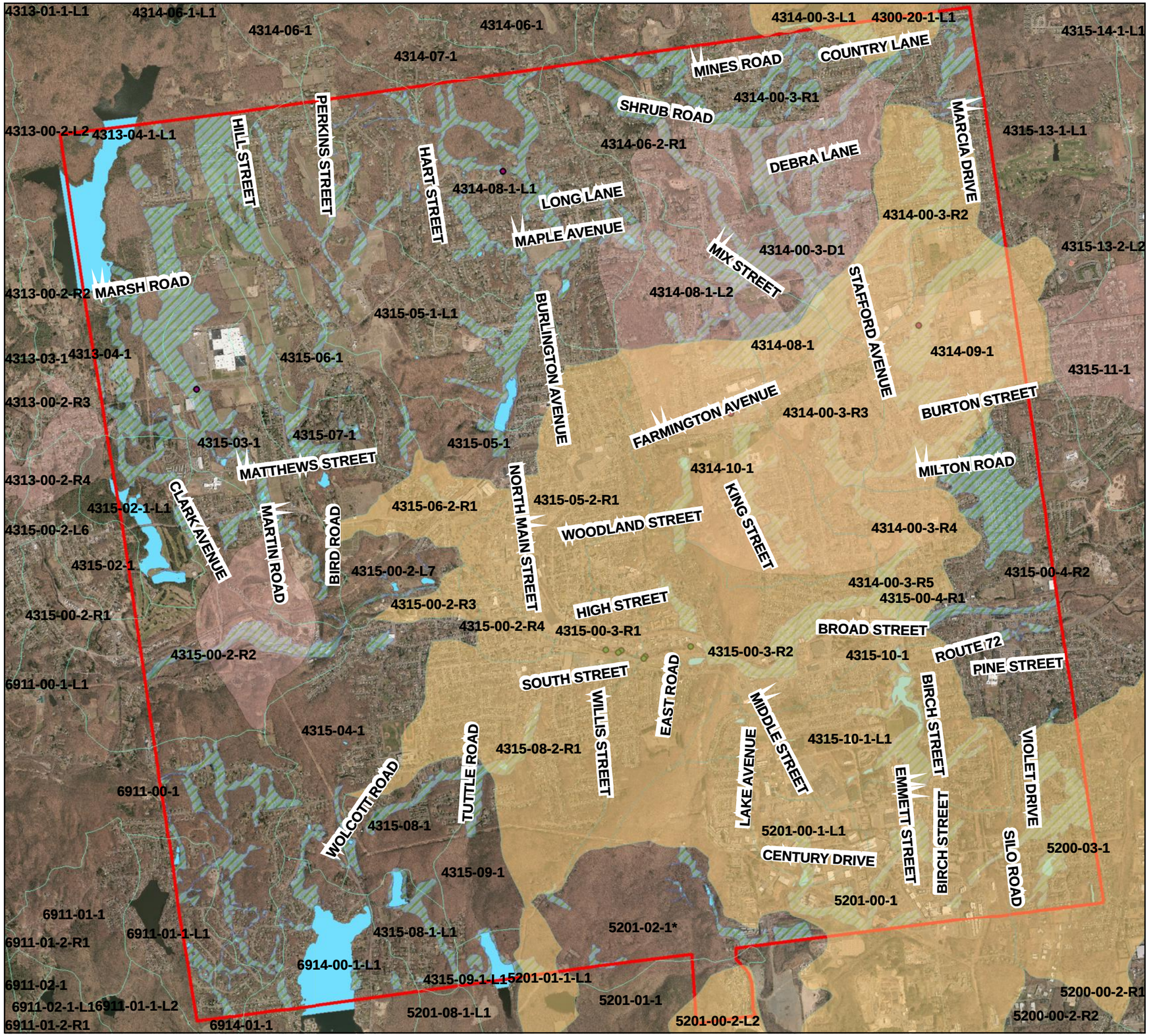
APPENDIX C 2019 MS4 ANNUAL REPORT

Bristol, CT

- GIS Map of Areas with Estimated DCIA >11%
- DCIA Calculations
- BASIN MAPS



N

1 inch = 3,000 feet

0 1,500 3,000 6,000 9,000 12,000 Feet

BRISTOL CT
AREAS WITH CALCULATED DCIA>11%

Legend

- BASIN_WITH_DCIA_greater_than_11
- BRISTOL_GIS.DBO.Bristol_Wetlands_Polygons
- AQUIFER_PROTECTION_AREA
- BASIN_Outline_Bristol

