

Paragon Village Sanitary Sewer Capacity (LS - 6400)

8/20/2019

Line A & Line E

Line A Inflow: 0.117 CFS (Peak)
Line A Infiltration: 0.120 CFS (Peak)

Building 1

Use	Quantity		Rate	Flow (EDU)
Multifamily	390	Units	0.6 EDU/Unit	234
Total				234.0

Total Flow (GPD) = 70,200.0
Peak Flow (GPD) = 351,000.0
Peak Flow (CFS) = 0.543

Building 2

Use	Quantity		Rate	Flow (EDU)
Retail/ Restaurant	7,210	SF	3.5 EDU/1000 SF	25.235
Total				25.235

Total Flow (GPD) = 7,570.5
Peak Flow (GPD) = 37,852.5
Peak Flow (CFS) = 0.059

Total Peak Flow Line A (CFS) = 0.838

Line A Peak Flow (CFS) = 0.838
Line D Peak Flow (CFS) = 0.288

Total Peak Flow - Line A (CFS) 1.126
Line A Capacity (94% Full): 2.63 CFS
10" PVC @ 1.47%

Proposed development will utilize 42.8% of capacity for line A

Line A & Line D

Line A

Building 5

Use	Quantity		Rate	Flow (EDU)
Retail/ Restaurant	7,560	SF	3.5 EDU/1000 SF	26.46
Office	7,560	SF	0.3 EDU/1000 SF	2.268
Total				28.728

Total Flow (GPD) = 8,618.4
Peak Flow (GPD) = 43,092.0

Peak Flow (CFS) = 0.067

Building 6 - MOB

Use	Quantity		Rate	Flow (EDU)
Medical Office	60,000	SF	0.4 EDU/1000 SF	24
Total				24

Total Flow (GPD) = 7,200.0
Peak Flow (GPD) = 36,000.0
Peak Flow (CFS) = 0.056

Building 7

Use	Quantity		Rate	Flow (EDU)
Restaurant	1,350	SF	3.5 EDU/1000 SF	4.725
Total				4.725

Total Flow (GPD) = 1,417.5
Peak Flow (GPD) = 7,087.5
Peak Flow (CFS) = 0.011

Building 8

Use	Quantity		Rate	Flow (EDU)
Theater	12,000	SF	1.2 EDU/1000 SF	14.4
Total				14.4

Total Flow (GPD) = 4,320.0
Peak Flow (GPD) = 21,600.0
Peak Flow (CFS) = 0.033

Total Peak Flow (CFS) = 0.167

Line A Peak Flow (CFS) = 1.292
Line D Peak Flow (CFS) = 0.560

Total Peak Flow - Line A (CFS) 1.853
Line A Capacity (94% Full): 2.63 CFS
10" PVC @ 1.47%

Proposed development will utilize 70.5% of capacity for line A

Line A & Line C

Line C - Building 13 & 14

Line A Peak Flow (CFS) = 1.853
Line C Peak Flow (CFS) = 0.068

Total Peak Flow - Line A (CFS) 1.921
Line A Capacity (94% Full): 2.63 CFS
10" PVC @ 1.47%

Proposed development will utilize 73% of capacity for line A

Line A & Line B

Line A Peak Flow (CFS) = 1.921

Line B Peak Flow (CFS) = 2.108

Total Peak Flow - Line A (CFS): 4.029

Line A Capacity (94% Full): 6.45 CFS

15" PVC @ 1.0%

Proposed development will utilize 62.5% of capacity for line A

Line B

Line B Inflow: 2.022 CFS (Peak)

Line B Infiltration: 0.080 CFS (Peak)

Line B - Offsite & Future Development Area

Use	Quantity		Rate	(EDU)	
Residential	40	Ac.	0.0265 CFS/ Ac.	1.066	Figure 6501-1
Offsite Residential Area	63	Ac.	0.0285 CFS/ Ac.	1.796	Figure 6501-1
Total				2.862	

Total Flow (GPD) = 858

Peak Flow (GPD) = 4,292

Peak Flow (CFS) = 0.007

Total Peak Flow - Line B (CFS): 2.108

Line B Capacity (94% Full): 6.45 CFS

15" PVC @ 1.0%

Proposed development will utilize 32.7% of capacity for line B

Line C

Line C Inflow: 0.053 CFS (Peak)

Line C Infiltration: 0.055 CFS (Peak)

