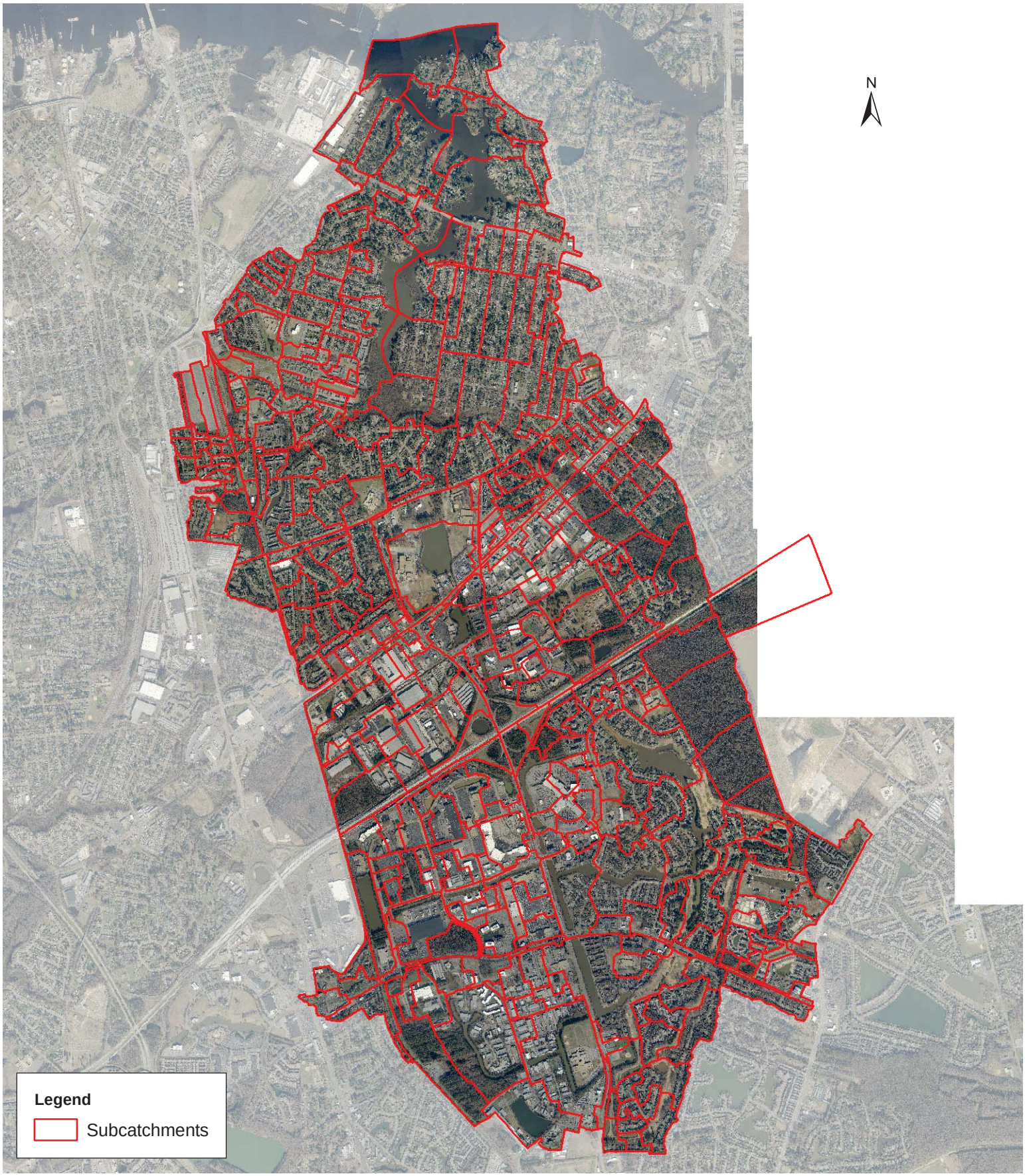


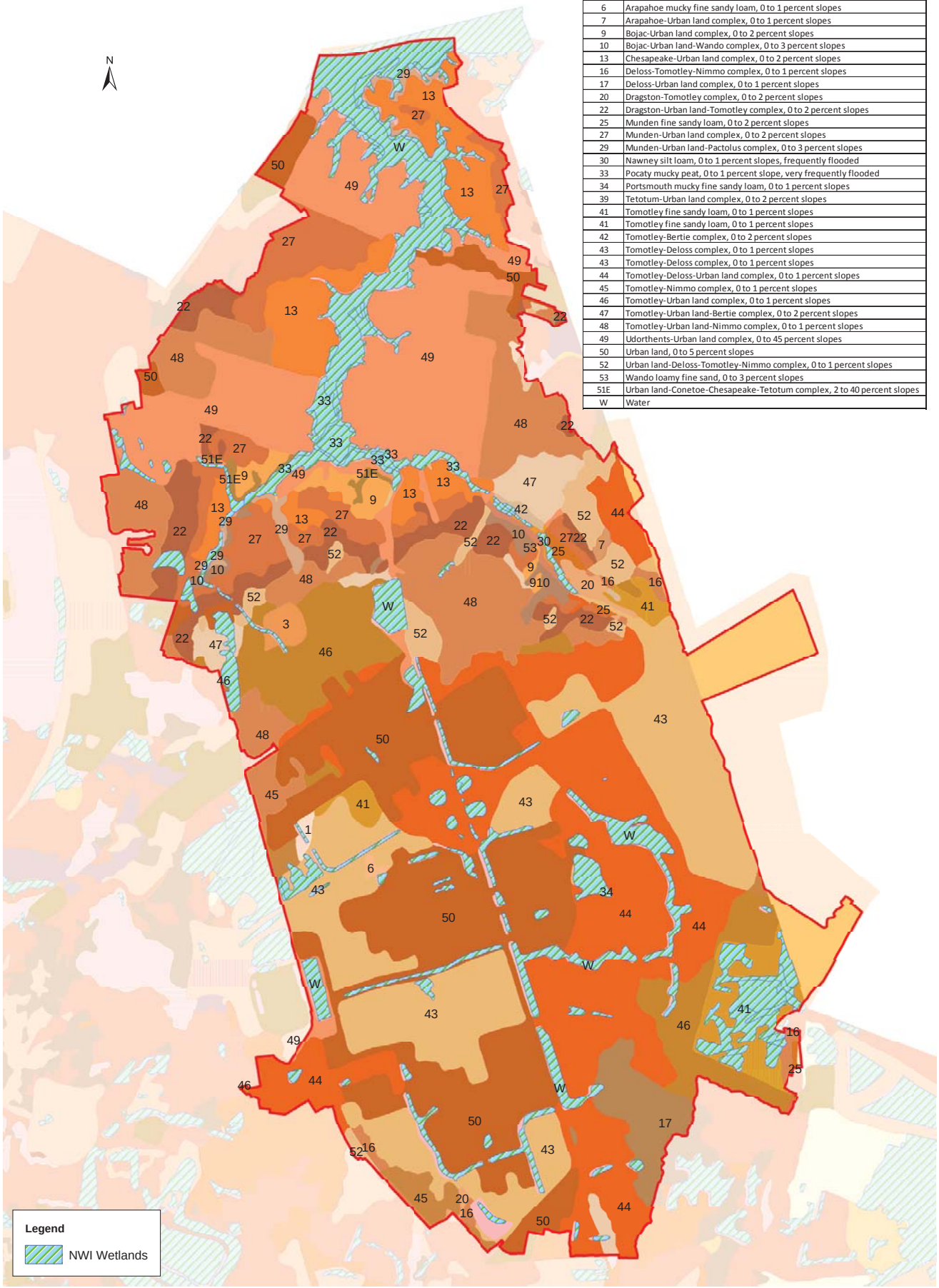
0 1,750 3,500 7,000 Feet

Aerial Imagery @ 2009 Commonwealth of Virginia.

