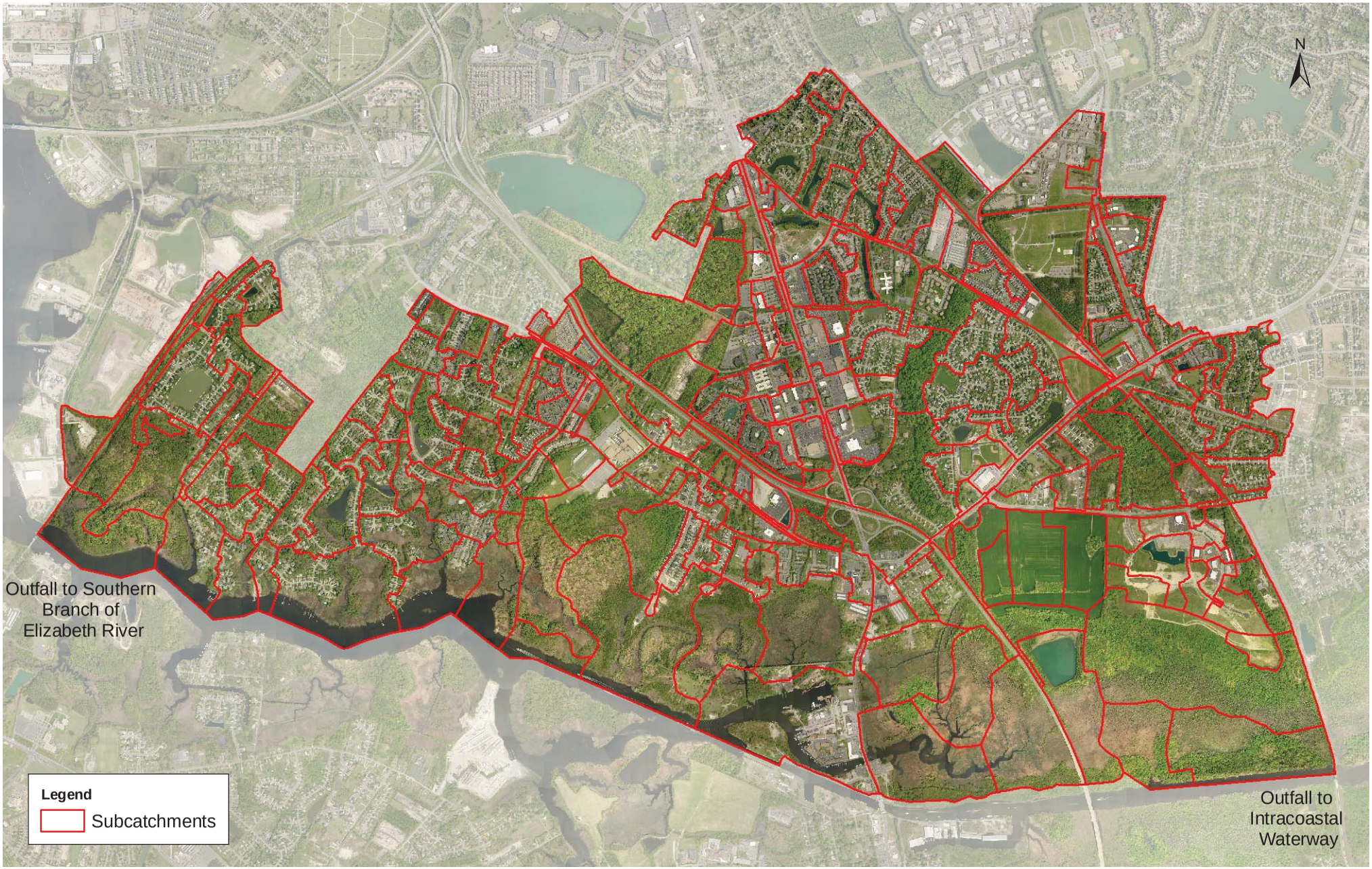

0 1,250 2,500 5,000 Feet

Aerial Imagery @ 2008 Commonwealth of Virginia.

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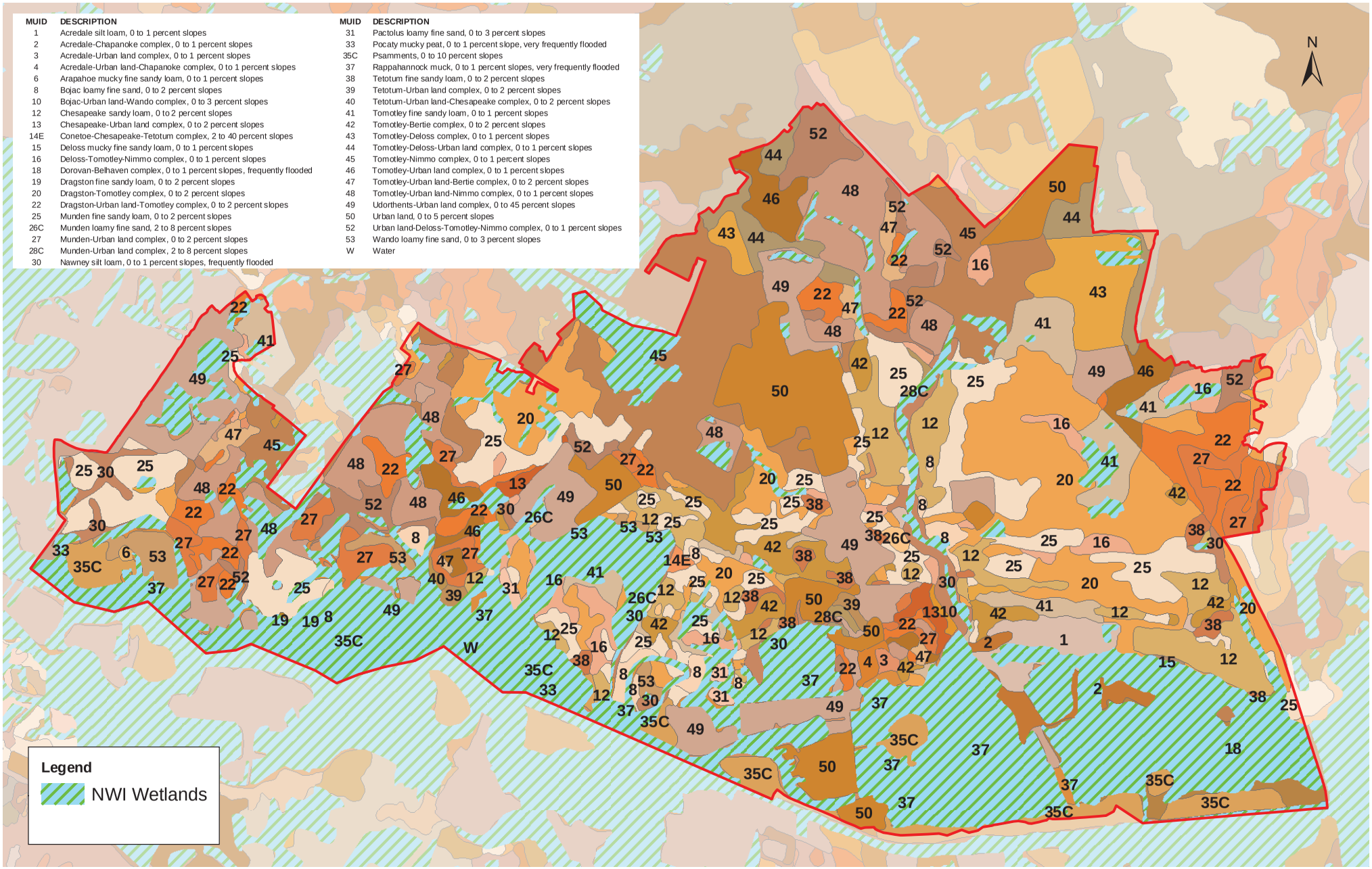
Figure 1. Oak Grove Watershed MDPU Map

