and associated requirements would be made available to the public, upon request or by regulation and policy, for full disclosure of past, present, and reasonably foreseeable future operations of the site.

The use of 365 acres (400 acre proposed project minus 35 acres not disturbed because of flood zone) along with approximately 67 acres of current ROWs within one mile of the Proposed Action totals a cumulative potential area for waste to occur of

approximately 432 acres. There is a total of approximately 5,520 acres in the one mile around and including the Proposed Action totaling approximately 7.8% of land for waste to occur. The Proposed Action is not anticipated to cause cumulative impacts on non-hazardous and hazardous waste combined with other actions, because those actions would be permitted through other consultations, and wastes generated from those actions would be mitigated. Further, it is not anticipated other actions would involve the process and storing of wastes since the current facility is the only one in operation in the regional area. The existing 80 acre facility is a self-contained operation and has been processing and storing non-hazardous and hazardous waste for the past 50 years. Since the beginning of the current operation in the early 1960s, there has been much advancement in the best available control technologies for handling non-hazardous and hazardous wastes along with improvements in federal regulatory oversight and permitting for these types of facilities. While the expansion would result in long term disposal and storage of more wastes, the impacts would be minimized through environmental controls and regulations in accordance to NDEP and EPA requirements.

5.13. Water Resources/Quality (drinking, surface, ground)

Cumulative effects on water resources would be directly related to the continued disposal of non-hazardous and hazardous waste with the proposed project expansion of the current facility. The watershed boundaries for the Proposed Action area is the California Region, Northern Mojave-Mono Lake Subregion, Northern Mojave Basin, Upper Amargosa Sub-basin, Big Dune Watershed, in the Carrara Canyon Sub-watershed (Environmental Protection Agency Office of Water 2014). Activities and developments already present include ROW areas for US-95, utilities, and the current disposal facility.

The proposed project is an expansion of the current disposal facility and could add to the cumulative effects of water resources since the current facility has produced some water quality issues from their past practices. The ROWs for utilities, the highway, the USGS research facility, administration area, and other land uses such as monitoring wells, pumping well, access roads, stormwater control, and spoils piles would not add to the cumulative effects of the Proposed Action since no disposal development would occur around these current land uses.

The operation of the proposed project would not create the need for additional water needs since operations would remain similar to their current process with no additional water requirements. Future developments in the vicinity of the Proposed Action may require water that could have a cumulative effect on the quantity of water present in the area in combination with the operation of proposed project. However, the proposed project would not require any additional water than what is currently used at the NDSL owned 80 acre facility.

Implementation of operator-committed mitigation measures, continued research, monitoring, etc., and those recommended in the Storm Water Pollution Prevention Plan would minimize impacts to the water resources of the Proposed Action.

6.0. MITIGATION

6.1. Air Quality

The NDSL would obtain a Surface Area Disturbance Permit from NDEP which would outline mitigation required for dust control during project operations. All projects within the boundary of Nye County, involving soil disturbing activity of 0.5 acres or greater, in the aggregate (total acres combined), must develop a Dust Control Plan to be submitted to the Nye County Air Quality Program Administrator, along with all other applications, as required. The Dust Control Plan shall specify the use of Best Management Practices (BMPs) to control to generation of fugitive dust from each soil disturbing activity. All control measures selected must be maintained to ensure the visible emissions do not exceed the 20% opacity limit as described in Section 15.28.150.A of the county dust regulation. Emissions from the non-hazardous and hazardous waste would continue to be monitored as required by the NDEP/EPA permitting in perpetuity.

No residual effects would be expected to air quality due to emissions or fugitive dust from the Proposed Action. Continued monitoring and mitigation would maintain air quality in the proposed project area.

6.2. Cultural Resources

Direct Effect Cultural Resources Mitigation Measures

There would be no direct effects to cultural resources since there would be no National Register eligible sites within the proposed project area. The eligible site within the 15 meter buffer outside the proposed project would be monitored to insure the site is not affected. All cultural resources have been recorded in the proposed project area and mitigation measures would ensure that no residual effects occur to cultural resources.

