



State of Oregon
Department of
Environmental
Quality

DEQ Solid Waste Program

LANDFILL INSPECTION REPORT

FACILITY:	Riverbend Landfill				
COUNTY:	Yamhill		PERMIT NO:	345	
INSPECTOR(S):	Bob Schwarz		INSPECTION DATE:	Wed., Apr. 15, 2015	
		Start time:	8:45 am	End time:	12:15 pm
Site Weather Conditions: Partly Sunny, 40s F					
Facility Representatives:		Jeff O'Leary, Tim Watson			
Inspection type:		Announced landfill inspection			
Facility Type:		MSW Landfill			
INSPECTION SUMMARY/KEY ITEMS: - Landfill working face size has been greatly reduced. - Vegetative cover is much improved compared to recent site visits. This was observed both on the inactive portions of the landfill and in the soil management area west of the landfill. - Number of birds was very low. This could be due to seasonal variation, reduced size of working face, or both.					

I.	OPERATIONS	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
1.	Ownership. Facility ownership up to date?	x			
	Notes: This is documented in the annual update of financial assurance, which DEQ received on April 6, 2015.				
2.	Waste Acceptance. Permittee accepts authorized waste only?	x			
	Notes:				
3.	Special Waste Management. SWMP up to date?	X			
	Notes:				
4.	Prohibited Waste. Permittee accepts no prohibited waste? a) hazardous waste b) liquid wastes, lead acid batteries, used oil, vehicles, waste tires c) source separated recyclables d) asbestos e) infectious waste f) large metal jacketed appliances g) explosives	X			
	Notes:				
5.	Prohibited Waste Discovery. Permittee complies with prohibited waste discovery and reporting requirements?	X			
	Notes:				
6.	Open Burning. Does it occur?	X			
	Notes:				
7.	Operational Methods. Operations comply with approved operations plan?	X			
	Notes:				
8.	Operations Plan. Operations plan up-to-date and DEQ-approved?	X			
	Notes:				
9.	Permittee Self-Reporting. Permittee reports and corrects non-compliance conditions?	X			
	Notes:				
10.	Permit. Copy of Permit displayed and accessible to facility personnel?	X			
	Notes: Cover pages posted. Full permits available on office computer.				

I.	OPERATIONS	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
11.	Visual Screening. Landfill screened from public view?	X			
	Notes: Landfill extends above the perimeter trees. In any event, landfill is visible from higher elevations, and is a significant issue for neighbors. However, this is not prohibited in permit.				
12.	Waste Unloading. Signs, fences, barriers clearly define waste unloading areas?	X			
	Notes:				
13.	Litter. Litter controlled and picked up?	X			
	Notes:				
14.	Vector control. Active landfill area has minimal birds, insects, rodents?	X			
	Notes: Number of birds observed was very low. This may be due in part to seasonal variation. Other potential factors: The active working face was much smaller than previously observed. Falconer was onsite with her birds.				
15.	Air Quality, Noise. Dust, odors and noise controlled?	x			
	Onsite road cleaning was observed several times during this inspection. Contractor was also sweeping acceleration lane on Highway 18 heading north. Some discoloration of the northbound lane was observed. I checked for dust as cars drove over this portion of the road. I saw a small amount of dust. Odors: moderate odor within the landfill property. I did not notice odors off the property. I checked this as I drove along Highway 18, and stopped at the intersection of Masonville Road and Highway 18 for about 5 minutes. I did not notice excessive noise from landfill operations.				
16.	Access. Entry roads are safe, provide all weather access and are well maintained?	x			
	Notes:				
17.	Entrance Signs. Entrance signs indicate facility name, emergency phone #, schedule, acceptable and prohibited wastes, and restrict site access?	x			
	Notes:				
18.	Public Access. Adequate security, prevents unauthorized entry and dumping?	X			
	Notes: Fencing and natural features prevent access to the site by motor vehicle.				

I.	OPERATIONS	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
		In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
19.	Cover Methods. Cover (including ADC) complies with DEQ- approved operations plan?	X			
	Notes:				
20.	Records. Permittee keeps records and reports of waste types and amounts of recyclables received and types reported to DEQ	X			
	Notes: Record provided electronically to DEQ.				
21.	Records retention. Permittee keeps all records for at least 5 years?			X	
	Notes:				
22.	Tire Storage. Permittee stores no more than 100 whole tires on site? No more than 2000 tires with continuous contract with removal contractor?	X			
	Notes: Approx 50-100 tires stored within a trailer onsite.				
23.	Fire Protection. Permittee provides adequate on-site fire control measures? Has arranged for assistance from local Fire Department if needed?	X			
	Notes:				
24.	DEQ Fees. Permittee pays annual per-ton fees to DEQ?			X	
	Notes:				

