

1.0 INTRODUCTION

Jungo Land & Investments, Inc. (JLII), the landfill owner and operator, is submitting the following Plan of Operations for a Class I municipal solid waste disposal site as required by the general provisions for solid waste disposal defined in the Nevada Administrative Code (NAC 444.684). This Plan of Operations was prepared by Golder Associates Inc. and SCS Engineers, and submitted to the Nevada Division of Environmental Protection (NDEP), Solid Waste Bureau, State Solid Waste Authority for Humboldt County. This plan conforms to the regulations that govern solid waste disposal in the State of Nevada, and is submitted as part of the *Application for a Permit to Construct and Operate a Class I Solid Waste Disposal Site at the Jungo Disposal Site, Humboldt County, Nevada*.

As required by NAC 444.684, this Plan of Operations presents the general procedures for operation and maintenance, fire control, litter prevention, and handling of various types of waste, which are either prohibited or accepted for disposal at the site when specifically addressed within this Plan of Operations. In addition, this plan addresses the compliance of the facility with the requirements set forth in NAC 444.6665 through 444.6678, and NAC 444.686 through 444.6887, including procedures for the following activities: compacting and covering solid waste; preventing the receipt and disposal of liquid, hazardous, and PCB wastes; controlling run-on and run-off drainage; providing nuisance control; monitoring explosive gas; and, providing for site access control. A discussion of the conformance of the site with respect to location restrictions defined in NAC 444.678 through 444.6795 is also provided.

The Jungo Disposal Site will serve as a regional disposal site for portions of Northern California that generally includes the nine counties which make up the San Francisco Bay Area, and including tributary communities along the rail route. Refuse will be delivered to the site by primarily by rail at an estimated average annual rate of up to 4,000 tons/day. In addition, it may be possible that wastes generated in Humboldt County and other counties of the State of Nevada may also be disposed of at the facility.

1.1 Site Description

The Jungo Disposal Site will be located on a parcel totaling approximately 634 acres. Site location is graphically illustrated on **Figure 1**. The site is accessed via Jungo Road via the Jungo Road crossing of the Union Pacific Railroad. It is approximately 25 miles west of Winnemucca in an area identified as Desert Valley on a County Road identified as Jungo Road. The location of the property is described by the Public Land Survey system as Township 35 North, Range 33 East, Mount Diablo Baseline and Meridian, Section 7. **Figure 2** displays the Township and Range map for the area.

The facility will be operated by JLII in accordance with applicable State of Nevada solid waste regulations. The land is currently owned by Nevada Land and Resources, Inc. but will be acquired by JLII prior to development. JLII currently has a leasehold interest with an option to purchase the property, which JLII plans to exercise once the necessary State permits have been obtained. Property ownership documents will be maintained in the landfill operating record.

The property site is surrounded by Bureau of Land Management (BLM) land. The BLM property is not zoned. It is considered open range. **Figure 2** also serves as the Site Property Map to comply with NAC 444.680(2). Waste will be delivered to the landfill site via the Union Pacific Railroad. A private transload facility will be constructed by JLII adjacent to the landfill.

Daily operations at the Jungo Disposal Site will be conducted under the direct management of the assigned Operations Manager of JLII who will report to a General Manager who provides guidance and direction for the facility. The Operations Manager will be reachable at the JLII office location.

The Jungo Disposal Site will be operated as a Class I solid waste disposal landfill. With its link to the rail system, the Jungo Disposal Site will receive wastes generated from outside of Humboldt County. However, it may be possible that certain in-county wastes may also be disposed of at the facility.

The Jungo Disposal Site will be capable of operating 7 days per week, 24 hours per day. However, peak hours of activity will be associated with the arrival of a unit waste train. Generally a full train can be unloaded and the waste placed in the landfill within a 10-hour period. At other times, personnel may be onsite for maintenance, monitoring and construction purposes.

1.2 Site Facilities

The Jungo Disposal Site will include the following facilities:

- A rail yard for unloading and loading waste containers;
- An administrative trailer;
- A equipment maintenance shop; and
- A break-room trailer for equipment operators and laborers.

Figure 3 shows the anticipated location of the initial facilities development. The locations of the equipment maintenance shop, and administrative and break-room trailers are anticipated to be temporary and may be relocated on the site as the landfill is developed. Specifically, the equipment maintenance shop and break-room trailer are likely to be periodically relocated near the active disposal area to reduce the travel time for equipment and site personnel.

The administration trailer and break-room will provide potable water and restrooms for site personnel. Wastewater will be discharge to a septic system located at the northwestern boundary of the site. Percolation tests will be completed to properly size and design the septic system.