Indirect Cumulative Effects Cultural Resources Mitigation Measures

The nine sites that would be within the indirect CIAA (indirect APE) that are considered eligible to the NRHP for this Proposed Action would not be further affected visually due to the prior existence and impacts from the current landfill facility and US-95. There would be no further adverse visual effects from the Proposed Action to eligible cultural resources. No residual effects would be expected from the Proposed Action.

6.3. Fish and Wildlife Excluding Federally Listed Species

Gila Monsters

To reduce impacts on Gila Monsters, the applicant would implement the following BMPs:

- Applicant would have qualified biologists perform preconstruction surveys to identify sensitive biological resources.
- All locations of Gila monster found within a proposed project area during surveys and construction work shall be reported to NDOW. In addition, the following measures shall be taken:
- Through a Worker Environmental Awareness Training Program (WEAP), workers and other project personnel should (at a minimum) know how to (1) identify Gila monsters and distinguish them from other lizards such as chuckwallas and banded geckos, (2) report any observations of Gila monsters to the biological monitor or NDOW, (3) be alerted to the consequences of a bite resulting from carelessness or unnecessary harassment, and (4) be aware of protective measures provided under state law.
- Live Gila monsters found in harm's way on the construction site shall be captured and then detained in a cool, shaded environment (less than 85°F) by the project biologist or equivalent personnel until an NDOW biologist arrives for documentation purposes. Although a Gila monster is venomous and can deliver a serious bite, its relatively slow gait allows for it to be easily coaxed or lifted into an open bucket or box, carefully using a long handled instrument such as a shovel or snake hook (note: it is not the intent of NDOW to request unreasonable action to facilitate captures; additional coordination with NDOW would clarify logistical points). A clean 5-gallon plastic bucket with a secure, vented lid; an 18-inch x 18-inch x 4-inch plastic sweater box with a secure, vented lid; or a tape-sealed cardboard box of similar dimension may be used for safe containment. Additionally, written information identifying the mapped capture location (e.g., GPS record), date, time, and circumstances (e.g., biological survey or construction) and habitat description (vegetation, slope, aspect, and substrate) shall also be provided to NDOW.
- Injuries to Gila monsters may occur during excavation, blasting, road grading, or other construction activities. If a Gila monster is injured, it shall be transferred to a veterinarian proficient in reptile medicine for evaluation and appropriate treatment. Rehabilitation or euthanasia expenses would not be covered by NDOW. However, NDOW shall be immediately notified during normal business hours. If an animal is killed or found dead, the carcass shall be immediately frozen and transferred to NDOW with a complete written description of the discovery and circumstances, habitat, and mapped location.

With these Best Management Practices (BMPs) in place to protect Gila monster during construction, the impacts would be reduced to non-significance. Residual effects, after mitigation measures, would be the loss of foraging and habitat area for the Gila monster.

Chuckwalla

To reduce impacts on the common chuckwalla, the applicant would implement the following BMPs:

- Applicant would have a qualified biological monitor monitoring for any chuckwalla while construction is occurring. If a chuckwalla is observed the biological monitor would direct applicant to stop work and allow the animal to move to safety on its own accord before commencing work.
- Applicant would have qualified a biological monitor checking for potential nesting habitat if construction occurs during nesting season (July and August). If a nest is observed, a buffer would be established to allow for minimal egg disturbance.

With these Best Management Practices (BMPs) in place to protect the common chuckwalla during construction the impacts would be reduced to non-significant. Residual effects, after mitigation measures, would be the loss of foraging and habitat area for the Chuckwalla.

General Wildlife

To reduce impacts on wildlife, the applicant would implement the following mitigation measures:

- Applicant shall limit the size of any vegetation and/or ground disturbance to the minimum necessary to perform the activity safely and as designed.
- Applicant would avoid creating soil conditions that promote weed germination and establishment.