See GIS for Complete Details

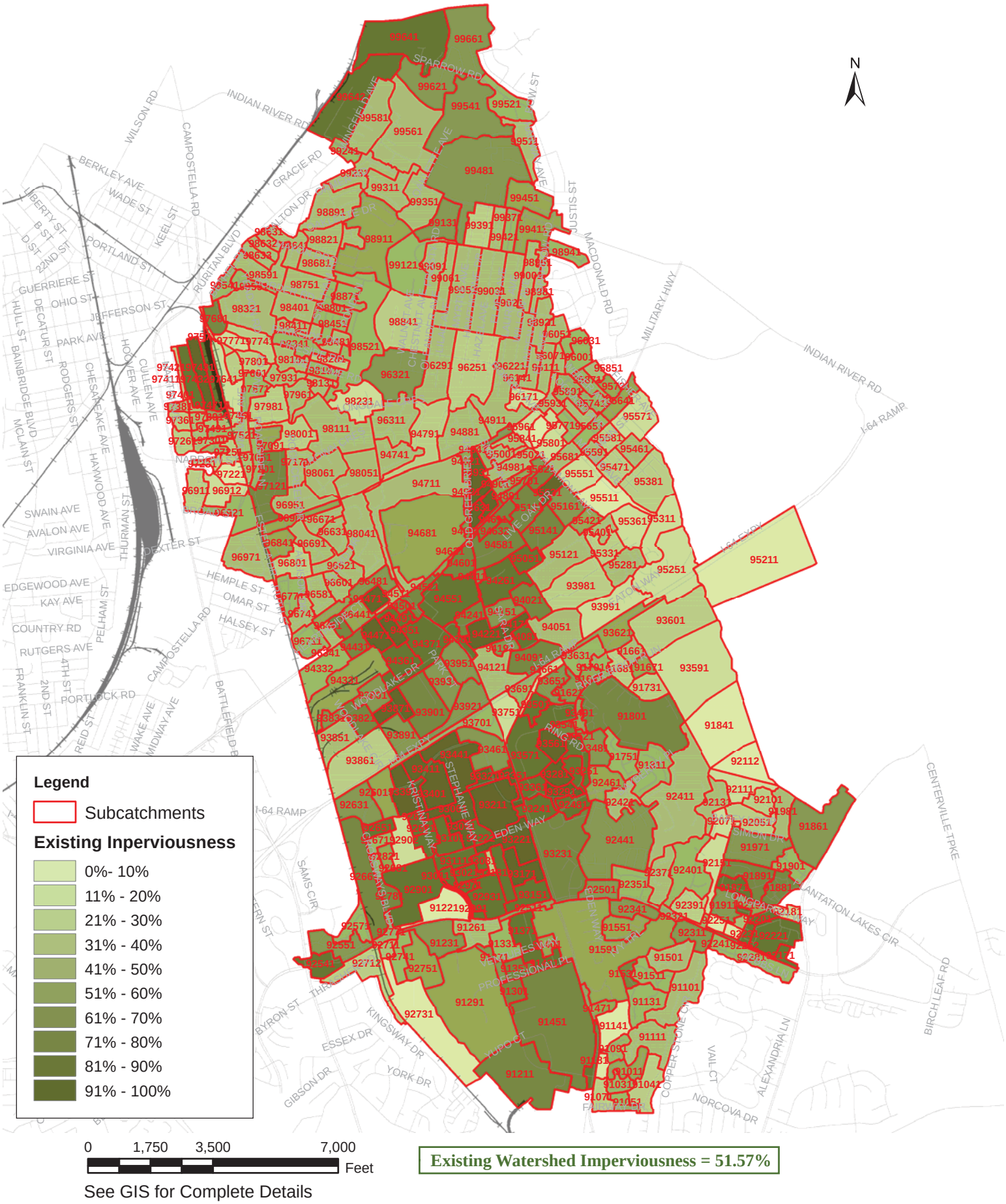
Figure 1. Indian River Watershed MDPU Map

MUID	DESCRIPTION
1	Acredale silt loam, 0 to 1 percent slopes
3	Acredale-Urban land complex, 0 to 1 percent slopes
6	Arapahoe mucky fine sandy loam, 0 to 1 percent slopes
7	Arapahoe-Urban land complex, 0 to 1 percent slopes
9	Bojac-Urban land complex, 0 to 2 percent slopes
10	Bojac-Urban land-Wando complex, 0 to 3 percent slopes
13	Chesapeake-Urban land complex, 0 to 2 percent slopes
16	Deloss-Tomotley-Nimmo complex, 0 to 1 percent slopes
17	Deloss-Urban land complex, 0 to 1 percent slopes
20	Dragston-Tomotley complex, 0 to 2 percent slopes
22	Dragston-Urban land-Tomotley complex, 0 to 2 percent slopes
25	Munden fine sandy loam, 0 to 2 percent slopes
27	Munden-Urban land complex, 0 to 2 percent slopes
29	Munden-Urban land-Pactolus complex, 0 to 3 percent slopes
30	Nawney silt loam, 0 to 1 percent slopes, frequently flooded
33	Pocaty mucky peat, 0 to 1 percent slope, very frequently flooded
34	Portsmouth mucky fine sandy loam, 0 to 1 percent slopes
39	Tetotum-Urban land complex, 0 to 2 percent slopes
41	Tomotley fine sandy loam, 0 to 1 percent slopes
41	Tomotley fine sandy loam, 0 to 1 percent slopes
42	Tomotley-Bertie complex, 0 to 2 percent slopes
43	Tomotley-Deloss complex, 0 to 1 percent slopes
43	Tomotley-Deloss complex, 0 to 1 percent slopes
44	Tomotley-Deloss-Urban land complex, 0 to 1 percent slopes
45	Tomotley-Nimmo complex, 0 to 1 percent slopes
46	Tomotley-Urban land complex, 0 to 1 percent slopes
47	Tomotley-Urban land-Bertie complex, 0 to 2 percent slopes
48	Tomotley-Urban land-Nimmo complex, 0 to 1 percent slopes
49	Udorthents-Urban land complex, 0 to 45 percent slopes
50	Urban land, 0 to 5 percent slopes
52	Urban land-Deloss-Tomotley-Nimmo complex, 0 to 1 percent slopes
53	Wando loamy fine sand, 0 to 3 percent slopes
51E	Urban land-Conetoe-Chesapeake-Tetotum complex, 2 to 40 percent slopes
W	Water