DEEP LOCAL BASIN ID	AREA (AC)	IA (Acres)	IC (%)	DOT IC (%)	NON DOT IC (%)	DCIA CONNECTIVITY LEVEL EQUATIONS 1(%)	2(%)	3(%)	4(%)	5(%)	DCIA (Ac)	Waterbody		
4300-20-1-L1	15.86	4.73	29.79	0	29.79	29.8	23.5	16.3	12.8	8.9	2.0		x	
4313-04-1	231.25	16.18	7	0	7	7.0	4.1	1.9	1.1	0.5	2.5		x	(3)
4313-04-1-L1	539.11	35.11	6.51	0	6.51	6.5	3.8	1.7	1.0	0.4	5.2		x	
4314-00-3-D1	187.65	25.96	13.83	0	13.83	13.8	9.4	5.1	3.5	1.9	6.5	CT4315-00_05	x	
4314-00-3-L1	56.73	16.91	29.81	0	29.81	29.8	23.5	16.3	12.8	8.9	9.2		x	(2)
4314-00-3-R1	705.83	146.33	20.73	0	20.73	20.7	15.2	9.4	6.9	4.3	66.6		x	
4314-00-3-R2	388.09	118.95	30.65	0.2	30.45	30.5	24.1	16.8	13.3	9.3	65.2		x	(1)
4314-00-3-R3	274.95	89.80	32.66	1.47	31.19	31.2	24.8	17.4	13.9	9.7	68.3		x	
4314-00-3-R4	205.29	63.36	30.86	0	30.86	30.9	24.5	17.1	13.6	9.5	35.2		x	
4314-00-3-R5	9.39	2.69	28.7	0	28.7	28.7	22.5	15.4	12.0	8.2	1.4		x	(4)
4314-06-2-R1	378.82	57.9	15.28	0	15.28	15.3	10.5	6.0	4.1	2.3	22.6		x	
4314-07-1	25.32	1.93	7.61	1.41	6.2	6.2	3.6	1.5	0.9	0.4	0.2		x	
4314-08-1	56.86	12.81	22.54	0	22.54	22.5	16.8	10.7	8.0	5.1	9.6	CT4315-00_05	x	
4314-08-1-L1	1,154.39	194.15	16.82	0.43	16.39	16.4	11.5	6.6	4.6	2.7	76.6		x	(5)
4314-08-1-L2	319.02	49.97	15.66	0	15.66	15.7	10.9	6.2	4.3	2.5	19.8		x	
4314-09-1	591.4	200.03	33.82	0.81	33.01	33.0	26.6	19.0	15.3	10.9	112.2		x	
4314-10-1	768.79	203.52	26.47	1.19	25.28	25.3	19.3	12.7	9.7	6.4	97.7		x	
4315-00-2-L7	162.84	20.24	12.43	0	12.43	12.4	8.2	4.4	2.9	1.5	7.1	CT4315-00_03	x	
4315-00-2-R2	634.37	88.33	13.92	1.24	12.68	12.7	8.4	4.5	3.0	1.6	28.6	CT4315-00_05	x	
4315-00-2-R3	53.68	22.79	42.45	0.47	41.98	42.0	35.5	27.2	23.0	17.6	19.0	CT4315-00_05	x	
4315-00-2-R4	93.03	58.99	63.41	4.54	58.87	58.9	53.2	45.2	40.8	34.7	49.5	CT4315-00_05	x	
4315-00-3-R1	94.15	52.39	55.64	2.99	52.65	52.7	46.5	38.2	33.8	27.7	43.8	CT4315-00_03	x	
4315-00-3-R2	910.21	302.72	33.26	1.52	31.74	31.7	25.4	17.9	14.3	10.1	162.8	CT4315-00_03	x	
4315-00-4-R1	37.43	13	34.73	0	34.73	34.7	28.2	20.5	16.6	12.1	10.6	CT4315-00_02	x	
4315-00-4-R2	645.39	204.81	31.73	0.81	30.92	30.9	24.6	17.2	13.7	9.6	111.0	CT4315-00_02	x	
4315-02-1	20.93	0.6	2.88	0.51	2.37	2.4	1.1	0.4	0.2	0.1	0.1	CT4315-00_02	x	
4315-02-1-L1	215.71	19.28	8.94	0.64	8.3	8.3	5.1	2.4	1.5	0.7	3.2	CT4315-00_02	x	
4315-03-1	520.00	93.54	17.99	0.32	17.67	17.7	12.6	7.4	5.3	3.1	38.6	CT4315-00_05	x	
4315-04-1	519.37	103.27	19.88	0.81	19.07	19.1	13.8	8.3	6.0	3.6	43.3	CT4315-00_02	x	
4315-05-1	166.18	20.4	12.27	0	12.27	12.3	8.1	4.3	2.8	1.5	4.7		x	
4315-05-1-L1	878.75	126.36	14.38	1.68	12.7	12.7	8.4	4.5	3.0	1.6	39.8		x	
4315-05-2-R1	567.82	286.24	50.41	1.66	48.75	48.8	42.4	34.0	29.6	23.8	240.9		x	
4315-06-1	364.2	42.36	11.63	0	11.63	11.6	7.6	4.0	2.6	1.4	14.4		x	
4315-06-2-R1	171.62	47.97	27.95	2.12	25.83	25.8	19.8	13.1	10.1	6.7	22.5		x	
4315-07-1	286.04	51.95	18.16	0.16	18	18.0	12.8	7.6	5.4	3.2	21.8		x	
4315-08-1	252.37	31.79	12.6	1.23	11.37	11.4	7.4	3.8	2.5	1.3	9.7	CT4314-00_01	x	
4315-08-1-L1	138.99	17.15	12.34	0.27	12.07	12.1	7.9	4.2	2.8	1.5	5.8		x	
4315-08-2-R1	693.39	215.47	31.07	0.68	30.39	30.4	24.1	16.8	13.3	9.2	116.2		x	
4315-09-1	182.52	6.69	3.67	0	3.67	3.7	1.9	0.7	0.4	0.1	1.3		x	
4315-09-1-L1	58.8	0.6	1.02	0	1.02	1.0	0.4	0.1	0.0	0.0	0.0	CT4314-00_01	x	
4315-10-1	52.43	24.82	47.34	3.32	44.02	44.0	37.5	29.2	24.9	19.4	15.3		x	
4315-10-1-L1	658.85	187.21	28.42	0.92	27.5	27.5	21.3	14.4	11.2	7.6	95.0		x	
4315-13-1-L1	192.85	42.76	22.17	0	22.17	22.2	16.5	10.4	7.8	4.9	20.1		x	
5200-03-1	299.81	71.97	24	0	24	24.0	18.1	11.8	8.9	5.8	35.3		x	
5201-00-1	763.13	225.34	29.53	0.47	29.06	29.1	22.8	15.7	12.3	8.4	119.5		x	
5201-00-1-L1	174.28	74.51	42.76	1.7	41.06	41.1	34.5	26.3	22.1	16.9	45.9		x	
5201-00-2-L2	48.32	11.86	24.54	0	24.54	24.5	18.6	12.2	9.2	6.0	5.9		x	
5201-01-1-L1	45.94	2.15	4.69	0	4.69	4.7	2.6	1.0	0.6	0.2	0.5		x	
5201-02-1*	440.19	14.85	3.37	0	3.37	3.4	1.7	0.6	0.3	0.1	2.7		x	
6911-00-1	430.82	39.88	9.26	0	9.26	9.3	5.8	2.8	1.8	0.9	12.1		x	
6911-01-1-L1	168.38	25.6	15.2	0	15.2	15.2	10.5	5.9	4.1	2.3	10.0		x	
6914-00-1-L1	302.35	41.39	13.69	0.89	12.8	12.8	8.5	4.6	3.1	1.6	13.8		x	
											1971.8			
	17138.03	3824.88	0.223181											
	0.998231052	0.998561504												
City-wide	17,168.40	3830.39	22											

Table 1. Sutherland Equations to Determine DCIA (%)

Watershed Selection Criteria	Assumed Land Use	Equation (where IA(%) ≥ 1)
Average: Mostly storm sewered with curb & gutter, no dry wells or infiltration, residential rooftops not directly connected	Commercial, Industrial, Institutional, Open land, and Med. density residential	DCIA=0.1(IA)^1.3
Highly connected: Same as above, but residential rooftops are connected	High density residential	DCIA=0.4(IA)^1.3
Totally connected: 100% storm sewered with all IA connected		DCIA=IA
Somewhat connected: 20% not storm sewered, but open section roads, grassy swales, residential rooftops not connected, some infiltration	Low density residential	DCIA=0.04(IA)^1.3
Mostly disconnected: Small percentage of urban area is storm sewered, or 70% or more infiltrate/disconnected	Agricultural; Forested	DCIA=0.01(IA)^1

DCIA EQUATION TABLE

Connectivity Level	Description Of Contributing Area	Land Use type
1. Fully Connected (default)	100% storm sewered with all IC	High density mixed use, commerical
2. Wicked Connected	Mostly storm sewered with curb and gutter, residential rooftops connected to MS4	High density residential, commercial, industrial, institutional
3. Moderately Connected	Mostly storm sewered with curb and gutter, residential rooftops NOT connected to MS4	Medium density residential, commercial, industrial, institutional, open land
4. Sorta Connected	50% storm sewered with some infiltration and residential rooftops NOT connected to MS4	Low density residential, open land
5. Slightly Connected	Small % of urban area storm sewered or mostly infiltration	Agricultural, forested, natural areas

City-wide area (acres) = 17,168.4

City-wide IA (acres) 3,830.4 acres (22.3%)

