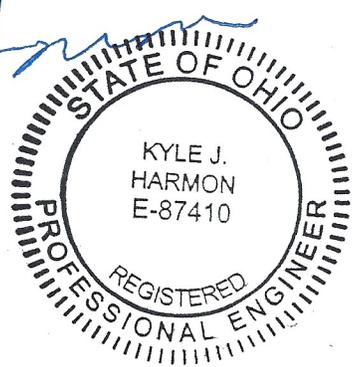


SUMMIT CROSSING SECTION 1

Sanitary Sewer Calculations & Tributary Area Map

March 11, 2025

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PROJECT SUMMARY

Project Name: Summit Crossing Section 1
Location: City of Reynoldsburg, Licking County, Ohio
Type: Sanitary Sewer Design Memo
Reviewing Agency: City of Reynoldsburg, City of Columbus, Ohio EPA
Prepared By: EMH&T, Kyle Harmon, PE; kharmon@emht.com

DESIGN SUMMARY

Summit Crossing Section 1 proposes approximately $\pm 1,759$ feet of 8" sanitary sewer, ± 461 feet of 12" sanitary sewer & $\pm 3,371$ feet of 18" sanitary sewer extending from proposed manhole #23 by others (CC20429) to service a total of 70 onsite and 193.16 offsite acres of tributary area. 100.50 of the 193.16 offsite acres are currently tributary to existing Taylor Woods Section 9 manhole #10 (CC11280), but will be rerouted to CC20429 through the proposed development.

DESIGN CRITERIA

The sanitary sewers within the Summit Crossing development are designed to meet the criteria found in the City of Columbus Sanitary Sewer Design Manual (SSDM):

Average Flow per Capita/Day: 0.0002 cfs/capita (130 gpcd)
Peak Factor: 3.50
Infiltration: 0.003 cfs/acre
Population Density: See below for density assumptions

DESIGN DENSITY

The calculated design densities are as follows:

Onsite

280 townhome units @ 3.5 people/unit = 980 people @ 30.7 acres = 31.92 people/acre
(3.5 people/unit based on Columbus SSDM, Exhibit E for Single Family Residential)

Onsite Existing Woods

23.8 acres @ 0 people/acre (included in calculations for infiltration only)

Onsite by Others (Reserve D)

384 apartment units @ 2.7 people/unit = 1036.8 people @ 15.5 acres = 66.89 people/acre
(2.7 people/unit based on Columbus SSDM, Exhibit E for Apartment Residential)

Offsite Summit Road High & Elementary Schools

High School: 20 gal/student/day * 1,408 students = 28,160 gal/day
(20 gal/student/day based on OEPA Greenbook Appendix A.7)

Elementary School: 15 gal/student/day * 500 students = 7,500 gal/day
(15 gal/student/day based on OEPA Greenbook Appendix A.7)

35,660 gal/day / 130 gal/person/day = 274.3 people @ 68 acres = 4.03 people/acre

Offsite Maplewood North

149 single family units @ 3.5 people/unit = 521.5 people @ 32.5 acres = 16.046 people/acre
(3.5 people/unit based on Columbus SSDM, Exhibit E for Single Family Residential)

Future Offsite

92.66 acres @ 10 people/acre
(10 people/acre based on Columbus SSDM, Exhibit E for Commercial)



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EXHIBITS:

Sanitary Calculations & Tributary Area Map

