

Addendum 1

Storm Water Pollution Prevention Plan
For
Residential/Commercial Subdivision Development
Horizon Shores First Addition

Including Projects
05-A6-4 Horizon Shores First Addition
Underground Utilities
And
05-A2-2 Horizon Shores First Addition
Street Paving

Project Location
South of 12th Avenue South and East of 34th Street South

W 1/2 of the NE 1/4 of Section 15, Township 139N, Range 48W

Prepared June 2005

City of Moorhead
Wastewater Division

The following text will replace the Table of Contents of the existing Storm Water Pollution Prevention Plan (SWPPP) for this project.

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SINGLE FAMILY RESIDENTIAL CONSTRUCTION EROSION/SEDIMENT CONTROL STANDARDS

MINNESOTA GENERAL STORM WATER PERMIT FOR CONSTRUCTION ACTIVITY (MN R100001)

The following will replace the text in Section 5 of the existing Storm Water Pollution Prevention Plan (SWPPP) for this project.

5. Storm Water Pollution Prevention Controls

The purpose of this section is to identify the types of temporary and permanent erosion and sediment controls that will be used for this project. The following controls will provide soil stabilization for disturbed areas and structural controls to prevent erosion, divert runoff and remove sediment.

e. Temporary Erosion and Sediment Control During Underground Utility Installation Phase

A tabulated list of stabilization procedures has been developed and locations where they are needed are shown on the project plan sheets “Storm Water Pollution Prevention Plan (Sheets 20 and 21)”, “Erosion Control Detail and Notes (Sheet 22)”. These are part of the bid package and are attached.

This project will use silt fence and grass filter strips for perimeter control around soil stockpiles, grass buffer strips as project perimeter control, woodchip construction entrance and inlet protection. Bio-rolls and erosion control mats will be used in ditch bottoms for sediment control. Erosion control fabric will be placed around inlets that are not located in paved areas. Seeding will be used for rapid stabilization and permanent stabilization on the project.

- Prior to work commencing on the project, rock construction entrance(s) will be installed (as shown on the Plan Sheets). The construction entrance(s) will be maintained throughout the underground phase of construction.
- Haul routes during construction are restricted to those shown on the Plan Sheets for Underground Utilities.
- Haul routes (designated on the Plan Sheets) shall be swept at least once per week during construction.
- Daily removal of tracked sediments is required on paved streets leading from the construction entrance(s).
- Prior to construction commencing, any silt fence, wattles or bio-rolls shall be placed as shown on the Plan Sheets.
- Wood fiber blanket or mulch shall be installed at the time of seeding where designated on the Plan Sheets.
- A concrete truck washout area shall be constructed, designated and maintained (as shown on the Plan Sheets).
- All storm sewer inlets will receive Type A or B inlet protection.
- Any storm water inlets not in the street right-of-way will require permanent seeding (as shown on the Plan Sheets).

f. Temporary Erosion and Sediment Control During Curb, Gutter, Paving and Grading Phase

A tabulated list of stabilization procedures has been developed and locations where they are needed are shown on the project plan sheets. In addition the measures listed in Temporary Erosion and Sediment Control During Underground Utility Installation Phase must also be maintained during this phase of the project. During this phase of the project additional erosion and sediment control measures will be required as follows:

- Prior to work commencing on the project, a rock construction entrance(s) will be installed where designated on the Plan Sheets. The construction entrance(s) will be maintained throughout the paving phase of construction and may be removed only at the time paving occurs in the immediate area of the entrance.
- Haul routes during construction are restricted to those shown on the Plan Sheets.
- Haul routes (designated on Plan Sheets) shall be swept at least once per week during construction.
- Daily removal of tracked sediments is required on paved streets leading from the construction entrance(s).
- A concrete truck washout area shall be constructed, designated and maintained (as shown on the Plan Sheets).
- After curbs are installed catch basin inlets within the curb lines will receive Type C inlet protection. Until that time Type A or B inlet protection must be maintained.
- Maintain rear-yard inlet protection during grading and seeding operations.
- After paving is completed, designated rear-yards and all boulevards (street right-of-ways) shall be seeded, mulched or receive fiber blankets per specifications and Plan Sheets.

g. Temporary Erosion and Sediment Control During Home Building Phase

During the home building phase the Developer and Lot Owner/Contractor have responsibility to maintain any erosion and sediment control measures put in place during previous phases. In addition they must comply with the Single Family Residential Construction Erosion/Sediment Control Standards by doing the following:

- Install construction fencing to protect the boulevard right-of-way area that has been seeded.
- If the above area has been disturbed or is absent of grass, a silt fence or wattle (sediment logs) and the above construction fencing must be installed along the curb line.
- A construction entrance must be installed and maintained throughout the home building phase, or until the driveway is installed (if the construction entrance is located where the driveway will be installed).