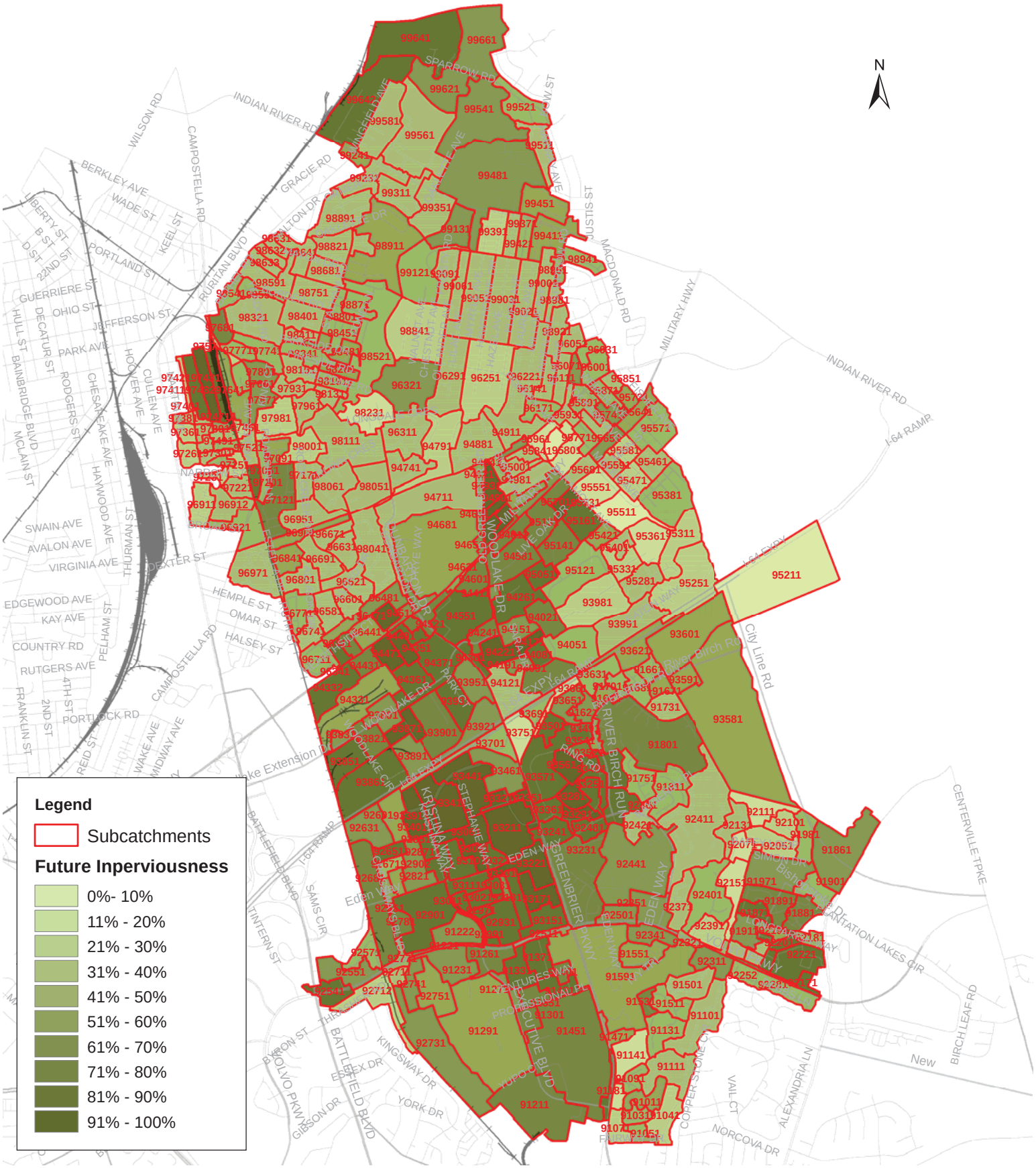
See GIS for Complete Details

Figure 2. Soils with Wetlands Overlay



See GIS for Complete Details

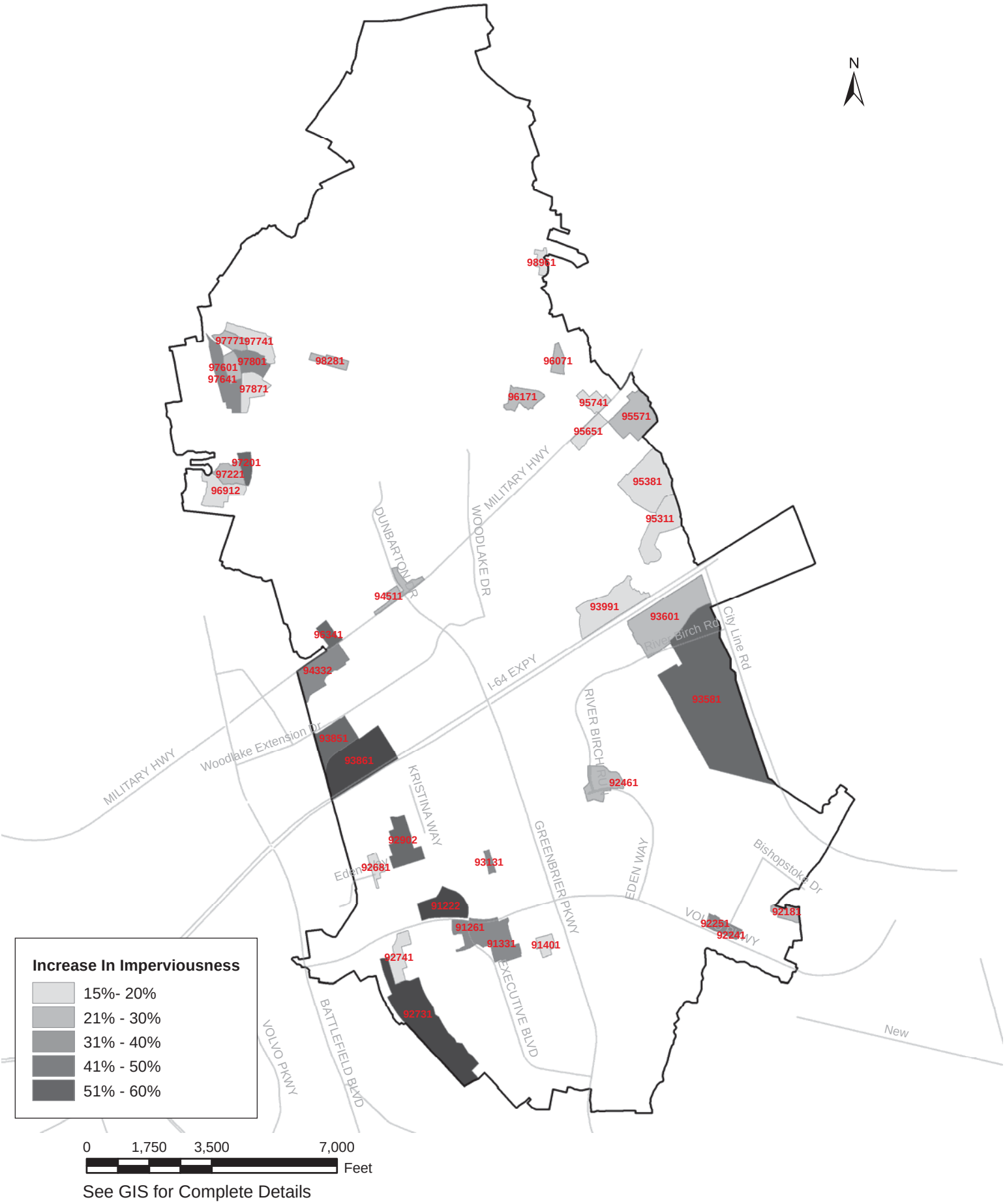
Figure 3. Existing Conditions Subcatchments with Shaded Imperviousness



