May 26, 2023

NCDOT STIP Project U-5307 (Capital Boulevard) Freeway Upgrade

Environmental Assessment Appendix C

Appendix C – Natural Resources

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Segment D Potential Stream Impacts by Option Table 11

Segment D Potential Wetland Impacts by Option Table 12

Appendix C, Table 1. Potential Streams in the Project Study Area

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification	Bank Height (ft.)	Bankfull Width (ft.)	Depth (in.)
Horse Creek	Horse Creek	27-17-(0.7)	WS-IV; NSW	4-6	10-15	3-36
Neuse River	Neuse River	27-(22.5)	C; NSW	4-6	12-24	12-40
Perry Creek/ Perry Creek (Gresham Lake)	Perry Creek	27-25-(2)/ 27-25-(1)	C; NSW/ B NSW	6-9	9-15	6-40
Richland Creek	Richland Creek	27-21-(1.5)	WS-IV; NSW	4-6	12-18	6-40
Unnamed Tributary (UT) near Neuse	UT near Neuse	27-25-3-(2)	C; NSW	5-8	8-12	6-30
UT to Perry Creek	SA	27-25-(2)	C; NSW	1-3 (I)	2-4	2-6
				1-1.5 (P)	2-5	3-12
UT to Perry Creek	SC	27-25-(2)	C; NSW	6-12	10-20	8-40
UT to Perry Creek	SD	27-25-(1)	B; NSW	2.5	3	1-8
UT to Smith Creek	SJ	27-23-(2)	C; NSW	2-3	7	0
UT to Perry Creek	SK	27-25-(2)	C; NSW	2-3	1-2	0-1
UT to Perry Creek	SL	27-25-(2)	C; NSW	0-6	1-2	0-2
UT to Perry Creek	SM	27-25-(2)	C; NSW	0-2	2	1-6
UT to Smith Creek	SO	27-23-(2)	C; NSW	1-3	2-3	0
UT to Smith Creek	SP	27-23-(2)	C; NSW	2-3	2-4	0
UT to UT near Neuse	SQ	27-25-3-(2)	C; NSW	0-1	1-1.5	0
UT to Smith Creek	SR	27-23-(2)	C; NSW	3-4	4-8	2-12
UT to Smith Creek	SS	27-23-(2)	C; NSW	1-4	2-6	0-10
UT to UT near Neuse	ST	27-25-3-(2)	C; NSW	0-1	1-2	0
UT to Smith Creek	SU	27-23-(2)	C; NSW	1 (I)	2-3	0
				1-2 (P)	3	1-2
UT to Smith Creek	SV	27-23-(2)	C; NSW	3	4	2
UT to UT near Neuse	SY	27-25-3-(2)	C; NSW	0-3	3	0-12
UT to Smith Creek	SZ	27-23-(2)	C; NSW	3-4	1-2	6
UT to Smith Creek	SAA	27-23-(2)	C; NSW	1-3	2-4	2-8

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification	Bank Height (ft.)	Bankfull Width (ft.)	Depth (in.)
UT to Neuse River	SBB	27-(22.5)	C; NSW	1-3	1-3	0-6
UT to Neuse River	SCC	27-(22.5)	C; NSW	0-3	1-2	0
UT to Neuse River	SDD	27-(22.5)	C; NSW	0.5-1	1-2	0-4
UT to Richland Creek	SEE	27-21-(1.5)	WS-IV; NSW	6	3-4	1-12
UT to Richland Creek	SFF	27-21-(1.5)	WS-IV; NSW	1-3	2-3	1-2
UT to Richland Creek	SGG	27-21-(1.5)	WS-IV; NSW	3-5	3-4	1-12
UT to Neuse River	SHH	27-(22.5)	C; NSW	1-4	1-3	0-4
UT to UT near Neuse	SII	27-25-3-(2)	C; NSW	0-2	3	0
UT to Richland Creek	SJJ	27-21-(1.5)	WS-IV; NSW	12	2-6	3-12
UT to Richland Creek	SKK	27-21-(1.5)	WS-IV; NSW	1-4	1-3	3-10
UT to Richland Creek	SLL	27-21-(1.5)	WS-IV; NSW	1-3 (I)	2-4	2-6
				1-4 (P)	1-3	3-12
UT to Richland Creek	SMM	27-21-(1.5)	WS-IV; NSW	1-3	1-2	2-10
UT to Richland Creek	SNN	27-21-(1.5)	WS-IV; NSW	1-4 (I)	2-6	1-3
				2-8 (P)	6-12	2-24
UT to Richland Creek	SOO	27-21-(1.5)	WS-IV; NSW	2-4	3-5	1-8
UT to Richland Creek	SPP	27-21-(1.5)	WS-IV; NSW	0-4	3-4	0-4
UT to Richland Creek	SQQ	27-21-(1.5)	WS-IV; NSW	4	3-5	1-20
UT to Richland Creek	SRR	27-21-(1.5)	WS-IV; NSW	3-6	6-8	2-12
UT to Richland Creek	SSS	27-21-(1.5)	WS-IV; NSW	1-3	2-3	0-12
UT to Richland Creek	STT	27-21-(1.5)	WS-IV; NSW	1-2 (I)	2-3	0
				3-6 (P)	4-6	0-12
UT to Neuse River	SVV	27-(22.5)	C; NSW	1-1.5 (I)	1-1	2-4
				0.5-1.5 (P)	1-2	2-8
UT to Richland Creek	SWW	27-21-(1.5)	WS-IV; NSW	0-2	2-4	0-1
UT to Richland Creek	SXX	27-21-(1.5)	WS-IV; NSW	1-3	2-4	0
UT to Richland Creek	SYY	27-21-(1.5)	WS-IV; NSW	2-9	2-6	1-12
UT to Richland Creek	SZZ	27-21-(1.5)	WS-IV; NSW	2-6	2-4	0-6

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification	Bank Height (ft.)	Bankfull Width (ft.)	Depth (in.)
UT to Richland Creek	SAAA	27-21-(1.5)	WS-IV; NSW	1-4	3-8	1-6
UT to UT near Neuse	SBBB	27-25-3-(2)	C; NSW	1-5	2-8	0
UT to Richland Creek	SCCC	27-21-(1.5)	WS-IV; NSW	1-2	1-3	2-12
UT to Richland Creek	SDDD	27-21-(1.5)	WS-IV; NSW	1 (I)	2-4	0-3
				1-3 (P)	6-12	0-6
UT to Richland Creek	SEEE	27-21-(1.5)	WS-IV; NSW	1-6	6-10	0-6
UT to Richland Creek	SHHH	27-21-(1.5)	WS-IV; NSW	2-3 (I)	3-5	0-3
				3-4 (P)	4-8	0-8
UT to Richland Creek	SIII	27-21-(1.5)	WS-IV; NSW	1	2-3	0-3
UT to Richland Creek	SJJJ	27-21-(1.5)	WS-IV; NSW	1-2	3-5	0-3
UT to Horse Creek	SKKK	27-17-(0.7)	WS-IV; NSW	1-2 (I)	2-4	0
				1-2 (P)	4-8	0-6
UT to Horse Creek	SLLL	27-17-(0.7)	WS-IV; NSW	3-4	4-6	0
UT to Horse Creek	SMMM	27-17-(0.7)	WS-IV; NSW	6-10	4-8	0
UT to Horse Creek	SNNN	27-17-(0.7)	WS-IV; NSW	6-10	6-10	0-6
UT to Horse Creek	SOOO	27-17-(0.7)	WS-IV; NSW	2-4	6-8	0-6
UT to Richland Creek	SPPP	27-21-(1.5)	WS-IV; NSW	2-4	6-10	0-12
UT to Richland Creek	SQQQ	27-21-(1.5)	WS-IV; NSW	2-4	3-6	0-8
UT to Richland Creek	SRRR	27-21-(1.5)	WS-IV; NSW	1-3	3-4	0-8
UT to Richland Creek	SSSS	27-21-(1.5)	WS-IV; NSW	1-3	3-6	0-4
UT to Richland Creek	STTT	27-21-(1.5)	WS-IV; NSW	3-6	3-6	0-6
UT to Richland Creek	SUUU	27-21-(1.5)	WS-IV; NSW	6-8 (I)	3-6	0-12
				3-5 (P)	4-8	0-12
UT to Richland Creek	SVVV	27-21-(1.5)	WS-IV; NSW	0.5-4	1-4	0-8
UT to Richland Creek	SWWW	27-21-(1.5)	WS-IV; NSW	1-2 (I)	3-4	0
				3-4 (P)	4-6	0-4
UT to Richland Creek	SYYY	27-21-(1.5)	WS-IV; NSW	2-4 (I)	3-6	0-8
				3-5 (P)	3-6	0-10

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification	Bank Height (ft.)	Bankfull Width (ft.)	Depth (in.)
UT to Richland Creek	SAAAA	27-21-(1.5)	WS-IV; NSW	2-3	4-6	0-4
UT to Horse Creek	SBBBB	27-17-(0.7)	WS-IV; NSW	6-15	10-15	0-6
UT to Horse Creek	SCCCC	27-17-(0.7)	WS-IV; NSW	3-15	5-15	0-6
UT to Richland Creek	SDDDD	27-21-(1.5)	WS-IV; NSW	2-3	4-6	0-4
UT to Richland Creek	SEEEE	27-21-(1.5)	WS-IV; NSW	6-15	6-10	0-6
UT to Richland Creek	SFFFF	27-21-(1.5)	WS-IV; NSW	2-3 (I)	3-4	0-2
				2-3 (P)	3-4	0-4
UT to Richland Creek	SGGGG	27-21-(1.5)	WS-IV; NSW	3-8	6-10	0-8
UT to Richland Creek	SHHHH	27-21-(1.5)	WS-IV; NSW	3-5	4-6	0-4
UT to Richland Creek	SIIII	27-21-(1.5)	WS-IV; NSW	2-3 (I)	3-4	0
				3-4 (P)	4-6	0-4
UT to Richland Creek	SJJJJ	27-21-(1.5)	WS-IV; NSW	1-2	2	0-4
UT to Neuse River	SLLLL	27-(22.5)	C; NSW	6-10	6-15	0
UT to Neuse River	SMMMM	27-(22.5)	C; NSW	2-4 (I)	4-12	0-4
				3-4 (P)	4-6	0-8
UT to Neuse River	SNNNN	27-(22.5)	C; NSW	1-3	3-6	0-6
UT to UT near Neuse	SOOOO	27-25-3-(2)	C; NSW	2-3	3-6	0-6
UT to Perry Creek	SPPPP	27-25-(1)	B; NSW	4-6	6-8	0-4
UT to Perry Creek	SQQQQ	27-25-(1)	B; NSW	1-4	4-12	0-6
UT to Perry Creek	SRRRR	27-25-(1)	B; NSW	2-5	4-8	0-6
UT to Perry Creek	STTTT	27-25-(1)	B; NSW	1-2	2-4	0-4
UT to Perry Creek	SUUUU	27-25-(2)	C; NSW	0.5-5	2-5	1-3
UT to Richland Creek	SWWWW	27-21-(1.5)	WS-IV; NSW	3-4	4-6	0-4
UT to Richland Creek	SXXXX	27-21-(1.5)	WS-IV; NSW	3-4	4-6	0-6
UT to Richland Creek	SYYYY	27-21-(1.5)	WS-IV; NSW	1-2	1-2	0-4
UT to UT near Neuse	SZZZZ	27-25-3-(2)	C; NSW	0.5-1	1-2	2-6
UT to Smith Creek	SAAAAA	27-23-(2)	C; NSW	6-10	8-15	0-10

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification	Bank Height (ft.)	Bankfull Width (ft.)	Depth (in.)
UT to Smith Creek	SBBBBB	27-23-(2)	C; NSW	0.5-1 (I)	1-2	0-4
				4-6 (P)	4-6	0-8