II.	SITE DESIGN AND DEVELOPMENT	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
		In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
25.	Site Development. Landfill development meets DEQ-approved site development plan?	X			
	Notes:				
26.	Engineering Plans. Permittee submitted engineering plans for DEQ review and approval at least 6-months before constructing new cells, final closure features, environmental control systems or ancillary facilities?			x	
	Notes:				

III	FACILITY CONSTRUCTION	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
27.	Design Conformance. All landfill facility construction conforms to DEQ-approved plans and specifications?			x	
	Notes: No construction at this time.				
28.	Construction CQA. Facility Construction complies with DEQ-approved CQA plan?			X	
	Notes: No construction at this time.				
29.	Construction Certification. Permittee submitted construction certification reports to DEQ for review and approval after constructing new facilities?			x	
	Notes: No construction at this time.				
30.	New Approved Disposal Units. DEQ approved placement of waste in new cell?	x			
	Notes: Waste is placed in module 9, following completion of a portion of the MSE berm.				

IV	<u>LEACHATE MANAGEMENT</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
31.	Leachate Prevention. Permittee effectively minimizes leachate generation in active and inactive cells through systematic use of daily cover, intermediate (plastic) cover and phased final closure (close-as-you-go) strategies?				x
	Notes: Recent rains have caused erosion rills on landfill's north slope. This likely increases amount of liquid entering the landfill. In addition, stormwater reaching the stormwater ponds is being treated as leachate as a precaution. Repair of these rills will be done in late spring, when drier conditions make that possible.				
32.	Leachate Seeps. No leachate seeps present beyond lined cell footprints?	x			
	Notes:				

<u>IV</u>	<u>LEACHATE MANAGEMENT</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
33.	Leachate collection system (LCS). Permittee maintains 1-foot or less hydraulic head in primary leachate collection system and continuously removes leachate from collection systems? All LCS systems and equipment in good condition and well maintained?	X			
	Notes: Daily sump level readings are provided quarterly. WM has installed a SCADA system to provide continuous monitoring of leachate levels. Some short-term exceedances have occurred, as WM has reported to DEQ.				
34.	Leak Detection system (LDS). No leachate or other fluids detected in LDS? Permittee reports to DEQ any incidents of leakage through the primary liner system? LDS Systems well maintained?			X	
	Notes: This is documented in the annual report.				
35.	Leachate Storage/Treatment Ponds. Permittee maintains at least 3-feet of pond-dike freeboard above liquid surface? Access restricted by fencing and locked gates? Signs posted indicating pond contents and “no trespassing”? Ponds well maintained, structurally stable, no significant soil erosion, slope failures leaks or seeps? Odor control measures effective?	X			
	Notes: Leachate level in lagoon is approx 6-8 below top of berm. Minimum allowable freeboard is 3 feet.				
36.	Leachate Treatment/Disposal. Leachate treatment methods comply with DEQ-approved leachate management plan? Existing facilities adequate or plans in development to address long-term leachate treatment and disposal? Treatment systems well maintained and functional?			x	
	Notes: Leachate treatment is conducted at offsite, permitted facilities.				

<u>V</u>	<u>STORMWATER MANAGEMENT</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
37.	Stormwater Pollution Control Plan (SPCP). Up-to-date SPCP maintained in the Operating Record. Plan reflects site-specific conditions at the landfill?	x			
	Notes:				

<u>V</u>	<u>STORMWATER MANAGEMENT</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
38.	Stormwater Drainage Structures. Pipes, culverts, ditches, swales, berms, dikes, straw bales, erosion control matting, riprap, and other structures are well maintained, constructed per DEQ-approved design plans and specifications?	X			
	Notes:				
39.	Flood Control Structures. Perimeter flood control dikes are well maintained, structurally sound, in good condition?	X			
	Notes: As noted in previous inspections, soil sloughing was observed along north berm. Designs to address this have been prepared. Construction will be done this summer during dry conditions.				

<u>VI</u>	<u>LANDFILL GAS MANAGEMENT</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
40.	Landfill Gas Extraction System. Vertical wells and horizontal collectors are well maintained and sufficient in number to prevent excessive odors and subsurface gas migration? Header pipes, valves and associated equipment are functional and well maintained? Landfill-wide odors not excessive?	X			
	Notes: Gas equipment was not inspected in detail. However, I met with landfill personnel in charge of the gas collection turbines and discussed operation of the engines that convert landfill gas to electricity. No significant landfill odors observed.				
41.	Condensate Collection/Disposal. Condensate collection system well maintained, functional? Condensate sumps and storage tank(s) well maintained, no fluid leaks, odors not excessive? Permittee has records of condensate volumes and its chemical characteristics? Permittee routinely tests underground condensate sumps for subsurface leakage?			X	
	Notes:				
42.	Landfill Gas Blower/Flare station. Blower/flare station equipment functional and well maintained? Equipment installed reflects DEQ-approved design? No fluid leaks from condensate knockout tanks or other sources, no excessive odors?	X			
	Notes:				