Future Watershed Imperviousness = 56.02%

See GIS for Complete Details

Figure 4. Future Conditions Subcatchments with Shaded Imperviousness



See GIS for Complete Details

Figure 5. Subcatchments with Potential Increase In Imperviousness

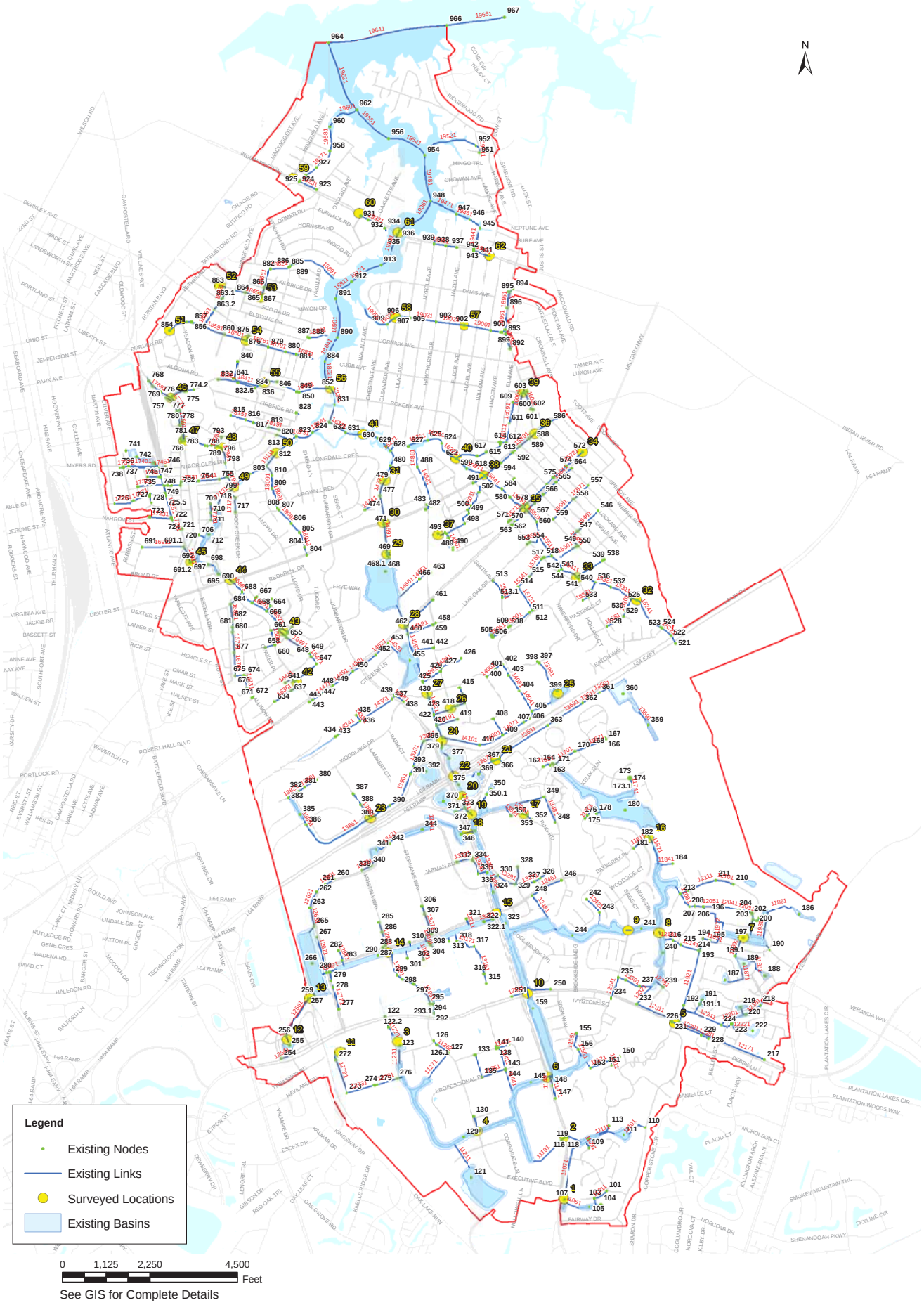


Figure 6. Link-Node Diagram - Existing Conditions and Surveyed Locations

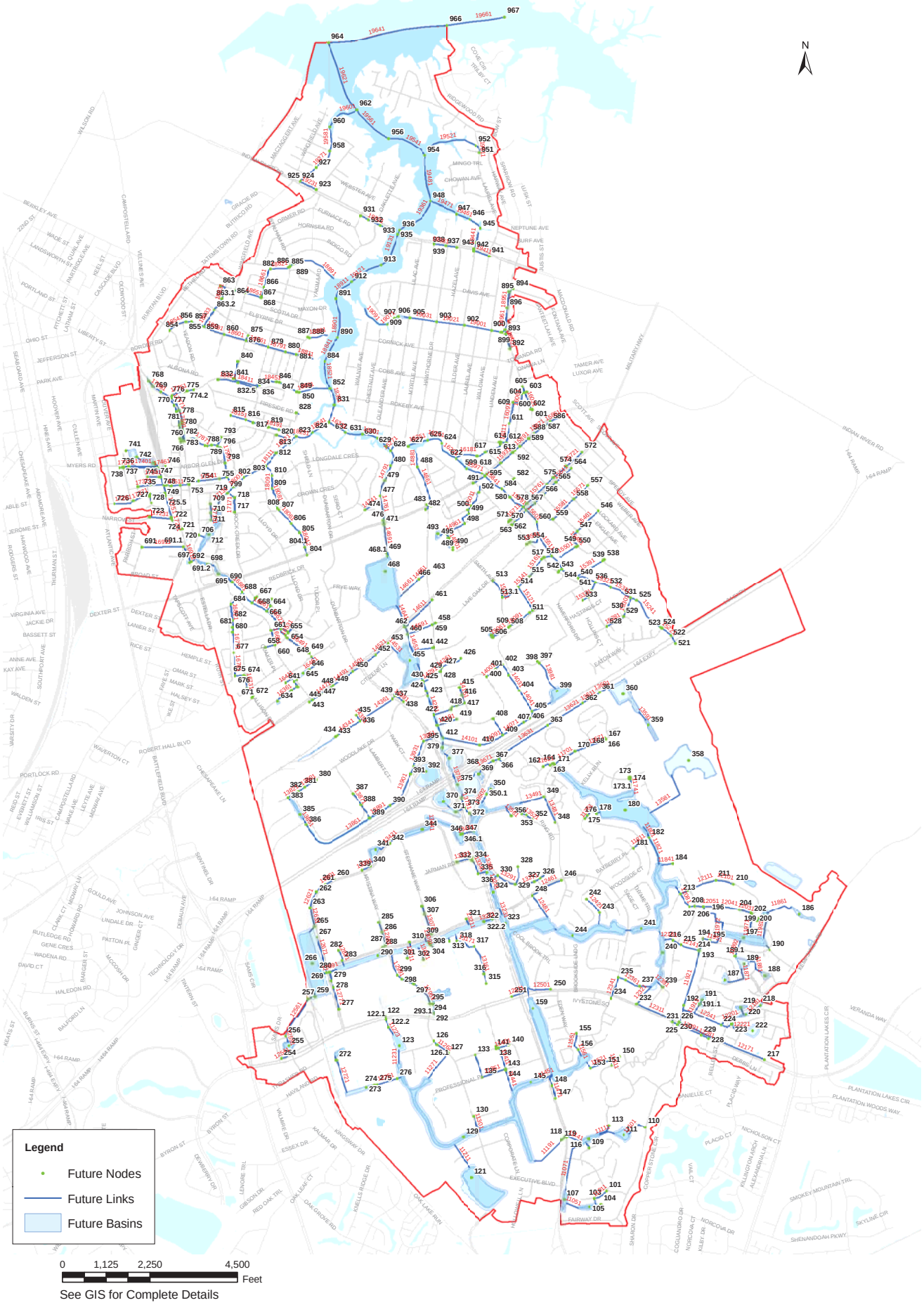
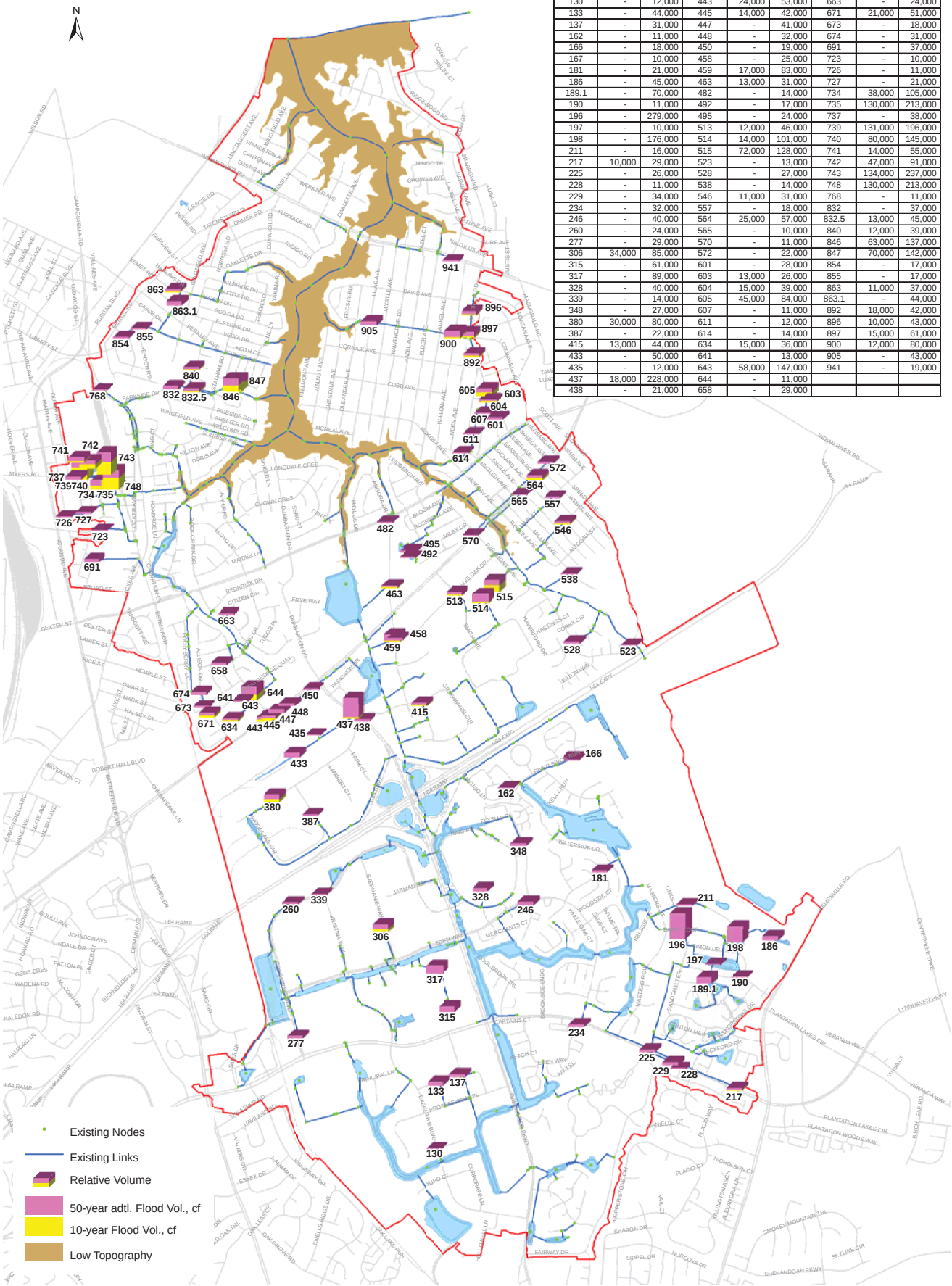


Figure 7. Link-Node Diagram - Future Conditions

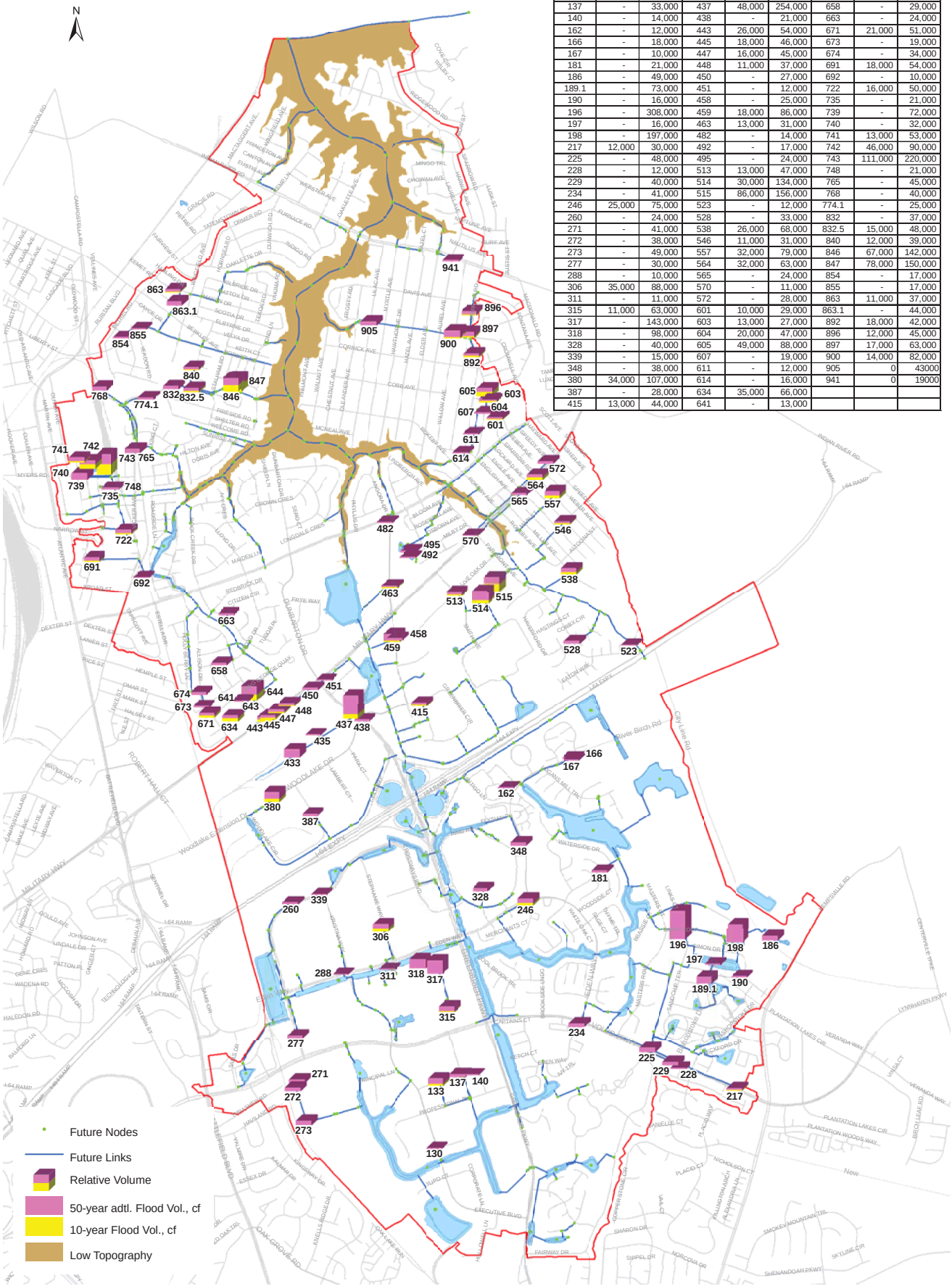
Nodal Flooding Volumes for Existing Drainage / Existing Hydrology, ft^3								
Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year
130	-	12,000	443	24,000	53,000	663	-	24,000
133	-	44,000	445	14,000	42,000	671	21,000	51,000
137	-	31,000	447	-	41,000	673	-	18,000
162	-	11,000	448	-	32,000	674	-	31,000
166	-	18,000	450	-	19,000	691	-	37,000
167	-	10,000	458	-	25,000	723	-	10,000
181	-	21,000	459	17,000	83,000	726	-	11,000
186	-	45,000	463	13,000	31,000	727	-	21,000
189.1	-	70,000	482	-	14,000	734	38,000	105,000
190	-	11,000	492	-	17,000	735	130,000	213,000
196	-	279,000	495	-	24,000	737	-	38,000
197	-	10,000	513	12,000	46,000	739	131,000	196,000
198	-	176,000	514	14,000	101,000	740	80,000	145,000
211	-	16,000	515	72,000	128,000	741	14,000	55,000
217	10,000	29,000	523	-	13,000	742	47,000	91,000
225	-	26,000	528	-	27,000	743	134,000	237,000
228	-	11,000	538	-	14,000	748	130,000	213,000
229	-	34,000	546	11,000	31,000	768	-	11,000
234	-	32,000	557	-	18,000	832	-	37,000
246	-	40,000	564	25,000	57,000	832.5	13,000	45,000
260	-	24,000	565	-	10,000	840	12,000	39,000
277	-	29,000	570	-	11,000	846	63,000	137,000
306	34,000	85,000	572	-	22,000	847	70,000	142,000
315	-	61,000	601	-	28,000	854	-	17,000
317	-	89,000	603	13,000	26,000	855	-	17,000
328	-	40,000	604	15,000	39,000	863	11,000	37,000
339	-	14,000	605	45,000	84,000	863.1	-	44,000
348	-	27,000	607	-	11,000	892	18,000	42,000
380	30,000	80,000	611	-	12,000	896	10,000	43,000
387	-	22,000	614	-	14,000	897	15,000	61,000
415	13,000	44,000	634	15,000	36,000	900	12,000	80,000
433	-	50,000	641	-	13,000	905	-	43,000
435	-	12,000	643	58,000	147,000	941	-	19,000
437	18,000	228,000	644	-	11,000			
438	-	21,000	658	-	29,000			