Notes

- *There are no Streams SB, SE – SI, SN, SW, SX, SUU, SFFF, SGGG, SXXX, SZZZ, SKKKK, SSSSS, or SVVVV.*
- *(I) = Intermittent, (P) = Perennial*
- *There are no Outstanding Resource Waters (ORW), High Quality Waters (HQW), or water supply watersheds (WS-I or WS-II) within 1.0 mile downstream of the study area. The North Carolina 2018 Final 303(d) list of impaired waters identifies no waters within 1.0 mile downstream of the study area as impaired.*

Appendix C, Table 2. Potential Surface Waters in the Project Study Area

Surface Water	Area (ac.)	Jurisdictional?	Connection
PA (Gresham Lake)	26.47	Yes	Perry Creek
PB	1.07	Yes	UT to UT near Neuse (outside of study area)
PC	1.41	Yes	WJJ
PD	1.05	No	N/A
PE	0.51	Yes	SAAAAA
PF	0.13	Yes	SYY
PG	3.46	Yes	SGG
PH	0.02	Yes	SY
PI	0.81	No	N/A
PJ	0.25	Unknown	---
PK	0.09	Unknown	---
PL	0.35	No	N/A
PM	1.50	Unknown	----
PN	0.73	Yes	WSSSS/WTTTT
PO	0.09	Yes	SPP
BA	0.22	No	N/A

Surface Water	Area (ac.)	Jurisdictional?	Connection
BB	0.42	No	N/A
BC	1.77	No	N/A
BD	2.80	No	N/A
BE	0.49	No	N/A
BF	0.08	No	N/A
BG	0.09	No	N/A
BH	0.49	No	N/A
BI	0.37	No	N/A
BJ	0.42	No	N/A
BK	0.52	No	N/A
BL	0.53	No	N/A
BM	0.34	No	N/A
BN	0.14	No	N/A
BO	0.43	No	N/A
BP	0.22	No	N/A
BQ	0.07	No	N/A
BR	0.08	No	N/A
BS	0.44	No	N/A
BT	1.27	No	N/A
BU	0.44	No	N/A
BV	0.56	No	N/A
BW	0.02	No	N/A
BX	0.03	No	N/A
BY	0.05	No	N/A
BZ	0.01	No	N/A
BAA	0.09	No	N/A
BBB	0.02	No	N/A
BCC	0.07	No	N/A
BDD	0.28	No	N/A

Surface Water	Area (ac.)	Jurisdictional?	Connection
BEE	0.59	No	N/A
BFF	0.09	No	N/A
BGG	0.08	No	N/A
BHH	0.11	No	N/A
BII	0.05	No	N/A
BJJ	0.04	No	N/A
BKK	0.41	No	N/A
BLL	0.13	No	N/A
BMM	0.12	No	N/A
BNN	0.05	No	N/A
BOO	0.25	No	N/A
BPP	0.30	No	N/A
BQQ	0.29	No	N/A
BRR	0.08	No	N/A
WTP-1	2.04	No	N/A
WTP-2	0.26	No	N/A
WTP-3	0.18	No	N/A
WTP-4	0.84	No	N/A
WTP-5	0.50	No	N/A
WTP-6	0.49	No	N/A
WTT-1	0.11	No	N/A
WTT-2	0.08	No	N/A
WTT-3	0.10	No	N/A
Total	**57.89**		

Appendix C, Table 3. Characteristics of Potential Jurisdictional Streams in the Project Study Area

Map ID	Length (ft.)	Classification	USACE Compensatory Mitigation Required?*	River Basin Buffer
Horse Creek	287	Perennial	Yes	Subject
Neuse River	2,202	Perennial	Yes	Subject
Perry Creek	5,620	Perennial	Yes	Subject
Richland Creek	5,447	Perennial	Yes	Subject
UT near Neuse	2,509	Perennial	Yes	Subject
SA-I	581	Intermittent	Yes	Subject
SA-P	504	Perennial	Yes	Subject
SC	1,488	Perennial	Yes	Subject
SD	1,684	Perennial	Yes	Subject
SJ	371	Intermittent	Yes	Subject
SK	377	Intermittent	Yes	Not Subject
SL	104	Intermittent	Yes	Not Subject
SM-I	494	Intermittent	Yes	Subject
SM-P	1,398	Perennial	Yes	Subject
SO	160	Intermittent	Yes	Subject
SP	551	Intermittent	Yes	Subject
SQ	1,085	Intermittent	Yes	Subject
SR	3,477	Perennial	Yes	Subject
SS-I	262	Intermittent	Yes	Subject
SS-P	558	Perennial	Yes	Subject
ST	102	Intermittent	Yes	Not Subject
SU	669	Perennial	Yes	Subject
SV	80	Perennial	Yes	Subject
SY	1,782	Perennial	Yes	Subject
SZ	13	Intermittent	Yes	Not Subject
SAA	126	Perennial	Yes	Not Subject
SBB	1,177	Intermittent	Yes	Subject
SCC	1,245	Intermittent	Yes	Subject

Map ID	Length (ft.)	Classification	USACE Compensatory Mitigation Required?*	River Basin Buffer
SDD	104	Intermittent	Yes	Subject
SEE	1,216	Perennial	Yes	Subject
SFF	10	Intermittent	Yes	Not Subject
SGG	879	Perennial	Yes	Subject
SHH-I	445	Intermittent	Yes	Subject
SHH-P	492	Perennial	Yes	Subject
SII	1,663	Intermittent	Yes	Subject
SJJ	835	Perennial	Yes	Subject
SKK	261	Intermittent	Yes	Subject
SLL	1,268	Perennial	Yes	Subject
SMM	213	Intermittent	Yes	Not Subject
SNN-I	362	Intermittent	Yes	Subject
SNN-P	2,302	Perennial	Yes	Subject
SOO	175	Intermittent	Yes	Not Subject
SPP	420	Perennial	Yes	Subject
SQQ	1,772	Perennial	Yes	Subject
SRR	6,182	Perennial	Yes	Subject
SSS	1,157	Perennial	Yes	Subject
STT	872	Perennial	Yes	Subject
SVV	236	Perennial	Yes	Subject
SWW	372	Intermittent	Yes	Subject
SXX	29	Perennial	Yes	Subject
SYY	2,976	Perennial	Yes	Subject
SZZ	577	Perennial	Yes	Subject
SAAA	1,804	Perennial	Yes	Subject
SBBB	2,853	Intermittent	Yes	Subject
SCCC	340	Perennial	Yes	Subject
SDDD-I	80	Intermittent	Yes	Subject
SDDD-P	2,770	Perennial	Yes	Subject

Map ID	Length (ft.)	Classification	USACE Compensatory Mitigation Required?*	River Basin Buffer
SEEE	130	Perennial	Yes	Subject
SHHH-I	32	Intermittent	Yes	Subject
SHHH-P	1,719	Perennial	Yes	Subject
SIII	36	Perennial	Yes	Subject
SJJJ	51	Perennial	Yes	Subject
SKKK-I	112	Intermittent	Yes	Subject
SKKK-P	1,857	Perennial	Yes	Subject
SLLL	96	Intermittent	Yes	Not Subject
SMMM	1,627	Intermittent	Yes	Subject
SNNN	744	Perennial	Yes	Subject
SOOO	216	Perennial	Yes	Subject
SPPP	2,019	Perennial	Yes	Subject
SQQQ	75	Perennial	Yes	Subject
SRRR	65	Intermittent	Yes	Not Subject
SSSS	76	Intermittent	Yes	Not Subject
STTT	1,097	Perennial	Yes	Subject
SUUU-I	82	Intermittent	Yes	Subject
SUUU-P	43	Perennial	Yes	Subject
SVVV	423	Perennial	Yes	Not Subject
SWWW-I	42	Intermittent	Yes	Subject
SWWW-P	8	Perennial	Yes	Subject
SYYY-I	273	Intermittent	Yes	Subject
SYYY-P	256	Perennial	Yes	Subject
SAAAA	12	Perennial	Yes	Subject
SBBBB	692	Perennial	Yes	Subject
SCCCC	541	Perennial	Yes	Subject
SDDDD	187	Perennial	Yes	Subject
SEEEE	69	Intermittent	Yes	Not Subject
SFFFF-I	42	Intermittent	Yes	Not Subject

Map ID	Length (ft.)	Classification	USACE Compensatory Mitigation Required?*	River Basin Buffer
SFFFF-P	20	Perennial	Yes	Not Subject
SGGGG	967	Perennial	Yes	Subject
SHHHH	98	Perennial	Yes	Subject
SIIII-I	16	Intermittent	Yes	Subject
SIIII-P	117	Perennial	Yes	Subject
SJJJJ	133	Intermittent	Yes	Not Subject
SLLLL	284	Intermittent	Yes	Not Subject
SMMMM-I	468	Intermittent	Yes	Subject
SMMMM-P	46	Perennial	Yes	Subject
SNNNN	140	Intermittent	Yes	Subject
SOOOO	487	Intermittent	Yes	Subject
SPPPP	125	Intermittent	Yes	Subject
SQQQQ	1,180	Perennial	Yes	Subject
SRRRR	47	Perennial	Yes	Subject
STTTT	364	Intermittent	Yes	Not Subject
SUUUU	90	Intermittent	Yes	Subject
SWWWW	44	Perennial	Yes	Not Subject
SXXXX	177	Intermittent	Yes	Not Subject
SYYYY	81	Intermittent	Yes	Not Subject
SZZZZ	318	Perennial	Yes	Subject
SAAAAA	271	Perennial	Yes	Not Subject
SBBBBB-I	65	Intermittent	Yes	Subject
SBBBBB-P	246	Perennial	Yes	Subject
Total	**85,424**			

** During the PJD site visit on January 7, 2020, USACE did not remove any potential streams from requiring compensatory mitigation. Therefore, all streams are currently subject to requiring compensatory mitigation. Mitigation ratios for impacted features will be revisited with USACE during permitting once a more advanced design is available.*

Appendix C, Table 4. Characteristics of Potential Jurisdictional Wetlands in the Project Study Area

Map ID	NCWAM Classification	NCWAM Rating	Hydrologic Classification	Area (ac.)
WA	Headwater Forest (HF)	High	Riparian	0.63
WB	Headwater Forest	High	Riparian	0.02
WC	Bottomland Hardwood Forest (BHF)	High	Riparian	1.18
WD	BHF & Riverine Swamp Forest	High	Riparian	2.14
WE	Riverine Swamp Forest	High	Riparian	0.70
WF	BHF & Nontidal Freshwater Marsh (NFM)	High	Riparian	8.98
WI	Headwater Forest	High	Riparian	0.43
WK	Headwater Forest	High	Riparian	0.42
WL	Headwater Forest	High	Riparian	0.36
WM	Headwater Forest	High	Riparian	0.17
WO	Headwater Forest	High	Riparian	0.21
WP	Headwater Forest	High	Riparian	0.11
WQ	Seep	High	Non-riparian	0.02
WR	Bottomland Hardwood Forest	High	Riparian	2.41
WS	Floodplain Pool	High	Riparian	0.86
WU	Headwater Forest	High	Riparian	0.77
WV	Bottomland Hardwood Forest	High	Riparian	0.13
WY	Headwater Forest	High	Riparian	0.11
WAA	Nontidal Freshwater Marsh	High	Riparian	0.29
WBB	Basin Wetland	High	Non-riparian	0.01
WFF	Headwater Forest	High	Riparian	0.09
WGG-Disturbed	Headwater Forest	Medium	Riparian	0.22
WGG-Undisturbed	Headwater Forest	High	Riparian	0.06
WHH	Headwater Forest	High	Riparian	0.02