Building 13

Use	Quantity		Rate	Flow (EDU)
Hotel	134	Rooms	0.3 EDU/Room	40.2
Total				40.2

Total Flow (GPD) = 12,060.0

Peak Flow (GPD) = 60,300.0

Peak Flow (CFS) = 0.093

Building 14

Use	Quantity		Rate	Flow (EDU)
Hotel	98	Rooms	0.3 EDU/Room	29.4
Total				29.4

Total Flow (GPD) = 8,820.0
Peak Flow (GPD) = 44,100.0
Peak Flow (CFS) = 0.068

Total Peak Flow - Line C (CFS): 0.269

Line C Capacity (94% Full): 1.22 CFS
8" PVC @ 1.0%

Proposed development will utilize 22% of capacity for line C

Line D

Line D Inflow: 0.063 CFS (Peak)
Line D Infiltration: 0.066 CFS (Peak)

Building 9

Use	Quantity		Rate	Flow (EDU)
Retail/ Restaurant	16,585	SF	3.5 EDU/1000 SF	58.0475
Total				58.0475

Total Flow (GPD) = 17,414.3
Peak Flow (GPD) = 87,071.3
Peak Flow (CFS) = 0.135

Building 10

Use	Quantity		Rate	Flow (EDU)
Retail/ Restaurant	16,880	SF	3.5 EDU/1000 SF	59.08
Office	16,880	SF	0.3 EDU/1000 SF	5.064
Total				64.144

Total Flow (GPD) = 19,243.2
Peak Flow (GPD) = 96,216.0
Peak Flow (CFS) = 0.149

Building 11

Use	Quantity		Rate	Flow (EDU)
Restaurant	1,800	SF	3.5 EDU/1000 SF	6.3
Total				6.3

Total Flow (GPD) = 1,890.0
Peak Flow (GPD) = 9,450.0
Peak Flow (CFS) = 0.015

Building 12

Use	Quantity		Rate	Flow (EDU)
Restaurant	16,430	SF	3.5 EDU/1000 SF	57.505
Total				57.505

Total Flow (GPD) = 17,251.5
Peak Flow (GPD) = 86,257.5

Peak Flow (CFS) = 0.133

Total Peak Flow - Line D (CFS): 0.560

Line D Capacity (94% Full): 1.22 CFS
8" PVC @ 1.0%

Proposed development will utilize 45.9% of capacity for line D

Total Line E

Line E Inflow: 0.027 CFS (Peak)

Line E Infiltration: 0.029 CFS (Peak)

Building 3

Use	Quantity		Rate	Flow (EDU)
Retail/ Restaurant	17,360	SF	3.5 EDU/1000 SF	60.76
Total				60.76

Total Flow (GPD) = 18,228.0

Peak Flow (GPD) = 91,140.0

Peak Flow (CFS) = 0.141

Building 4

Use	Quantity		Rate	Flow (EDU)
Retail/ Restaurant	10,250	SF	3.5 EDU/1000 SF	35.875
Office	10,250	SF	0.3 EDU/1000 SF	3.075
Total				38.95

Total Flow (GPD) = 11,685.0

Peak Flow (GPD) = 58,425.0

Peak Flow (CFS) = 0.090

Total Peak Flow - Line E (CFS): 0.288

Line E Capacity (94% Full): 1.22 CFS
8" PVC @ 1.0%

Proposed development will utilize 23.6% of capacity for line E

Paragon Village Summary

Peak Flow (CFS): 4.029

Total Flow (MGD): 2.604

Peak Flow (MGD): 13.021

Paragon Village Sanitary Sewer Capacity (LS - 6400)

