

Waterbury Filing No. 1 & 2 Operations and Maintenance Manual Extended Detention Basin

County Job No. EA 17-040

Extended detention basins have low to moderate maintenance requirements. Routine and non-routine maintenance is necessary to assure performance, enhance aesthetics, and protect structural integrity. Dry basins can result in nuisance complaints if not properly designed or maintained. Bio-degradable pesticides may be required to limit insect problems. Frequent debris removal and grass-mowing can reduce aesthetic complaints. If a shallow wetland or marshy area is included, mosquito breeding and nuisance odors could occur if the water becomes stagnant.

4 Way Ranch Metropolitan District No. 2

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1. Electronic Storage Extended Detention Basins Maintained by Electronic Storage.

There are 3 Extended Detention Basin on the Waterbury Filing No. 1 & 2 property that 4-Way joint Ventures owns and maintains. The following are details of this detention basin. Attached to this manual is a map showing the detention basin location.

Extended Detention Basin Pond 1– Extended Detention Basin with WQCV. This full spectrum detention basin will be built in 2021. The final drainage report for Waterbury Filing No. 1 & 2 covers the drainage calculations for this pond.

Extended Detention Basin Pond 2– Extended Detention Basin with WQCV. This full spectrum detention basin will be built in 2021. The final drainage report for Waterbury Filing No. 1 & 2 covers the drainage calculations for this pond.

Extended Detention Basin Pond 3– Extended Detention Basin with WQCV. This full spectrum detention basin will be built in 2021. The final drainage report for Waterbury Filing No. 1 & 2 covers the drainage calculations for this pond.

2. Access

The Extended Detention Basin Pond 1 can be accessed from the Saybrook Road. There is a gravel access ramp on the east corner of the Extended Detention Basin.

The Extended Detention Basin Pond 2 & 3 can be accessed from the end of Sunken Meadow Drive with a maintenance road to both. There is a gravel access ramp on the east corner of the Extended Detention Basin 3.

3. Inspections

Inspection and Frequency

- Annually inspect detention basin to insure that the basin continues to function as initially intended. The annual inspection should evaluate the forebay, pond side slopes, inflow channel, the spillway condition, the depth of sediment in the forebay, outlet structure, trash rack, downstream channel, and the condition of the downstream face of the pond. A site survey will be the best indication of excessive sediment buildup and degradation of the spillway. In addition, an inspection of the vegetation on the berm, inside the detention area and the downstream face of the spillway should be conducted. Any bare areas should be noted and repaired using native grasses. Any sloughing or erosion of the embankment should be noted and repaired. Items to record will include any items inspected and the mowing frequency of the vegetation on the facility.

- Just before annual storm seasons (that is, April and May) and following significant rainfall events, inspect for litter and debris that may plug outlets. Of notable importance, the inspections should also include the water quality orifice plate and trash rack to ensure plugging has not occurred.

- A baseline survey should be performed at the time of construction and comparison surveys conducted every ten to twenty years after to monitor overall performance of the pond. Results of inspections should be recorded and kept at a central location for review and recording by the district.

Inspection Personnel

A qualified engineer, surveyor, or certified storm water inspector should conduct inspections of the facility.

4.0 Operations

No specific operating instructions are required.

5.0 Maintenance

Maintenance of the Extended Detention Basin shall be in accordance with the guidelines included in Table EDB-1, below.

Table EDB-1		
Required Action	Maintenance Objective	Frequency of Action
Lawn mowing and lawn care	Occasional mowing to limit unwanted vegetation. Maintain irrigated turf	Routine – Depending on aesthetic requirements.

	grass as 2 to 4 inches tall and nonirrigated native turf grasses at 4 to 6 inches.	
Debris and litter removal	Remove debris and litter from the entire pond to minimize outlet clogging and improve aesthetics. Outlet structure trash racks should be clear of any blockage.	Routine – Including just before annual storm seasons (that is, April and May) and following significant rainfall events.
Erosion and sediment control	Repair and revegetate eroded areas in the basin and channels.	Nonroutine – Periodic and repair as necessary based on inspection.
Structural	Repair pond inlets, outlets, forebays, low flow channel liners, and energy dissipators whenever damage is discovered.	Nonroutine – Repair as needed based on regular inspections.
Inspections	Inspect basins to insure that the basin continues to function as initially intended. Examine the outlet for clogging, erosion, slumping, excessive sedimentation levels, overgrowth, embankment and spillway integrity, and damage to any structural element.	Routine – Annual inspection of hydraulic and structural facilities. Also check for obvious problems during routine maintenance visits, especially for plugging of outlets.
Nuisance control	Address odor, insects, and overgrowth issues associated with stagnant or standing water in the bottom zone.	Nonroutine – Handle as necessary per inspection or local complaints.
Sediment removal	Remove accumulated sediment from the forebay, micro-pool, and the bottom of the basin.	Nonroutine – Performed when sediment accumulation occupies 20 percent of the WQCV. This may vary considerably, but expect to do this every 10 to 20 years, as necessary per inspection if no construction activities take place in the tributary watershed. More often if they do. The forebay and

		the micro-pool will require more frequent cleanout than other areas of the basin, say every 1 or 2 years.
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