Inspection and Maintenance Requirements for Detention Ponds

Maintenance Checklist

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance Is Performed	Satisfactory	Unsatisfactory	Comments
General	Trash & debris	• Any trash and debris which exceed 1 cubic foot per 1,000 square feet. In general, there should be no visual evidence of dumping. • If less than threshold, remove trash and debris as part of next scheduled maintenance.	• Trash and debris cleared from site			
	Poisonous vegetation and noxious weeds	• Any poisonous or nuisance vegetation which may constitute a hazard to maintenance personnel or the public. • Any evidence of noxious weeds as defined by State or local regulations. *Apply requirements of adopted IPM policies for the use of herbicides.*	• No danger of poisonous vegetation where maintenance personnel or the public might normally be. *Coordinate with the local health department.* • Complete eradication of noxious weeds may not be possible. Compliance with State or local eradication policies required.			
	Contaminants and pollution	• Any evidence of oil, gasoline, contaminants or other pollutants. *Coordinate removal/cleanup with local water quality response agency*.	• No contaminants or pollutants			

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General (cont.)	Rodent holes	• Any evidence of rodent holes if facility is acting as a dam or berm, or any evidence of water piping through dam or berm via rodent holes.	• Rodents destroyed and dam or berm repaired. *Coordinate with local health department; coordinate with Ecology Dam Safety Office if pond exceeds 10 acre-feet*.			
	Beaver dams	• Dam results in change or function of the facility.	• Facility is returned to design function. *Coordinate trapping of beavers and removal of dams with appropriate permitting agencies*			
	Insects	• When insects such as wasps and hornets interfere with maintenance activities.	• Insects destroyed or removed from site. • Apply insecticides in compliance with adopted IPM policies			

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General (cont.)	Tree growth and hazard trees	• Tree growth does not allow maintenance access or interferes with maintenance activity (i.e., slope mowing, silt removal, vactoring, or equipment movements). If trees are not interfering with access or maintenance, do not remove • If dead, diseased, or dying trees are identified *Use a certified Arborist to determine health of tree or removal requirements*	• Trees do not hinder maintenance activities. Harvested trees should be recycled into mulch or other beneficial uses (e.g., alders for firewood). • Remove hazard trees			
Side slopes of pond	Erosion	• Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. • Any erosion observed on a compacted berm embankment.	• Slopes should be stabilized using appropriate erosion control measure(s); e.g., rock reinforcement, planting of grass, compaction. • If erosion is occurring on compacted berms, a licensed civil engineer should be consulted to resolve source of erosion.			

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Storage area	Sediment accumulation	• Accumulated sediment that exceeds 10% of the designed pond depth unless otherwise specified or affects inlets or outlets of the facility.	• Sediment cleaned out to designed pond shape and depth; pond reseeded if necessary to control erosion.			
	Liner damage (if applicable)	• Liner is visible and has more than three 1/4-inch holes in it.	• Liner repaired or replaced. • Liner is fully covered.			
Pond berms (dikes)	Settlement	• Any part of berm which has settled 4 inches lower than the design elevation. If settlement is apparent, measure berm to determine amount of settlement. • Settling can be an indication of more severe problems with the berm or outlet. • A licensed civil engineer should be consulted to determine the source of the settlement.	• Dike is built back to the design elevation.			

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Pond berms (dikes) (cont.)	Piping	• Discernable water flow through pond berm. Ongoing erosion with potential for erosion to continue. *Recommend a Geotechnical Engineer be called in to inspect and evaluate condition and recommend repair of condition.*	• Piping eliminated. • Erosion potential resolved			
Emergency overflow/ spillway and berms over 4 feet in height	Excessive tree growth	• Tree growth on emergency spillways creates blockage problems and may cause failure of the berm due to uncontrolled overtopping. • Tree growth on berms over 4 feet in height may lead to piping through the berm which could lead to failure of the berm.	• Trees should be removed. If root system is small (base less than 4 inches), the root system may be left in place. • Otherwise the roots should be removed and the berm restored. • A licensed civil engineer should be consulted for proper berm/ spillway restoration.			
	Piping	• Discernable water flow through pond berm. Ongoing erosion with potential for erosion to continue. *Recommend a Geotechnical Engineer be called in to inspect and evaluate condition and recommend repair of condition.*	• Piping eliminated. • Erosion potential resolved.			

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Emergency overflow/ spillway	Missing rock	• Only one layer of rock exists above native soil in area five square feet or larger, or any exposure of native soil at the top of out flow path of spillway.	• Rocks and pad depth are restored to design standards. *Rip-rap on inside slopes need not be replaced.*			
	Erosion	• Eroded damage over 2 inches deep where cause of damage is still present or where there is potential for continued erosion. • Any erosion observed on a compacted berm embankment.	• Slopes should be stabilized using appropriate erosion control measure(s); e.g., rock reinforcement, planting of grass, compaction. • If erosion is occurring on compacted berms, a licensed civil engineer should be consulted to resolve source of erosion.			