See GIS for Complete Details

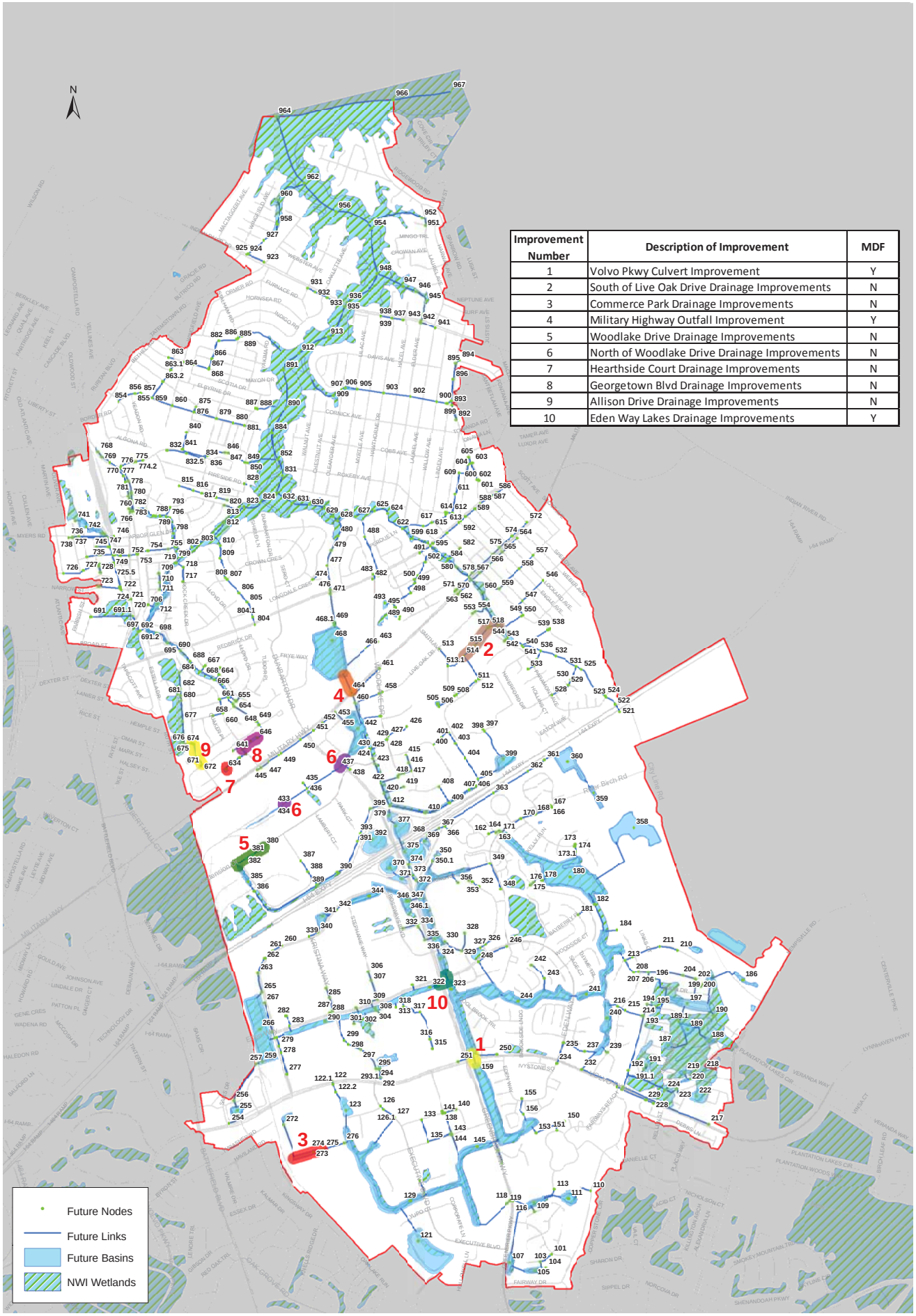
Figure 8. Flooding for 10-Yr and 50-Yr Storms: Existing Hydrology, Existing Drainage (Scenario 1)

Nodal Flooding Volumes for Future Drainage / Future Hydrology, ft^3								
Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year
130	-	13,000	433	-	88,000	643	61,000	150,000
133	22,000	80,000	435	-	14,000	644	-	12,000
137	-	33,000	437	48,000	254,000	658	-	29,000
140	-	14,000	438	-	21,000	663	-	24,000
162	-	12,000	443	26,000	54,000	671	21,000	51,000
166	-	18,000	445	18,000	46,000	673	-	19,000
167	-	10,000	447	16,000	45,000	674	-	34,000
181	-	21,000	448	11,000	37,000	691	18,000	54,000
186	-	49,000	450	-	27,000	692	-	10,000
189.1	-	73,000	451	-	12,000	722	16,000	50,000
190	-	16,000	458	-	25,000	735	-	21,000
196	-	308,000	459	18,000	86,000	739	-	72,000
197	-	16,000	463	13,000	31,000	740	-	32,000
198	-	197,000	482	-	14,000	741	13,000	53,000
217	12,000	30,000	492	-	17,000	742	46,000	90,000
225	-	48,000	495	-	24,000	743	111,000	220,000
228	-	12,000	513	13,000	47,000	748	-	21,000
229	-	40,000	514	30,000	134,000	765	-	45,000
234	-	41,000	515	86,000	156,000	768	-	40,000
246	25,000	75,000	523	-	12,000	774.1	-	25,000
260	-	24,000	528	-	33,000	832	-	37,000
271	-	41,000	538	26,000	68,000	832.5	15,000	48,000
272	-	38,000	546	11,000	31,000	840	12,000	39,000
273	-	49,000	557	32,000	79,000	846	67,000	142,000
277	-	30,000	564	32,000	63,000	847	78,000	150,000
288	-	10,000	565	-	24,000	854	-	17,000
306	35,000	88,000	570	-	11,000	855	-	17,000
311	-	11,000	572	-	28,000	863	11,000	37,000
315	11,000	63,000	601	10,000	29,000	863.1	-	44,000
317	-	143,000	603	13,000	27,000	892	18,000	42,000
318	-	98,000	604	20,000	47,000	896	12,000	45,000
328	-	40,000	605	49,000	88,000	897	17,000	63,000
339	-	15,000	607	-	19,000	900	14,000	82,000
348	-	38,000	611	-	12,000	905	0	43000
380	34,000	107,000	614	-	16,000	941	0	19000
387	-	28,000	634	35,000	66,000			
415	13,000	44,000	641	-	13,000			