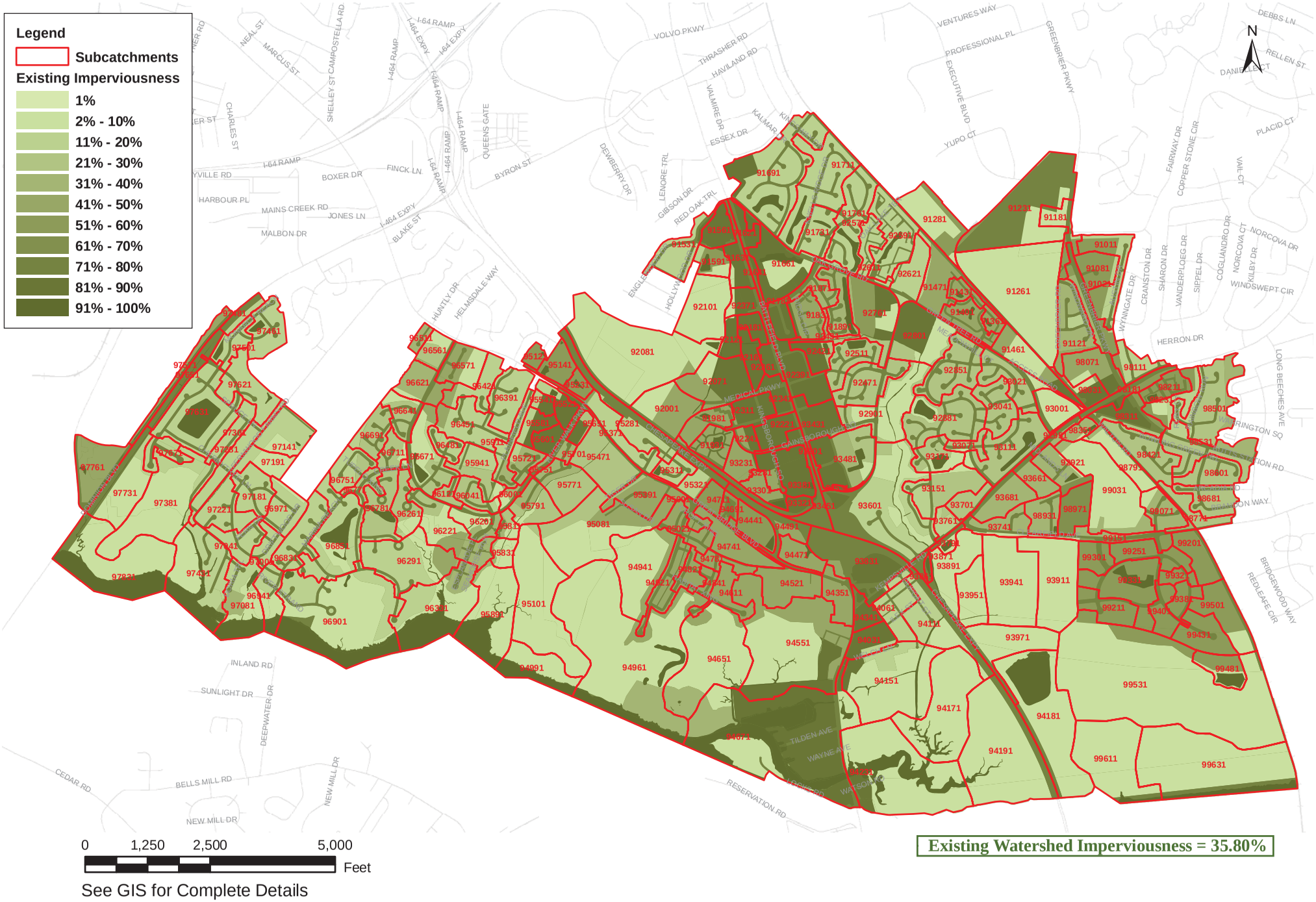
MUID	DESCRIPTION
1	Acredale silt loam, 0 to 1 percent slopes
2	Acredale-Chapanoke complex, 0 to 1 percent slopes
3	Acredale-Urban land complex, 0 to 1 percent slopes
4	Acredale-Urban land-Chapanoke complex, 0 to 1 percent slopes
6	Arapahoe mucky fine sandy loam, 0 to 1 percent slopes
8	Bojac loamy fine sand, 0 to 2 percent slopes
10	Bojac-Urban land-Wando complex, 0 to 3 percent slopes
12	Chesapeake sandy loam, 0 to 2 percent slopes
13	Chesapeake-Urban land complex, 0 to 2 percent slopes
14E	Conetoe-Chesapeake-Tetotum complex, 2 to 40 percent slopes
15	Deloss mucky fine sandy loam, 0 to 1 percent slopes
16	Deloss-Tomotley-Nimmo complex, 0 to 1 percent slopes
18	Dorovan-Belhaven complex, 0 to 1 percent slopes, frequently flooded
19	Dragston fine sandy loam, 0 to 2 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
26C	Munden loamy fine sand, 2 to 8 percent slopes
27	Munden-Urban land complex, 0 to 2 percent slopes
28C	Munden-Urban land complex, 2 to 8 percent slopes
30	Nawney silt loam, 0 to 1 percent slopes, frequently flooded
31	Pactolus loamy fine sand, 0 to 3 percent slopes
33	Pocaty mucky peat, 0 to 1 percent slope, very frequently flooded
35C	Psamments, 0 to 10 percent slopes
37	Rappahannock muck, 0 to 1 percent slopes, very frequently flooded
38	Tetotum fine sandy loam, 0 to 2 percent slopes
39	Tetotum-Urban land complex, 0 to 2 percent slopes
40	Tetotum-Urban land-Chesapeake complex, 0 to 2 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
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
W	Water



