

2.16 Mainstem 8

2.16.1 General Characteristics

Mainstem 8 flows in a southeasterly direction starting at the north side of Fort Belvoir U.S. Army Reservation. This tributary has a drainage area of 3,233 acres.

2.16.2 Field Reconnaissance

There were four neighborhoods assessed by field crews in the Mainstem 8 WMA. No Hotspot Site Investigations were conducted. The results of the neighborhood assessments are discussed in more detail below.

Inlet Cove is a community of attached single-family homes on one-eighth-acre lots. Lawns had approximately 80 percent impervious cover, due in part to permeable pavers on some sidewalks and driveways. Grass cover was approximately 15 percent, 5 percent landscaping and 2 percent tree cover. Sidewalks were present with clean and dry curbs and gutters. Storm drain inlets were not stenciled, but were free of obstruction.

Terra Estates is made up of detached single-family homes. The one-quarter-acre lawns are approximately 40 percent impervious cover, 45 percent grass cover, 15 percent landscaping and 35 percent tree cover. Sidewalks were present with clean and dry curbs and gutters. Storm drain inlets were not stenciled but were free of obstruction.

Springfield Oaks is a multifamily development. Lawn areas were approximately 65 percent impervious cover, 30 percent grass cover, 5 percent landscaping and 10 percent tree cover. Sidewalks were present with clean and dry curbs and gutters. Storm drain inlets were not stenciled but were free of obstruction.

Pohick Estates is a single-family detached neighborhood located at Pohick Road and Cullum Street. Lawns were approximately 40 percent impervious, 50 percent grass cover, 5 percent landscaping, and 35 percent tree cover. Sidewalks were present with organic matter accumulating in the curbs and gutters. Storm drain inlets were stenciled and clean.

2.16.3 Land Use

The Mainstem 8 WMA is characterized primarily by open space, parks and recreational areas with 47 percent of the WMA area developed as such. Another 13 percent of the WMA consists of golf course, and 12 percent is in institutional use. See Map 2-31, attached, for details.

Future land use is projected to change in the open space, estate residential, low-density residential and medium-density residential land use categories. Losses in the open space (-44 acres) and estate residential (-21 acres) land uses will be met primarily with gains in low-density residential (40 acres) and medium-density residential (13 acres) categories. A summary of the land use within the WMA is shown in Table 2-31.

Table 2-31 - Mainstem 8 Existing and Future Land Use

Land Use Type	Existing		Future		Change	
	Acres	Percent	Acres	Percent	Acres	Percent
Open Space, Parks and Recreational Areas	1,516	47	1,473	46	-43	-3
Golf Course	407	13	407	13	0	0
Estate Residential	23	1	2	0	-21	-91
Low-Density Residential	49	2	89	3	40	82
Medium-Density Residential	73	2	86	3	13	18
High-Density Residential	193	6	201	6	8	4
Low-Intensity Commercial	2	<1	2	<1	0	0
High-Intensity Commercial	3	<1	6	<1	3	100
Industrial	310	10	310	10	0	0
Institutional	396	12	396	12	0	0
Transportation	205	6	205	6	0	0
Water	56	2	56	2	0	0
Total	3,233	100	3,233	100	0	0

Due to rounding error, total percentages may be slightly greater or lesser than 100.

Total impervious area for the WMA is approximately 304 acres, or 9 percent of the total WMA area of 3,233 acres.

2.16.4 Stormwater Infrastructure

Stormwater Management

County records indicate that there are 30 stormwater management facilities within the Mainstem 8 WMA. These facilities provide control for 5 percent of the WMA. Four percent of the total area has quantity control only, 1 percent receives only quality control and the remaining portion has both quantity and quality control. Stormwater infrastructure is shown on Map 2-32, attached.

2.16.5 Stream Condition

The stream reaches in Mainstem 8 are all within the property of Fort Belvoir and were not assessed as part of this project.

2.16.6 WMA Modeling

Fort Belvoir makes up almost all of this WMA. See Table 2-32 for results.

