

October 15, 2020

Gene Williams
Senior Staff Engineer
City of Lee's Summit, Missouri
220 SE Green Street
Lee's Summit, MO 64063

RE: Whispering Woods 2nd Plat – Street, Storm and Master Drainage Plan

Dear Mr. Williams,

1. *Sidewalks that are adjacent to unplatted property (i.e., the northeast corner of the intersection and the short section just east of Lot 50) must be clearly shown to be constructed with the improvements. All other sidewalks (i.e., adjacent to platted property) may be deferred until building permits are issued. It is recommended that a separate hatch pattern be designated for the sidewalk to be constructed with these improvements, versus those to be constructed in the future by others.*

A separate sidewalk hatch has been used to delineate between sidewalk to be constructed with improvements vs. sidewalk to be constructed by others.

2. *ADA accessible ramps must be clear shown to be constructed with the improvements. A note is provided concerning this requirement, but is not clear and should be emphasized to ensure it is not missed.*

ADA ramps have been given a revised hatch to emphasize the sidewalk required to be constructed with the improvements.

3. *Why are wings shown on the ADA-accessible ramps? Standard procedure for the City is to eliminate the wings, and grade to the new ramp. As long as the slope is within tolerance, there is no need to provide these wings. They only serve to increase maintenance costs for the City.*

The wings on the ADA-accessible ramps have been removed from all ramps.

4. *Sheet 5 shows a stilling basin at the end of the road. How will this basin drain? It would appear to not drain if installed, and will lead to mosquito issues.*

The stilling basin has been removed and rip-rap has been placed to reduce runoff velocity from undetained stormwater.

5. *The Master Drainage Plan is titled as "Grading Plan". This should be titled as "Master Drainage Plan" since this is an Ordinance requirement.*

The Grading Plan has been renamed to "Master Drainage Plan".


6. *The rear yard swales shown on the Master Drainage Plan are not sufficiently detailed. They are only shown in plan view, and the city requires profile views for the beginning, the end, and along selected key points, including lot corners and locations of field inlets. Sufficient labeling must be provided for the swale. Hydraulic grade line calculations must be provided for the swale for the 100 year event, along with flow information for each section.*

Swale profiles have been added for every lot corner and field inlet location. All calculations for the 100 year event have been added to each profile on the Master Drainage Plan.

7. *MBOEs that are shown on Sheet 5 do not meet the requirements of the Design and Construction Manual. For instance, Lot 46 is shown with an MBOE of 993.0. The proposed grade within the rear yard swale is shown as 995.84. Assuming a 0.5 foot delta for the hydraulic grade line at this point, the MBOE is more than 3 feet lower than the 100 year water surface elevation. The City requires a minimum of 2.0 feet between the calculated 100 year water surface elevation, and the MBOE, and therefore does not comply.*
All MBOEs have been adjusted to ensure that all MBOEs are 2.0' above the HGL of the north swales 100 year HGL.
8. *In regard to the above comment, the following may be used if deemed appropriate by the engineer. The City will consider the placement of a "diversion berm" along the rear of these lots, which serves to provide a swale and a diversion from upstream drainage. For purposes of design, this "diversion berm" should be designed to have a minimum of 2.0 feet freeboard between the calculated 100 year water surface elevation, and the top of the berm. With those design considerations in mind, the proposed MBOEs might be acceptable, but without the specific swale/diversion berm design details, the City cannot provide comment at this time.*
No diversion berms are proposed at this time.
9. *At a minimum, the City recommends at least two (2) MBOEs per lot: one (1) for the rear, and one (1) for the front. If deemed necessary by the engineer, side lot MBOEs may also be utilized, with interpolation allowed between these MBOEs. If this is desired, then sufficient notes must be provided on the Master Drainage Plan which specify interpolation be allowed for these multiple MBOEs.*
MBOEs have been added to ensure one for the rear and one for the front.
10. *End of Road Signing OM4-3(18") and requires four signs for each installation (spacing not to exceed 6'); evenly spaced signs.*
End of Road signing has been revised to OM4-3 and revised to require 4 signs.

If you have any additional questions or comment do not hesitate to contact me.

Thank you,
SNYDER & ASSOCIATES, INC.


Shawn Duke, PE
Project Manager/Engineer