

NORTHVIEW ESTATES & NORTHVIEW ESTATES 1ST ADDITION DRAINAGE MAINTENANCE PROCEDURES

Bi-annual inspections should be conducted on all drainage facilities as a minimum, with optimum times being early spring and late fall. Inspections should also be conducted after a heavy rainstorm, paying close attention to curb openings and the grates on the catch basins. The pond outlet structure should also be inspected to assure the inlet holes are kept clear.

Additional items of interest pertaining to the individual components are as follows:

A. CATCH BASINS

1. Inspect amount of siltation and debris collection in the sump. Clean sump before it fills to prevent silt and gravels from entering pipes or drainage pond.
2. Keep grates clear of all leaves, pine needles, and litter.
3. Make adjacent property owners aware of these procedures for their assistance to monitor the situation.

B. STORM DRAIN PIPES AND CULVERTS

1. Inspect pipes for interior siltation, structural integrity, settlement, or voids around their entrance or outlet.
2. Always inspect conduit for siltation whenever the catch basin is cleaned. Pipes may need to be flushed.
3. If culvert or catch basin silts up repeatedly, check for cause, and consult Engineer if remedy is not apparent.

C. DRAINAGE SWALES (accessible from Northview Lane or Orchard Road)

1. Proper growth of dryland grass within the swales is essential. Brown or barren areas should be reworked and re-seeded to maintain proper coverage.
2. Water should not pond in any swale for an extended period of time. Cattail or reed grass growth is an indication that infiltration has been reduced, and the swale bottom should be reworked and restored.
3. If any erosion is observed around curb aprons or culvert ends, it should be repaired immediately. If this condition occurs repeatedly, installation of rip rap may be necessary.

4. Drainage swale / ditch along Orchard Road should be mowed as necessary by the homeowners to keep grass from getting tall enough to inhibit flow toward the south pond / swale. The south drainage pond / swale should be mowed and maintained twice yearly. Periodic maintenance and mowing fall within the responsibilities of the homeowners association. During mowing, the maintenance person should also be watchful for evidenced erosion, siltation, or prolonged soggy and poorly draining swale bottoms.

D. DRAINAGE POND (accessible from Edna Street)

1. Dryland grass along the pond side slopes is important to control erosion. Any area where grass is not established should be re-seeded for proper coverage.
2. If erosion occurs, causing the pond liner to become exposed, soil cover should be replaced and re-seeded.
3. The sump at the pond outlet pipe should be inspected a minimum of twice per year. Silt and plant growth should be removed.
4. Cattail growth often occurs in lined ponds. Cattails should be removed every two years so that the pond volume is not reduced by continual growth.

E. POND OUTLET STRUCTURE (accessible from Edna Street)

1. There is a 2' deep sump in the bottom of the outlet structure. The structure should be inspected a minimum of four times per year to assure that the inlet holes are clear and to remove silt from the sump.

**Sinking Fund Reserve Account
Calculations for
Operation & Maintenance Costs Plus Replacement Costs
Northview Estates and Northview Estates 1st Addition**

Annual operation and maintenance costs, O & M	\$3,410
Present value of storm pipe system, PV	\$229,200
Assume 50% replacement of pipes in 20 years, PV/2	\$114,600
Future value of pipes to replace in 20 years, FV assume inflation = 4%, n = 20 (PV/2 * 2.1911)	\$251,100
Annual set-aside for future replacement of pipes, A assume investment interest – 6% (FV * .0272)	\$6,830
Total charges per year (O & M + A) For 118 lots Annual charge per lot = cost +set-aside amount A (O & M + A)/ 118	\$87