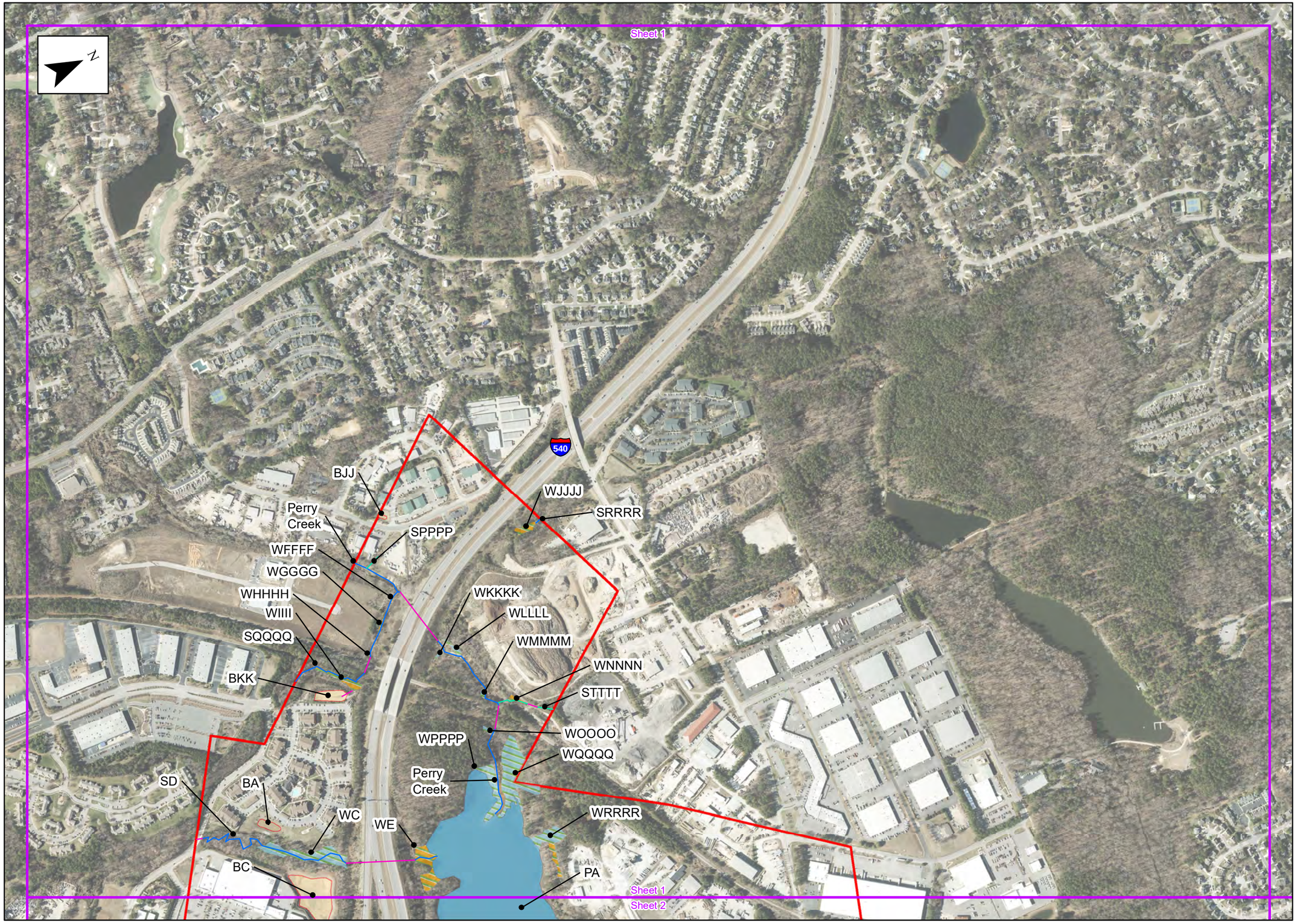
Map ID	NCWAM Classification	NCWAM Rating	Hydrologic Classification	Area (ac.)
WJJ	Headwater Forest	High	Riparian	0.38
WKK	Headwater Forest	High	Riparian	0.06
WMM-Disturbed	HF/BHF	Low	Riparian	3.62
WMM-Undisturbed	HF/BHF	High	Riparian	0.93
WNN-Disturbed	Bottomland Hardwood Forest	Low	Riparian	2.76
WNN-Undisturbed	Headwater Forest	High	Riparian	0.59
WOO	Bottomland Hardwood Forest	Low	Riparian	0.75
WPP	Headwater Forest	Medium	Riparian	0.12
WQQ	Headwater Forest	High	Riparian	0.01
WRR	Bottomland Hardwood Forest	Low	Riparian	0.06
WSS	Floodplain Pool	High	Riparian	0.08
WTT	Headwater Forest	High	Riparian	0.04
WUU	Headwater Forest	Low	Riparian	0.50
WVV	Bottomland Hardwood Forest	Low	Riparian	1.84
WWW	Bottomland Hardwood Forest	Low	Riparian	1.06
WXX	Seep	High	Non-riparian	0.02
WYY	Headwater Forest	High	Riparian	0.01
WZZ	Headwater Forest	High	Riparian	0.21
WAAA	Headwater Forest	High	Riparian	0.14
WBBB	Headwater Forest	High	Riparian	0.06
WCCC	Headwater Forest	High	Riparian	0.12
WDDD	Headwater Forest	High	Riparian	0.01
WEEE	Headwater Forest	High	Riparian	0.04
WFFF	Headwater Forest	High	Riparian	0.01
WGGG	Bottomland Hardwood Forest	High	Riparian	0.15

Map ID	NCWAM Classification	NCWAM Rating	Hydrologic Classification	Area (ac.)
WHHH	Bottomland Hardwood Forest	High	Riparian	0.06
WIII	Headwater Forest	High	Riparian	0.12
WJJJ	Headwater Forest	High	Riparian	0.02
WKKK	Headwater Forest	High	Riparian	0.01
WLLL	Bottomland Hardwood Forest	High	Riparian	0.20
WMMM	Headwater Forest	High	Riparian	0.07
WNNN	Headwater Forest	High	Riparian	0.10
WOOO	Headwater Forest	High	Riparian	0.03
WPPP	Headwater Forest	High	Riparian	0.22
WQQQ	Headwater Forest	High	Riparian	0.01
WRRR	Headwater Forest	High	Riparian	0.06
WUUU	Headwater Forest	High	Riparian	0.39
WVVV	Headwater Forest	High	Riparian	0.01
WWWW	Headwater Forest	High	Riparian	0.04
WXXX	Headwater Forest	Low	Riparian	0.01
WYYY	HF/BHF/NFM	High	Riparian	2.18
WZZZ	Headwater Forest	High	Riparian	0.05
WAAAA	Headwater Forest	Low	Riparian	0.30
WBBBB	Basin Wetland	Low	Non-riparian	0.15
WCCCC	Headwater Forest	High	Riparian	0.12
WDDDD	Headwater Forest	High	Riparian	0.17
WEEEE	Basin Wetland	High	Non-riparian	0.03
WFFFF	Headwater Forest	Low	Riparian	0.01
WGGGG	Headwater Forest	Low	Riparian	0.04
WHHHH	Headwater Forest	Low	Riparian	0.01
WIIII	Headwater Forest	Low	Riparian	0.30
WJJJJ	Headwater Forest	Low	Riparian	0.18

Map ID	NCWAM Classification	NCWAM Rating	Hydrologic Classification	Area (ac.)
WKKKK	Bottomland Hardwood Forest	High	Riparian	0.04
WLLLL	Bottomland Hardwood Forest	High	Riparian	0.09
WMMMM	Bottomland Hardwood Forest	High	Riparian	0.03
WNNNN	Headwater Forest	Low	Riparian	0.07
WOOOO	Bottomland Hardwood Forest	High	Riparian	0.05
WPPPP	Nontidal Freshwater Marsh	High	Riparian	0.59
WQQQQ	Nontidal Freshwater Marsh	High	Riparian	1.74
WRRRR-Disturbed	Headwater Forest	Medium	Riparian	0.18
WRRRR-Undisturbed	Headwater Forest	High	Riparian	0.53
WSSSS	Headwater Forest	Low	Riparian	0.01
WTTTT	Headwater Forest	Low	Riparian	0.04
WUUUU	Bottomland Hardwood Forest	Medium	Riparian	0.09
WVVVV	Headwater Forest	Low	Riparian	0.21
WWWWW	Headwater Forest	High	Riparian	0.01
WXXXX	Headwater Forest	High	Riparian	0.02
WYYYY	Headwater Forest	High	Riparian	0.07
WZZZZ	Headwater Forest	High	Riparian	< 0.01
WAAAAA	Bottomland Hardwood Forest	High	Riparian	< 0.01
WBBBBB	Bottomland Hardwood Forest	High	Riparian	0.22
WCCCCC	Bottomland Hardwood Forest	Low	Riparian	0.02
WDDDDD	Bottomland Hardwood Forest	Low	Riparian	0.03

Map ID	NCWAM Classification	NCWAM Rating	Hydrologic Classification	Area (ac.)
WEEEEE	Seep	High	Non-riparian	0.07
WFFFFF	Headwater Forest	High	Riparian	0.03
WGGGGG-Disturbed	Bottomland Hardwood Forest	Medium	Riparian	0.07
WGGGGG-Undisturbed	Bottomland Hardwood Forest	High	Riparian	0.07
WHHHHH	Bottomland Hardwood Forest	Low	Riparian	0.03
WIIIII	Headwater Forest	High	Riparian	0.06
WJJJJJ	Headwater Forest	High	Riparian	0.45
WKKKKK	Headwater Forest	High	Riparian	0.18
WLLLLL	Headwater Forest	Medium	Riparian	0.17
WMMMMM	Riverine Swamp Forest	High	Riparian	0.28
WNNNNN	Headwater Forest	High	Riparian	0.11
WOOOOO	Headwater Forest	High	Riparian	0.02
WPPPPP	Headwater Forest	High	Riparian	0.13
WQQQQQ	Headwater Forest	High	Riparian	0.01
WRRRRR	Headwater Forest	High	Riparian	0.34
			Total	**44.86**

Note – There are no Wetlands WG, WH, WJ, WN, WT, WW, WX, WZ, WCC – WEE, WII, WLL, WSSS, or WTTT.