Town DCIA Baseline (acres) = 1971.8 11%

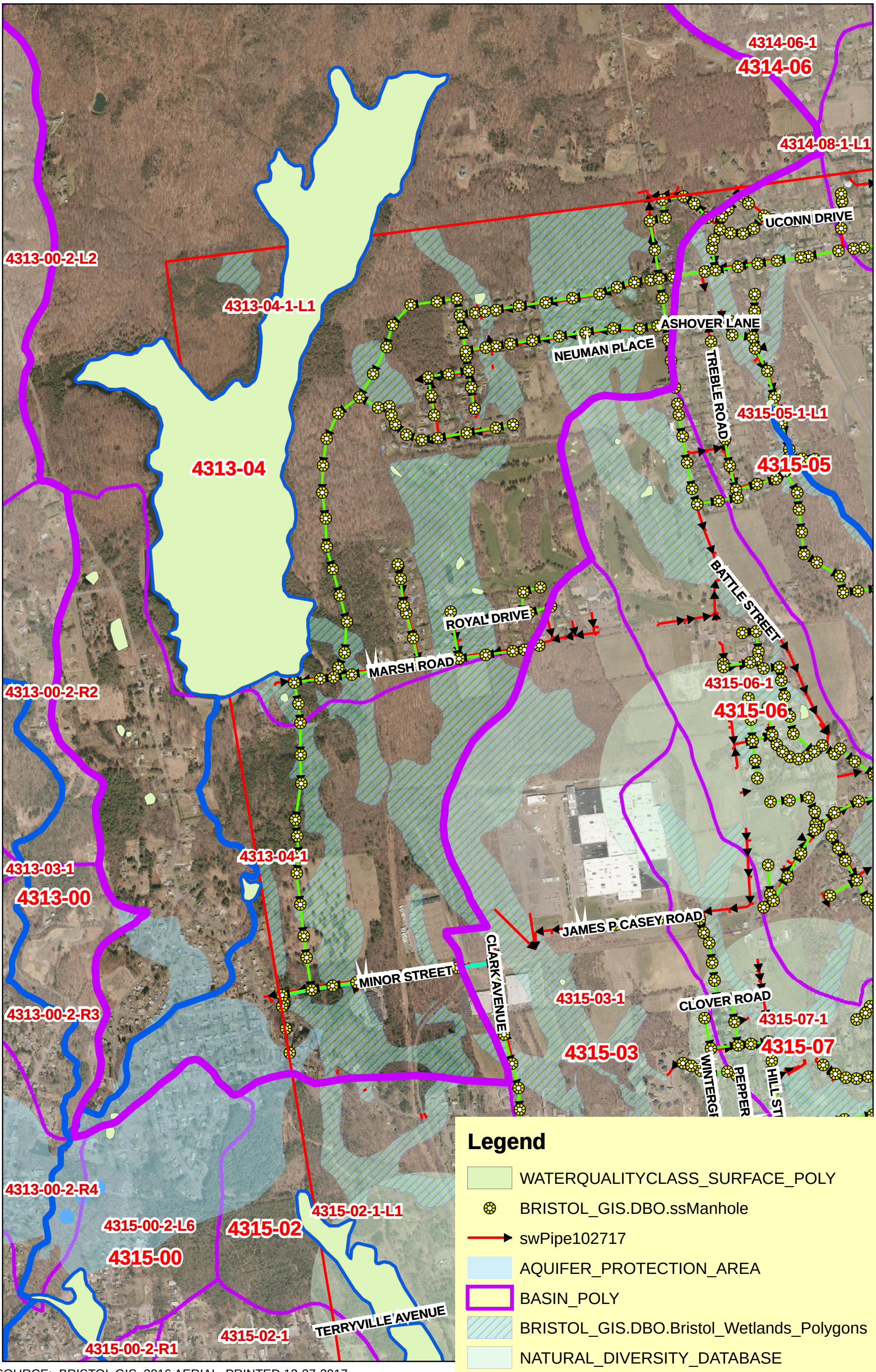
2022 Goal (Disconnecting 2% of DCIA (acres))= 39.6

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

N

BASIN 4313 BRISTOL , CT
Sub Basin 4313-04-1
Sub Basin 4313-04-1-L1



SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

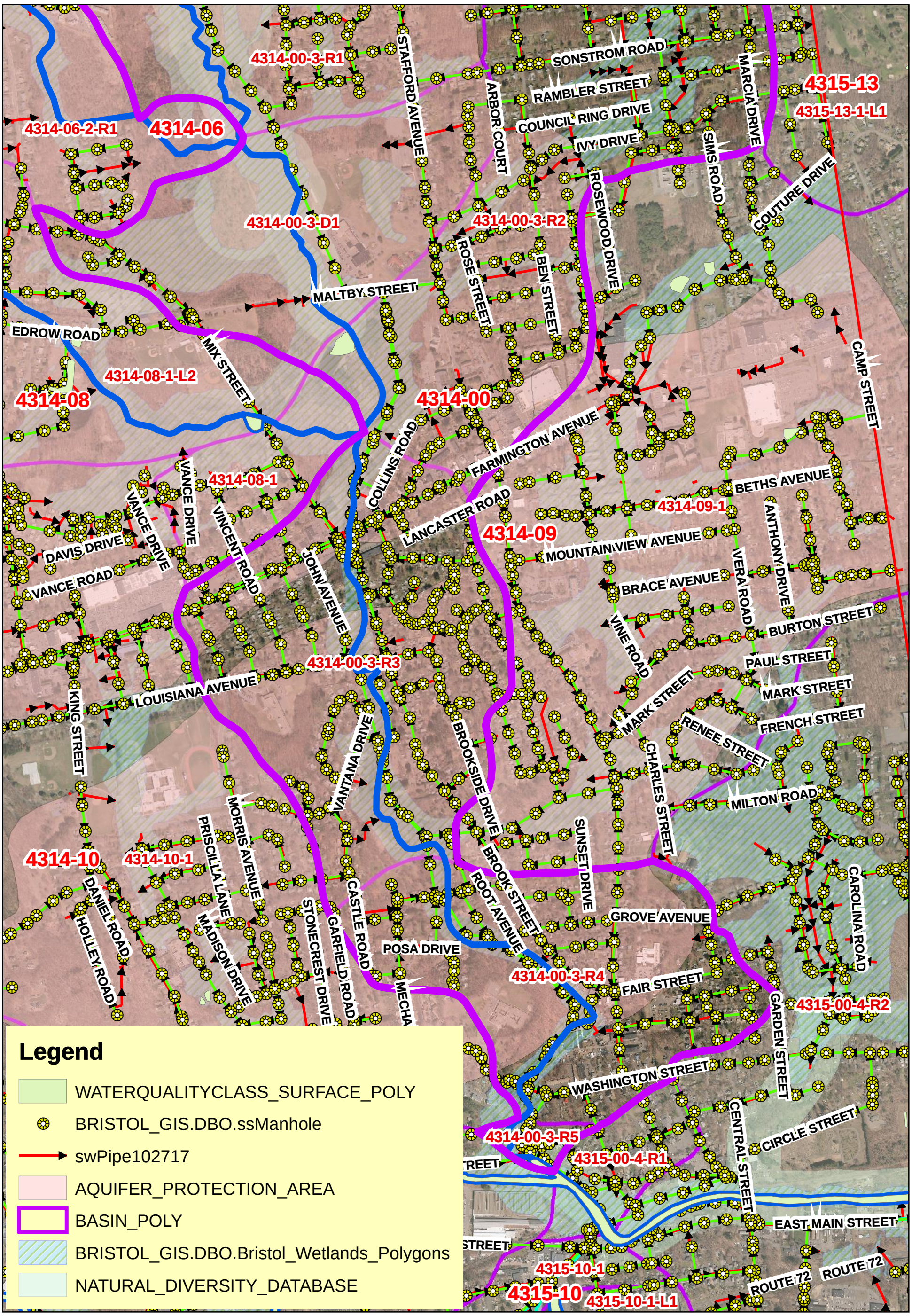
N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4314-00 BRISTOL , CT

Sub Basin 4314-00-3-D1
Sub Basin 4314-00-3-R3
Sub Basin 4314-00-3-R4
Sub Basin 4314-00-3-R5



SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

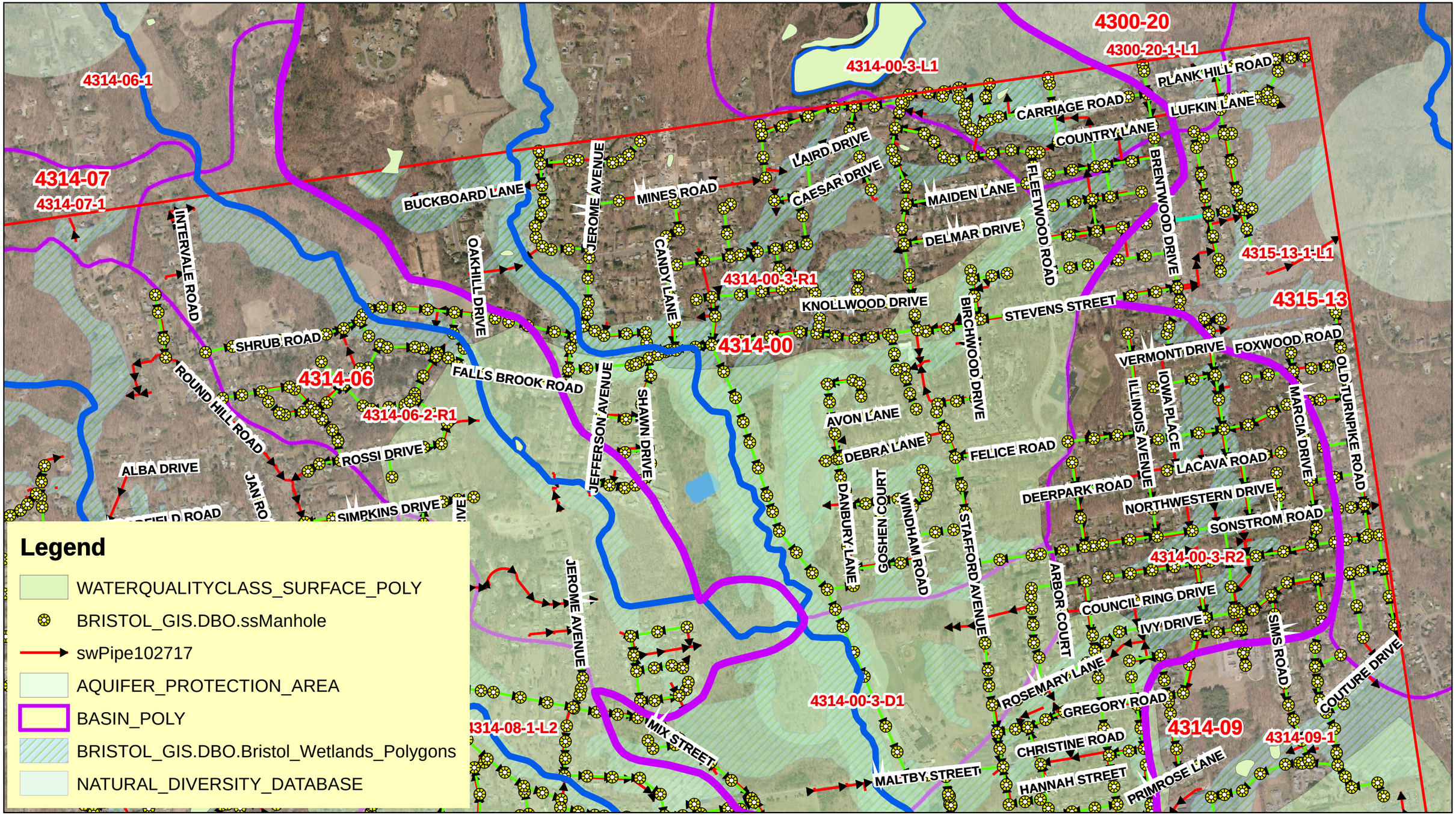
1 inch = 1,000 feet

BASIN 4314-00 BRISTOL , CT

Sub Basin 4314-00-3-L1

Sub Basin 4314-00-3-R1

Sub Basin 4314-00-3-R2



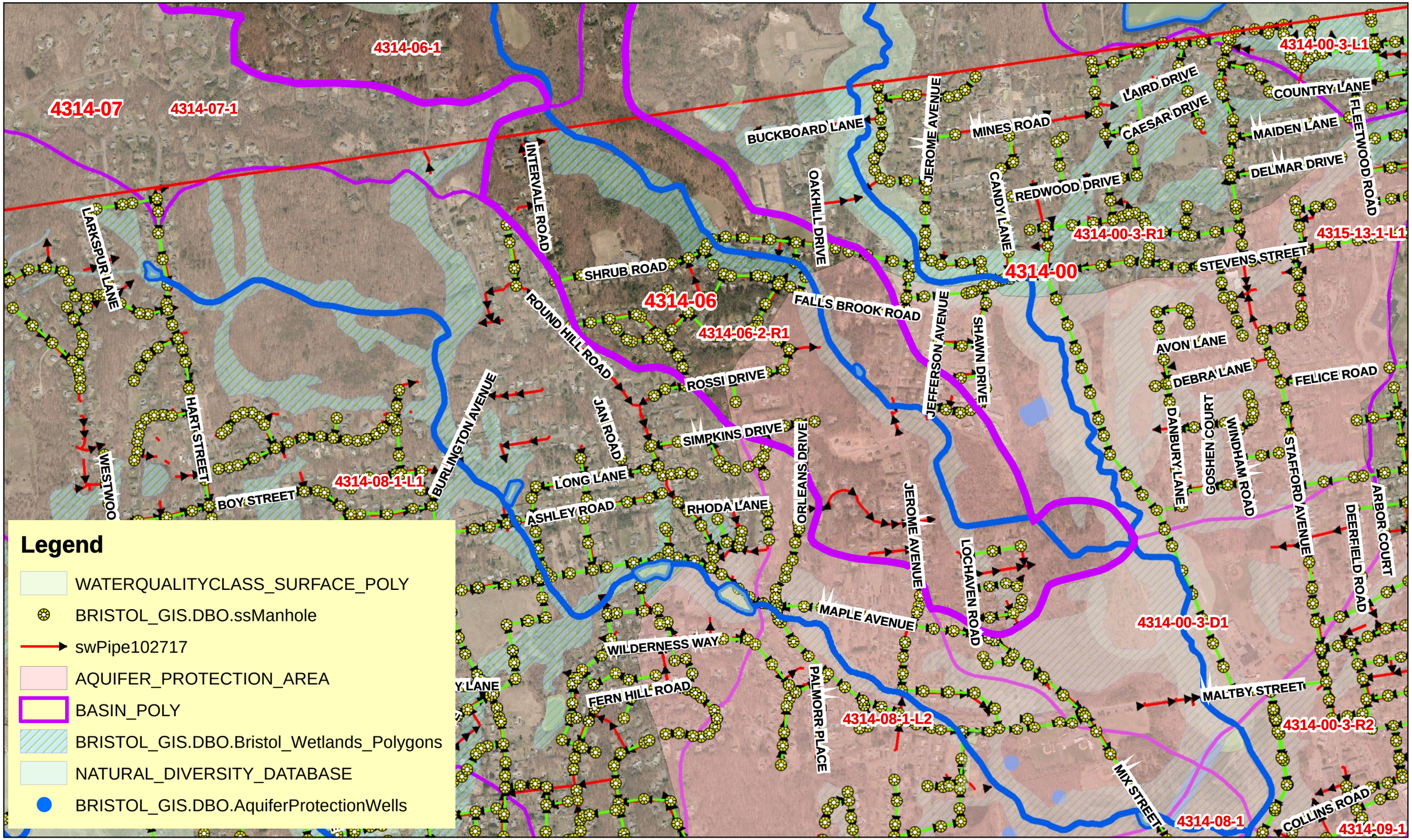
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4314-06 BRISTOL , CT
Sub Basin 4314-06-2-R1



Legend

- WATERQUALITYCLASS_SURFACE_POLY
- BRISTOL_GIS.DBO.ssManhole
- swPipe102717
- AQUIFER_PROTECTION_AREA
- BASIN_POLY
- BRISTOL_GIS.DBO.Bristol_Wetlands_Polygons
- NATURAL_DIVERSITY_DATABASE
- BRISTOL_GIS.DBO.AquiferProtectionWells

