



November 3, 2015

Mr. Arturo Burgos
Mr. Tom Ryan
City of Tucson, Environmental Services
P.O. Box 27210
Tucson, Arizona 85726-7210

Re: Annual Closed Landfill Inspection – Ryland Landfill

INTRODUCTION

On September 29, 2015, Engineering and Environmental Consultants, Inc. (EEC) performed the annual field inspection at the closed Ryland Landfill. Ryland Landfill was operated by the City of Tucson as a Municipal Solid Waste facility from 1960 through 1965. The property received substantial improvements in 2013 as part of the Pima County Regional Flood Control's Paseo De Las Iglesias Phase I project. Improvements included gabion mattress bank protection along the western edge of the landfill and hydroseeding of the landfill cap.

Annual inspections are required at City of Tucson owned non-regulated closed landfills in accordance with the guidance document entitled "COT Closed Landfills Inspection and Maintenance Reporting and Procedures, March 2011". This guidance document was internally prepared by the City of Tucson Environmental Services Department (COT-ES).

Key elements of this inspection report are:

- A narrative summary of facility conditions including recommended corrective action(s) to be undertaken prior to the next scheduled inspection
- The Landfill Inspection Table used to document observed conditions (Attachment 1)
- An inspection photo log (Attachment 2)

INSPECTION SUMMARY

The annual field inspection of Ryland Landfill is organized and conducted using the inspection report table included in the COT-ES inspection guidance document. A copy of the table filled out during this inspection is included with this report (Attachment 1). The table lists specific landfill items that must be inspected and provides space to comment on the conditions encountered during the inspection. The items inspected and the current conditions of these features at Ryland Landfill are summarized as follows:

www.eec-info.com

Environmental Services | Flood Control & Drainage | Land Development
Land Surveying | Transportation | Water & Wastewater

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Perimeter Security Fence and Gates

The entrance to the landfill is secured from vehicular traffic with a locked gate on the south side along Ajo Road. The east, west, and north boundaries are unfenced.

Inspection Roads

An erosion rill on the north landfill side slope was observed to extend into the north perimeter inspection road (Photo 1). Exposed trash was observed in the erosion rill (Photo 2). The remainder of the existing inspection roads on the property are generally in good condition.

Stormwater Controls

Significant erosion was observed at the upstream (south) end of the west slope of the landfill adjacent to the Santa Cruz River. Erosion control wattles installed in this area have been undermined by rill erosion (Photos 3 and 4).

Stormwater Retention Basins

No stormwater retention basins are located on the landfill.

Landfill Earthen Cap

The landfill cap is generally in good condition in most areas, except for some areas near the northwest corner of the property along boundary drainage where erosion has exposed trash (Photos 2, 6).

Landfill Gas Extraction System Wellfield

There is no landfill gas extraction system at the landfill.

Gas Extraction System Compound

There is no landfill gas extraction system at the landfill.

Landfill Gas Monitoring Wells

The landfill gas monitoring well on the property appears to be in good condition.

Groundwater Monitoring Wells

The groundwater wells at the property appear to be in good condition but have been tagged with graffiti (Photo 5).

Remediation Equipment

None.

Illegal Dumping

Miscellaneous debris in various location and a possible abandoned homeless camp were observed during the inspection. (Photos 7, 8, 9).

Neighboring Land Uses

There have been no changes in land use of neighboring properties since the last inspection.

RECOMMENDED CORRECTIVE ACTIONS

- Erosion on the north slope of the landfill should be repaired. Trash is exposed in the eroded slope and the erosion extends into the north perimeter inspection road.
- Extensive erosion at the south (upstream) end of the west slope of the landfill should be repaired. The existing erosion control wattles have been undermined.
- Graffiti on groundwater monitoring well boxes and bollards was noted as a recommended repair item in the 2014 annual report. It appears this repair was not performed.
- Surface debris on the landfill cap should be removed when equipment is on site to repair eroded areas discussed above.

No other corrective actions are recommended at this time.

Should you have any questions or require additional information, please contact me at 520-321-4625 (office) or 520-488-9205 (cell).

Sincerely,



Chad Hancock
Field Services Manager, Environmental Services

Attachments:

- 1: Landfill Inspection Table
- 2: Site Photographs



ATTACHMENT 1

LANDFILL INSPECTION TABLE

**CITY OF TUCSON ENVIRONMENTAL SERVICES
ANNUAL CLOSED LANDFILL INSPECTION REPORT
RYLAND LANDFILL**

INSPECTION ITEM	DISCREPANCY	CORRECTIVE ACTION
Perimeter Security Fence and Gate (holes, structure issues)	None	
Inspection Roads (washouts, obstructions, potholes)	Erosion of north perimeter road	Repair
Storm Water Controls (berms, let downs, spillways)	South (upstream) end of west landfill slope badly eroded (above gabion mattress bank protection)	Repair
Storm Water Retention Basins (washouts, excessive silt in, holding water)	None	
Landfill Earthen Cap (washouts, trash showing, debris and trash)	Some exposed trash in rills on north landfill side slope	Fill and repair
Landfill Gas Extraction System Wellfield (piping, wells, vaults, washouts)	N/A	
Landfill Gas Extraction System Compound (fencing, blower equipment, flare, carbon canisters)	N/A	
Landfill Gas Monitoring Wells (including bollards, vaults, locks)	N/A	
Groundwater Monitoring Wells (including bollards, vaults, locks)	Graffiti on well boxes and bollards	Paint
Remediation Equipment (compound fence, erosions, leaks)	N/A	
Illegal Dumping (including overgrown vegetation, homeless camps, vectors)	Misc. surface debris in various locations, possible abandoned homeless camp near WR-442A	Clean up at the discretion of COT-ES
Neighboring Land Uses (changing adjacent land uses that will or currently are impacting the landfill site)	None	
INSPECTOR SIGNATURE <i>Paul S. [Signature]</i>	DATE <i>9/29/15</i>	

ATTACHMENT 2

SITE PHOTOGRAPHS



Photo 1: View of erosion & head cutting on north inspection road



Photo 2: Exposed trash in rill on north landfill slope



Photo 3: Erosion at upstream (south) end of landfill west slope (at river)



Photo 4: Erosion at upstream (south) end of landfill west slope (at river)



Photo 5: Graffiti on groundwater monitoring well



Photo 6: Miscellaneous debris outcropping on landfill slope



Photo 7: Concrete debris on landfill cap



Photo 8: Miscellaneous debris on landfill cap



Photo 9: Miscellaneous debris on landfill cap (old homeless camp?)