Table 2-32 - Mainstem 8 Water Quality Modeling Results

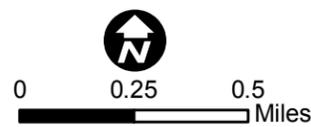
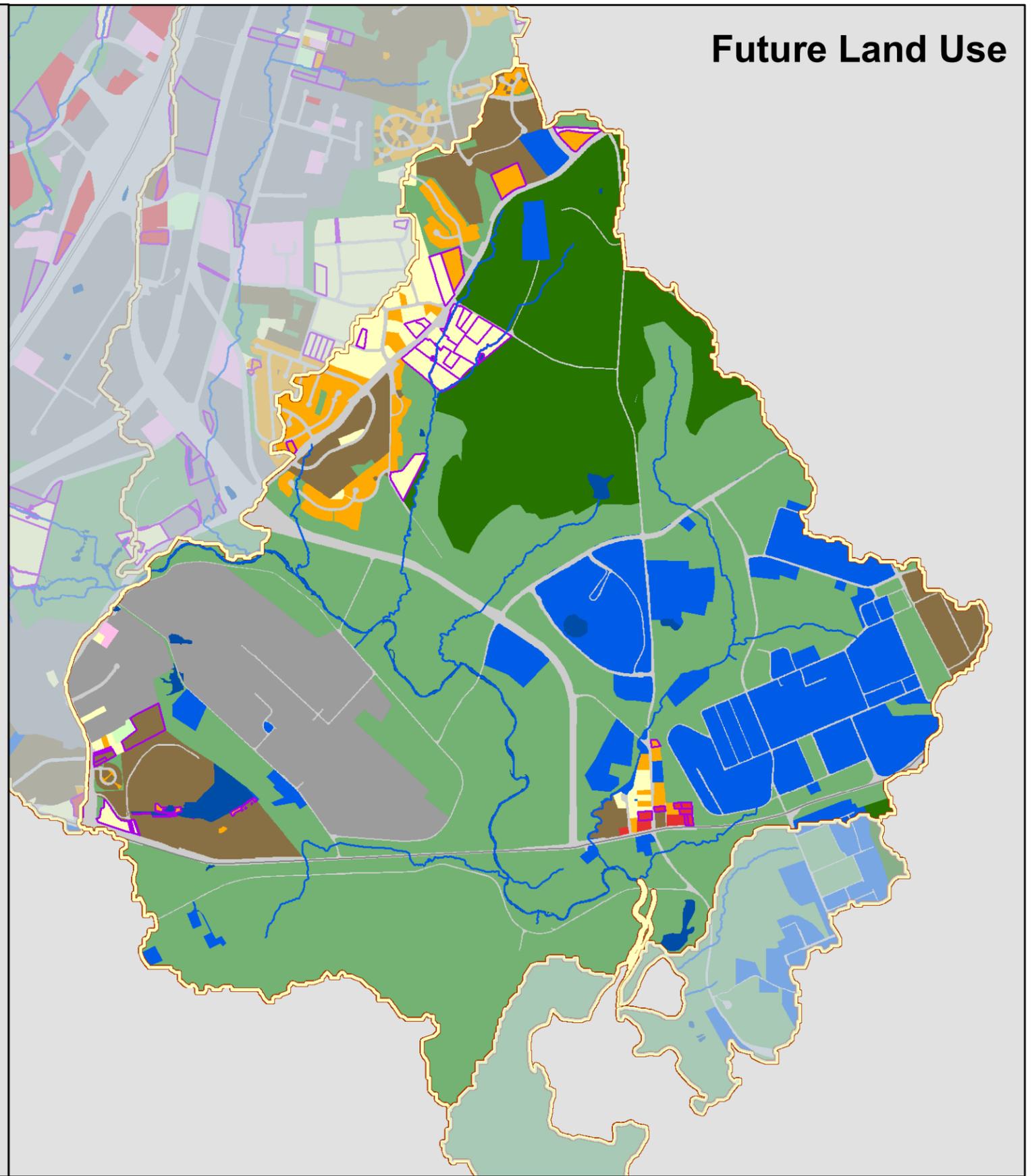
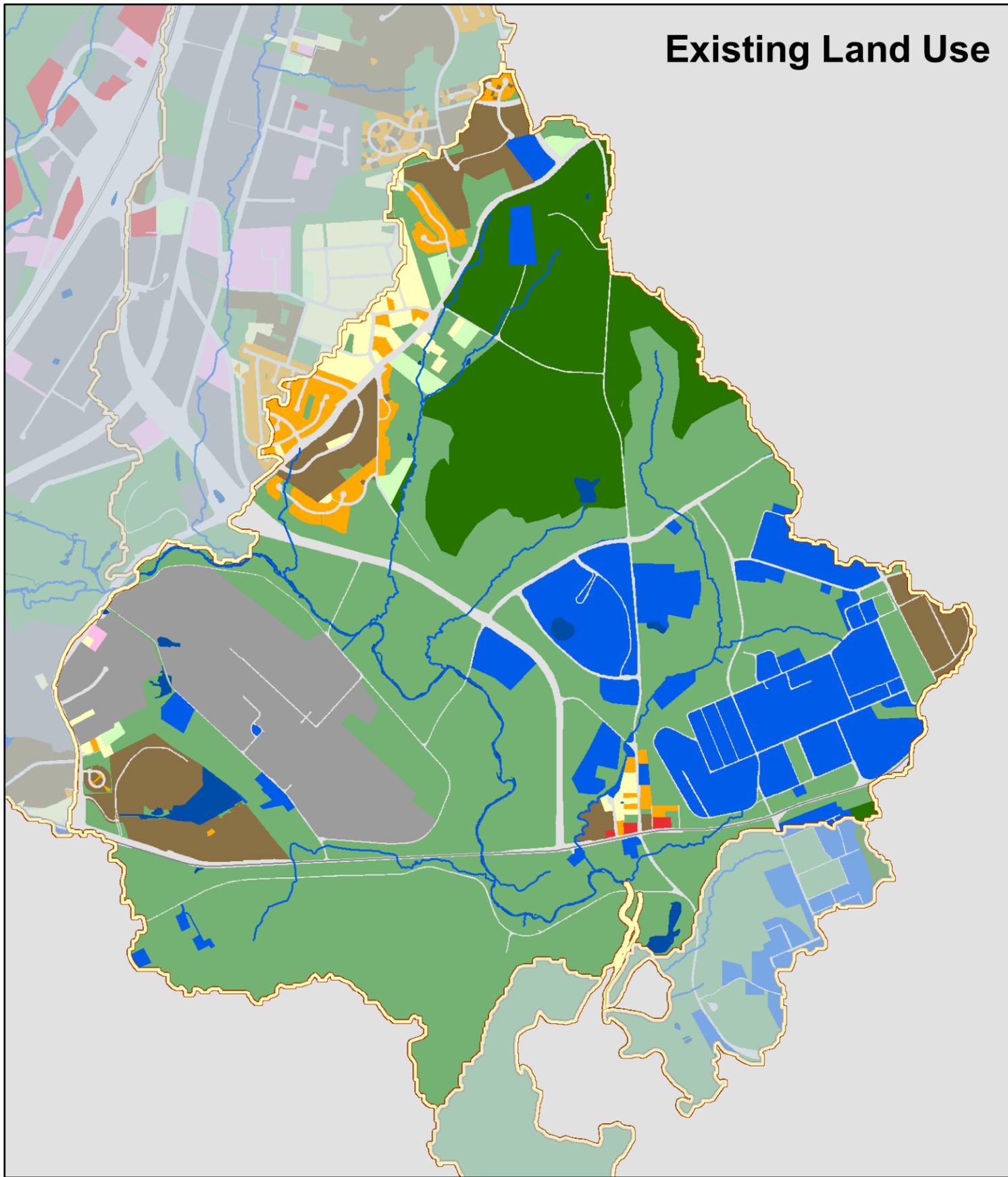
Subwatershed	Pollutant Loading		
	TN lb/ac/yr	TP lb/ac/yr	TSS t/ac/yr
AC-AC-0000	4.39	0.73	0.10
AC-AC-0005	5.02	0.84	0.09
AC-AC-0010	5.23	0.86	0.42
AC-AC-0015	6.08	1.01	0.18
AC-AC-0020	6.20	1.03	1.32
AC-AC-0025	6.64	1.08	0.13
AC-AC-0030	4.85	0.81	0.09
AC-AC-0035	1.29	0.36	0.09
AC-AC-0040	4.98	0.83	0.09
AC-AC-0045	7.47	1.14	0.16
AC-AC-0050	7.74	1.02	0.21
AC-AC-0055	4.94	0.82	0.09
AC-AC-0060	5.59	0.87	0.12
AC-AC-0065	9.01	1.34	0.19
AC-KR-0000	2.11	0.46	0.10
AC-KR-0005	4.61	0.75	0.12
AC-KR-0010	0.71	0.28	0.09
AC-MR-0000	5.11	0.85	0.10
AC-MR-0005	2.27	0.47	0.08