0 1,250 2,500 5,000 Feet

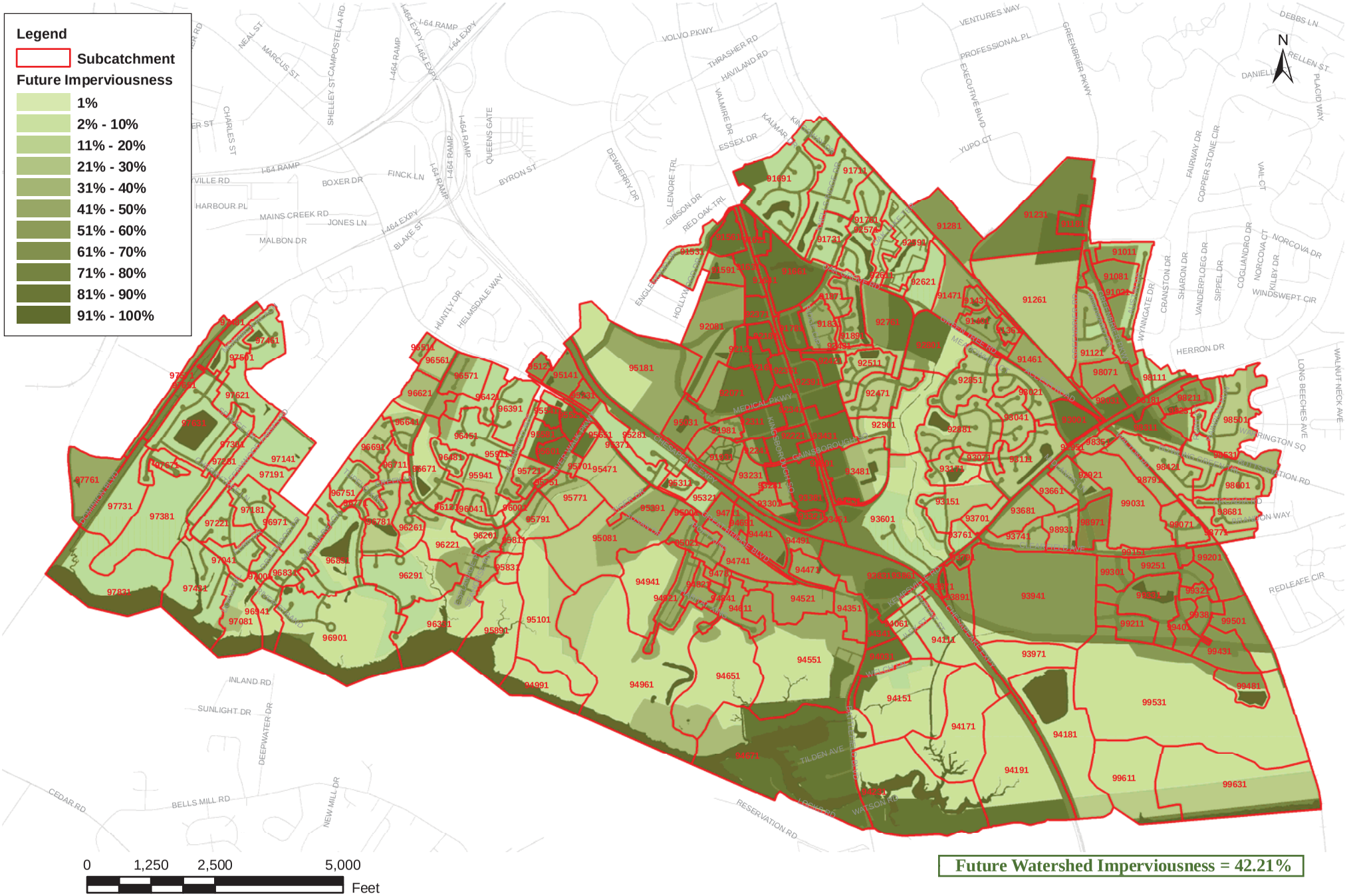
See GIS for Complete Details

Figure 2. Soils with Wetlands Overlay



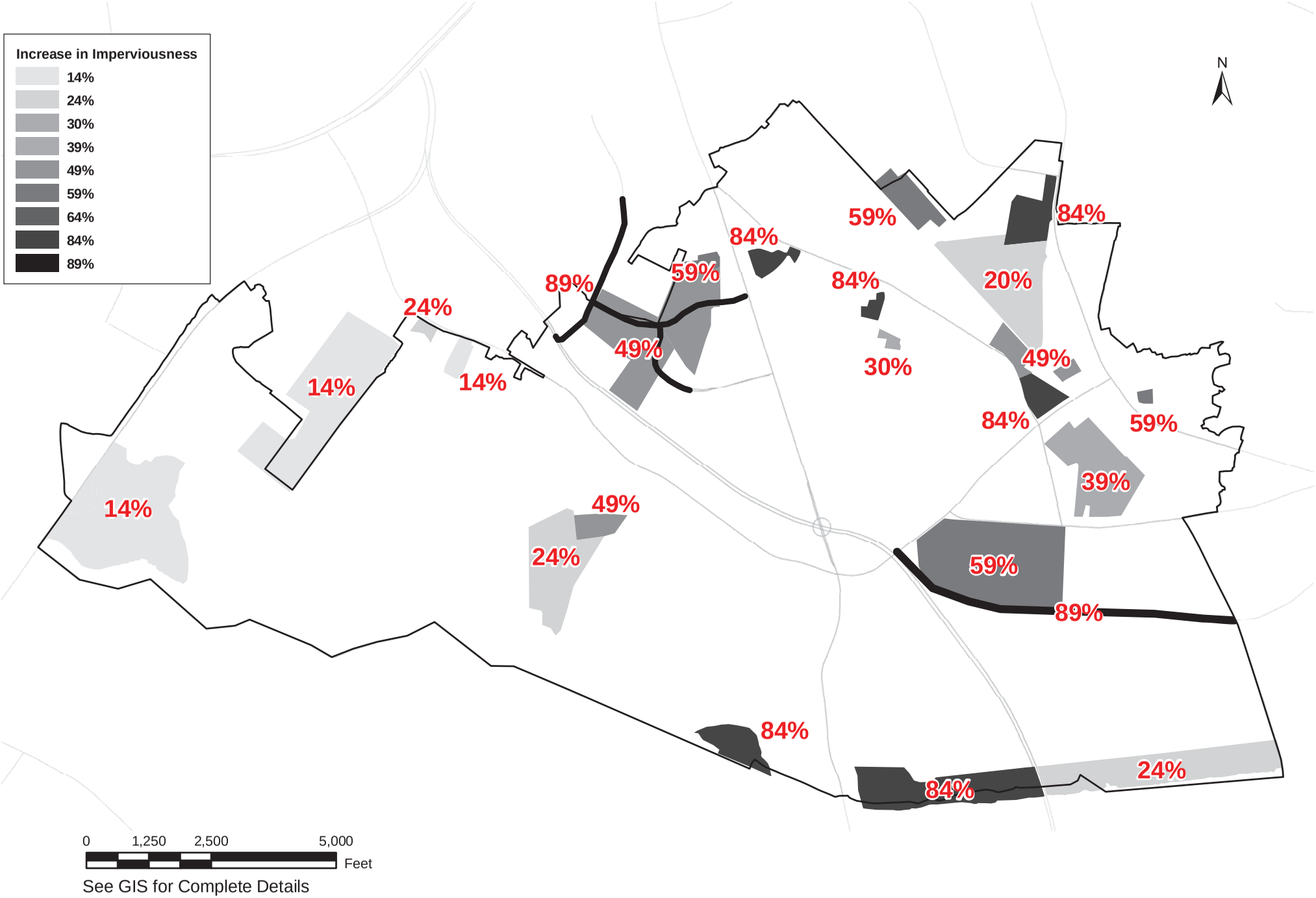
See GIS for Complete Details

Figure 3. Existing Conditions Subcatchment with Shaded Imperviousness



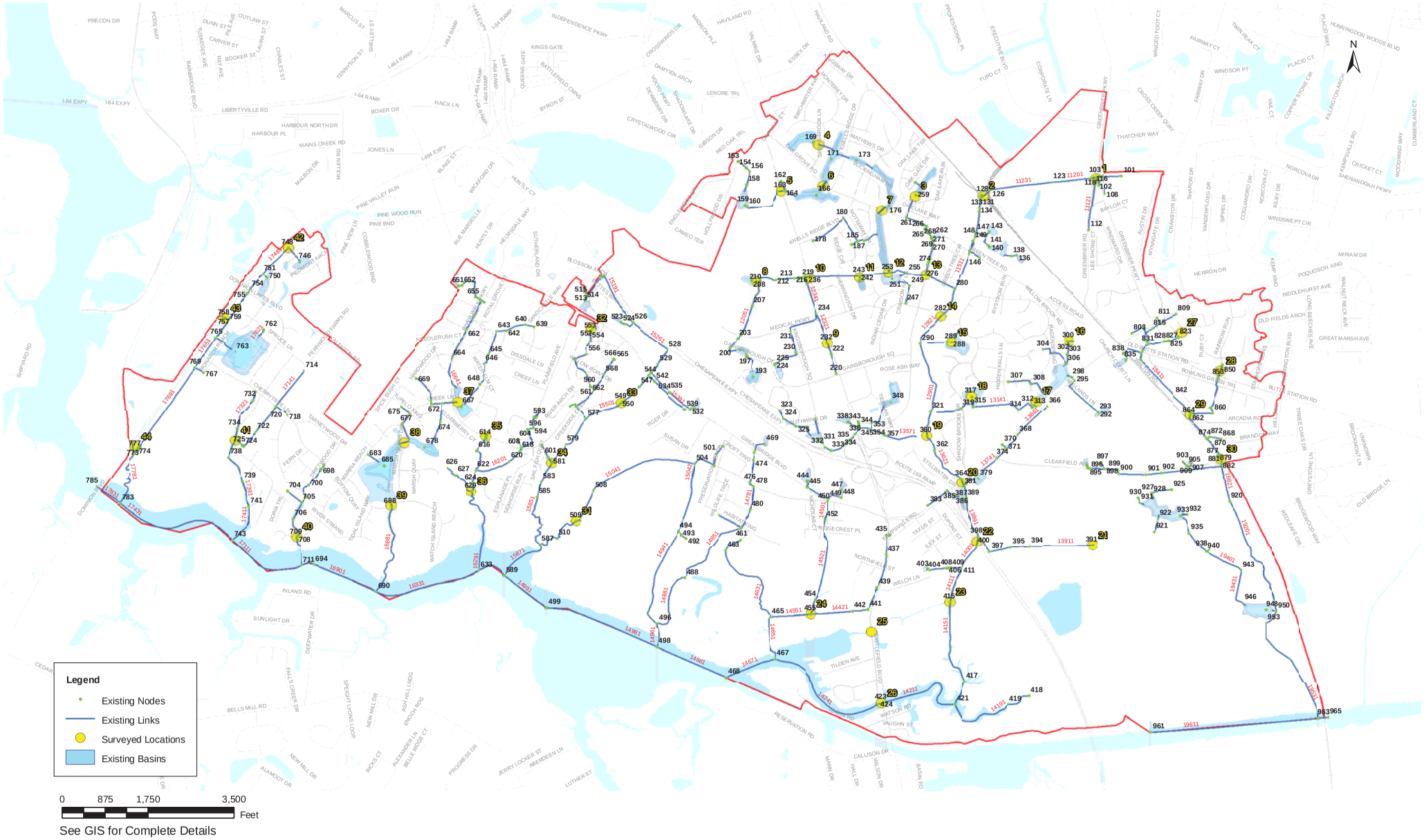
See GIS for Complete Details

Figure 4. Future Conditions Subcatchment with Shaded Imperviousness



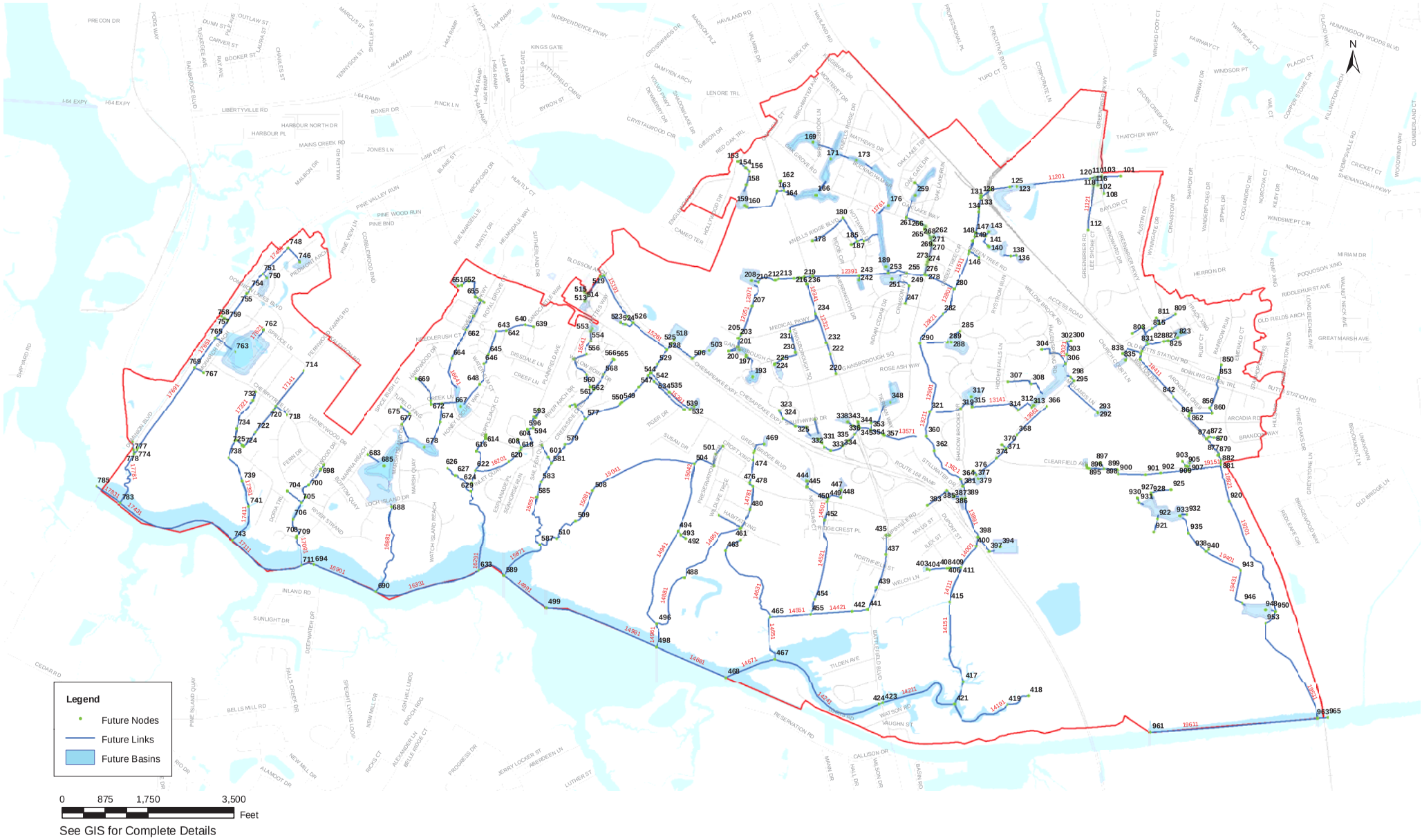
See GIS for Complete Details

Figure 5. Potential Increase In Imperviousness