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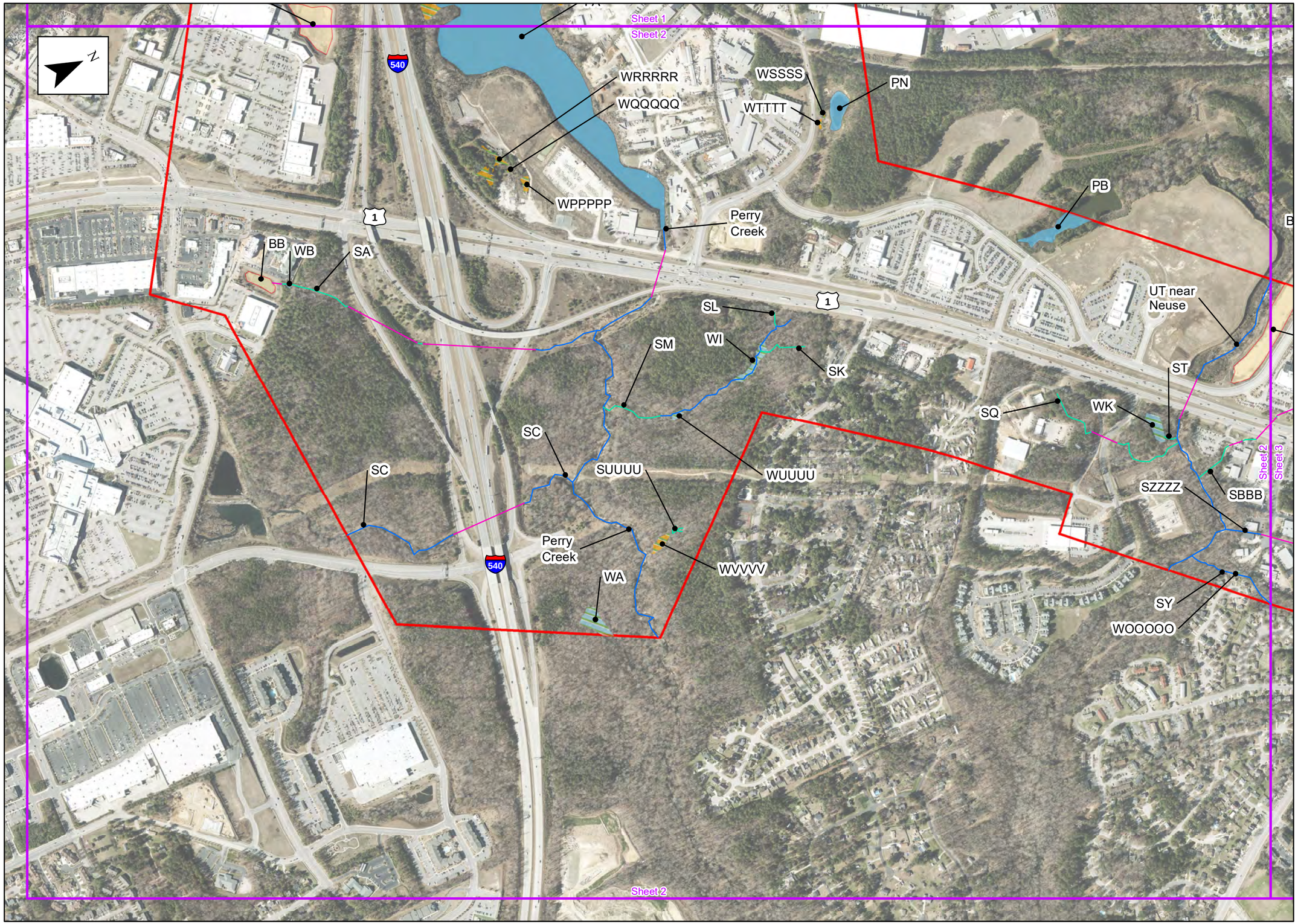

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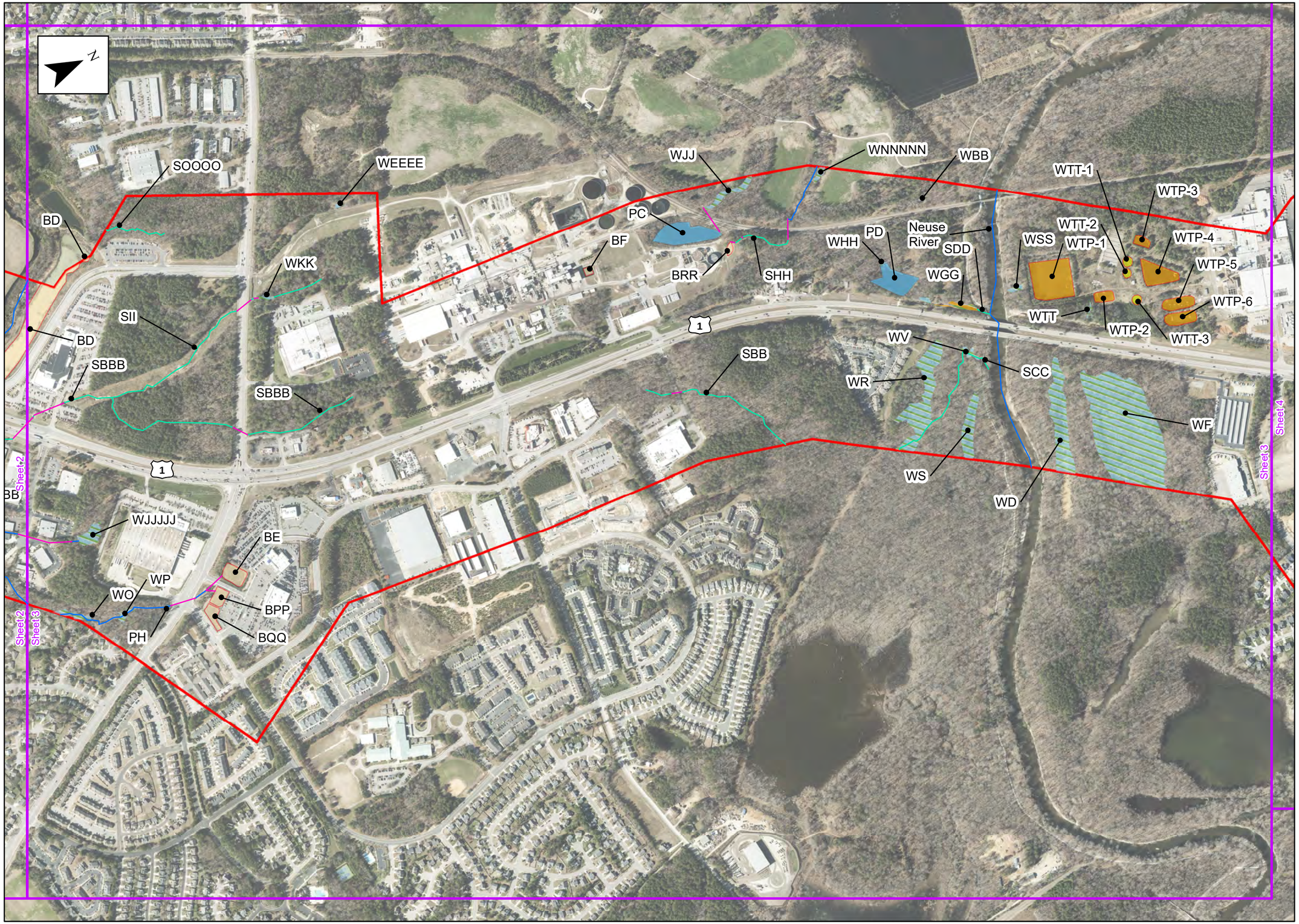

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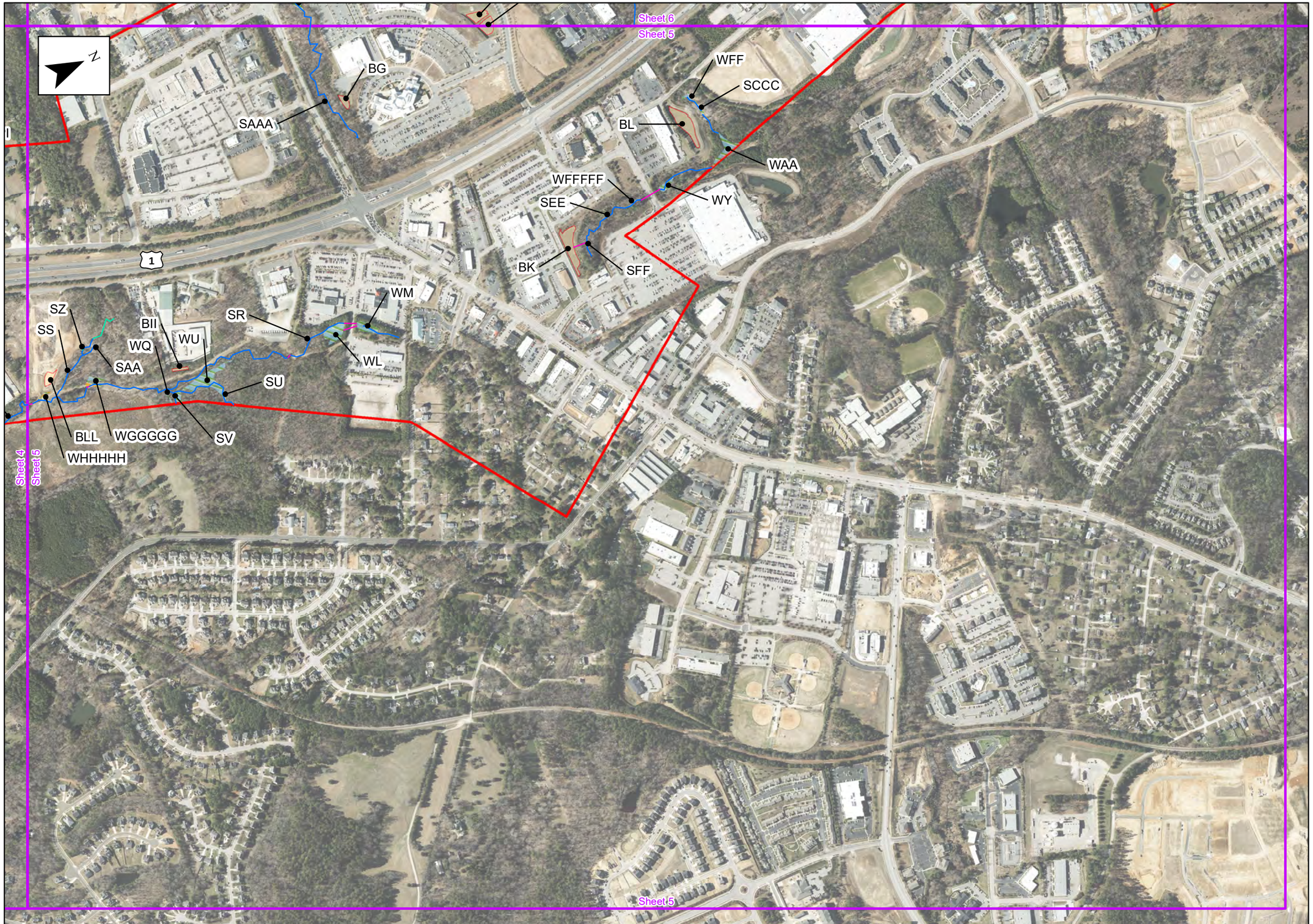

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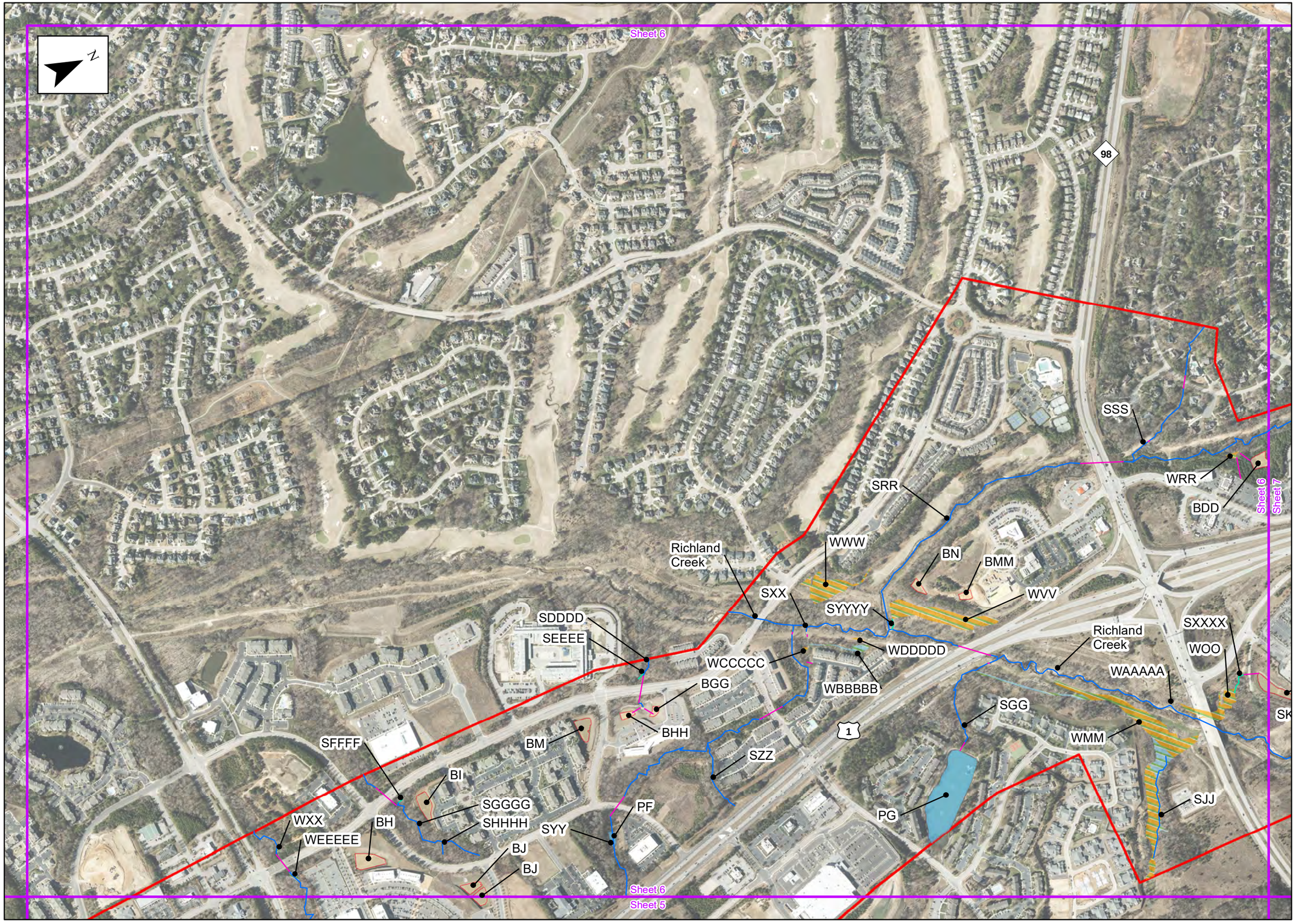

