Erosion Control Plan of
Sandhill Farms

Maintenance Plan

1. All erosion control and storm water management practices will be checked for stability and operation every seven (7) days and within twenty-four (24) hours of a storm producing at least 0.1 inches of rainfall. Any needed repairs will be made immediately to maintain all practices as designed.
2. Remove sediment from behind any silt fence when it has accumulated to a depth of twelve (12) inches or more. When the fence can no longer filter water or trap sediment, repair the silt fence to provide and effective barrier.
3. All seeded areas, including the ditches, will be reseeded and mulched as necessary according to specifications in the planned practices to maintain a vigorous, dense vegetative cover.
4. Any drainage ditches experiencing excessive erosion and channel degradation due to high runoff volumes will be re-graded and covered with a biodegradable erosion control mat. Installation will follow manufacturer's recommendations.
5. Remove silt fence and temporary structures after final stabilization and vegetative cover is established.
6. Avoid the use of fertilizers or pesticides in channel areas.
7. Forebays will be cleaned of any accumulated sediment after final stabilization has occured.
8. The contractor shall provide additional BMP's as necessary in places when due to site conditions or construction operations result in concentrated runoff or erosive conditions.

Sequence of Construction

1. Obtain plan approval and other applicable permits. **November 2017.**
2. Flag the work limits. **November 2017.**
3. Install sediment control structures **November 2017.**
4. Clear trees and brush from work zone**, November 2017.**
5. Strip and place topsoil, **November 2017.**
6. Construction of sewer and water by the Town**, December 2017 - January 2018.**
7. Construct roadways. Field inspect work and add extra measures if necessary. **February 2018.**
8. Stabilize lawn and ditch areas no later than one week after final grade is established. **No later than May 15, 2018.**
9. Construct asphalt pavement, **May 2018.**
10. Remove all temporary measures, topsoil critical areas, seed and mulch. Water if necessary to establish healthy and well rooted vegetation. **No later than September 15, 2018.**

Planned Erosion Control and Storm Management Practices

1. **Construction Entrance/Exit**
   Gravel construction entrances will be constructed on the site to prevent tracking onto Leonard Point Road. The entrances will be built as the first item of construction and shall be constructed off Leonard point road a minimum of 50' into the property (phase 1.) Tracking pads are required for any additional or subseqent access point to the construction or new phases.

   Each lot shall construct driveway culvert and tracking pad for access to home construction. Vehicle traffic through ditch is prohibited. Contractors/builders shall be responsible for restoration of any damaged ditches.

2. **Stockpiled Topsoil Piles**
   Silt fencing will be required around all stock piles topsoil. If stock piles remain in place for more than seven (7) days, they shall be properly stabilized.

3. **Land Grading**
   Land grading will be required on the site. Grading is required for the road, retention ponds and site restoration. There will be areas of cut and fill, which are shown in the construction plans. It is estimated that approximately 35 to 45% of the site will be disturbed. All disturbed ground left inactive for seven (7) or more days shall be stabilized. All BMPs shall remain in place until final stabilization has become established.

4. **Silt Fence**
   Silt fencing or straw bales around all stockpiled topsoil. Silt fence will also be required in all areas down slope of disturbed areas and where noted on the site plan. Overland flow BMPs shall be installed parallel to channelized flow paths. Silt fence shall be installed prior to the grading of upstream areas.

5. **Roadway Stabilization**
   No later than one (1) week after final grades are set on the paved areas, the subgrade will be stabilized with a minimum of six (6) inches of breaker run and six (6) inches of crushed stone base course to prevent tracking, erosion and dust.

6. **Culvert Protection and Stabilization**
   Inlets to all new and existing culverts, catch basins and storm sewer inlets will be protected from sedimentation. The entrances will be surrounded by silt fences or straw bales to allow the water to pass, but prevent sedimentation in the structure. All structures will be cleaned out after final stabilization is in place. Riprap shall be placed near culverts as shown on the final plans.

7. **Dust Control**
   Dust control is expected to be a potential problem because of the type of soil. To prevent or minimize any potential problem, construction will be done as quickly as the weather allows and native subgrade will be stabilized within one (1) week of final grades. If excessive dust is caused by construction, the area will be sprinkled by the contractor.

