



Developing Visual Monitoring Form

Guidance

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Alaska Department of Environmental Conservation
Division of Environmental Health
Solid Waste Program

Visual monitoring is an internal quality control measure to detect problems or potential problems at the facility that might be detrimental to the design, impact operations, result in a permit or regulatory violation, or impact human health or the environment. Documented monthly visual monitoring is required for the active life and post-closure period of a facility [18 AAC 60.396, 18 AAC 60.397, 18 AAC 60.490, & 18 AAC 60.800(a)]. In addition, the permit application for most landfills requires that the visual monitoring plan must include the checklist or form that will be used for visual monitoring.

The monitoring form is usually organized either by the item or issue to address with each separate location identified, as shown in Example 1, or it can be organized by location, with a list of each item to be addressed at that location, as shown in Example 2. The tables show only a portion of a monitoring form. An actual form would include each applicable requirement for each section of the landfill. Each item should be phrased so it is easily understood by the individual performing the visual inspection.



A visual monitoring form must be site specific and should include certain items in the regulation and permit with a place to note compliance, to make comments, and to note that any issues were resolved. The simpler and more direct the form, the easier it is to produce useful results with varying inspectors.

Example 1

Portion of a Visual Monitoring Form Organized by Item or Issue

| ITEM | YES/ NO | COMMENTS | ISSUE RESOLVED |
|--|------------|----------|-------------------|
| Damage from settlement ponding, leakage, thermal instability, frost action, erosion, thawing, or operations. | | | |
| Cell 1 | | | |
| Cell 2 | | | |
| Roads | | | |
| Public disposal area, etc. | | | |

Example 2

Portion of a Visual Monitoring Form Organized by Location

| ITEM | YES/ NO | COMMENTS | ISSUE RESOLVED |
|---|------------|----------|-------------------|
| Cell 1 | | | |
| (1) Settlement, ponding, erosion, thawing, instability, etc. causing damage | | | |
| (2) Monitoring devices damaged, tampered with, unlabeled, or unlocked | | | |
| (3) Ponding in or on the cell | | | |
| (4) Waste in surface water or in stormwater system | | | |
| (5) Evidence of fire/combustion in the waste, etc. | | | |

While the regulation for visual monitoring appears limited in scope, it requires detecting and documenting “violations of permit conditions or requirements of this chapter...”. To address this, while you do not need to address the entirety of 18 AAC 60, you should include any issues that have been noted in previous inspections, as well as areas that are more likely to become issues. We recommend addressing at least the following for each area of the landfill, where applicable:

| DESCRIPTION | | YES/NO |
|---|--|--------|
| Access Control and Signs | | |
| 1. | Is access to and within the facility limited and controlled? | |
| 2. | Is there any evidence of unauthorized access or dumping? | |
| 3. | Are signs posted with contact information and hours of operation? | |
| 4. | Are signs prohibiting hazardous, PCB, and other required waste posted and clearly legible? | |
| General Facility Components | | |
| 5. | Are there any signs of damage to the retaining walls, roads, public areas, or other structures? | |
| 6. | Are they in safe and operable condition? | |
| 7. | Is waste management and handling equipment in operable condition? | |
| Liner | | |
| 8. | Are any tears or cracks in the liner visible? | |
| 9. | Any other signs of damage to the liner? | |
| Monitoring Devices | | |
| 10. | Are monitoring wells, gas vents, and thermistors easily located and accessible (clear of vegetation and debris)? | |
| 11. | Are monitoring structures functional and well maintained? Locked? Clearly Labeled? | |
| 12. | Are monitoring structures free of signs of tempering? | |
| 13. | Have monitoring structures been impacted by frost action (frost heaving, raised or cracked surfaces)? | |
| 14. | Have monitoring structures been otherwise damaged (missing, dented, or bent)? | |
| Stormwater Management System | | |
| 15. | Are pipes, culverts, ditches, swales, berms, dikes, straw bales, erosion control matting, riprap, and other stormwater structures well maintained and free of waste? | |
| 16. | Does the control system prevent run-on from flowing into the active cell? | |
| 17. | Does the control system prevent run-off the landfill from impacting nearby lands or waters? | |
| 18. | Is there any standing water in the landfill? | |
| Leachate Management/Collection | | |
| 19. | Are the leachate collection system structures and equipment in operable condition and well maintained? | |
| 20. | Is any leachate storage or treatment system functioning properly? | |
| Waste Handling and Placement | | |
| 21. | Is the waste disposal area at least 50 feet from the property boundary? | |
| 22. | Do the landfill slopes appear properly graded and stable? (Look for cracks, sloughing of soil or waste) | |
| Waste Handling and Placement (continued) | | |