With these mitigation measures in place for management of habitat impacts wildlife would be reduced to a level of non-significance. Residual effects, after mitigation measures, would be the loss of foraging and habitat area for wildlife.

6.4. Floodplains

No non-hazardous and hazardous wastes can be accepted and disposed at the proposed project area without the complete and all-inclusive licensing that must occur with State and Federal agencies that have full jurisdiction of non-hazardous and hazardous waste disposal sites. The NDEP has authority that has been given by the EPA for regulating non-hazardous and hazardous waste management and disposal within the state of Nevada. Several other agencies also have numerous regulatory functions and include, but are not limited to, the U.S. Army Corps of Engineers, Nevada Department of Transportation (NDOT), Occupational Safety and Health Administration (OSHA), and the Nevada State Engineer. All licensing for non-hazardous and hazardous waste disposal at the proposed project location is limited to non-radioactive solid (no liquids) materials. All non-hazardous and hazardous waste must be accounted for and proper treatment and disposal documented to comply with all Federal and State regulations.

In addition, the proposed project has not planned for future non-hazardous and hazardous waste management areas to be located in the vicinity of the flood zone. The USGS also has their ADRS on the proposed project site. This research continues to monitor the water and contaminates in their ongoing program related to the USGS

Toxic Substances Hydrology Program and this facility is located closest to the flood zone in the proposed project area (USGS 2009).

Once the proposed project facility has reached capacity or is closed, there would be strict requirements that must be adhered to under Federal and State laws and regulations and include, but would not be limited to, fencing, capping all non-hazardous and hazardous waste disposal sites, and continued well monitoring/evaluation of data for an indefinite period of time. The state of Nevada intends to hold the proposed project (along with the existing 80 acre disposal facility) in perpetuity, ensuring control and public safety and recognizes its responsibility for its permanent care and protection.

No residual effects would be expected to floodplains due to the Proposed Action since no development is planned throughout the life of the action to develop within the flood zone.

6.5. Geology/Mineral Resources

All mineral materials needs to be used on site within the right-of-way, and any significant excavation or stockpiling for use other than redistribution at natural grade, including stockpiling on site for future use by the patentee or disposal by the BLM must be in accordance with the regulations found at CFR 3600 or under the Federal Aid to Highways Act in the form of a contract, free use permit, or material site right-of-way before they can be utilized, pursuant to BLM WO Instruction Memorandum No. 2014-085. Mineral materials would be stockpiled on site for future patentee use or for disposal by the BLM, and a free use permit would be issued by the BLM prior to their severance from the right-of-way as part of the Proposed Action. If federally owned mineral materials need to be imported for the development of the proposed project, a specific BLM use authorization, in accordance with the regulations at 43 CFR 3600, must be obtained from the BLM prior to the importing and use of those mineral materials. Residual effects to geology/mineral resources would not be expected. The mineral material excavated would be retained within the proposed project area unless disposed of under the regulations above.

6.6. Hydrologic Conditions

No non-hazardous and hazardous wastes can be accepted and disposed on the proposed project area without the complete and all-inclusive licensing that must occur with State and Federal agencies that have full jurisdiction of non-hazardous and hazardous waste disposal sites. The NDEP has authority that has been given by the EPA for regulating non-hazardous and hazardous waste management and disposal within the state of Nevada. Several other agencies also have numerous regulatory functions and include, but would not be limited to, the U.S. Army Corps of Engineers, Nevada Department of Transportation (NDOT), Occupational Safety and Health Administration (OSHA), and the Nevada State Engineer. All licensing for non-hazardous and hazardous waste disposal at the proposed project location is limited to non-radioactive solid (no liquids)

materials. All non-hazardous and hazardous waste must be accounted for and proper treatment and disposal documented to comply with all Federal and State regulations.