2.17 Potomac

This WMA is entirely within the boundaries of Fort Belvoir and was not assessed as part of this project.

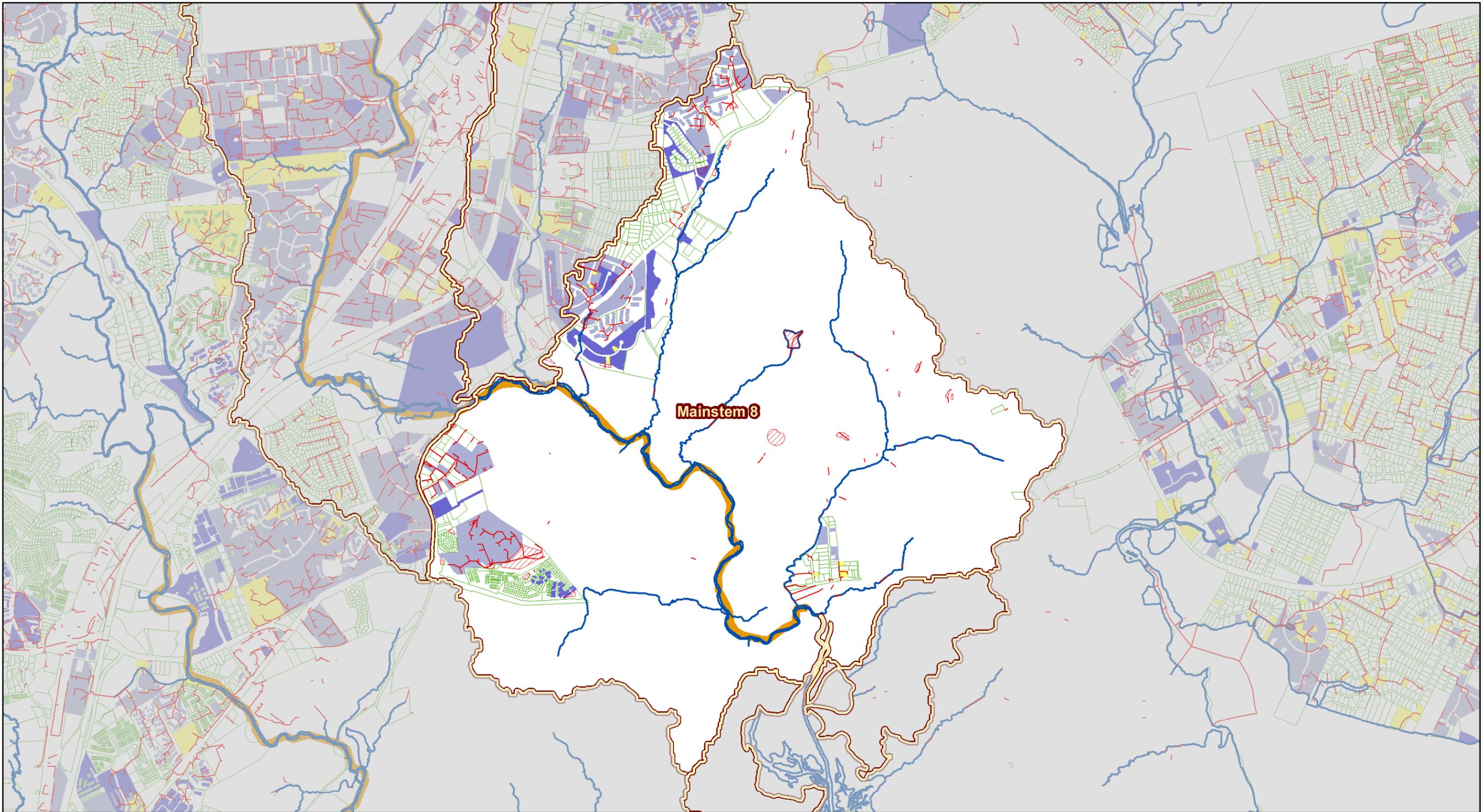
Existing Land Use

Future Land Use



Land Use

- | | | | | |
|--------------------------|---------------------------|----------------------------|----------------|--------------------|
| Estate Residential | High Intensity Commercial | Low Density Residential | Open Space | WMA Boundary |
| Golf Course | Industrial | Low Intensity Commercial | Transportation | Change in Land Use |
| High Density Residential | Institutional | Medium Density Residential | Water | |



0 0.25 0.5 Miles

-  WMA Boundary
-  303d Listed Streams
-  Stormnet Facilities
-  Stormnet Arcs
-  Parcels

- Regional Ponds**
-  Constructed
 -  Planned

- Subarea**
-  Quantity and Quality
 -  Quantity

- MSMD Flooding/Drainage Complaints**
-  STMDRN; SWM/BMP
 -  Public Identified Problem Areas 2003 - 2006