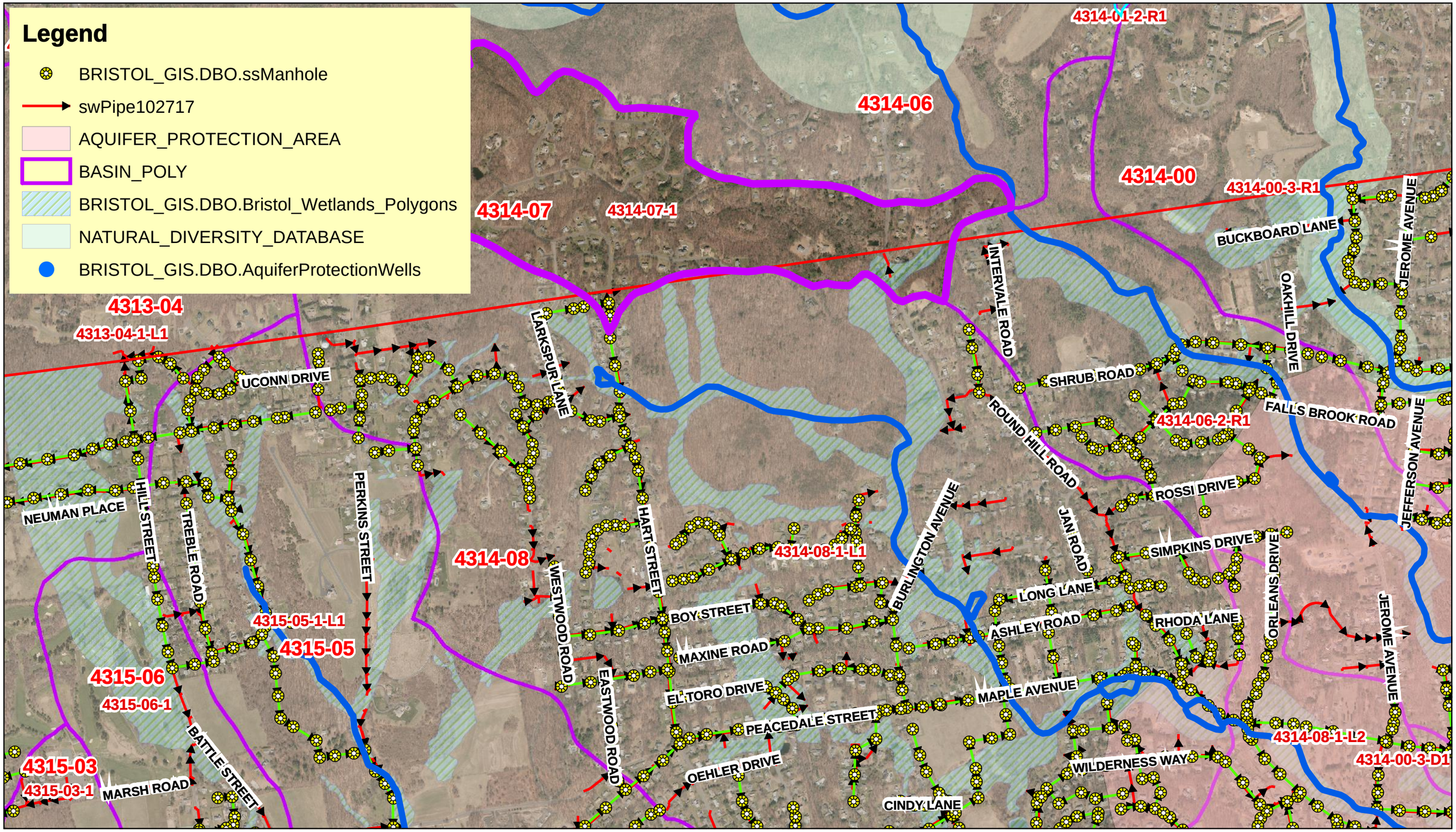
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4314-07 BRISTOL , CT
Sub Basin 4314-07-1



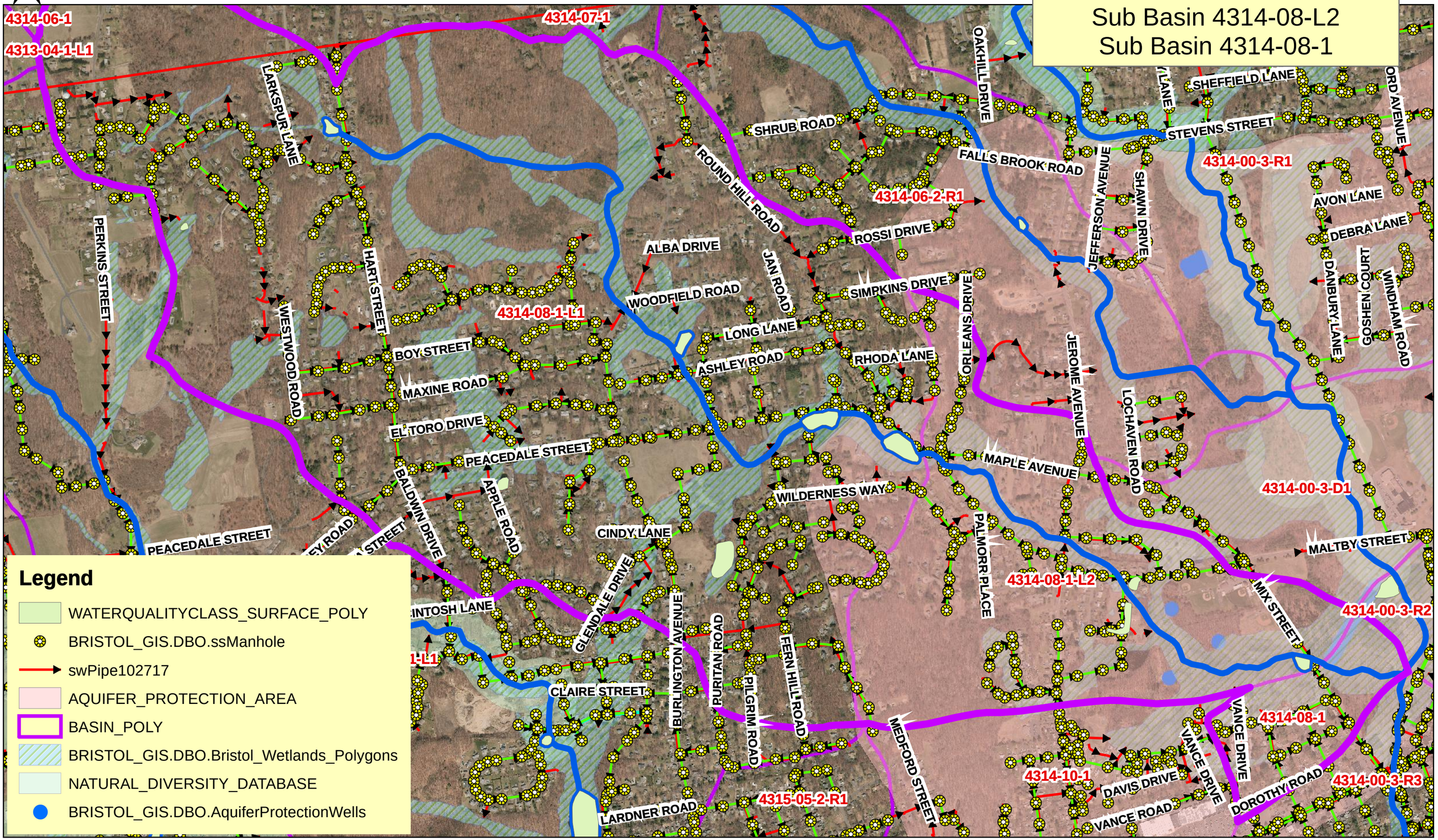
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

BASIN 4314-08 BRISTOL , CT
Sub Basin 4314-08-L1
Sub Basin 4314-08-L2
Sub Basin 4314-08-1