See GIS for Complete Details

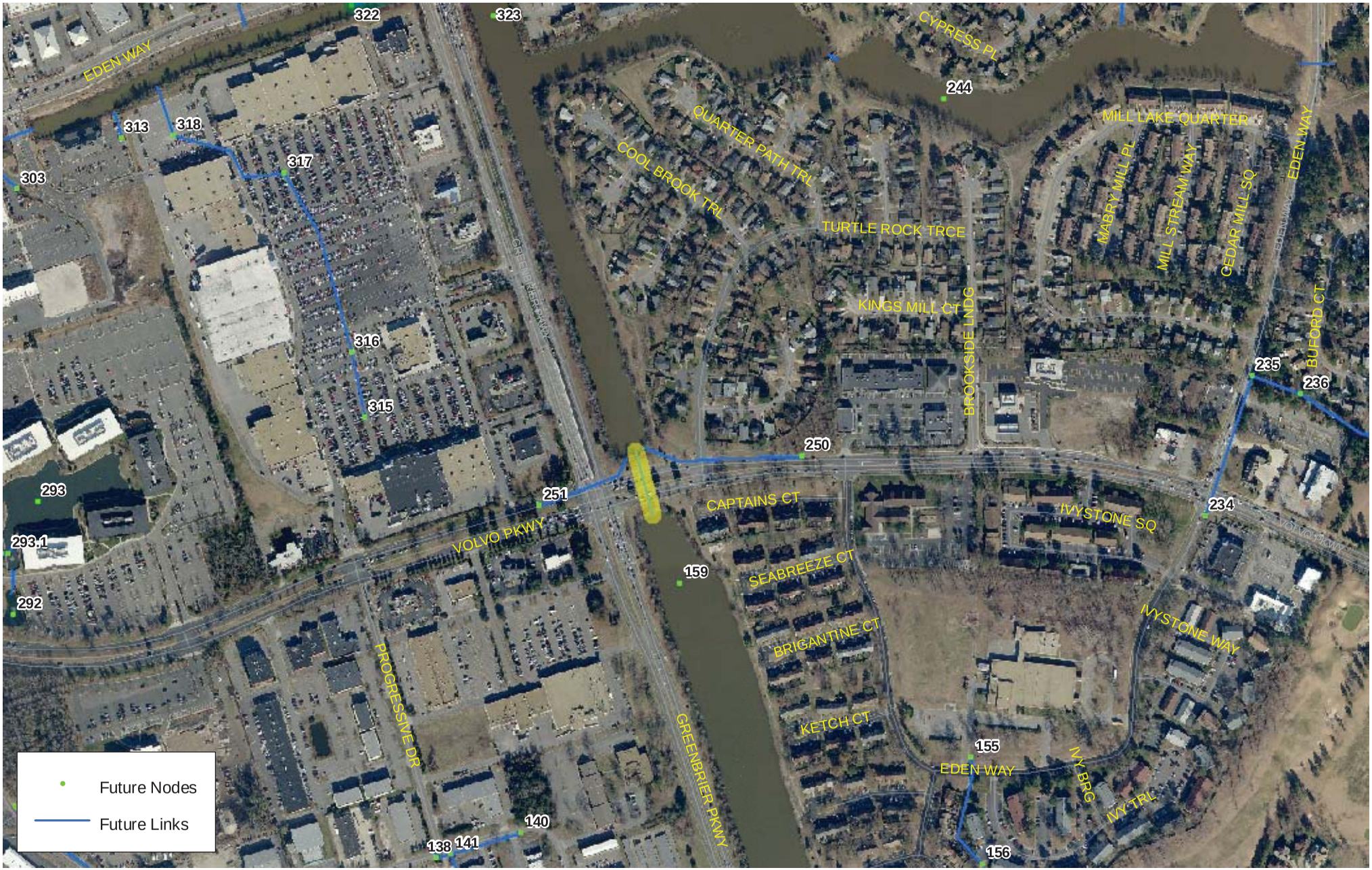
Figure 9. Flooding for 10-Yr and 50-Yr Storms: Future Hydrology, Future Drainage (Scenario 2)



Improvement Number	Description of Improvement	MDF
1	Volvo Pkwy Culvert Improvement	Y
2	South of Live Oak Drive Drainage Improvements	N
3	Commerce Park Drainage Improvements	N
4	Military Highway Outfall Improvement	Y
5	Woodlake Drive Drainage Improvements	N
6	North of Woodlake Drive Drainage Improvements	N
7	Hearthside Court Drainage Improvements	N
8	Georgetown Blvd Drainage Improvements	N
9	Allison Drive Drainage Improvements	N
10	Eden Way Lakes Drainage Improvements	Y

See GIS for Complete Details

Figure 10. Future Improvements with Wetlands Underlay



See GIS for Complete Details

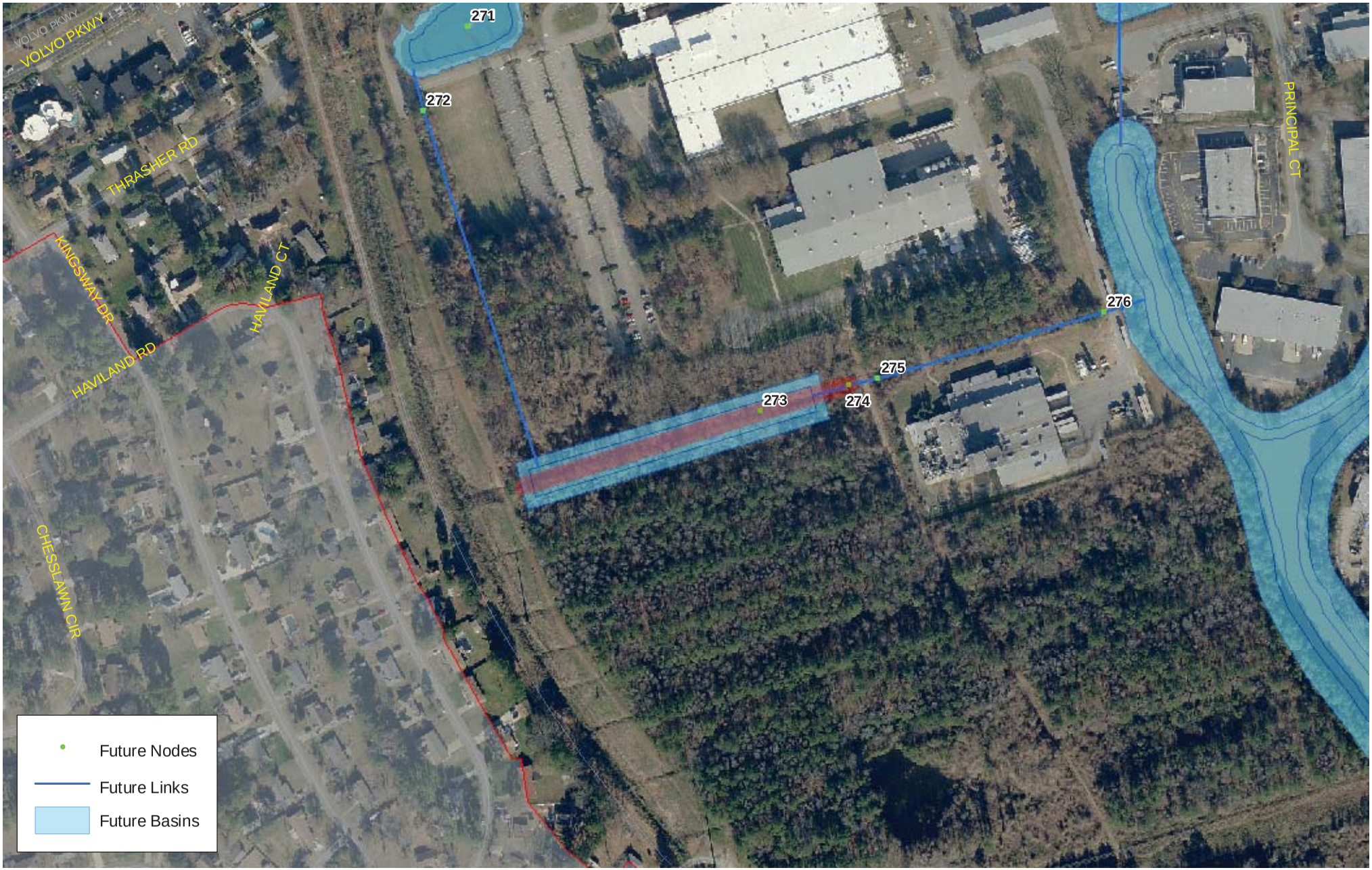
Figure 10a. Improvement 1 - Volvo Pkwy Culvert Improvement