Peak Infiltration

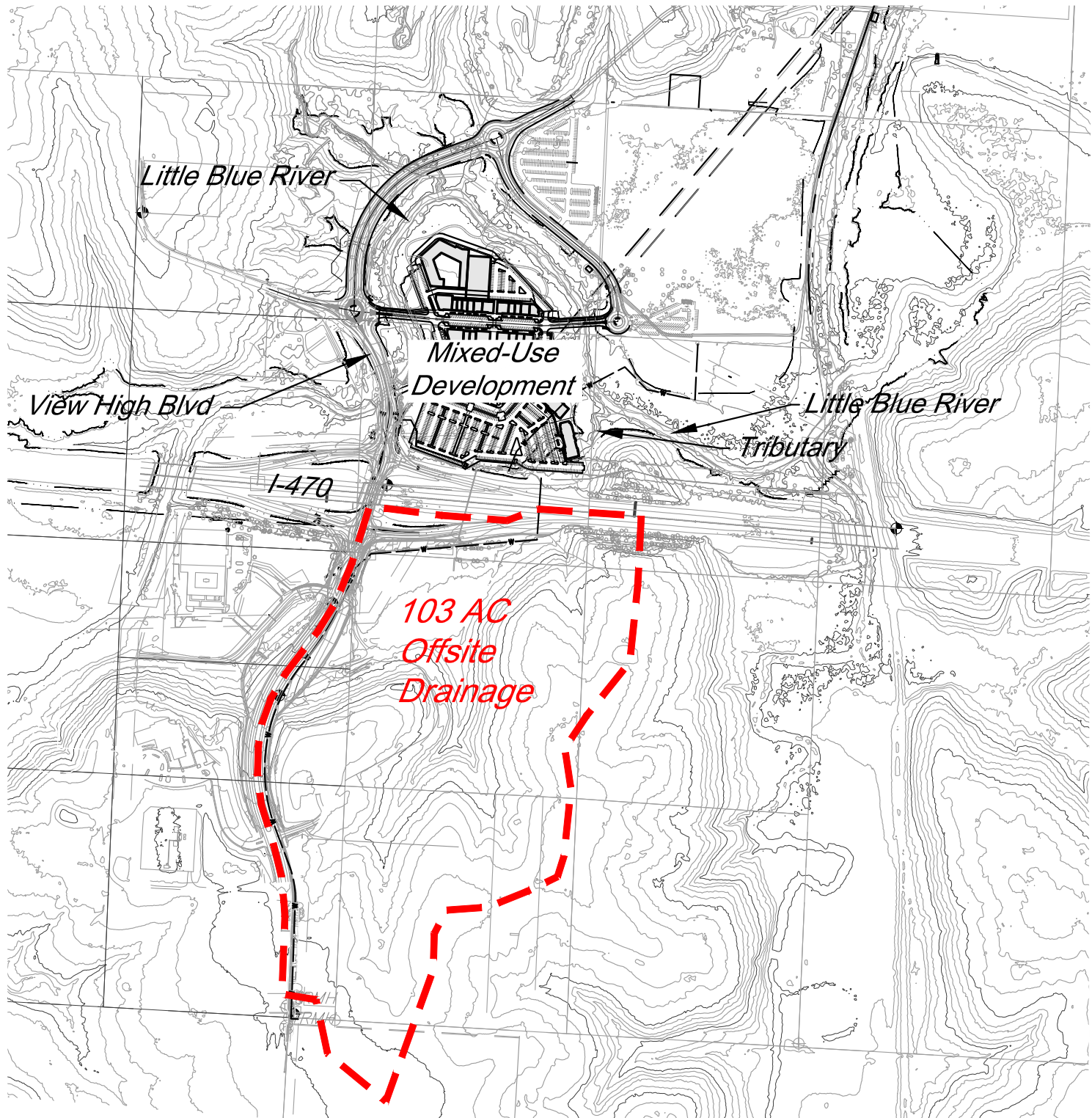
	Area (ac)	Inflow rate cfs/ac	Land Type	Q inflow (cfs)
Line A	7.93	0.00039	Non-residential	0.11974
Line B	103	0.00077	Residential	0.07968
Line C	3.14	0.00039	Non-residential	0.054636
Line D	3.82	0.00039	Non-residential	0.065704
Line E	1.47	0.00039	Non-residential	0.028812

Paragon Village Sanitary Sewer Capacity (LS - 6400)

Peak Inflow

Storm	50						
Sewer Line	Area (ac)	Land Use	K	Tc (min)	i (iph)	Q CFS	Q gpd
Line A	7.93	Non-Residential	0.003	31.30073	4.905425	0.1167	75425.23
Line B	103	Residential	0.006	59.78856	3.272123	2.022172	1306964
Line C	3.14	Non-Residential	0.003	24.77439	5.652361	0.053245	34413.31
Line D	3.82	Non-Residential	0.003	26.03099	5.490679	0.062923	40668.32
Line E	1.47	Non-Residential	0.003	20.45544	6.208066	0.027378	17694.59

Calculations are based on the methods in 6501 C



Scale: 1"=800'