8. **Hay Bales Ditch Checks**
   Hay or straw bales shall be placed in the road ditches and swales as shown on the plan to control erosion in the channelized flow prior to vegetation being established. The bales shall be installed perpendicular to channelized flow paths. If the hay bale ditch checks require significant maintenance, or appear inadequate at a certain location, the ditch check shall be replaced with a stone ditch check.

9. **Channel Stabilization**
   Channels and ditches shall be stabilized as indicated on the construction plans. Vegetated channels shall be inspected within twenty-four (24) hours after each rainfall event or daily during periods of prolonged rainfall until the vegetation is established. The soil surface shall be graded and clear of stones, clods, sticks or debris larger than 2 inches in diameter. Seed and fertilizer shall be applied to a properly prepared seed bed at a rate in accordance with the project specifications. Seed shall be covered with mulched and staked in place with and erosion control blanket. Erosion blanket shall be installed and maintained according to the manufacturer's specifications.

10. **Retention Basins**
    Silt fences will be required on the site around all detention areas at the toe of all new slopes and around the upstream end of the discharge pipe. Rip rap is required at the downstream end of the discharge pipes. All disturbed ground left inactive for seven (7) or more days shall be properly stabilized. All silt fences shall remain in place until final stabilization has been completed. The discharge pipe will be cleaned out after final stabilization is established. Vegetation shall be established prior to the routing of storm water through the basin. Both ponds shall be constructed prior to the construction of phase 1, even though they are located outside of the phase 1 area. The main channels which route water to the ponds will also be constructed with the ponds.

Post-Construction Storm Water Management

The storm water quantity and quality will continue to be managed upon completion of the project. To accomplish this, a combination of wet ponds and grassed swales will be used. All runoff from the subdivision flows to either one pond or the other for treatment of water quality and also to reduce peak flows.

For small storms, the road ditches and lawn areas will infiltrate much of the water. This will reduce the amount of runoff that is discharged to the streams.