Several mitigation items are planned to mitigate the potential environmental effects and cumulative effects that the Proposed Action poses to the hydrologic conditions. The proposed project site is almost flat with fairly permeable soils and an average of three to five inches of rainfall making storm water drainage a relatively small concern. All access roads and interior roads would include drainage ditches and runoff berms.

A buffer zone of 300 feet would be established to provide a physical separation from the undeveloped desert surrounding the proposed project. The buffer zone is part of the proposed project 400 acre development. This buffer zone would also include groundwater detection wells, a permitted road for access to the monitoring wells, security fencing and signs surrounding the proposed project, a 75 foot wide storm water diversion area (diversion channel, berm, and access road), diversion ditches and berms around all disposal cells/treatment areas, and groundwater corrective action monitoring and implementation (Bolin and Wampler 2008).

In addition, the proposed project would not plan for future non-hazardous and hazardous waste management areas to be located any closer to US-95 than current disposal areas; future non-hazardous and hazardous waste management areas would have a minimum offset of 100 feet from any transmission lines; a 300 foot buffer would be in place from the proposed project boundary, from the USGS research facility; and no non-hazardous and hazardous waste disposal trenches would be planned in the identified 100 year flood zone or identified intermittent streams/rivers. Natural drainage patterns move from the north and west and the drainage channels would divert water from entering the proposed non-hazardous and hazardous waste management area usurping the possibility of run-off moving into or out of the proposed project disposal areas. Diversion ditches and berms around all disposal trenches and internal roads would divert runoff from entering any disposal trench areas. Groundwater monitoring wells and soil vapor testing and extraction wells would be present in the buffer around the proposed projects non-hazardous and hazardous waste disposal areas, many of which would be located down slope from the disposal areas (Bolin and Wampler 2008).

The Proposed Action Plan of Development also outlines the possibility of a lateral spread of a liquid release in the zone above the saturation layer underground. It is highly unlikely that the non-hazardous and hazardous waste trench design would allow the release of enough liquid to saturate through the 300 foot thick area between the ground surface and the saturation zone. Should the extremely unlikely release occur at the edge of the disposed non-hazardous and hazardous waste area, the trench design would limit the volume release to an amount that research has shown would be redirected to the surface (by natural conditions) rather than travel down into the saturation zone beneath the ground surface (Bolin and Wampler 2008).

The USGS also has their Amargosa Desert Research Site (ADRS) on the proposed project site. This research continues to monitor for any contaminants in their ongoing program related to the USGS Toxic Substances Hydrology Program (USGS 2009).

In order to minimize any effects to hydrologic conditions, the facility does not plan non-hazardous and hazardous waste disposal areas in the 100 year flood zone and north of US-95 where intermittent drainages are located. Once the proposed project facility has reached capacity or is closed, there would be strict requirements that must be adhered to under Federal and State laws and regulations and include, but would not be limited to, fencing, capping all non-hazardous and hazardous waste disposal sites, and continued well monitoring/evaluation of data for an indefinite period of time. The state of Nevada intends to hold the proposed project (along with the existing 80 acre disposal facility) in perpetuity ensuring control and public safety and recognizes its responsibility for its permanent care and protection. No residual effects to hydrologic conditions would be expected with the monitoring and mitigation measures required by the NDEP/EPA for non-hazardous and hazardous waste disposal facilities.

6.7. Vegetation, Woodlands and Forestry, and Noxious Weeds/Invasive Non-Native Species

To avoid the potential for establishment of invasive or noxious plant species and the potential impacts that could result on adjacent BLM lands, the project proponent would adhere to the State of Nevada invasive and noxious weed program which would be managed by NDEP/EPA under licensing. No further mitigation is required for vegetation or woodlands and forestry. Residual effects would include the loss of native vegetation within the Proposed Action development areas.

6.8. Lands/Access

No additional mitigation measures specific to lands/access would be required and no residual effects would occur.

