



MEMO

TO:	City of Lee's Summit, MO
FROM:	Megan Walter, PE
RE:	"The Retreat at Hook Farms" and "Hook Farms First Plat" Stormwater Drainage Compliance Memo
DATE:	April 20, 2020
PROJECT #:	019-4059 & 019-4061

General Information

This memo is being submitted as a summary of the stormwater drainage for two plats of the Hook Farms area called "The Retreat at Hook Farms" and "Hook Farms First Plat". These sites are within the "Hook Farms Preliminary Stormwater Drainage Study" (Preliminary Study) dated March 2019 by Olsson. The purpose of this memo is to verify the final design of the plats being submitted meets the analysis and intent of the Preliminary Study.

The Retreat at Hook Farms

"The Retreat at Hook Farms" plat encompasses 24.63 acres of the development of 50 single family home lots and 7 tracts along with the public infrastructure to support those lots. Generally, the drainage patterns, proposed grading, and proposed impervious area in the current design remains the same as the Preliminary Study. Therefore, the amount of flow and volume generated remains the same as the Preliminary Study. Per the Preliminary Study, proposed detention was limited to the water quality storm event. For the Retreat at Hook Farms plat area, the water quality pond required from the Preliminary Study is called WQB3. The volume required is 12,786 cubic feet and the tributary area planned is 12.76 acres. The proposed pond is in the same location and has 16,596 cubic feet of volume and 13.24 acres tributary to it. The water quality volume will be held in the pond for 40 hours. This pond exceeds the requirements of the Preliminary Study.

Hook Farms First Plat

"Hook Farms First Plat" encompasses 21.88 acres of the development of 49 single family home lots and 4 tracts along with the public infrastructure to support those lots. Generally, the drainage patterns, proposed grading, and proposed impervious area in the current design remains the same as the Preliminary Study. Therefore, the amount of flow and volume generated remains the same as the Preliminary Study. Per the Preliminary Study, proposed detention was limited to the water quality storm event. For the Hook Farms First Plat area, the water quality pond required from the Preliminary Study is called WQB5. The volume required is 8,077 cubic feet and the tributary area planned is 8.06 acres. The proposed pond is in the same location and has 8,115 cubic feet of volume and 8.10 acres tributary to it. The water quality volume will be held in the pond for 40 hours. This pond exceeds the requirements of the Preliminary Study.

Conclusions and Recommendations

The calculated peak runoff rates and volume of runoff generated for both proposed developments of Hook Farms will be equal to or lower than the pre-development peak runoff rates planned in the Preliminary Study. Drainage patterns, impervious areas, and all other assumptions made in the Preliminary Study are confirmed to be the same with the current design of these two developments. Based on the information provided, Olsson requests approval of this stormwater drainage memo for the proposed development of The Retreat at Hook Farms and Hook Farms First Plat.