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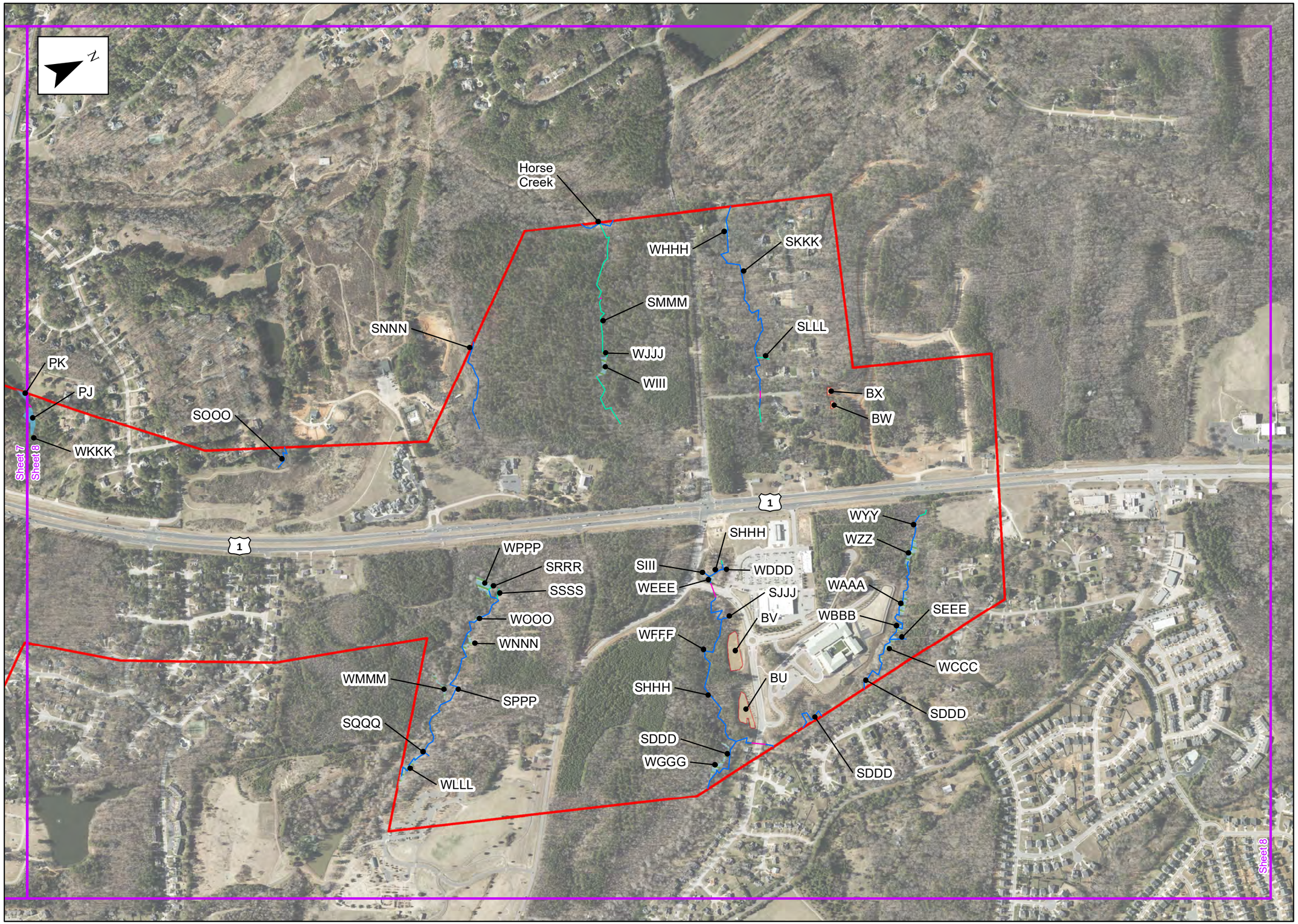

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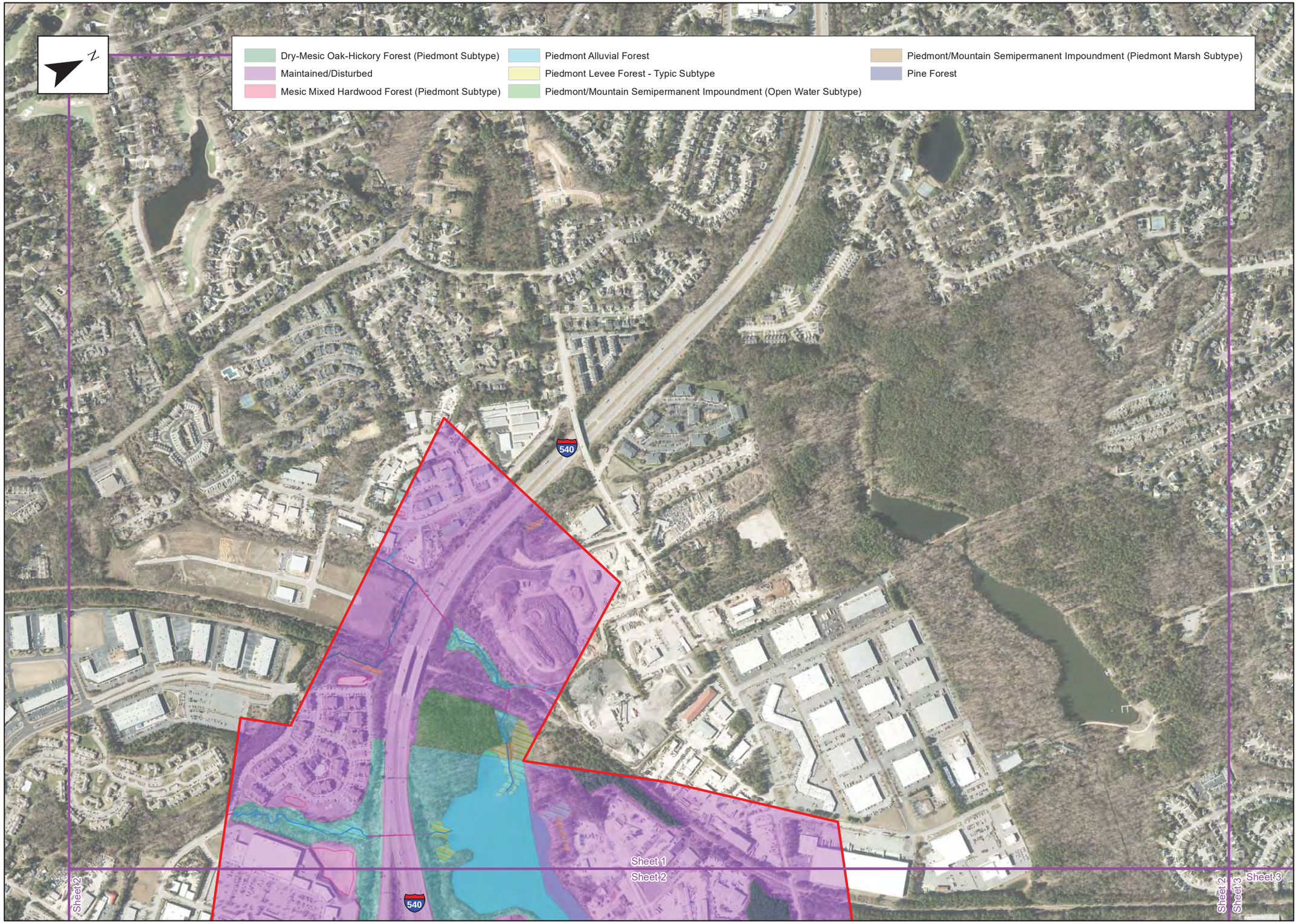

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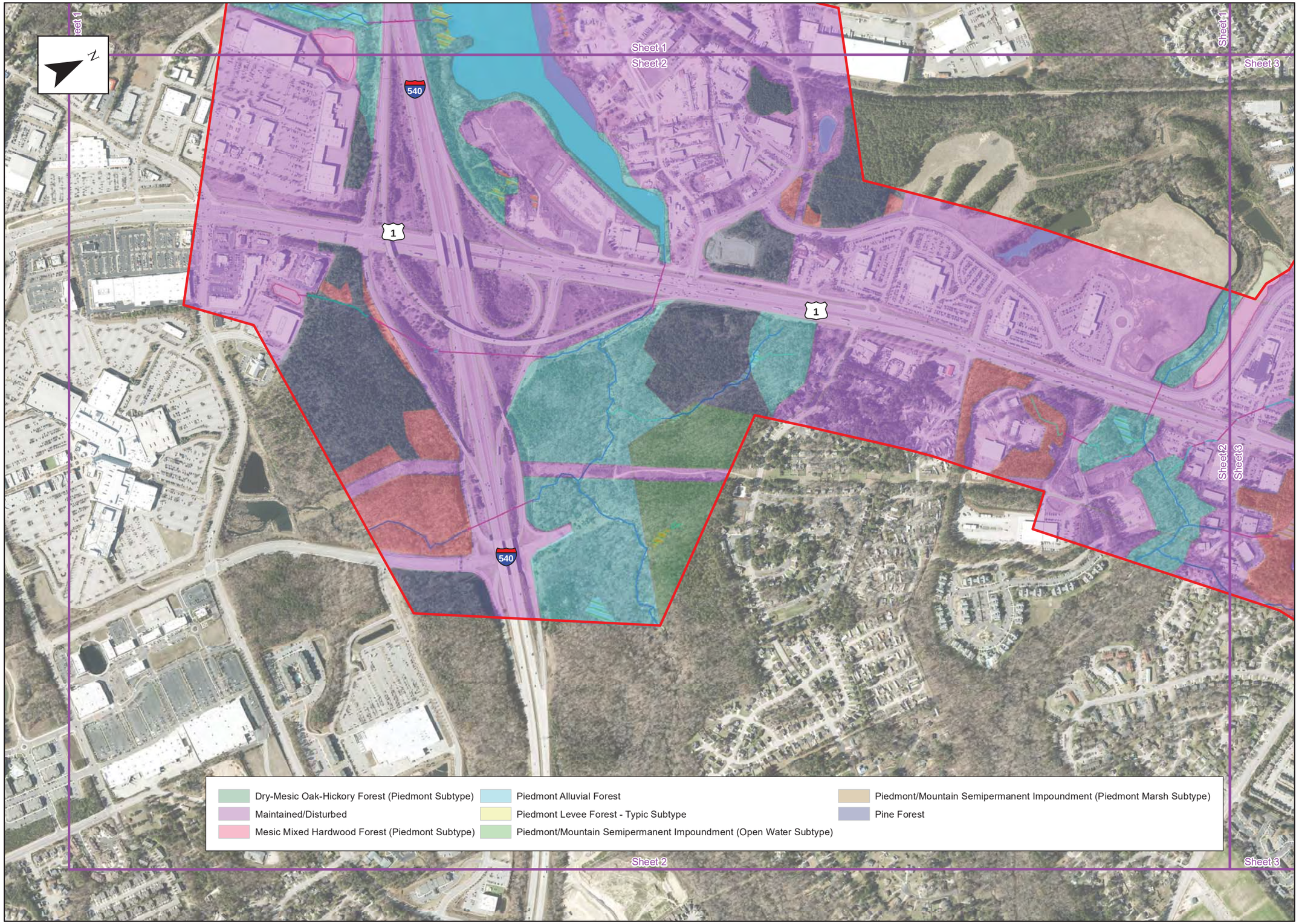

