

Storm Water Management & Erosion Control Narrative

for

Hawk's Nest Apartments Project

CT Real Estate Investments LLC

La Crosse, Wisconsin

1.0 Introduction

A. Project Description

Makepeace Engineering is assisting CT Real Estate Investments LLC with the site design, including storm water management and erosion control, for its Hawk's Nest Apartments project at 1440 State Road 16 in the City of La Crosse in La Crosse County.

The project consists of construction of a new 24-unit apartment building, 12-stall detached garage, associated temporary erosion control, excavation and grading, construction of paved drive and parking, manicured lawn, landscaping, permanent storm water management practices, and other necessary improvements.

B. Pre-Construction Site

The project site includes lot 1 of CSM No. 148 Vol. 16. The site is in the process of being rezoned to Traditional Neighborhood Development, which will allow the proposed use. The abutting land to the north is undeveloped. To the west is STH 16. To the south is Sunset Court and other multi-family residential properties. To the east is bluffland.

The property is approximately 0.9 acres and contains three single family homes currently used as rentals. The total disturbed area is approximately 1.1 acres. In general, the existing site is approximately 80% pervious and drains to the adjacent rights-of-way. Once in the rights-of-way, storm sewer conveys the water to the La Crosse River marsh area.

C. Soils

NRCS Soil maps are attached and indicate a predominance of Churchtown silt loam.

NRCS describes these soils as being moderately well drained or better with generally greater than 80" to restrictive features.

2.0 Erosion Control Plan

The project will disturb more than one acre of land. As such, it is subject to coverage under General Permit No. WI-S064831-4 for construction site storm water runoff.

A. Management Practices

Erosion and sediment control best management practices are shown on the plans and will be installed and maintained as indicated below in accordance with WDNR Technical Standards.

- Technical Standard 1056 Silt Fence
- Technical Standard 1057 Stone Tracking Pad
- Technical Standard 1058 Mulching for Construction Sites
- Technical Standard 1059 Seeding
- Technical Standard 1060 Inlet Protection

B. Sequence of Work

1. Install tracking pad and inlet protection.
2. Close all entrances other than the Construction Entrance.
3. Install silt fence, and sediment barriers prior to any land disturbance.
4. Mass grading for parking areas, buildings, and storm BMP's.
5. Disturb only as much soil as is necessary to complete construction. Preserve as much vegetation as possible.
6. Install sediment barriers in rough graded swales.
7. Temporary erosion control seeding and mulch will be placed on disturbed areas which will not be disturbed again for a period of more than 14 days.
8. Temporary erosion control seeding, mulch, and silt fence will be used on stockpiles which will exist for more than seven days.
9. Post-construction bmp's construction sequencing will follow Section 3A below.
10. Grade site and building pads as construction progresses.
11. Properly dispose of construction waste.
12. Re-vegetate each phase as construction for that phase is completed.
13. Continuously clean up off-site sediment deposits.
14. Inspect erosion and sediment control practices weekly, and within 24 hours following a rainfall of 0.5 inches or greater. Written documentation of each inspection shall be maintained at the construction site and shall include the time, date, and location of inspection, the phase of land disturbance at the construction site, person conducting the inspection, assessment of control practices, and a description of any erosion or sediment control measure installation or maintenance performed in response to the inspection.
15. Remove tracking pad once construction is completed.
16. Remove all sediment barriers once construction is completed and the site is at least 70% re-vegetated.

3.0 Storm Water Management Plan

A. Post-Construction Site

The post-construction site will consist of a commercial retail area with attached service garages, parking lot, storm water biofilters, storm water infiltration devices, and other landscaping. Slopes will remain below 3:1 H:V.

All storm water run-on from neighboring properties is accounted for in storm water modeling and design. Storm water runoff from the project site will be managed as detailed below.

B. Post-Construction Performance Requirements

The Wisconsin DNR lists the following post-construction performance requirements for redevelopment:

1. Reduce, as compared to no runoff management controls, the total suspended solids load from parking areas by 40%, based on an average annual rainfall, to the maximum extent practicable.

The City of La Crosse has the same storm water requirements as WDNR.

Soil evaluations done on-site indicate a maximum infiltration rate for the site soils of 0.11 inches per hour.

C. Modeling Results

A bio-infiltration device has been designed with underdrains per WDNR Technical Standard 1004.

WinSLAMM was used to model TSS reduction. The design infiltration rate is 0.11 inches per hour.

TSS reduction for the project is 41%.

D. Sequence of Work

1. Install erosion control measures as discussed in Section 2B.
2. Construct project including rough grading of retention areas and biofilters. No placement of engineered soil will occur until all other permanent construction is completed.
3. Once all other permanent construction is complete and the entire site has been stabilized with vegetation, biofilters will be constructed.
4. Any accumulated sediment will be removed along with any additional material needed to allow placement of the engineered soil, consisting

of 70-85% sand and 15-30% compost meeting requirements of Technical Standard 1004 in the biofilters.

- a. Excavation will occur during dry periods.
 - b. Light earth moving equipment will be used so as to not compact soil.
5. Side slopes will be no steeper than 3H:1V.
 6. Engineered soil layer will be placed to the depths specified in the plans.
 7. Storage layer gravel will be placed to the depths specified in the plans.
 8. A mulch layer will be placed atop the engineered soil as specified in DNR Technical Standard 1004.

E. Long-Term Maintenance

- a. Inspect BMP's and retention areas annually. Look for health of vegetation, build-up of sediment, excessive, or prolonged ponding of storm water.
- b. Water plants as necessary during the first growing season.
- c. Water as needed after first growing season.
- d. Treat diseased vegetation as needed.
- e. Inspect soil and repair eroded areas as needed.
- f. Remove litter and debris monthly.
- g. Remove accumulated sediment as needed to allow proper function.
- h. Make repairs as needed when performance is compromised.