6.9. Migratory Birds

To comply with the Migratory Bird Treaty Act, any habitat-altering projects, or portions of projects, should be planned to occur outside breeding season (active breeding season is February 15th through August 31st for species in upland desert habitats and ephemeral washes containing upland species) to avoid potential destruction of bird nests or young, or birds that breed in the area. Nest removal is possible if nests are inactive and the work is to occur outside of breeding season with approval of USFWS. Should the breeding season be unavoidable, the area should be surveyed for nests by a qualified biologist prior to construction. The survey should include burrowing and ground nesting species in addition to those nesting in vegetation. If active nests are found (containing eggs or young), a protective buffer should be delineated and the area avoided preventing destruction or disturbance to nests until they

are no longer active. As the above dates would be a general guideline, if active nests are observed outside this range they are to be avoided as described above. Residual effects, after mitigation measures, would be the loss of foraging and habitat area for migratory birds.

Burrowing Owls

To reduce impacts on burrowing owl, the applicant would implement the following BMPs:

- Applicant would have qualified biologists perform preconstruction surveys to identify burrowing owl locations and nesting sites. If nests or potential burrows are located outside of nesting season (March 1st- August 31st), nests should be removed and burrows should be collapsed to discourage future nesting in proposed project Area.
- If a nest is discovered during nesting season an appropriate buffer would be established and avoidance of the area would occur until nest has fledged.
- Construction should occur outside of the nesting season when possible.
- If burrowing owl is spotted during construction by construction personnel, onsite biological monitor would be notified.

With these Best Management Practices (BMPs) in place to protect burrowing owl during construction the impacts would be reduced to non-significance.

6.10. Soils

The implementation of a Stormwater Pollution Prevention Plan would help reduce erosion problems. In addition, if there would be any areas that have temporary disturbance, then revegetation would reduce the effects of erosion to soils. No residual effects would be expected with mitigation measures; however the soils would be disturbed and redistributed within the proposed project area.

6.11. Threatened Endangered or Candidate Animal Species

Desert Tortoise

Section 7 Consultation for this project would be covered under the BLM's Programmatic Biological Opinion (84320-2010-F-0365.R003) contingent on compliance with the terms and conditions. Terms and conditions and minimization measures in the above Biological Opinion contain measures to avoid and minimize potential impacts, including take, to desert tortoise. A copy of the terms and conditions would be provided once section 7 consultation is complete (NV-052-15-028). The following would be recommended mitigation measures and BMPs to protect the desert tortoise and desert tortoise habitat.

- Impacts during the construction phase of this project should be mitigated by employing a trained biologist during construction. Employing a trained tortoise biologist to monitor construction activities would allow work to proceed with minimal threats to the local desert tortoise population. Desert tortoises found in harm's way during construction could be relocated to adjacent land outside the proposed project area.
- It is required that a desert tortoise exclusion fence be permanently installed around the entire 400 acre action area. The fence would prevent desert tortoises from entering these areas during construction and operations preventing death or injury to tortoises.
- All on-site construction personnel should be trained on desert tortoise identification, desert tortoise safety, and stipulations for the project as issued by the permitting agency. This training would likely reduce, or eliminate, the possibility of accidental desert tortoise 'takes' during project construction. The stipulations often include, but would not be limited to: keeping construction traffic confined to the existing or dedicated roads and within designated sites; reducing speed limits on project roads; ensuring that all on-site personnel should also be asked to check under vehicles for tortoises; to contact a biologist when desert tortoises are encountered; and to properly dispose of garbage to prevent attracting ravens and other desert tortoise predators to the project site.
- Open trenches or excavations should be covered at the end of the work day or escape ramps should be installed to allow safe exit for desert tortoises. Any open-ended pipe should be fenced off or capped to prevent entry and entrapment of desert tortoises.
- Water should not be allowed to pool on roadways or construction zones that could attract desert tortoises into the proposed project area.
- Project personnel shall exercise vigilance when commuting to the proposed project area to minimize risk for inadvertent injury or mortality of all wildlife species encountered on paved and unpaved roads leading to and from the project site. Speed limits would be clearly marked, and all workers would be made aware of these limits.
- Prior to surface-disturbing activities, authorized desert tortoise biologists potentially assisted by desert tortoise monitors, shall conduct a clearance survey to locate and remove all desert tortoises from harm's way including areas to be disturbed using techniques that provide full coverage of all areas (USFWS 2010). An authorized biologist shall excavate all burrows that have characteristics of potentially containing desert tortoises in the area to be disturbed with the goal of locating and removing all desert tortoises and desert tortoise eggs. During clearance surveys, all handling of desert tortoises and their eggs and excavation of burrows shall be conducted solely by an authorized desert tortoise biologist in accordance with the most current Service-approved guidance (USFWS 2010). If any tortoise active nests are encountered, the USFWS must be contacted immediately, prior to removal of any tortoises or eggs from those burrows, to determine the most appropriate course of action. Unoccupied burrows shall be collapsed or blocked to prevent desert tortoise entry.