0 150 300 600 Feet

See GIS for Complete Details

N

Figure 10b. Improvement 2 - South of Live Oak Drive Drainage Improvements

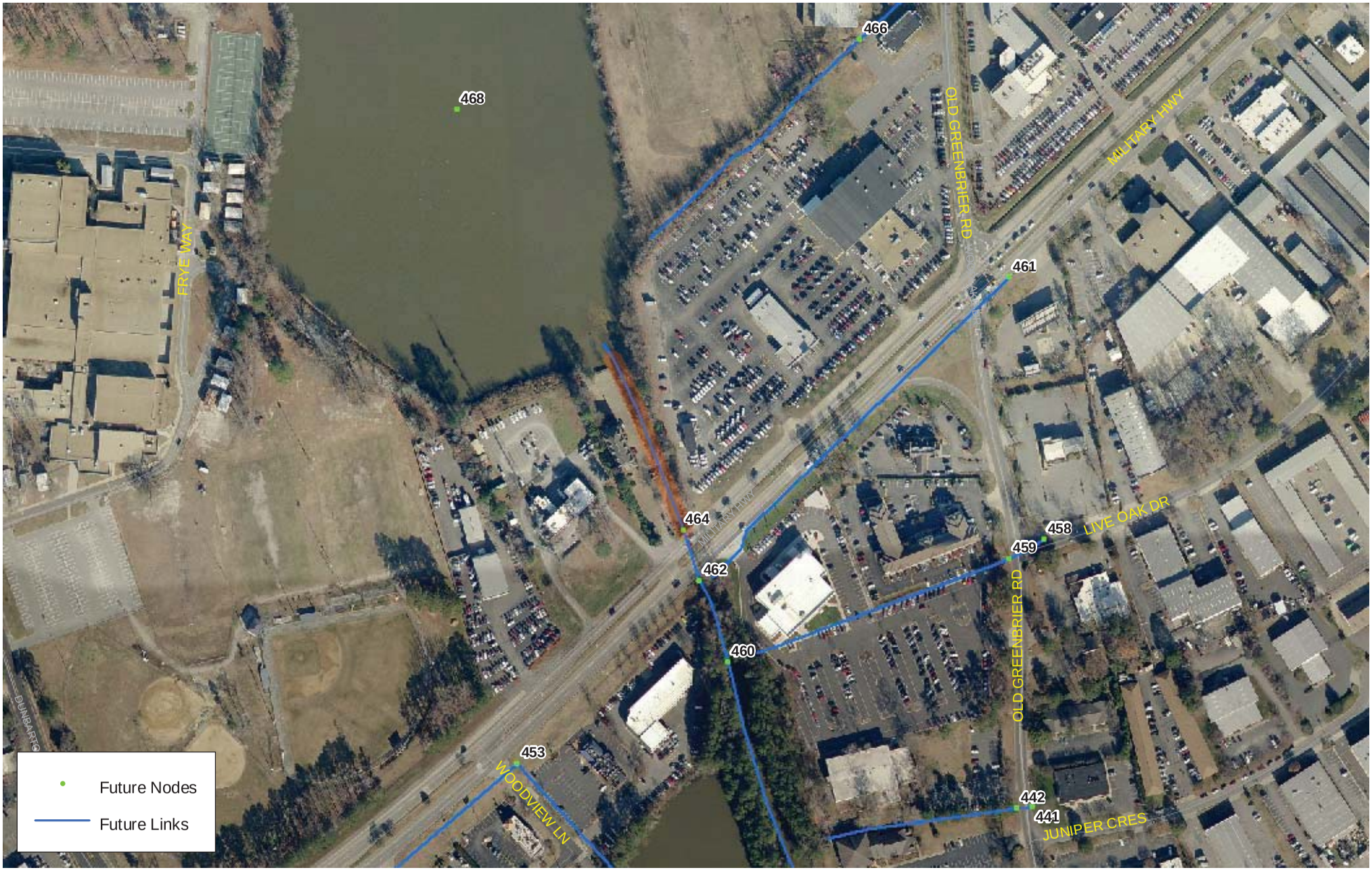


0 150 300 600 Feet

See GIS for Complete Details

N

Figure 10c. Improvement 3 - Commerce Park Drainage Improvements



0 150 300 600 Feet

See GIS for Complete Details

N

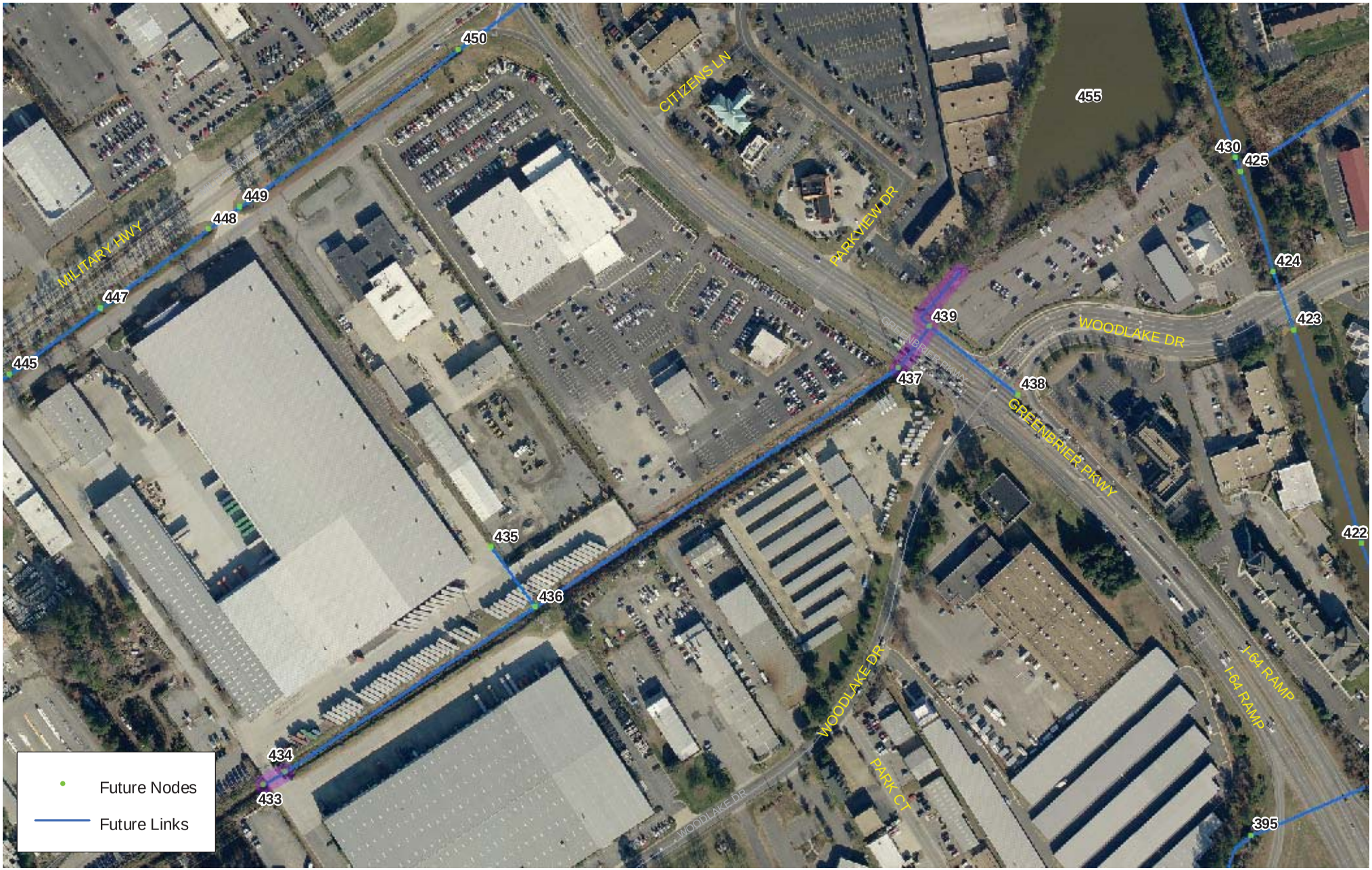
Figure 10d. Improvement 4 - Military Hwy Outfall Improvement