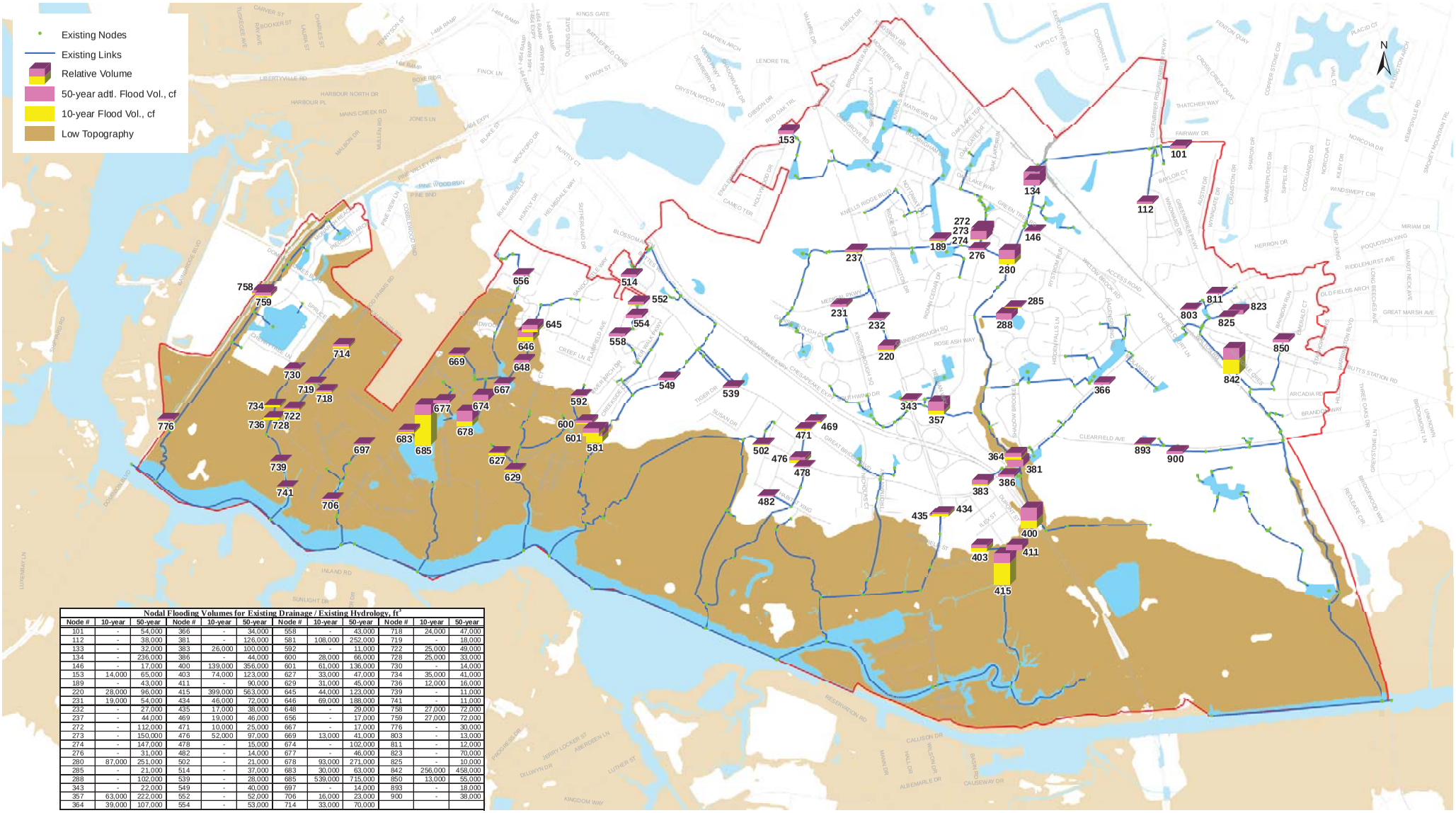
See GIS for Complete Details

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



See GIS for Complete Details

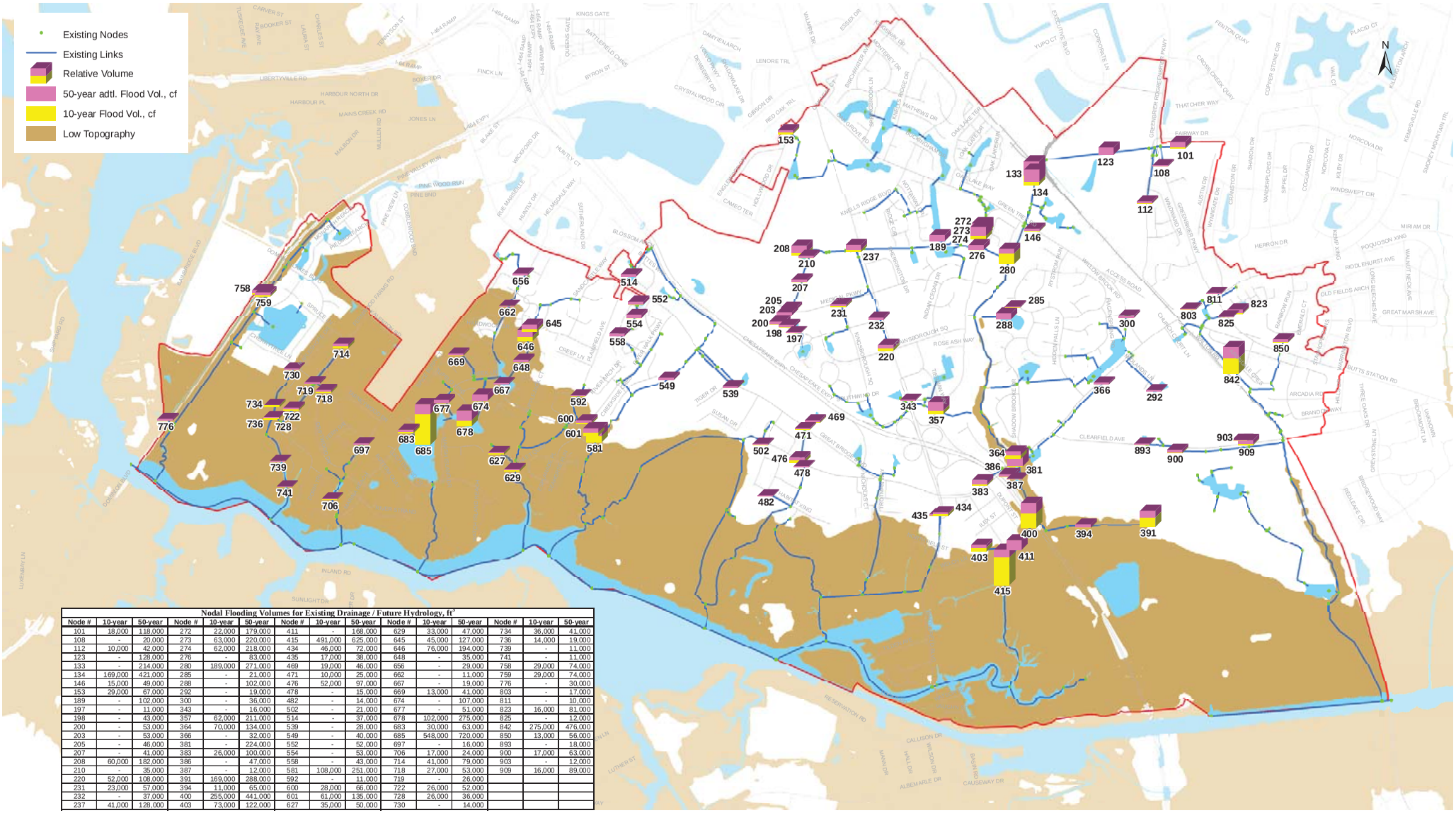
Figure 7. Link-Node Diagram - Future Conditions



Nodal Flooding Volumes for Existing Drainage / Existing Hydrology, ft³											
Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year
101	-	54,000	366	-	34,000	558	-	43,000	718	24,000	47,000
112	-	38,000	381	-	126,000	581	108,000	252,000	719	-	18,000
133	-	32,000	383	26,000	100,000	592	-	11,000	722	25,000	49,000