<u>VI</u>	<u>LANDFILL GAS MANAGEMENT</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
43.	Equipment safety. Landfill gas system test equipment and ancillary structures are intrinsically safe (no confined spaces susceptible to landfill gas accumulation)?			X	
	Notes:				
44.	On-site, buildings offices. On-site structures setback adequately from the landfill or have engineering controls and monitoring to prevent and detect landfill gas intrusion and explosion hazards?	X			
	Notes: Buildings are slab on grade, and are equipped with landfill gas sensors.				
45.	Landfill Gas to Energy Facilities. Facilities are well maintained, no excessive odors, no fluid leaks from pipes or other equipment?	X			
	Notes: No excessive odors observed near engine building, or elsewhere.				

<u>VII</u>	<u>ENVIRONMENTAL MONITORING</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
46.	Groundwater Monitoring Program. Permittee conducts groundwater monitoring program in accordance with the DEQ-approved EMP? a) EMP updated to incorporate new or replacement monitoring wells? b) Site characterization reports for new disposal cells submitted for DEQ review and approval? c) Permit specific concentration limits established for the site? d) Annual Environmental Monitoring Reports (AEMR) submitted to DEQ on schedule?			x	
	Notes: Next groundwater monitoring event is schedule for May 4-15, 2015.				
47.	Groundwater Sampling Program. Sampling techniques comply with DEQ-approved EMP? a) DEQ notified at least 10 working days before scheduled sampling event? b) DEQ lab notified at least 45 days before split-sampling event? c) DEQ Lab split-sampling report supports permittee's results?			x	
	Notes:				

<u>VII</u>	<u>ENVIRONMENTAL MONITORING</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
48.	Groundwater Monitoring Well Network. All DEQ-approved detection and compliance wells are properly constructed, functional, and well maintained? a) Well casings vertical, in good condition and stable? b) Concrete pads in good condition, sealed to casings, and stable? c) Well caps on and locked? d) Wells properly identified and labeled? e) Any evidence of surface water ponding or erosion around well locations? f) Any damage to wells? Was it reported appropriately to DEQ within 14 days? g) Any unused wells are properly decommissioned?			x	
	Notes:				
49.	Stormwater Monitoring Program. Established stormwater monitoring stations have identifiable field markings, and are maintained for repeat monitoring events per NPDES stormwater permit requirements and DEQ-approved EMP?	x			
	Notes:				
50.	Leak detection System. Access risers and collection sumps and pumps are functional and well maintained? No fluids present in the leak detection system? Permittee has reported to DEQ and investigated the source of any seepage into the leak detection system?	X			
	Notes:				
51.	Surface Water Monitoring. Designated monitoring stations established and maintained for streams, ponds, lakes or other water bodies of interest per the DEQ-approved EMP?	X			
	Notes:				
52.	Landfill Gas Monitoring Program. Methane gas monitored in accordance with DEQ approved EMP? a) Monitoring results reported in AEMR and maintained in facility operating record? b) Probes are adequately placed and designed to monitor gas migration toward onsite and off-site structures and confined spaces? c) Permittee has inventoried susceptible confined spaces on and near the landfill, identified their locations on a site map, described their characteristics, and monitored for methane at these locations. d) Permittee monitors for landfill gas in liner leak detection system?			x	
	Notes: This information is provided in the annual report. Problems are noted as they arise.				

<u>VII</u>	<u>ENVIRONMENTAL MONITORING</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
53.	Landfill Gas Monitoring Probes or Devices. All gas monitoring probes or sensors are properly constructed, labeled and maintained? a) Probes casings are vertical, in good condition, have locked security caps? b) Gas testing meter is properly calibrated before each monitoring event and maintained by manufacturer. c) Gas monitoring procedures conform to DEQ-approved EMP?	x			
	Notes: I did not inspect all gas mgmt structures. The ones I did see appeared to be in good condition.				

