

Oakwoods Subdivision Consultation

Drainage and Waterway Systems Report

Introduction

The Oakwoods Common areas contain two distinct drainage systems. One is underground storm drains from roads and leads to a main collection on six points road where it enters Goose Creek. The other is a creek system that takes in water from both outside and inside the subdivision. The creek flows through the forested areas of Oakwoods and into a detention basin before exiting the system Goose Creek to the west. The Oakwoods Common areas are part of the Sugar Creek Watershed. The watershed feeds the Sangamon River then the Illinois River and ultimately the Mississippi River. The following report describes the waterway systems through Oakwoods and recommendations for improvements.

Drain Structures

21 exposed drain structures were identified in the common areas. The following lists the drain structure, condition, and recommended improvement. Three structures were deemed hazardous and require prompt action. The attached pictures and map depict the corresponding structures.

<u>Structure</u>	<u>Condition</u>	<u>Recommendation</u>
1	Good	Clean out. Add 2-4" rock at mouths.
2	Poor	Remove brush. Consult with City.
3	Good	Clean out. Add 2-4" rock at mouths.
4	Good	Clean out. Add 2-4" rock at mouths.
5	Good	Remove limbs.
6	Good	Clean out. Add 2-4" rock at mouths.
7	Good	Clean out.
8	Good	Clean out. Arrange rocks.
9	Good	Clean out and surrounding area.
10	Hazardous	Secure lid.
11	Average	Clean out and surrounding area.
12	Hazardous	Repair.

Structure	Condition	Recommendation
13	Poor	Inoperable. Remove and replace. Add 2-4" rock at mouths.
14	Poor	Inoperable. Remove and replace. Add 2-4" rock at mouths.
15	Good	Operating fine. No action required.
16	Average	Remove rebar and timbers. Add gravel and rocks around apron. Topcoat road with asphalt as needed.
17	Good	Operating fine. No action required.
18	Hazardous	Replace lid.
19	Good	Add 2-4" rock around mouth.
20	Good	Operating fine. No action required.
21	Poor	Repair gaps in concrete.

Consultation with the City of Bloomington revealed that the drain structures on common area property are the responsibility of the homeowners association, not the City of Bloomington. Drain structure #2 is on City of Bloomington right of way property along Springfield Road and is City responsibility. Improvements to structures 21, 18, 16, 14 and 13 require technical knowledge and machinery. Improvements to the remaining structures could be done during an organized volunteer day in the common areas.

Blockages

There are 5 distinct waterway blockages in the creek area. These need to be cleared and the water allowed to natural flow. Much of the existing conditions within the forested area are due to the water flow being disrupted due to blockages. This does affect the ecosystem as a whole as the water is not allowed to flow naturally from high to low. This work could be done during an organized volunteer day in the common areas.

Detention Basin/Wetland

Oakwoods has a unique detention basin that holds water during a significant precipitation event. The basin is designed to hold the water short term and then be dry during the long term. This basin is not working properly. This is related to several factors, including the inoperable condition of drain structures 13 and 14. In addition there is no direct path for the water to flow through the basin on a medium rain event. This has caused many volunteer non native tree and plant species to overrun the area.

After the repair and replacement of drain structures 13 and 14 the channel in the basin needs to be redefined as it has silted in over many years. This work can be done with a small track hoe or mini excavator. Once the basin is working properly, the non native trees and plants should be eradicated. Additional plant species native to the area can then be planted as desired by the commons committee.

Recommendations

The Oakwoods Common areas are a unique situation in Bloomington, and a valuable asset to the homeowners. Properly managed water and operating drainage structures add value to the homes and subdivision. All of the drain structures and detention basin should be fixed and improved per this report.