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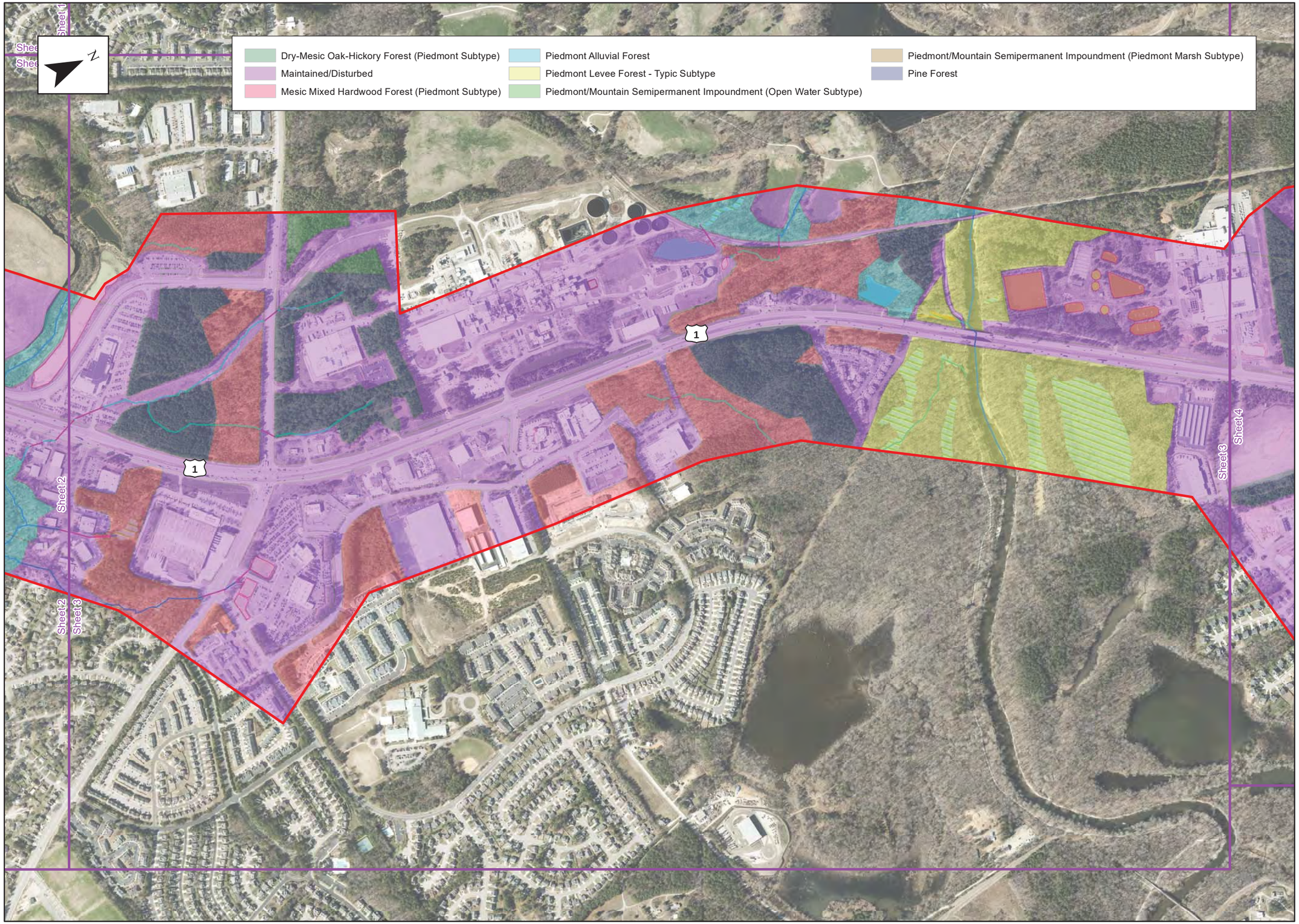

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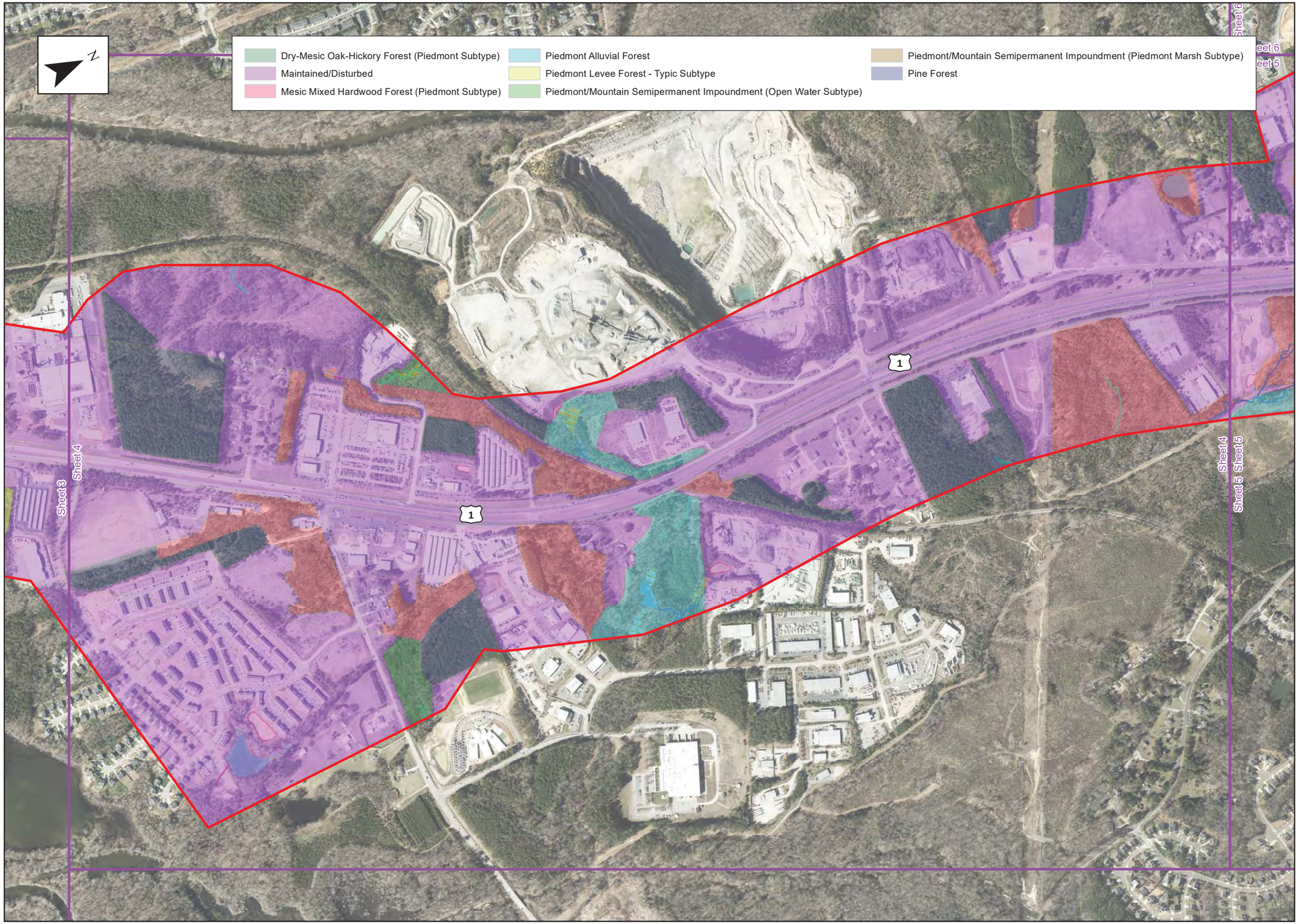

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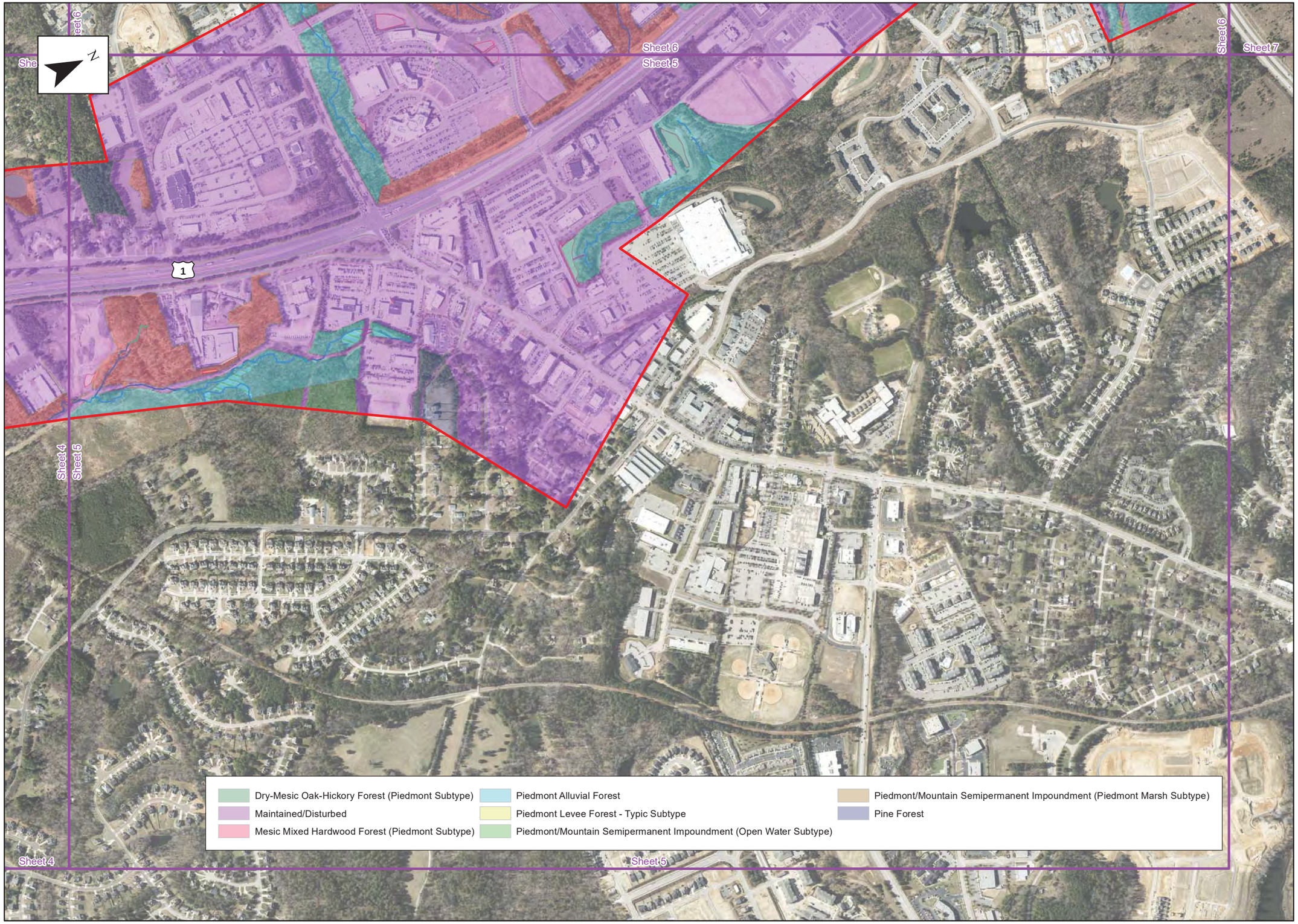