134	-	236,000	386	-	44,000	600	28,000	66,000	728	25,000	33,000
146	-	17,000	400	139,000	356,000	601	61,000	136,000	730	-	14,000
153	14,000	65,000	403	74,000	123,000	627	33,000	47,000	734	35,000	41,000
189	-	43,000	411	-	90,000	629	31,000	45,000	736	12,000	16,000
220	28,000	96,000	415	399,000	563,000	645	44,000	123,000	739	-	11,000
231	19,000	54,000	434	46,000	72,000	646	69,000	188,000	741	-	11,000
232	-	27,000	435	17,000	38,000	648	-	29,000	758	27,000	72,000
237	-	44,000	469	19,000	46,000	656	-	17,000	759	27,000	72,000
272	-	112,000	471	10,000	25,000	667	-	17,000	776	-	30,000
273	-	150,000	476	52,000	97,000	669	13,000	41,000	803	-	13,000
274	-	147,000	478	-	15,000	674	-	102,000	811	-	12,000
276	-	31,000	482	-	14,000	677	-	46,000	823	-	70,000
280	87,000	251,000	502	-	21,000	678	93,000	271,000	825	-	10,000
285	-	21,000	514	-	37,000	683	30,000	63,000	842	256,000	458,000
288	-	102,000	539	-	28,000	685	539,000	715,000	850	13,000	55,000
343	-	22,000	549	-	40,000	697	-	14,000	893	-	18,000
357	63,000	222,000	552	-	52,000	706	16,000	23,000	900	-	38,000
364	39,000	107,000	554	-	53,000	714	33,000	70,000			

