## Micro Storm Water Drainage Study Post Construction Revision

Sequoia, Lee's Summit

Southwest Corner of NW Olive Street & NW Orchard Drive City of Lee's Summit, Jackson County, Missouri



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Reference Final Micro Storm Water Drainage Study dated 6/12/2020 by Renaissance Infrastructure Consulting for originally approved conditions.

## **Originally Approved Conditions:**

## **Revised Conditions:**

Northwest Pond:

Drainage Area = 0.66 Ac Time of Concentration = 10.09 Min CN = 90Q100 = 5.43 cfs Required Detention = 8276 Ft<sup>3</sup> Pond Height @ 8276 = 3.1' Volume @ Wier Crest = 13,391 Ft<sup>3</sup> Volume @ Top of Pond = 22,438 Ft<sup>3</sup>

Freeboard Above 8276 = 1.2' Freeboard Above Wier Crest = 1.5'

South Pond:

Drainage Area = 1.98 Ac Time of Concentration = 10.62 Min CN = 90Q100 = 16.21 cfs Required Detention = 22,651 Ft<sup>3</sup> Pond Height @ 22,651 = 3.519' Volume @ Wier Crest = 38,114 Ft<sup>3</sup> Volume @ Top of Pond = 50,203 Ft<sup>3</sup>

Freeboard Above 22,651 = 1.481' Freeboard Above Wier Crest = 1.0' Drainage Area = 0.672 Ac Time of Concentration = 10.09 Min CN = 90Q100 = 5.53 cfs Required Detention = 8427 Ft<sup>3</sup> Pond Height @ 8427 = 2.278' Volume @ Wier Crest = 14,347 Ft<sup>3</sup> Volume @ Top of Pond = 21,132 Ft<sup>3</sup>

Freeboard Above 8427 = 1.022' Freeboard Above Wier Crest = 1.1'

Drainage Area = 1.981 Ac Time of Concentration = 10.09 Min CN = 90Q100 = 16.22 cfs Required Detention = 22,662 Ft<sup>3</sup> Pond Height @ 22,662 = 3.407' Volume @ Wier Crest = 37,420 Ft<sup>3</sup> Volume @ Top of Pond = 52,154 Ft<sup>3</sup>

Freeboard Above 22,662 = 1.393' Freeboard Above Wier Crest = 1.2'

## **Conclusions:**

Both ponds are adequate to contain the drainage areas feeding them. Both ponds maintain the required freeboards.