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet



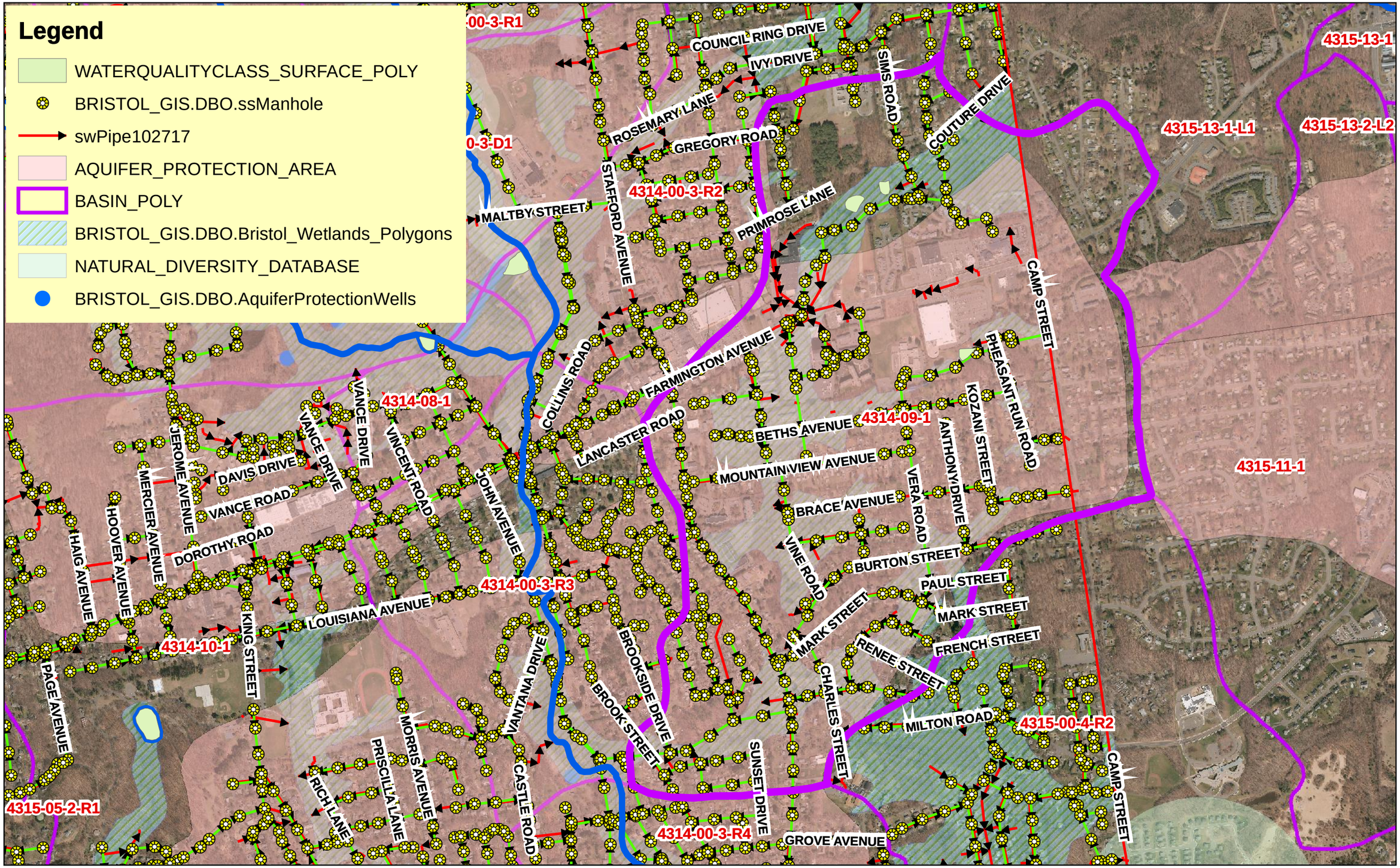
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4314-09 BRISTOL , CT
Sub Basin 4314-09-1



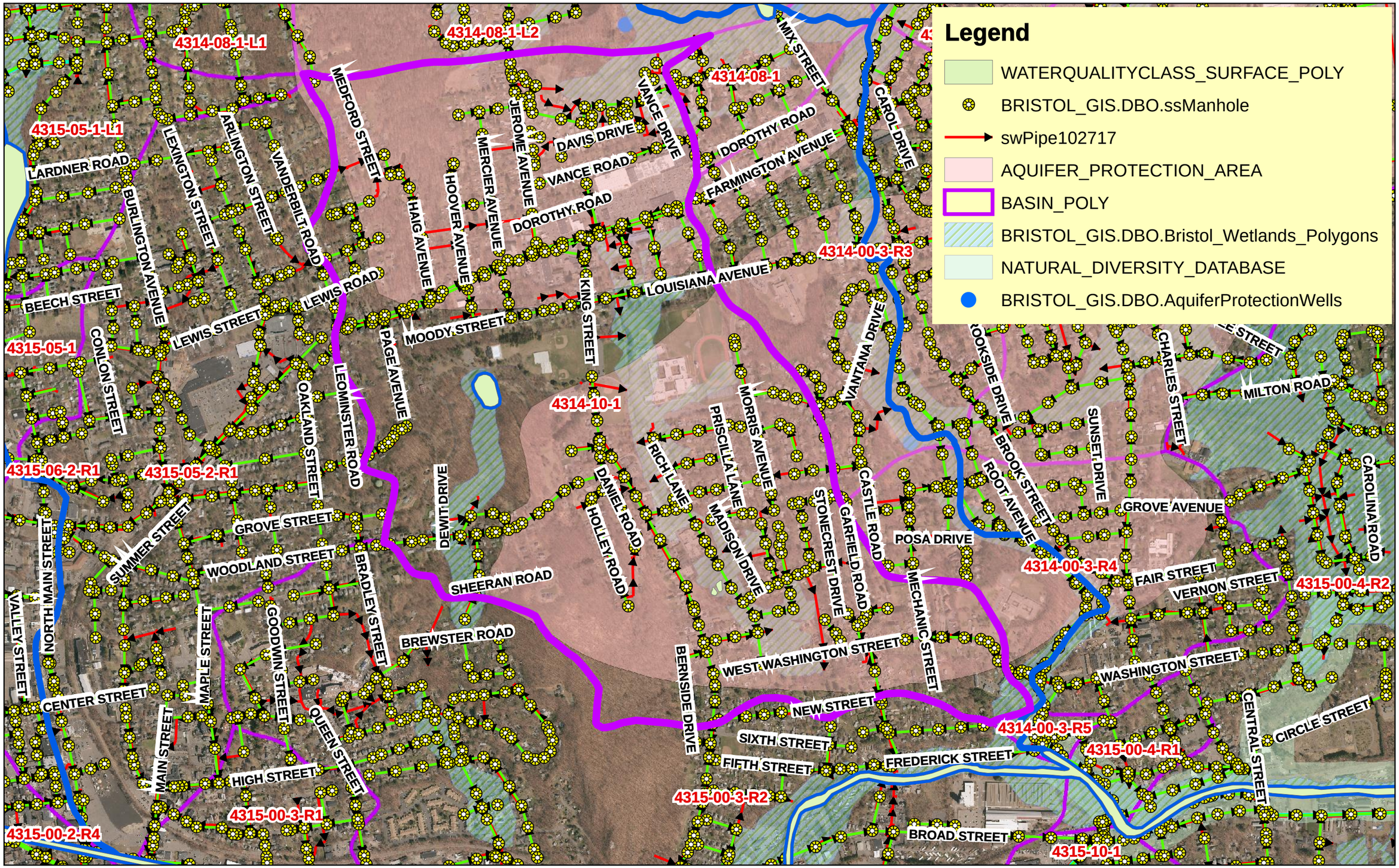
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