<u>VIII</u>	<u>LANDFILL CLOSURE</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
54.	Closure Process. Permittee has DEQ-approved closure plan and implements plan appropriately and effectively? Phased closure conforms to DEQ approved plans and schedule?			x	
	Notes: Closure plan was submitted 12-30-2014. We are holding off on review because we anticipate receiving an expansion application shortly.				
55.	Final Landfill Cover. Final cover system constructed in conformance with DEQ-approved plans and specs? a) Cover system in good condition and well maintained? b) Maintenance procedures consistent with DEQ approved O&M manual? c) Surface contours promote efficient drainage, prevent storm-water ponding?			X	
	Notes:				

<u>IX</u>	<u>FINANCIAL ASSURANCE</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
56.	Financial Assurance Plan. Has permittee updated the FA plan and documented the update in the facility operating record?	X			
	Notes:				

<u>IX</u>	<u>FINANCIAL ASSURANCE</u>	In Compliance	Not in Compliance	N/A for this Inspection	Follow-up required
57.	Annual Certification. Has permittee submitted annual update certification to DEQ by the annual review date?	x			
	Notes:				
58.	Financial Assurance Expenditures. FA funds used only for closure, post-closure and corrective action?			X	
	Notes:				
59.	Continuous Financial Assurance. Permittee maintains continuous FA for the landfill?			X	
	Notes: Annual update was submitted on April 6, 2015. I have not reviewed this yet.				

Bob Schwarz

April 16, 2015

DEQ Representative

Date

PHOTOS



1. Hwy 18 looking south.



2. Hwy 18 looking north.



3. Sediment traps in swale along landfill side of Hwy 18, looking north. These include wattles (mesh tubes filled with mulch) and gravel sediment traps.



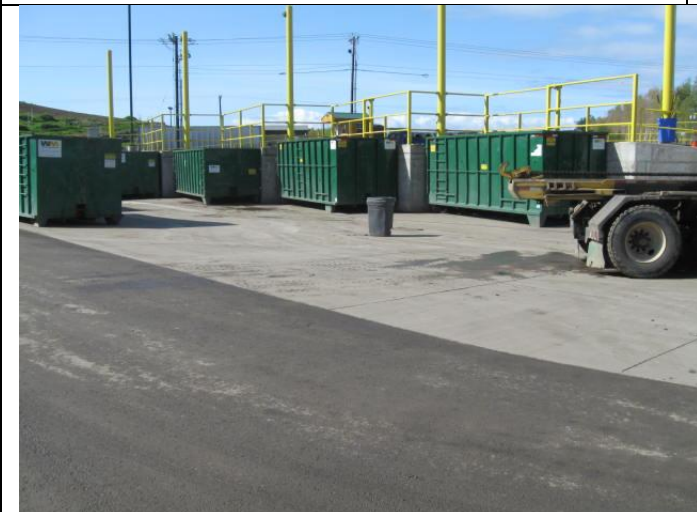
4. Highway and drainage swale, looking north.



5. Discharge pipe where swale enters creek. Downhill side of pipe is covered by geotextile filter fabric.



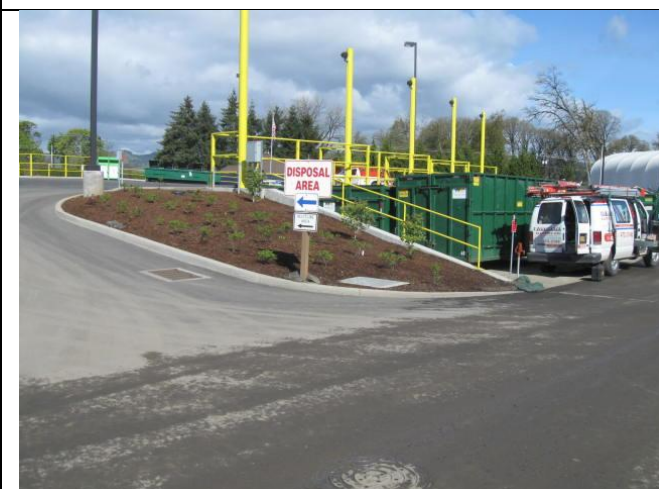
6. Methane sensor in office building conference room.



7. Residential drop-off area.



8. Pressure-washing truck tires by hand.



9. Signs for residential trash drop-off area.



10. Engines that convert landfill gas to electricity (six total)



11. Another view of gas engines.



12. Control panel for landfill gas engines.



13. Floor of truck wash station.



14. North slope of landfill.



15. Stormwater outfall #4. Water discharge is difficult to see in photo; water is quite clear.



16. Stormwater basin near SW corner of landfill, looking west.



17. Stormwater basin near SW corner of landfill, looking southeast.



18. View, looking west, of creek that runs south of proposed Module 11 landfill expansion area. Poplar trees are to the right (north).



19. Leachate storage pond.



20. Module 11 area, looking north.



21. Module 11 area, looking northwest. Highway 18



22. Trailers holding (left to right) tires, electronics,

is just beyond poplar trees.



23. View of working face at module 9, looking west from top of landfill.

bicycles.



24. Falcons used for control of scavenging birds.