- An authorized desert tortoise biologist shall be onsite during construction of the tortoise-proof fence and tortoise guards to ensure that no tortoises would be harmed.
- Project activity areas would be clearly marked or flagged at the outer boundaries before the onset of construction. All activities shall be confined to designated areas.
- A litter control program shall be implemented during construction to keep ravens and other predators from being attracted to the project site and thereby increasing the potential for predation on tortoises nearby. The use of raven proof trash containers and removal of trash daily should occur while construction occurs.
- BLM shall collect remuneration fees to offset residual impacts to desert tortoises from project-related disturbance to desert tortoise habitat. This project would disturb a total of 299.3 acres of undisturbed tortoise habitat (see Table 2.2-1). The proponent would be required to pay remuneration fees of \$250,214.80 based on the current year's rate of \$836/acre of disturbance, subject to increase after March 1, 2015. Remuneration fees would be used for management actions expected to promote recovery of the desert tortoise over time, including management and recovery of desert tortoise in Nevada.

Residual effects, after mitigation measures, would be the loss of foraging and habitat area for threatened, endangered, or candidate animal species.

6.12. Wastes (hazardous or solid)

The continued use of the current 80 acre facility along with the expansion of the 400 acre proposed project would be permitted under federal TSCA regulations and all state and local regulations and compliance oversight would continue to be monitored and regulated by the NDEP and EPA. The entire site would continue to be managed using state of the art monitoring equipment and operational technologies as they become available. The proposed project area would be used for non-hazardous and hazardous waste disposal in perpetuity and would continue to be monitored in perpetuity, as required, so no residual effects would be expected

6.13. Water Resources/Quality (drinking, surface, ground)

No non-hazardous and hazardous wastes can be accepted and disposed on the proposed project area without the complete and all-inclusive licensing that must occur with State and Federal agencies that have full jurisdiction of non-hazardous and hazardous waste disposal sites. The Nevada Division of Environmental Protection (NDEP) has authority that has been given by the Environmental Protection Agency (EPA) for regulating non-hazardous and hazardous waste management and disposal within the state of Nevada. Several other agencies also have numerous regulatory functions and include, but would not be limited to, the U.S. Army Corps of Engineers, Nevada Department of Transportation (NDOT), Occupational Safety and Health Administration (OSHA), and the Nevada State Engineer. All licensing for non-hazardous and hazardous waste disposal at the proposed project location is limited to non-radioactive solid (no liquids)

materials. All non-hazardous and hazardous waste must be accounted for and proper treatment and disposal documented to comply with all Federal and State regulations.