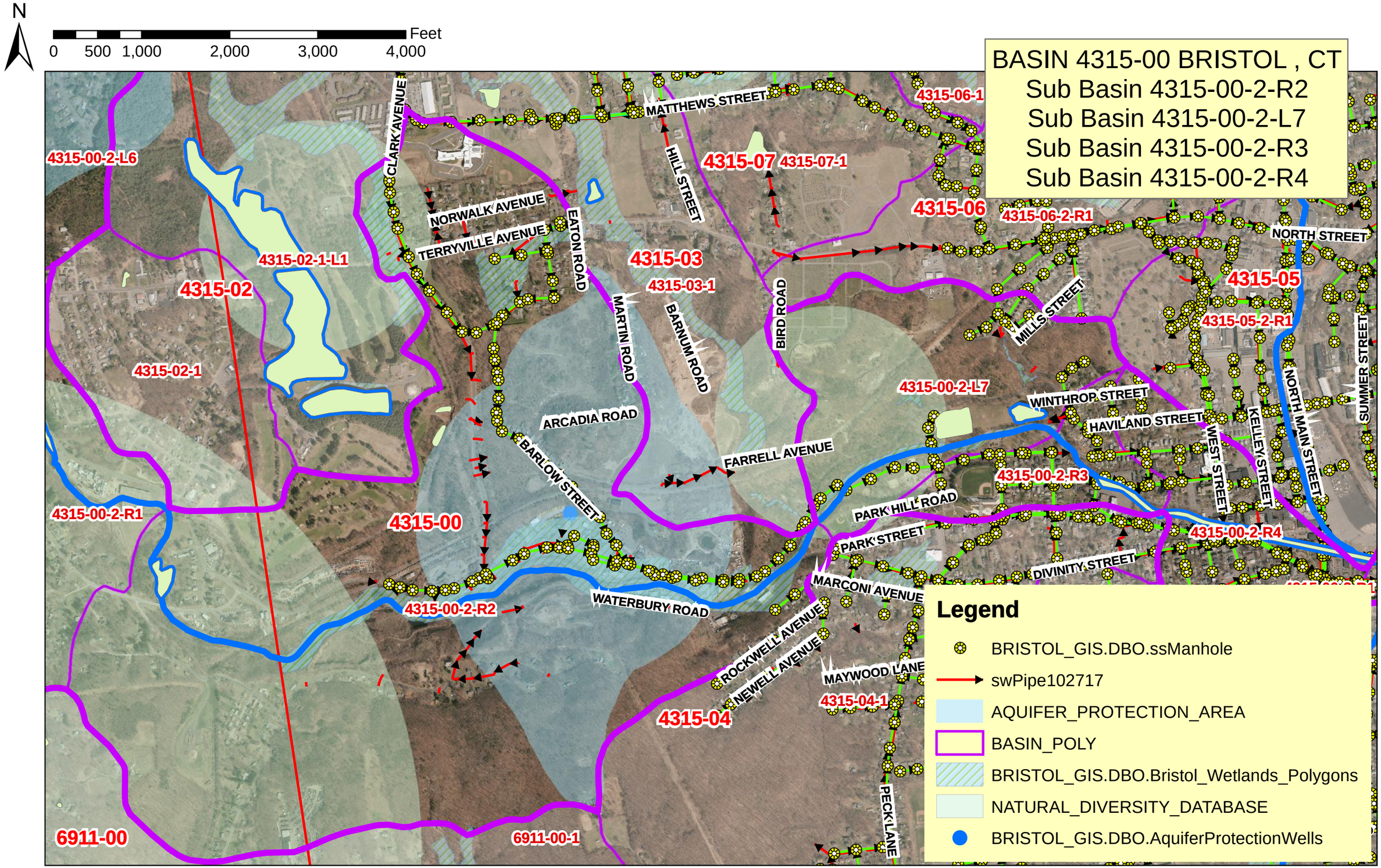
0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4314-10 BRISTOL , CT
Sub Basin 4314-10-1



SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017



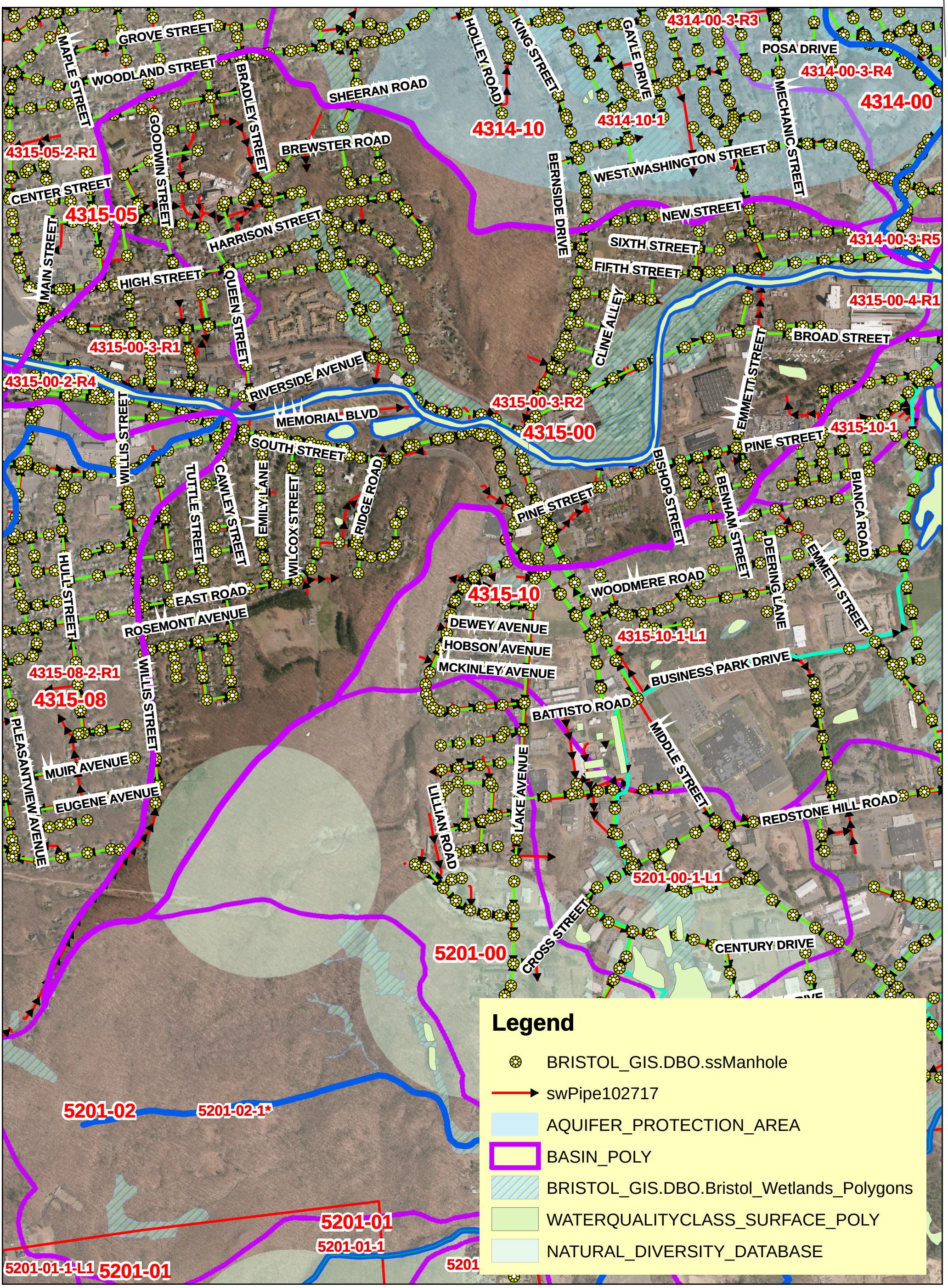
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-00 BRISTOL , CT
Sub Basin 4315-00-3-R1
Sub Basin 4315-00-3-R2