See GIS for Complete Details

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

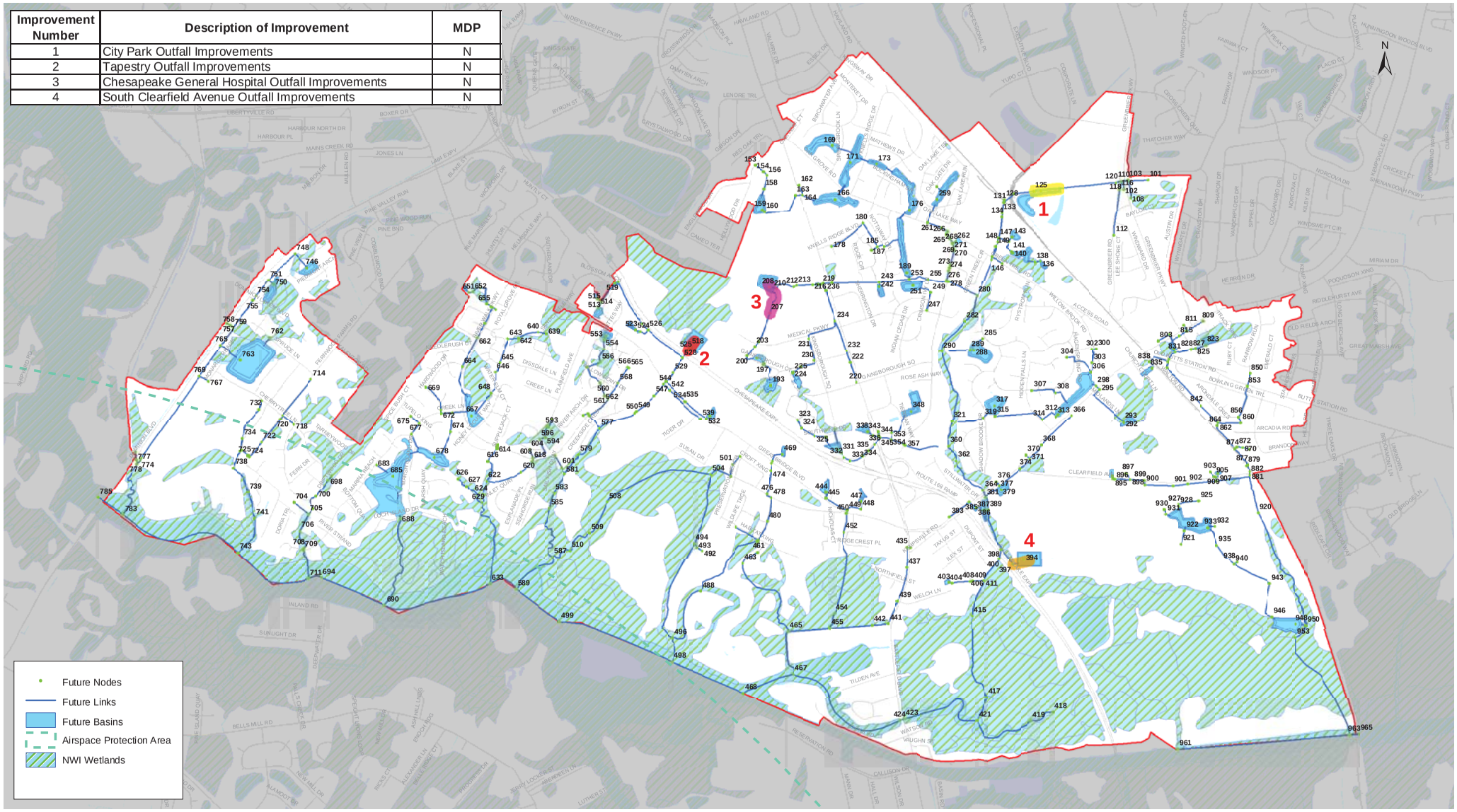


Nodal Flooding Volumes for Existing Drainage / Future Hydrology, ft³														
Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year
101	18,000	118,000	272	22,000	179,000	411	-	168,000	629	33,000	47,000	734	36,000	41,000
108	-	20,000	273	63,000	220,000	415	491,000	625,000	645	45,000	127,000	736	14,000	19,000
112	10,000	42,000	274	62,000	218,000	434	46,000	72,000	646	76,000	194,000	739	-	11,000
123	-	128,000	276	-	83,000	435	17,000	38,000	648	-	35,000	741	-	11,000
133	-	214,000	280	189,000	271,000	469	19,000	46,000	656	-	29,000	758	29,000	74,000
134	169,000	421,000	285	-	21,000	471	10,000	25,000	662	-	11,000	759	29,000	74,000
146	15,000	49,000	288	-	102,000	476	52,000	97,000	667	-	19,000	776	-	30,000
153	29,000	67,000	292	-	19,000	478	-	15,000	669	13,000	41,000	803	-	17,000
189	-	102,000	300	-	36,000	482	-	14,000	674	-	107,000	811	-	10,000
197	-	11,000	343	-	16,000	502	-	21,000	677	-	51,000	823	16,000	81,000
198	-	43,000	357	62,000	211,000	514	-	37,000	678	102,000	275,000	825	-	12,000
200	-	53,000	364	70,000	134,000	539	-	28,000	683	30,000	63,000	842	275,000	476,000
203	-	53,000	366	-	32,000	549	-	40,000	685	548,000	720,000	850	13,000	56,000
205	-	46,000	381	-	224,000	552	-	52,000	697	-	16,000	893	-	18,000
207	-	41,000	383	26,000	100,000	554	-	53,000	706	17,000	24,000	900	17,000	63,000
208	60,000	182,000	386	-	47,000	558	-	43,000	714	41,000	79,000	903	-	12,000
210	-	35,000	387	-	12,000	581	108,000	251,000	718	27,000	53,000	909	16,000	89,000
220	52,000	108,000	391	169,000	288,000	592	-	11,000	719	-	26,000			
231	23,000	57,000	394	11,000	65,000	600	28,000	66,000	722	26,000	52,000			
232	-	37,000	400	255,000	441,000	601	61,000	135,000	728	26,000	36,000			
237	41,000	128,000	403	73,000	122,000	627	35,000	50,000	730	-	14,000			