2.0 LOCATION RESTRICTIONS

Sections 444.678 through 444.6795 of the Nevada Administrative Code (NAC) require that the location of a new municipal solid waste disposal facility satisfy all restrictions defined by NAC 444.678 through 444.6795. The following sections discuss the location of the Jungo Disposal Site relative to these location restrictions.

2.1 General Restrictions

The location of a solid waste disposal landfill must satisfy several general location criteria defined in NAC 444.678. These criteria involve the following: accessibility; prevention of degradation of waters of the state; prevention of uncontrolled landfill gas migration; availability of cover material; conformance with land use planning and proximity to dwellings, highways, surface water, and ground water. In addition, the location of a new solid waste disposal landfill must meet with the approval of the Nevada Department of Environmental Protection (NDEP). The conformance of the site with respect to these general location restrictions is discussed below.

2.1.1 Accessibility

Access to the Jungo Disposal Site is via Jungo Road, which is an improved, County maintained, gravel road. Off of this road, the operator will construct a private access road across the Union Pacific Railroad Right of Way from Jungo Road crossing eastward to the disposal site. Access on this private road will be gate controlled. All on-site roads will be cleared (snow removal in the winter months) and maintained using landfill equipment and operators.

2.1.2 Prevention of Degradation of Waters of the State

There are no surface waters located within 1,000 feet of the site. Depth to groundwater is defined in the Report of Design of this Application. Groundwater at the site is approximately 58 to 60 feet below ground surface. The construction of surface drainage controls and landfill liners will prevent degradation of Waters of the State. Drainage control, landfill liners, leachate and gas collection and control systems are discussed in detail in the Report of Design (Volume I).

2.1.3 Prevention of Uncontrolled Landfill Gas Migration

Subsurface landfill gas migration will be prevented by the landfill liner and gas collection and control systems. The purpose of the gas collection system will be to provide a means of collecting landfill gas in a safe manner so that it can be vented or properly disposed. Perimeter monitoring will be performed to allow for the detection of methane gas concentrations in excess of the lower explosive limit (LEL). Permanent monitors with alarms will be installed in all structures to ensure continual monitoring. Uncontrolled migration of landfill gas will be controlled at the site per NAC 444.678[3].

2.1.4 Availability of Cover Material

An adequate quantity of earth cover is available at the site that is workable and compactable and does not contain organic material of a quantity to harbor or breed disease vectors. As discussed in detail in the Report of Design (Volume I) daily cover soils will be supplemented by the extensive use of Alternative Daily Cover (ADC) whenever practicable. Cover soil will be augmented with the use of ADC, including but not limited to tarps, chipped tires, greenwaste, or dried sludge. Soil will be obtained through excavation associated with cell and liner development. Site exploratory investigations, including the drilling of four borings indicate a subsurface lithology of upper silty sands from ground surface to depths of approximately 35 to 40 feet below ground surface. Silty clays and

clayey silts underlie the uppermost silty sands. Middle sands underlie the upper silty clays. A lower layer of clay and clayey sands underlies the middle sands. A final layer of lower sand and silty sands were encountered at approximately 115 feet below ground surface. See Section 2.1.4.2, Site Geology, Report of Design (Volume I).

2.1.5 Conformance with Land Use Planning

The Jungo Disposal Site is surrounded by publicly owned land administered by the Bureau of Land Management (BLM). Surrounding land is designated as open range by the BLM. The disposal site is zoned M3 which can accommodate a disposal site as a special use. Union Pacific Railroad (UPR) owns 100-feet of land on each side of the rail line crossing through the property. The Jungo Disposal Site will not encroach on this property. An access easement will be obtained from UPR to Jungo. A Special Use Permit was obtained from Humboldt County in April, 2007. As noted on the Title Report, no other easements exist on the property. The Preliminary Title Report, dated January 28, 2008 is attached as **Appendix A**. A site survey map is included in **Appendix B**.

2.1.6 Proximity to Dwellings, Highways, Surface Water and Groundwater

The landfill location does not lie within one-fourth mile of a residence or place of public gathering. The nearest highway is approximately 25 miles away. The site does not lie within 1,000 feet of a surface water body. Subsurface investigations have determined that groundwater beneath the site is approximately 58 to 60 feet below ground surface. See Section 2.1.5.2, Report of Design (Volume I).

The designated ground water basin underlying the site is defined as State of Nevada Administrative Groundwater Basin 31. A map illustrating Designated Regional Groundwater Basins and Nearby Rivers is presented in **Figure 4**. The nearest surface water body is the Humboldt River located more than 15 miles to the southeast and is located in a separate hydrographic basin.

2.1.7 Regulatory Approval

The location of a class I site must meet with the approval of the solid waste management authority. The location of a class I site must comply with the requirements set forth in NAC 444.6765 and 444.6783 through 444.6795.