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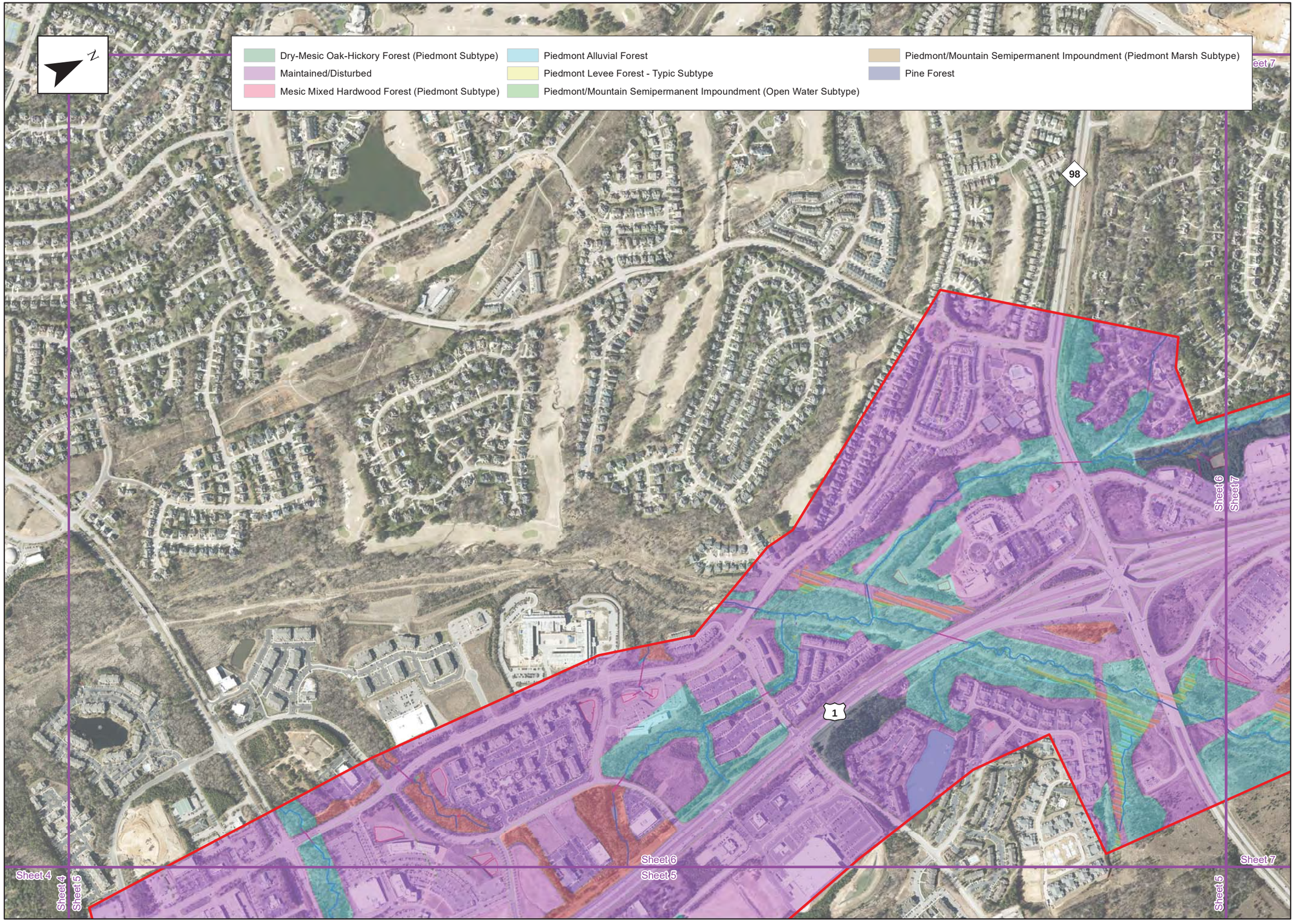

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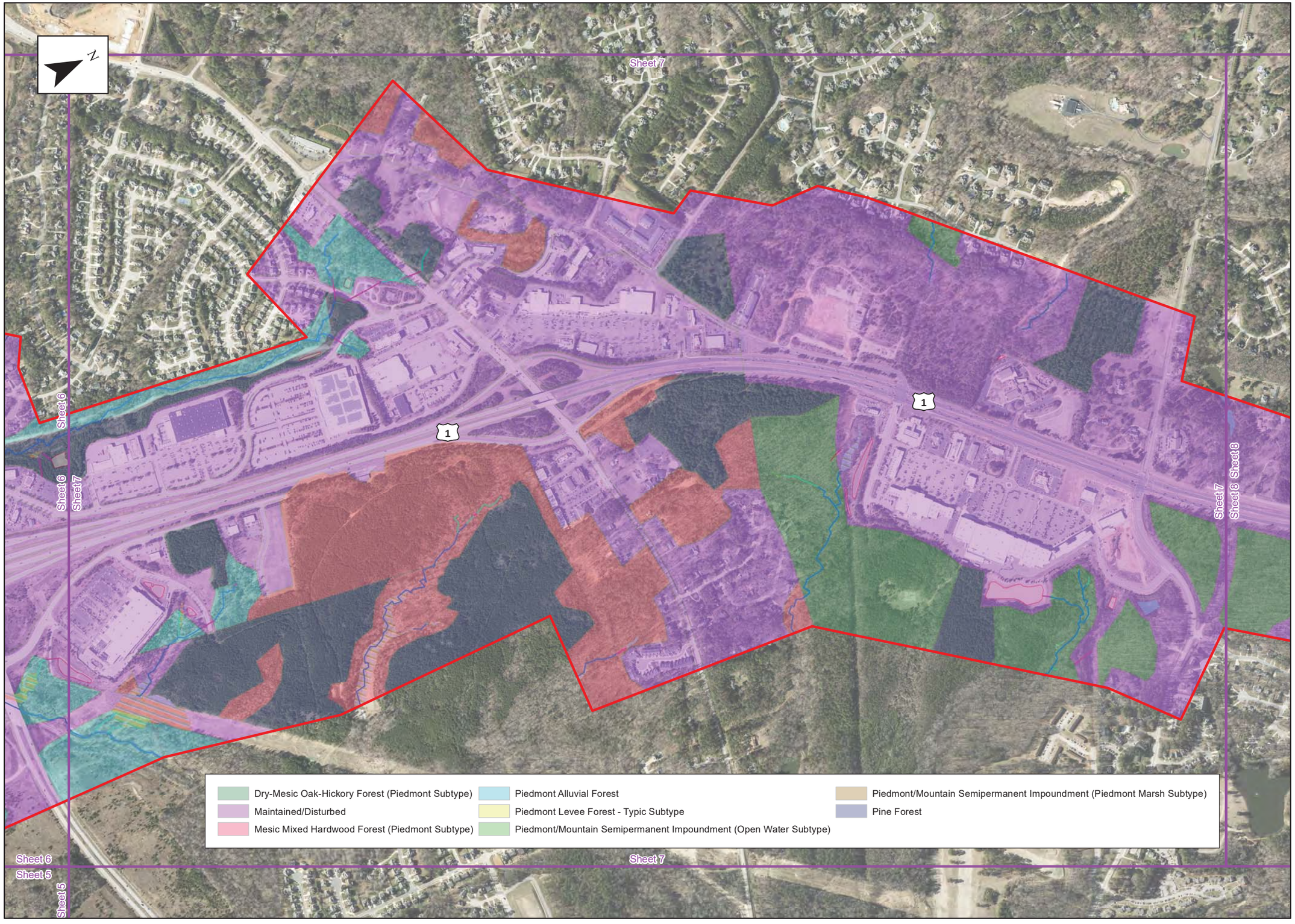

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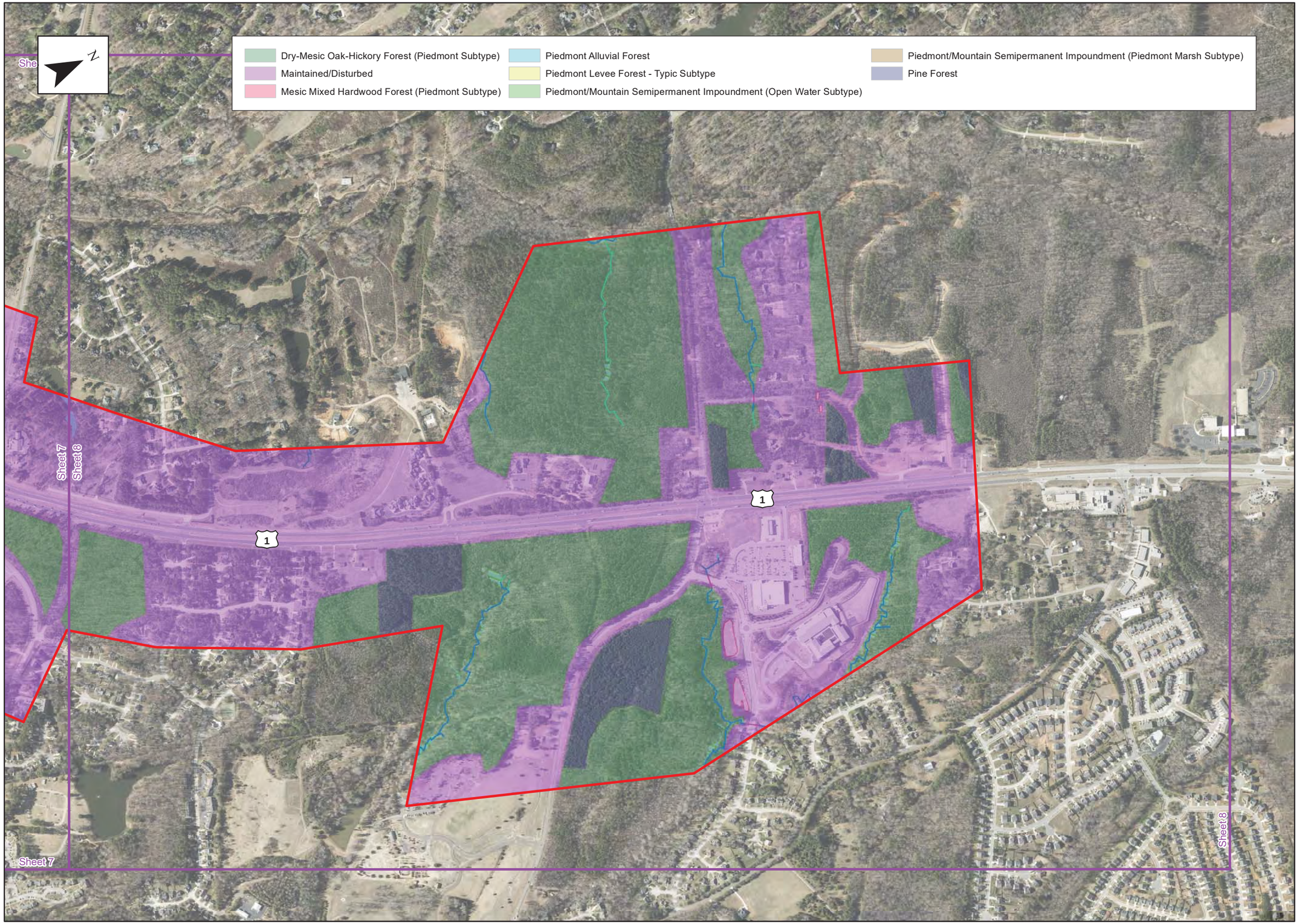