Several items are planned to mitigate the potential environmental effects and cumulative effects that the proposed project poses to the water resources. The proposed project site is almost flat with fairly permeable soils and an average of three to five inches of rainfall making storm water drainage a relatively little concern. All access roads and interior roads would include drainage ditches and runoff berms. A buffer zone of 300 feet would be established to provide a physical separation from the undeveloped desert surrounding the proposed project. The buffer zone is part of the proposed project 400 acre development. This buffer zone would also include groundwater detection wells, a permitted road for access to the monitoring wells, security fencing and signs surrounding the proposed project, a 75 foot wide storm water diversion area (diversion channel, berm, and access road), diversion ditches and berms around all disposal cells/treatment areas, and groundwater corrective action monitoring and implementation (Bolin and Wampler 2008).

In addition, the proposed project does not plan future non-hazardous and hazardous waste management areas to be located any closer to US-95 than current disposal areas; future non-hazardous and hazardous waste management areas would have a minimum offset of 100 feet from any transmission lines and utilities; a 300 foot buffer would be in place from the proposed project boundary; and no non-hazardous and hazardous waste management is planned in the identified 100 year flood zone or identified intermittent streams/rivers. Natural drainage patterns move from the north and west and the drainage channels would divert water from entering the proposed non-hazardous and hazardous waste management area usurping the possibility of run-off moving into or out of the proposed project area. Groundwater monitoring wells and soil vapor testing and extraction wells would be present in the buffer around the proposed projects non-hazardous and hazardous waste disposal areas, many of which would be located down slope from the disposal areas (Bolin and Wampler 2008).

The Proposed Action Plan of Development also outlines the possibility of a lateral spread of a liquid release in the zone above the saturation layer underground. It is highly unlikely that the non-hazardous and hazardous waste trench design would allow the release of enough liquid to saturate through the 300 foot thick area between the ground surface and the saturation zone. Should the extremely unlikely release occur at the edge of the disposed non-hazardous and hazardous waste area, the design would limit the volume release to an amount that research has shown would be redirected to the surface (by natural conditions) rather than travel down into the saturation zone beneath the ground surface. Groundwater monitoring wells and soil vapor extraction wells monitor for plume releases so that additional mitigation action can occur before the plume spreads into groundwater and beyond the buffer zone (Bolin and Wampler 2008; US Ecology 2014b).

The current disposal facility has already put in action a Plume Release Response Plan that has successfully studied and mitigated releases from past trenches before current

regulations and designs were in place. This plan would be implemented in the unlikely event of a liquid release. This plan was outlined in reports to the Nevada Department of Environmental Protection (NDEP) in 2002 and 2003, and approved in 2003. The plan is formally documented in “Soil Vapor Extraction Well Installation and Corrective Measures Implementation Project at US Ecology, Inc. Nevada” submitted to NDEP by US Ecology, Inc. Nevada in 2005.

The USGS also has their ADRS on the proposed project site. This research continues to monitor the water and contaminants in their ongoing program related to the USGS Toxic Substances Hydrology Program (USGS 2009).

In order to minimize any effects to water resources, the facility does not plan non-hazardous and hazardous waste disposal areas in the 100 year flood zone and north of US-95 where intermittent drainages are located. Once the proposed project facility has reached capacity or is closed, there would be strict requirements that must be adhered to under Federal and State laws and regulations and include, but would not be limited to, fencing, capping all non-hazardous and hazardous waste disposal sites, and continued well monitoring/evaluation of data for an indefinite period of time. The state of Nevada intends to hold the proposed project (along with the existing 80 acre disposal facility) in perpetuity ensuring control and public safety and recognizes its responsibility for its permanent care and protection.

No residual effects to water resources would be expected with the monitoring and mitigation measures required by the NDEP/EPA for non-hazardous and hazardous waste disposal facilities.

7.0. TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

The Table of Supplemental Authorities (Table 3.2-1) provides rationale for issues that were considered but not analyzed further and identifies those issues analyzed in detail. These issues were identified through the public and agency involvement. Major authorization, permits, and approvals for the Proposed Action are located in Table 7.0.1.