2.2 **Airport Safety (NAC 444.6783)**

In accordance with NAC 444.6783, a Class I site located farther than 10,000 feet from the end of any airport runway used by turbo-jet aircraft, or 5,000 feet of the end of any airport runway used by piston-type aircraft, does not pose a hazard to aircraft. The Humboldt County Airport is the closest airport to the subject property. The airport is located five miles west of the City of Winnemucca. This is about 20 miles from the Jungo Disposal Site and well in excess of the 10,000 feet requirement.

2.3 **Floodplains (NAC 444.6785)**

New or existing municipal solid waste disposal facilities or lateral expansions located in a 100-year floodplain must demonstrate to NDEP that the unit will not restrict the flow of a 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in a washout of solid waste. Data available from the U.S. Department of Housing and Urban Development, Federal Emergency Management Agency (FEMA), Community Panel Map Index for Humboldt County Unincorporated Areas, indicate that the area has not been mapped and therefore, is not in a flood zone and has not been designated as a floodplain. A review of the existing site topography indicates that there are no major drainages or washes which cross the site. The site will be designed to drain rainwater away from the active cell after a rainfall event so that standing water will not be allowed to pool on the site. The

surrounding mountains, especially the Eugene Range most likely have drainages running from the down slopes, but the Jungo Disposal Site lies in a flatland area and has no such down slopes. The site is located within a desert basin where water precipitation temporarily collects in shallow depressions until it evaporates or infiltrates into the underlying soils.

2.4 Wetlands (NAC 444.679)

Lateral expansions of new or existing municipal solid waste disposal facilities must not be located in wetlands, as stated in NAC 444.679. NAC 444.679(2) defines "wetlands" as those areas that are "inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil, including swamps, marshes, bogs, and other similar areas." Vegetation on the property is not the type associated with swamps, marshes, bogs or other similar areas. On site groundwater monitoring well development has confirmed that there are no saturated soils at or near the ground surface.

2.5 Fault Areas (NAC 444.6791)

Lateral expansions at new or existing municipal solid waste landfills may not be located within 200 feet of a fault, which has had displacement in Holocene time unless the owner or operator demonstrates that a lesser setback will prevent damage to the structural integrity of the landfill, according to NAC 444.6791. A review of the *Preliminary Map of Young Faults in the United States as a Guide to Possible Fault Activity* (USGS, 1978) does not indicate the presence of Holocene faults in the vicinity of the Jungo Disposal Site location.

2.6 Seismic Impact Zones (NAC 444.6793)

NAC 444.6793 states that new or lateral expansions at a municipal solid waste landfill shall not be located within a "seismic impact zone unless the owner or operator submits proof that all structures for containment, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site." The site is located within a seismic impact zone that has a 10 percent probability of exceedance in a 250 year period of experiencing a seismically induced peak ground acceleration of 0.1g or greater. The site has been designed to withstand the peak ground acceleration without damaging environmental containment systems and controls, including the liner, systems for the collection of leachate, system for the control of surface water and cover systems.

The Jungo Disposal Site containment systems and environmental controls have been designed to withstand an earthquake event resulting in a PGA of 0.28g without compromising the integrity of the containment systems and environmental controls. This PGA value is associated with an earthquake event producing ground accelerations at the site that correspond to 10 percent chance of exceedance during a 250-year period. Section 2.3 and 2.3.1 of the Report of Design describes these seismic impact evaluations.

2.7 Unstable Areas (NAC 444.6795)

In accordance with NAC 444.6795, the owner or operator of a new or existing landfill or lateral expansions at a municipal solid waste disposal landfill must demonstrate that engineering measures have been incorporated into the design of the landfill to ensure that the integrity of the structural components of the landfill will not be disrupted as a result of the location of the landfill in an unstable area. This demonstration must consider on-site or local soil conditions that may result in significant

differential settling, on-site or local geologic or geomorphologic features, and on-site or local man-made features or events, both surface and subsurface.

As described above, a field investigation was undertaken at the site, which included four borings to ground water, investigation of geologic or geomorphic features and man-made features or events. Information obtained during this investigation indicates that there are no rock types mapped in the vicinity of the landfill, which are characteristic of “karst terrains”. Site soils are expected to experience consolidation under loading by refuse, but the landfill has been designed to accommodate settlement without adversely affecting the liner system. See Section 2.3.1, Report of Design (Volume I).

2.8 Proof of Compliance (NAC 444.678)

Based on the above analysis, the location of the landfill will meet the criteria for approval of the NDEP as required by NAC 444.678(7). The inclusion of this information in the *Application for a Permit to Construct and Operate a Class I Solid Waste Disposal Site at the Jungo Disposal Site, Humboldt County, Nevada* and the official operating record for the site, maintained as part of the Operating Plan at the Jungo Disposal Site office constitutes the submission of proof required by NAC 444.6765.