- Soil stockpiles must receive either silt fence or wattles (sediment logs) to capture erosion and sediment runoff.
- If storm water drains from the lot under construction onto adjacent property and the adjacent lot has been graded, sodded or seeded, then the lot perimeter must receive silt fence or wattles (sediment logs) to capture any sediments eroding from the construction site.
- During home building good house keeping measures must be implemented to keep garbage, building materials and any hazardous substances from leaving the construction site.
- At the time of final grading for lawn installation the boulevard right-of-way must received approved erosion and sediment controls within 5 days of completing grading work.

d. Temporary Erosion and Sediment Control During Commercial Construction Phase

- Install construction fencing to protect the boulevard right-of-way area that has been seeded.
- If the above area has been disturbed or is absent of grass, a silt fence or wattle (sediment logs) and the above construction fencing must be installed along the curb line.
- A construction entrance must be installed and maintained throughout the commercial construction building phase, or until the driveway is installed (if the construction entrance is located where the driveway will be installed).
- Soil stockpiles must receive either silt fence or wattles (sediment logs) to capture erosion and sediment runoff.
- If storm water drains from the lot under construction onto adjacent property and the adjacent lot has been graded, sodded or seeded, then the lot perimeter must receive silt fence or wattles (sediment logs) to capture any sediments eroding from the construction site.
- During commercial construction good house keeping measures must be implemented to keep garbage, building materials and any hazardous substances from leaving the construction site.
- At the time of final grading for lawn installation the boulevard right-of-way must received approved erosion and sediment controls within 5 days of completing grading work.

The following soil exposure condition table* will be used during all phases of construction, including stockpiles of clay and topsoil:

Type or Condition of Slope	Areas of Inactivity --Working Days Until Area Must be Stabilized
Steeper than 3:1	7 days
10:1 to 3:1	14 days
Flatter than 10:1	21 days
Ditch within 200 feet of “Water of the State”	Begin within 24 hours of ditch connection to “Water of the State” – stabilization must be completed within 5 working days

* This is the maximum time that an area within 200 feet of a “Water of the State” can remain exposed without a vegetative cover. The term “Waters of the State” also includes curbs, gutters, storm system inlets and temporary or permanent ditches that are directly connected to a “Water of the State”. The above as defined by MN NPDES/SDS General Storm Water Permit for Construction Activity MN R100001.

- e. Site Control Measures and Best Management Practices for All Phases of Construction:
1. Keep excavation and soil disturbing activities such as grading to a minimum.
 2. Install silt fence or wattles (sediment logs) around all clay and topsoil stockpiles.
 3. Retain existing vegetation when possible.
 4. Silt fences and wattles (sediment logs) need to be cleaned, replaced or supplemented when they reach 1/3 capacity (1/3 of height). These actions must occur within 24 hours of discovery or as soon as field conditions allow access to the site.
 5. Maintain construction entrances so that sediments are not tracked onto streets. Sweep any sediment tracked onto streets within 24 hours of discovery. This includes construction entrances to individual lots where home building is underway. Sweepers that “fling” material into the air rather picking up material will not be allowed.
 6. Have materials on-site to contain and cleanup any contaminants leaked onto the ground during construction.
 7. Cover or store materials (particularly fuels) so that they are not at risk to contaminate the project area during rainfall or storm water flow.
 8. Water will be used for dust control on this project.
 9. Good housekeeping measures are to be implemented to eliminate materials, materials packaging and other litter from leaving the project area. This is especially important during home construction.
 10. Inlet protection will remain in place until 70 percent of the adjacent lots are stabilized. Care will be taken to avoid disturbing protected inlets.

11. Grass filter strips will be maintained adjacent to the curb line on all undeveloped lots.
12. Care will be taken to avoid disturbing BMPs in place such as silt fence, wattles or grass filter strips along curb lines during home construction. A single rocked or gravel construction entrance will be designated and maintained into each lot under construction.
13. De-watering of trenches or basins must be done in a manner that does not cause erosion, scour or deposit sediment in curbs, gutters, storm system inlets and temporary or permanent ditches that are directly connected to a "Water of the State". The discharge must be dispersed over rock riprap, sand bags, plastic sheeting or other accepted energy dissipating measures. Use of a temporary sediment basin or sediment (filter) bags is preferred.
- 14. Specify and allow concrete truck washout only in designated area.**

f. Permanent Erosion Control

A newly constructed permanent sediment control pond, built to comply with NPDES standards, will be used to meet water quantity and quality standards. All residential lots will be vegetated with permanent cover as homes are built and sold to residents. All commercial lots will have exposed soil areas permanently stabilized with vegetation.

g. Coordination of Best Management Practices (BMPs) During Construction

Structural BMPs will be coordinated with construction activities so that BMPs are in place prior to soil disruption. The following BMPs will be coordinated with construction activity.

- i. Silt fence or wattles (sediment logs) around the soil stockpiles will be installed prior to stockpiling material with seeding of the grass filter strip completed immediately following completion of stockpiling.
- ii. Access roads will be stabilized prior to construction to prevent tracking sediment from the project area.
- iii. Inlets will be protected per specifications as they are constructed. Existing inlets will be protected prior to disruption of any soil in the project area.
- iv. All BMPs will be maintained in place until the project area is stabilized.
- v. Once grading in an area has ceased, temporary or permanent stabilization/seeding will occur per the timetable outlined above.
- vi. The pond slopes shall be covered with erosion control mats immediately following seeding.
- vii. Any ditch bottoms created or disturbed are to be seeded followed by sediment logs and erosion control fabric within 24 hours of grading completion.

h. Certification of Compliance with Federal and State Regulations

This SWPPP reflects the requirements of NPDES for storm water management and erosion and sediment control for construction. To ensure compliance, this plan was prepared in accordance with the University of Minnesota Design Training Certification Program, MnDOT specifications used in the project plans and specifications and the Memorandum of Understanding between MnDOT and MPCA.