See GIS for Complete Details

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

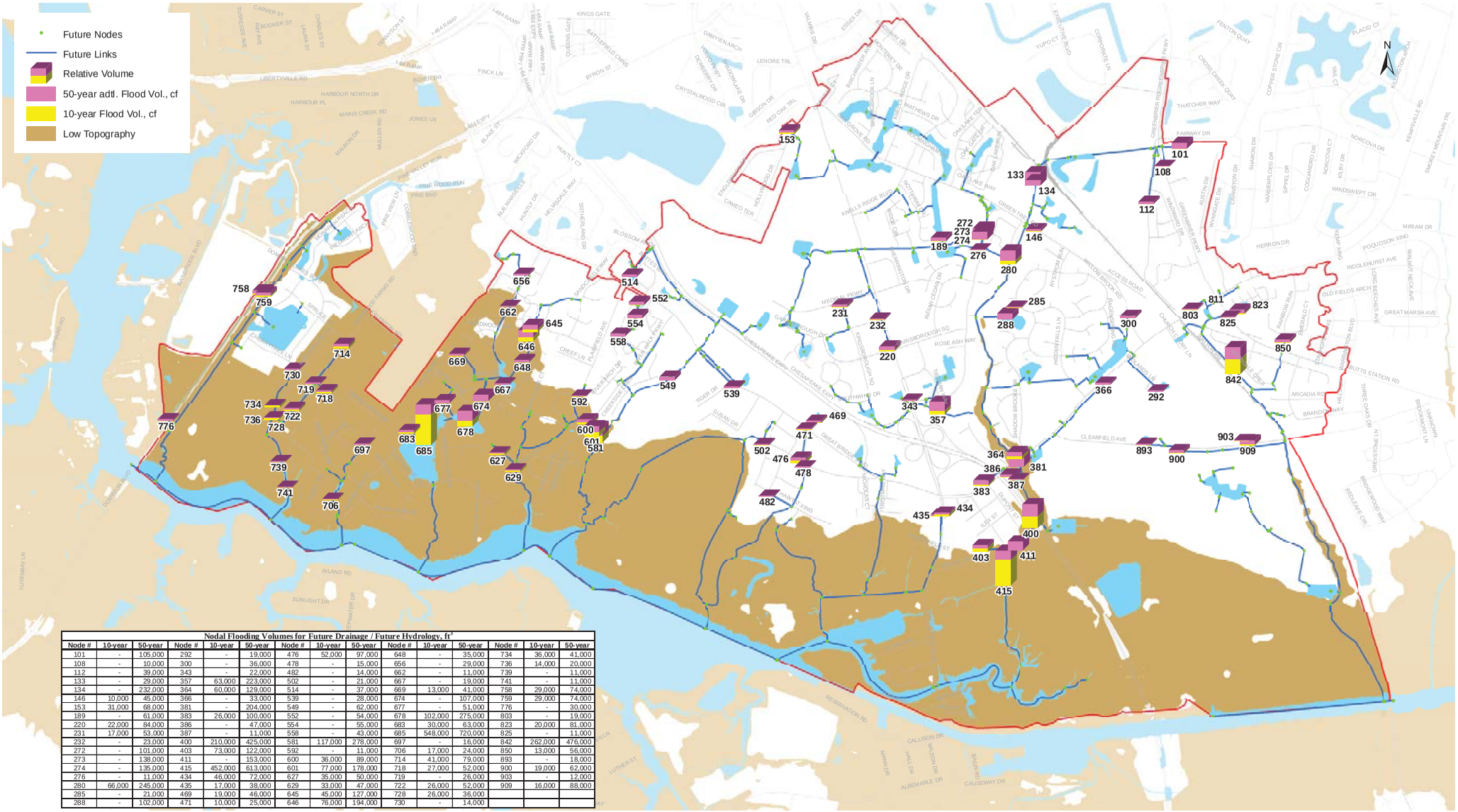
Improvement Number	Description of Improvement	MDP
1	City Park Outfall Improvements	N
2	Tapestry Outfall Improvements	N
3	Chesapeake General Hospital Outfall Improvements	N
4	South Clearfield Avenue Outfall Improvements	N



0 875 1,750 3,500 Feet

See GIS for Complete Details

Figure 10. Future Improvements with Wetlands Underlay



Nodal Flooding Volumes for Future Drainage / Future Hydrology, ft³														
Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year	Node #	10-year	50-year
101	-	105,000	292	-	19,000	476	52,000	97,000	648	-	35,000	734	36,000	41,000
108	-	10,000	300	-	36,000	478	-	15,000	656	-	29,000	736	14,000	20,000
112	-	39,000	343	-	22,000	482	-	14,000	662	-	11,000	739	-	11,000
133	-	29,000	357	63,000	223,000	502	-	21,000	667	-	19,000	741	-	11,000
134	-	232,000	364	60,000	129,000	514	-	37,000	669	13,000	41,000	758	29,000	74,000
146	10,000	45,000	366	-	33,000	539	-	28,000	674	-	107,000	759	29,000	74,000
153	31,000	68,000	381	-	204,000	549	-	62,000	677	-	51,000	776	-	30,000
189	-	61,000	383	26,000	100,000	552	-	54,000	678	102,000	275,000	803	-	19,000
220	22,000	84,000	386	-	47,000	554	-	55,000	683	30,000	63,000	823	20,000	81,000
231	17,000	53,000	387	-	11,000	558	-	43,000	685	548,000	720,000	825	-	11,000
232	-	23,000	400	210,000	425,000	581	117,000	278,000	697	-	16,000	842	262,000	476,000
272	-	101,000	403	73,000	122,000	592	-	11,000	706	17,000	24,000	850	13,000	56,000
273	-	138,000	411	-	153,000	600	36,000	89,000	714	41,000	79,000	893	-	18,000
274	-	135,000	415	452,000	613,000	601	77,000	178,000	718	27,000	52,000	900	19,000	62,000
276	-	11,000	434	46,000	72,000	627	35,000	50,000	719	-	26,000	903	-	12,000
280	66,000	245,000	435	17,000	38,000	629	33,000	47,000	722	26,000	52,000	909	16,000	88,000
285	-	21,000	469	19,000	46,000	645	45,000	127,000	728	26,000	36,000			
288	-	102,000	471	10,000	25,000	646	76,000	194,000	730	-	14,000			

See GIS for Complete Details

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