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Appendix C, Table 5. Segment A Potential Stream Impacts by Option

Stream Name	Map ID	NCDWR Classification	NCDWR Index No.	Classification	River Basin Buffer	Segment A with Gresham Lake, Option 1 SS+25′ (SS)	Segment A with Gresham Lake, Option 2 SS+25′ (SS)	Segment A with Gresham Lake, Option 3 SS+25′ (SS)	Segment A with Gresham Lake, Option 4 SS+25′ (SS)
Perry Creek	Perry Creek	C; NSW	27-25-(2)	Perennial	Subject	110 (45)	110 (45)	366 (176)1	366 (176)*
Unnamed Tributary (UT) near the Neuse River	UT near Neuse	C; NSW	27-25-3-(2)	Perennial	Subject	328 (63)	404 (181)	363 (82)	407 (182)
UT to Perry Creek	SA	C; NSW	27-25-(2)	Intermittent	Subject	167 (85)	167 (85)	167 (85)	167 (85)
UT to Perry Creek	SC	C; NSW	27-25-(2)	Perennial	Subject	3 (0)	3 (0)	3 (0)	3 (0)
UT to Perry Creek	SD	B; NSW	27-25(1)	Perennial	Subject	65 (0)	65 (0)	65 (5)	65 (5)
UT to Perry Creek	SK	C; NSW	27-25-(2)	Intermittent	Not Subject	222 (54)	245 (200)	243 (101)	245 (187)
UT to Perry Creek	SL	C; NSW	27-25-(2)	Intermittent	Not Subject	1 (0)	104 (104)	1 (0)	104 (104)
UT to Perry Creek	SM	C; NSW	27-25-(2)	Perennial	Subject	0 (0)	606 (531)	385 (291)	639 (641)
UT to UT near the Neuse River	SQ	C; NSW	27-25-3-(2)	Intermittent	Subject	172 (92)	172 (130)	172 (92)	172 (130)
UT to UT near the Neuse River	ST	C; NSW	27-25-3-(2)	Intermittent	Not Subject	96 (53)	102 (53)	96 (53)	102 (53)
UT to UT near the Neuse River	SY	C; NSW	27-25-3-(2)	Perennial	Subject	852 (435)	852 (441)	814 (409)	852 (441)
UT to UT near the Neuse River	SII	C; NSW	27-25-3-(2)	Intermittent	Subject	203 (50)	203 (50)	203 (50)	203 (50)
UT to UT near the Neuse River	SBBB	C; NSW	27-25-3-(2)	Intermittent	Subject	1,654 (1,420)	1,654 (1,420)	1,654 (1,420)	1,654 (1,420)
** The portion of Perry Creek associated with the bridge crossing will likely be spanned.*					**TOTAL**	**3,873 (2,297)**	**4,687 (3,240)**	**4,532(2,764)**	**4,979 (3,474)**

Appendix C, Table 6. Segment A Potential Wetland Impacts by Option

Map ID	NCWAM Classification	Forested	NCWAM Rating	Hydrologic Classification	404/401 or 401	Segment A with Gresham Lake, Option 1 SS+25′ (SS)	Segment A with Gresham Lake, Option 2 SS+25′ (SS)	Segment A with Gresham Lake, Option 3 SS+25′ (SS)	Segment A with Gresham Lake, Option 4 SS+25′ (SS)
WC	Bottomland Hardwood Forest (BHF)	Yes	High	Riparian	404/401	0.09 (<0.01)	0.09 (<0.01)	0.09 (<0.01)	0.09 (<0.01)
WI	Headwater Forest	Yes	High	Riparian	404/401	0.04 (0)	0.32 (0.28)	0.40 (0.30)	0.41 (0.36)
WK	Headwater Forest	Yes	High	Riparian	404/401	0.42 (0.41)	0.42 (0.41)	0.42 (0.41)	0.42 (0.41)
WP	Headwater Forest	Yes	High	Riparian	404/401	0.10 (0.09)	0.11 (0.10)	0.11 (0.09)	0.11 (0.10)
WKK	Headwater Forest	Yes	High	Riparian	404/401	0.05 (0.03)	0.05 (0.03)	0.05 (0.03)	0.05 (0.03)
WOOOO	Headwater Forest	Yes	High	Riparian	404/401	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)
WSSSS	Headwater Forest	Yes	Low	Riparian	404/401	N/A	0.01 (<0.01)	N/A	0.01 (<0.01)
WTTTT	Headwater Forest	Yes	Low	Riparian	404/401	N/A	0.04 (0.04)	N/A	0.04 (0.04)
WPPPPP	Headwater Forest	Yes	High	Riparian	404/401	0.07 (0.01)	0.07 (0.01)	0.07 (0.01)	0.07 (0.01)
					TOTAL	0.79 (0.56)	1.13 (0.89)	1.16 (0.86)	1.67 (0.97)

Appendix C, Table 7. Segment B Potential Stream Impacts by Option

Stream Name	Map ID	NCDWR Classification	NCDWR Index No.	Classification	River Basin Buffer	Segment B with Burlington Mills Road, Option A SS+25′ (SS)	Segment B with Burlington Mills Road, Option B SS+25′ (SS)	Y12A Service Road Connection over the Neuse River SS+25′ (SS)
Neuse River	Neuse River	C; NSW	27-(22.5)	Perennial	Subject	405 (358)*	445 (372)*	N/A*
UT to Neuse River	SBB	C; NSW	27-(22.5)	Intermittent	Subject	96 (45)	96 (45)	N/A
UT to Neuse River	SCC	C; NSW	27-(22.5)	Intermittent	Subject	76 (0)	86 (0)	N/A
UT to Neuse River	SDD	C; NSW	27-(22.5)	Intermittent	Subject	38 (0)	38 (0)	N/A
UT to Neuse River	SMMMM	C; NSW	27-(22.5)	Perennial	Subject	490 (430)	495 (430)	N/A
UT to Neuse River	SCCCCC	C; NSW	27-(22.5)	Intermittent	Subject	92 (0)	82 (0)	N/A
					TOTAL	**1,197 (833)**	**1,242 (847)**	**No additional impacts**

** The Neuse River crossing will maintain its existing bridge or span River.*

Appendix C, Table 8. Segment B Potential Wetland Impacts by Option

Map ID	NCWAM Classification	Forested	NCWAM Rating	Hydrologic Classification	404/401 or 401	Segment B with Burlington Mills Road, Option A SS+25′ (SS)	Segment B with Burlington Mills Road, Option B SS+25′ (SS)	Y12A Service Road Connection over the Neuse River SS+25′ (SS)
WD	BHF/Riverine Swamp Forest (RSF)	Yes	High	Riparian	404/401	0.06 (0.03)	0.06 (0.03)	N/A
WF	BHF/Non-tidal Freshwater Marsh	Partial	High	Riparian	404/401	0.01 (0)	0.01 (0)	N/A
WR	BHF	Yes	High	Riparian	404/401	0.09 (0.04)	0.10 (0.04)	N/A
WV	BHF	Yes	High	Riparian	404/401	0.07 (0.02)	0.07 (0.02)	N/A
WGG	Headwater Forest	Yes	Disturbed - Medium	Riparian	404/401	0.21 (0.02)	0.21 (0.02)	N/A
			Undisturbed - High			0.02 (0)	0.01 (0)	N/A
WAAAA	Headwater Forest	Yes	Low	Riparian	404/401	0.27 (0.22)	0.27 (0.24)	N/A
WBBBB	Basin Wetland	No	Low	Non-riparian	401	0.15 (0.14)	0.12 (0.04)	N/A
					TOTAL	**0.88 (0.47)**	**0.85 (0.39)**	**No additional impacts**

Appendix C, Table 9. Segment C Potential Stream Impacts

Stream Name	Map ID	NCDWR Classification	NCDWR Index No.	Classification	River Basin Buffer	Segment C SS+25′ (SS)
Richland Creek	Richland Creek	WS-IV; NSW	27-21-(1.5)	Perennial	Subject	237 (64)
UT to Smith Creek	SR	C; NSW	27-23-(2)	Perennial	Subject	364 (218)
UT to Smith Creek	SS	C; NSW	27-23-(2)	Intermittent	Subject	154 (102)
UT to Smith Creek	SU	C; NSW	27-23-(2)	Perennial	Subject	579 (236)
UT to Smith Creek	SV	C; NSW	27-23-(2)	Perennial	Subject	9 (0)
UT to Richland Creek	SGG	WS-IV; NSW	27-21-(1.5)	Perennial	Subject	212 (0)
UT to Richland Creek	SYY	WS-IV; NSW	27-21-(1.5)	Perennial	Subject	33 (0)
					TOTAL	**1,588 (620)**

Appendix C, Table 10. Segment C Potential Wetland Impacts

Map ID	NCWAM Classification	Forested	NCWAM Rating	Hydrologic Classification	404/401 or 401	Segment C SS+25′ (SS)
WQ	Seep	No	High	Non-riparian	401	<0.01 (0)
WU	Headwater Forest	Yes	High	Riparian	404/401	0.59 (0.43)
WMM	Headwater Forest/ BHF	Yes	High	Riparian	404/401	<0.01 (0)
WVV	BHF	Yes	Low	Riparian	404/401	0.07 (0)
					TOTAL	**0.66 (0.43)**

Appendix C, Table 11. Segment D Potential Stream Impacts by Option

Stream Name	Map ID	NCDWR Classification	NCDWR Index No.	Classification	River Basin Buffer	Segment D with Purnell Road/Harris Road, Option 1 SS+25′ (SS)	Segment D with Purnell Road/Harris Road, Option 2 SS+25′ (SS)
UT to Richland Creek	SQQ	WS IV; NSW	27-21-(1.5)	Perennial	Subject	561 (463)	499 (406)
UT to Richland Creek	SHHH	WS IV; NSW	27-21-(1.5)	Perennial	Subject	269 (94)	364 (295)
UT to Horse Creek	SKKK	WS-IV; NSW	27-17-(0.7)	Perennial	Subject	84 (3)	N/A
UT to Richland Creek	SYYY	WS IV; NSW	27-21-(1.5)	Intermittent	Subject	273 (273)	273 (197)
				Perennial	Subject	256 (256)	256 (256)
					TOTAL	**1,443 (1,089)**	**1,392 (1,154)**

Appendix C, Table 12. Segment D Potential Wetland Impacts by Option

Map ID	NCWAM Classification	Forested	NCWAM Rating	Hydrologic Classification	404/401 or 401	Segment D with Purnell Road/Harris Road, Option 1	Segment D with Purnell Road/Harris Road, Option 2
WDDD	Headwater Forest	Yes	High	Riparian	404/401	<0.01 (0)	N/A
WFFF	Headwater Forest	Yes	High	Riparian	404/401	N/A	0.01 (0.01)
WKKK	Headwater Forest	Yes	High	Riparian	404/401	0.01 (0.01)	0.01 (0.01)
WWWW	Headwater Forest	Yes	High	Riparian	404/401	0.04 (0.03)	0.04 (0.03)
					TOTAL	**0.05 (0.04)**	**0.06 (0.05)**