

Oregon Department of State Lands

Stevens Road Tract

Initial Site Assessment of Abandoned Landfill Area Summary Information

Stevens Road Tract is a Common School Fund Asset

The 640-acre Stevens Road Tract is an asset of the Common School Fund managed by the Department of State Lands (DSL) to produce revenue from urban development from its sale or lease. The Fund is a trust created at statehood to support Oregon's K-12 schools.

The Tract lies partially within the Bend city limits (12 acres) but is mostly adjacent to and outside the city limits. It was acquired by DSL from the Bureau of Land Management (BLM) in 1997 to partially fulfill the federal government's obligation of additional acreage due to the state since statehood. Before DSL's acquisition, the BLM leased a 40-acre tract on the southwestern quadrant of the property to Deschutes County for a landfill and sewage disposal site from the mid-1950s to 1972. The actual area of use for the landfill was approximately 20 acres and the sewage disposal area was about 1.5 acres. In 1972 and in accordance with all applicable regulations, the landfill was officially closed.

The Landfill Study

DSL hired a Bend-area environmental consultant to perform an "Initial Site Assessment" (ISA) with the following objectives:

- Provide an assessment of the location and extent of landfill and sludge waste.
- Assess the landfill debris and adjacent soil for environmental contaminants.
- Monitor soil gas in the landfill area for the presence of landfill gas vapors.
- Evaluate the results based on the potential future use of the property.
- Provide recommendations regarding current uses and future development of the site.

The assessment was conducted by PBS Engineering + Environmental (PBS) during December 2008 and January 2009. Surface geophysical, subsurface exploration and gas vapor monitoring techniques were utilized to characterize the nature and extent of waste debris. All work was coordinated with DSL and the Deschutes County Solid Waste Department, who provided labor and equipment assistance with the project.

Geophysical Survey

The magnetic and seismic surveys provided an initial approximation of the size and depth of the landfill debris. Areas interpreted as having debris present also had grassy areas with less developed vegetation. Surveys were conducted over the

disturbed areas of the site to estimate the limits of the disposal area and debris thickness.

Subsurface Exploration

Forty-five test pits were excavated. Debris was found as shallow as one foot below ground surface and to depths of 4 to greater than 17 feet. The landfill material was mostly household and building debris, with lesser amounts of automotive-related and ranching-related debris.

The condition of the waste material suggested very little leaching (by precipitation) or degradation of the material had occurred since it was buried over 35 years ago. The locations of the reported sewage disposal areas could not be definitely confirmed during the investigation.

Fifty-eight (58) soil samples were field screened; the only field detections were minor. Forty-three (43) soil samples were collected for laboratory analysis; samples were from above and below the landfill debris. Nine samples detected total petroleum hydrocarbons (TPH). A few selected samples detected the following contaminants: polynuclear aromatic hydrocarbons (PAHs), trace metals, and polychlorinated biphenyls (PCBs). No volatile organic compounds (VOCs) or organochlorine pesticides (OCPs) were detected in any of the soil samples.

Suspected asbestos-containing material (ACM) was observed in about half of the test pits at depths as shallow as 2.5 feet. Bulk samples of various types of building materials identified asbestos containing material (ACM) in sheet floor coverings, cement asbestos board (CAB), felt paper insulation, air cell insulation, thermal board liner and roofing material.

Landfill Gas Monitoring

Five landfill gas vapor probes were installed within the landfill debris area and were monitored weekly for a period of four consecutive weeks. No significant measurable accumulations of methane were detected in any of the probes or at the entrances of the four 'caves' within the landfill debris area.

Evaluation of Results

A conceptual site model was generated that identifies the current land uses and those planned in the future including residential, occupational and recreational land use scenarios. Groundwater near the Tract is greater than 500 feet deep and used for drinking water. The significant depth to groundwater, minimal leaching potential, and the lack of evidence of industrial and septic waste encountered in the debris area, suggest groundwater is unlikely to be impacted by the landfill debris. Furthermore, a private community water supply is available to the surrounding area and would likely be used for drinking water when the Tract is developed instead of using many individual wells. The most likely current and future potential exposure concerns are direct contact (ingestion, inhalation, dermal) with the contaminants.

Results Show Low Risk; Asbestos May Be a Long-Term Concern

Considering the likely future land uses with the test results, only two individual samples contained contaminants that could exceed a long-term risk level under the most conservative assumptions. These are likely to be handled by removal of the debris in specific locations, use of engineering controls or placing conditions on future development.

The presence of asbestos in several tests pit locations is a long-term risk if the material is disturbed or reaches the surface where it can deteriorate and small particles become airborne. The material was found at a shallow depth and is considered a potential direct exposure concern. Additional measures will be required to insure this material is not disturbed.

Recommendations

Short Term: Under the current uses of the site, PBS recommends:

- Place additional soil cover in areas where there is minimal cover over the debris
- Conduct periodic monitoring of the landfill debris area for the presence of visible asbestos material to verify this material is not present at the surface.
- Conduct additional monitoring of the gas vapor probes to verify the initial results.
- Restrict access to caves in the landfill area to minimize direct contact with debris and potential physical safety issues.

Long Term: Considering the conceptual master plan for the site, PBS recommends:

- Perform a cost-benefit analysis of removing debris compared with designing, implementing and monitoring long-term engineering and institutional controls.
- Develop and implement a plan to remove debris from areas that will be redeveloped with load bearing structures (i.e roadways, buildings).
- Obtain approval from Department of Environmental Quality (DEQ) that the remaining debris does not pose a long-term risk to human health or the environment for the future anticipated uses of the Tract.
- Obtain authorization from DEQ to implement any engineering or institutional controls to maintain protective conditions over the Tract's remaining landfill area.

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