Table 7.0-1 Major Authorizations, Permits, and Approvals

Action Requiring Permit Approval, or Review	Responsible Agency	Permit or Approval	Statutory Reference
Federal			
Expansion of Non-hazardous and hazardous waste Facility onto the Proposed Action 400 Acres	BLM	Land Conveyance – Issue of Land Patent	R&PP Act Amendment, 43 CFR 2740 and 2743, Sec. 212(a) (44 Stat. 741, as amended; 43 U.S.C. 869 et seq., 43 CFR 2807.15(c)
	BLM	Finding of No Significant Impact or Record of Decision (ROD)	National Environmental Policy Act (NEPA); Council on Environmental Quality; 40 Code of Federal Regulation (CFR) Part 1500 et seq.

Action Requiring Permit Approval, or Review	Responsible Agency	Permit or Approval	Statutory Reference
Federal			
	U.S. Army Corps of Engineers	Letter of Permission	Clean Water Act Section 404 (b) (1) 33 CFR 325.2(e)(1)(ii)
	U.S. Fish and Wildlife Service (FWS)	Section 7 Compliance, Incidental Take Statement	Endangered Species Act (ESA) Section 7 of 1973 (16 U.S.C.A. §§ 1531 et seq.) as amended
	BLM and State Historic Preservation Office (SHPO)	Section 106 Compliance	National Historic Preservation Act (NHPA) of 1966; 36 CFR part 800; 16 United States Code (USC) 47
State of Nevada			
Expansion of Non-hazardous and hazardous waste Facility onto the Proposed Action 400 Acres	State of Nevada, Division of State Lands (NDSL)	Nevada Division of Environmental Protection (NDEP), Environmental Protection Agency (EPA)	Resource Conservation Recovery Act (RCRA) Subtitle C landfill and disposal site, Section 3006

7.1. Persons, Groups, and Agencies Consulted

Name	Purpose & Authority for Consultation or Coordination	Finding and Conclusions
State of Nevada Department of Wildlife	Consultation and scoping for undertaking for wildlife concerns	NNHP and NDOW Species Lists
Nevada State Historic Preservation Office (SHPO)	Consultation for undertaking as required by the National Historic Preservation Act (16 USC 1531)	The cultural survey report was sent by BLM to SHPO. Concurrence was obtained on December 4, 2014.
U.S. Fish and Wildlife Service	Federal Trust Resource List – Endangered Species List information for the Proposed Action	Waiting on section 7 biological opinion.
Nevada Department of Transportation	Consultation on ROW in Proposed Action	No conflicts
Valley Electric Association, Inc.	Consultation on ROWs in Proposed Action	No conflicts
U. S. Geological Survey	Consultation on ROW in Proposed Action	No conflicts
Nevada Bell	Consultation on ROW in Proposed Action	No conflicts
Nevada Hospital Association	Consultation on ROW in Proposed Action	No conflicts

Name	Purpose & Authority for Consultation or Coordination	Finding and Conclusions
U.S. Ecology Nevada, Inc.	Consultation on Proposed Action	Provided information on Proposed Action
Nye County Commissioners	Consultation on Proposed Action	Consultation on County requirements
Nye County Manager	Consultation on Proposed Action	Information on Project and any County requirements
Nevada Division of Environmental Protection	Consultation on Proposed Action	Provided information and consultations as needed
Environmental Protection Agency	Consultation on Proposed Action	Provided information and consultations as needed
Joe Liebhauser – Abbey, Stubbs, and Ford	Consultation on Proposed Action	Provided information and consultations as needed

7.2. Tribal Consultations

Letters were sent on June 10, 2014 to identified tribal members for consultation about the Proposed Action regarding Native American Religious Concerns. Responses were requested within 30 days of the correspondence. The following Native American Tribes were contacted and no concerns were identified:

- Timbisha Shoshone, California
- Moapa Band of Paiutes, Nevada
- Las Vegas Paiute Tribe, Nevada
- Chemehuevi Indian Tribe, California
- Pahrump Paiute Tribe, Nevada

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