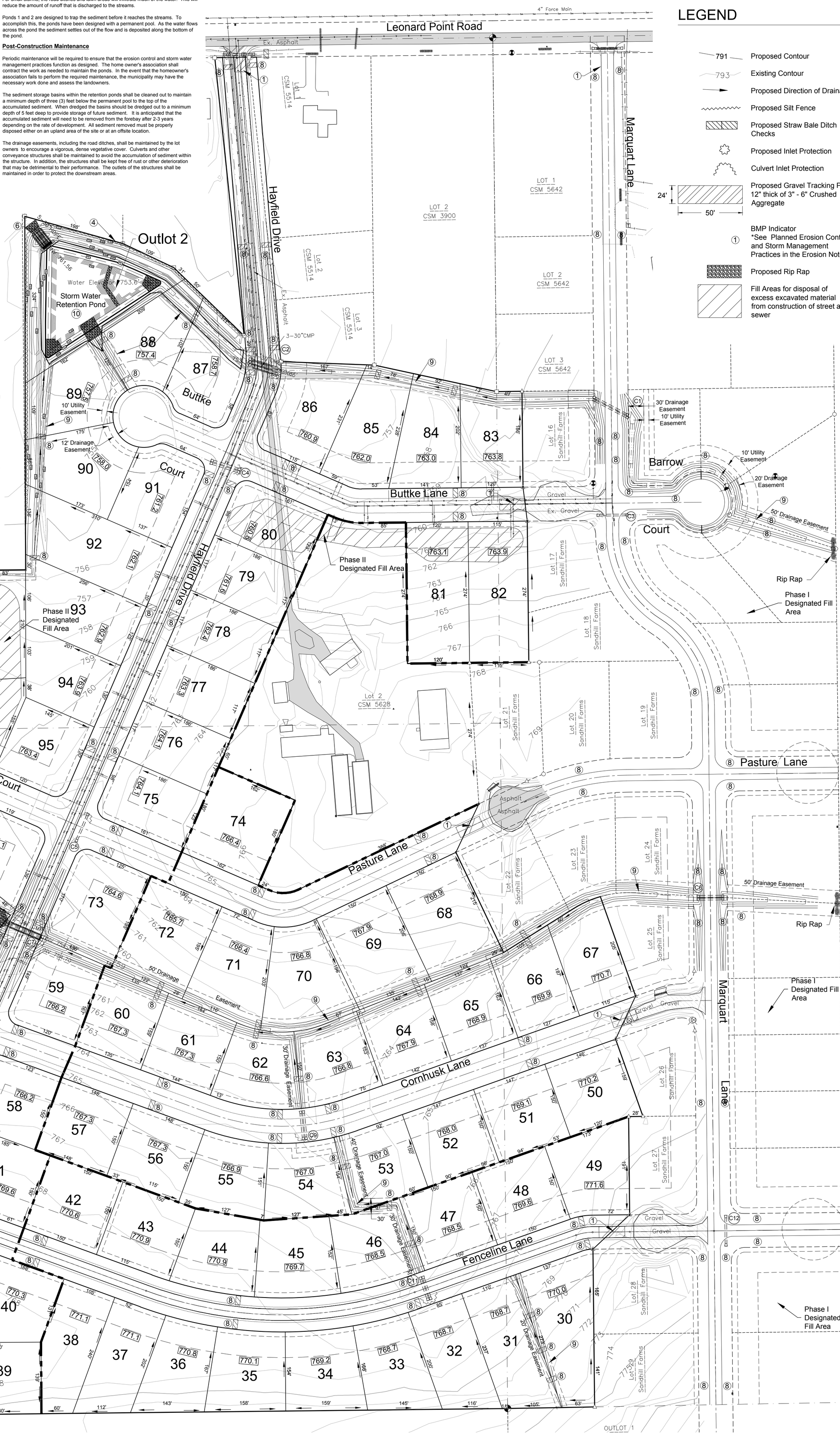
Ponds 1 and 2 are designed to trap the sediment before it reaches the streams. To accomplish this, the ponds have been designed with a permanent pool. As the water flows across the pond the sediment settles out of the flow and is deposited along the bottom of the pond.

Post-Construction Maintenance

Periodic maintenance will be required to ensure that the erosion control and storm water management practices function as designed. The home owner's association shall contract the work as needed to maintain the ponds. In the event that the homeowner's association fails to perform the required maintenance, the municipality may have the necessary work done and assess the landowners.

The sediment storage basins within the retention ponds shall be cleaned out to maintain a minimum depth of three (3) feet below the permanent pool to the top of the accumulated sediment. When dredged the basins should be dredged out to a minimum depth of 5 feet deep to provide storage of future sediment. It is anticipated that the accumulated sediment will need to be removed from the forebay after 2-3 years depending on the rate of development. All sediment removed must be properly disposed either on an upland area of the site or at an offsite location.

The drainage easements, including the road ditches, shall be maintained by the lot owners to encourage a vigorous, dense vegetative cover. Culverts and other conveyance structures shall be maintained to avoid the accumulation of sediment within the structure. In addition, the structures shall be kept free of rust or other deterioration that may be detrimental to their performance. The outlets of the structures shall be maintained in order to protect the downstream areas.



LEGEND

- 791 — Proposed Contour
- 793 — Existing Contour
- Proposed Direction of Drainage
- Proposed Silt Fence
- Proposed Straw Bale Ditch Checks
- Proposed Inlet Protection
- Culvert Inlet Protection
- Proposed Gravel Tracking Pad 12" thick of 3" - 6" Crushed Aggregate (24' x 50')
- (1) BMP Indicator *See Planned Erosion Control and Storm Management Practices in the Erosion Notes.
- Proposed Rip Rap
- Fill Areas for disposal of excess excavated material from construction of street and sewer

File: 2553engr.dwg
Date: 11/06/2017
Drafted By: mitch
Sheet: 1.2

Davel Engineering, Inc.
Civil Engineers and Land Surveyors
1811 Racine Street
Menasha, Wisconsin
Ph. 920-991-1866, Fax 920-830-9595

100 0 100 200 300
Graphic Scale