0 150 300 600 Feet

See GIS for Complete Details

N

Figure 10e. Improvement 5 - Woodlake Drive Drainage Improvements

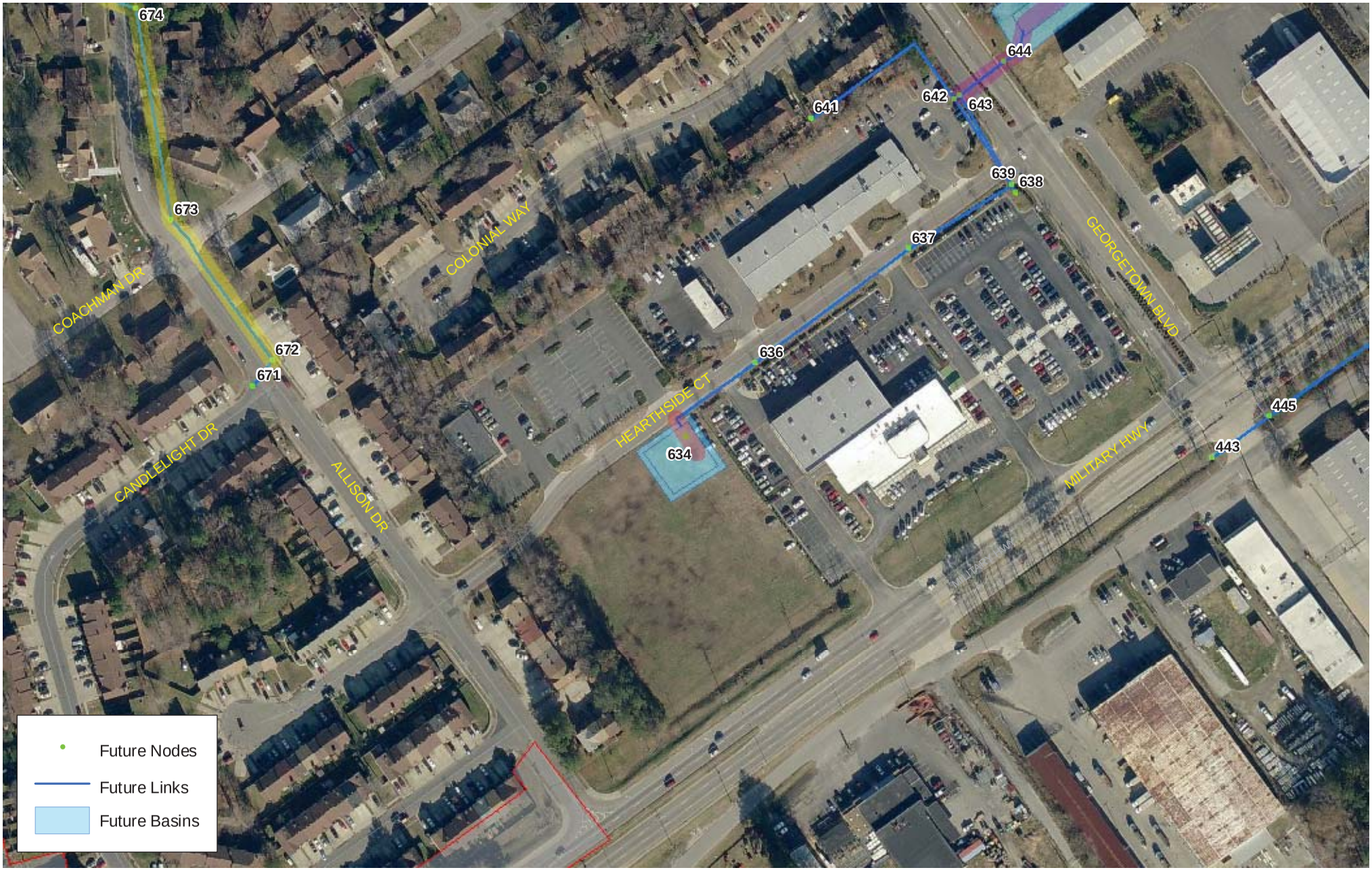


0 150 300 600 Feet

See GIS for Complete Details

N

Figure 10f. Improvement 6 - North of Woodlake Drive Drainage Improvements



0 100 200 400 Feet

See GIS for Complete Details

N

Figure 10g. Improvement 7 - Hearthside Ct Drainage Improvements

See GIS for Complete Details

Figure 10h. Improvement 8 - Georgetown Blvd Drainage Improvements

0 100 200 400 Feet

See GIS for Complete Details

N

Figure 10i. Improvement 9 - Allison Drive Drainage Improvements

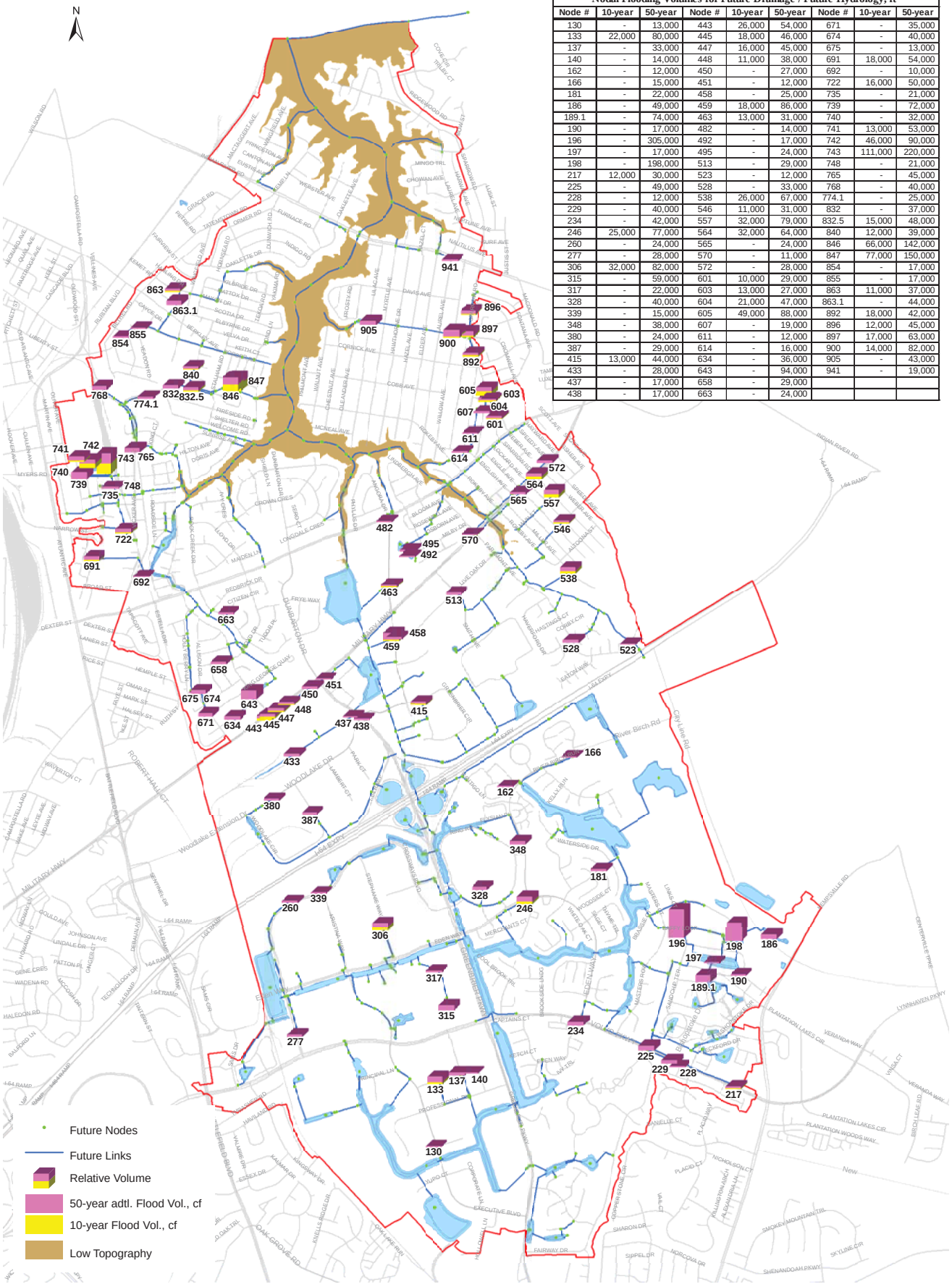
0 100 200 400 Feet

See GIS for Complete Details

N

Figure 10j. Improvement 10 - Eden Way Lakes Drainage Improvements

Nodal Flooding Volumes for Future Drainage / Future Hydrology, ft^3								
Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year
130	-	13,000	443	26,000	54,000	671	-	35,000
133	22,000	80,000	445	18,000	46,000	674	-	40,000
137	-	33,000	447	16,000	45,000	675	-	13,000
140	-	14,000	448	11,000	38,000	691	18,000	54,000
162	-	12,000	450	-	27,000	692	-	10,000
166	-	15,000	451	-	12,000	722	16,000	50,000
181	-	22,000	458	-	25,000	735	-	21,000
186	-	49,000	459	18,000	86,000	739	-	72,000
189.1	-	74,000	463	13,000	31,000	740	-	32,000
190	-	17,000	482	-	14,000	741	13,000	53,000
196	-	305,000	492	-	17,000	742	46,000	90,000
197	-	17,000	495	-	24,000	743	111,000	220,000
198	-	198,000	513	-	29,000	748	-	21,000
217	12,000	30,000	523	-	12,000	765	-	45,000
225	-	49,000	528	-	33,000	768	-	40,000
228	-	12,000	538	26,000	67,000	774.1	-	25,000
229	-	40,000	546	11,000	31,000	832	-	37,000
234	-	42,000	557	32,000	79,000	832.5	15,000	48,000
246	25,000	77,000	564	32,000	64,000	840	12,000	39,000
260	-	24,000	565	-	24,000	846	66,000	142,000
277	-	28,000	570	-	11,000	847	77,000	150,000
306	32,000	82,000	572	-	28,000	854	-	17,000
315	-	59,000	601	10,000	29,000	855	-	17,000
317	-	22,000	603	13,000	27,000	863	11,000	37,000
328	-	40,000	604	21,000	47,000	863.1	-	44,000
339	-	15,000	605	49,000	88,000	892	18,000	42,000
348	-	38,000	607	-	19,000	896	12,000	45,000
380	-	24,000	611	-	12,000	897	17,000	63,000
387	-	29,000	614	-	16,000	900	14,000	82,000
415	13,000	44,000	634	-	36,000	905	-	43,000
433	-	28,000	643	-	94,000	941	-	19,000
437	-	17,000	658	-	29,000			
438	-	17,000	663	-	24,000			



See GIS for Complete Details

Figure 11. Flooding for 10-Yr and 50-Yr Storms: Future Hydrology, Future Drainage (Scenario 3)