| DESCRIPTION | | YES/NO |
|---------------------------------------|--|--------|
| 23. | Are there any prohibited wastes disposed in or around the landfill? | |
| 24. | Is there any waste in contact with surface water, including temporary ponding? | |
| 25. | Are disposed wastes sufficiently covered? | |
| Impacts to Landfill Cells | | |
| 26. | Are there any signs of frost action (frost heaving, raised or cracked surfaces)? | |
| 27. | Do the landfill slopes appear properly graded and stable? (look for cracks, sloughing of soil or waste) | |
| 28. | Is there any settling of waste causing depressions or holes in the landfill? | |
| 29. | Is there visible evidence of a leachate seep? (If so contact ADEC) | |
| 30. | If leachate is visible, is it contained within the landfill cell? | |
| 31. | Is any waste apparent on closed or inactive areas? | |
| 32. | Freeze back landfills: Are there signs of waste thawing or high thermistor readings? | |
| RACM Cell | | |
| 33. | Are any exposed or broken bags of RACM evident? | |
| 34. | Are there any visible emissions (dust)? | |
| 35. | Have 6 inches of cover been applied to the RACM waste? | |
| 36. | Are there any signs of compaction in the RACM waste? | |
| 37. | Is access to the RACM cell limited and controlled? | |
| Non-RACM Disposal | | |
| 38. | Has any non-RACM appear to become friable (damage, emissions, etc.)? | |
| 39. | Is non-RACM covered (but not compacted prior to cover)? | |
| Litter/Vector/Nuisance Control | | |
| 40. | Is there minimal litter within the landfill boundary? | |
| 41. | Is there any litter outside the landfill boundary? | |
| 42. | Are dust, odor, noise, traffic or other effects controlled so they do not cause a nuisance to neighboring homes or businesses? | |
| 43. | Is there evidence of animals (bear, fox, domestic pets, etc.) in the landfill (presence, footprints, digging, scat)? | |
| 44. | Are there any excessive number of birds present at the working face? | |
| Burning | | |
| 45. | If burning is allowed under the permit, is burning limited to approved materials? | |
| 46. | Is burning limited to the designated/approved location? | |
| Salvage Area | | |
| 47. | Is the salvage area well-managed to protect the safety and health of the salvagers? | |
| Special Waste | | |
| 48. | Are uncovered sewage solids present? | |
| 49. | Is untreated medical waste present? | |
| 50. | Are fluids and batteries removed from vehicles prior to disposal? | |
| 51. | Are stored and/or disposed vehicles creating a safety hazard? | |
| 52. | Are there any signs of fluids leaking from stored vehicles? | |

| DESCRIPTION | | YES/NO |
|----------------------|---|--------|
| 53. | Are there any signs of leaks from household hazardous waste or other liquids? | |
| Miscellaneous | | |
| 54. | Is there evidence of fire or combustion in the waste? | |
| 55. | Is there evidence of death or stress to fish, wildlife, or vegetation that might be caused by the landfill? | |
| 56. | Do any surrounding wetlands appear healthy, with no evidence of stress to plants, discolored water, or other evidence of wetland degradation? | |