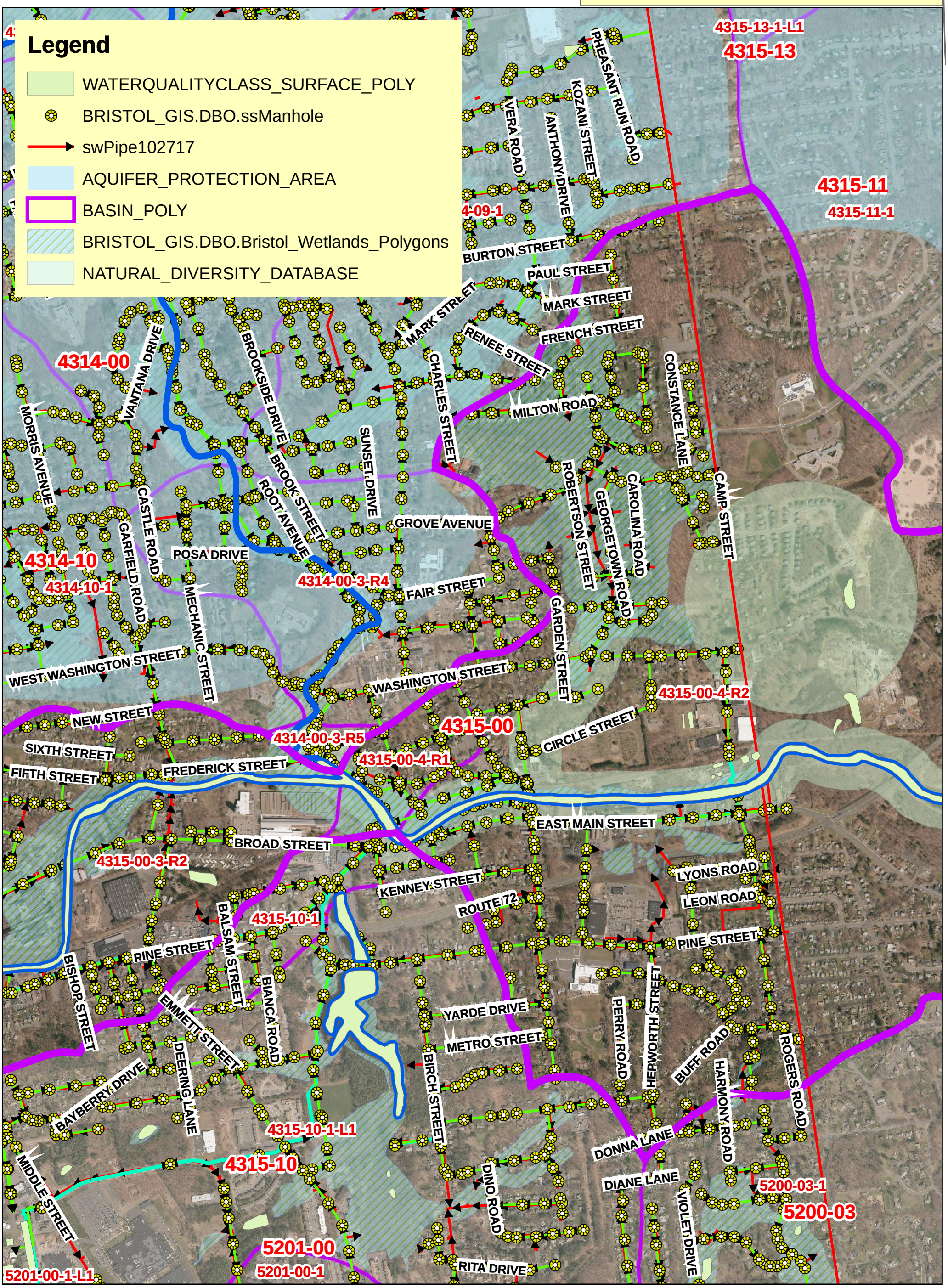
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-26-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-00 BRISTOL , CT
Sub Basin 4315-00-4-R1
Sub Basin 4315-00-4-R2



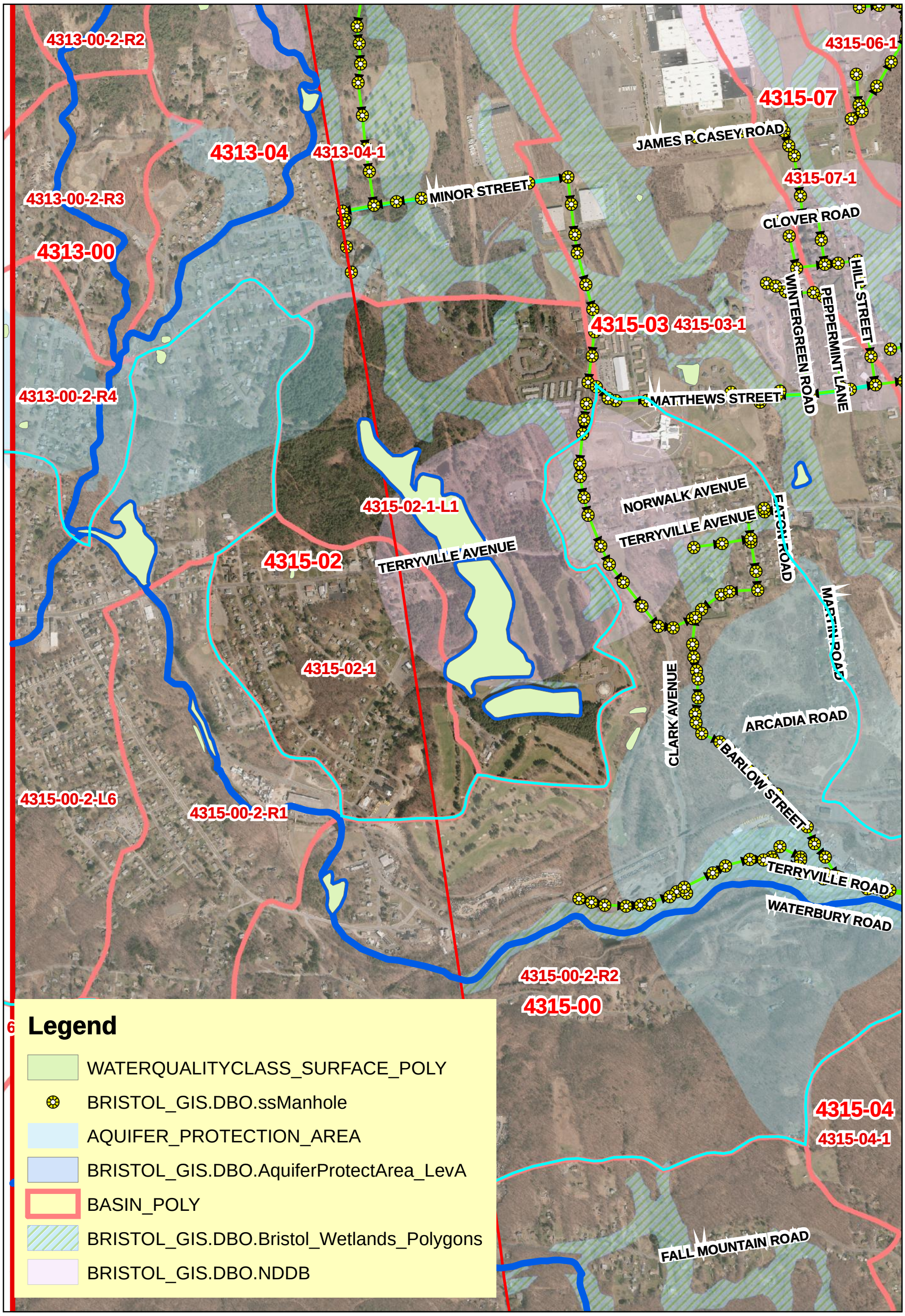
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-02 BRISTOL , CT
Sub Basin 4315-02-1-L1
Sub Basin 4315-02-1



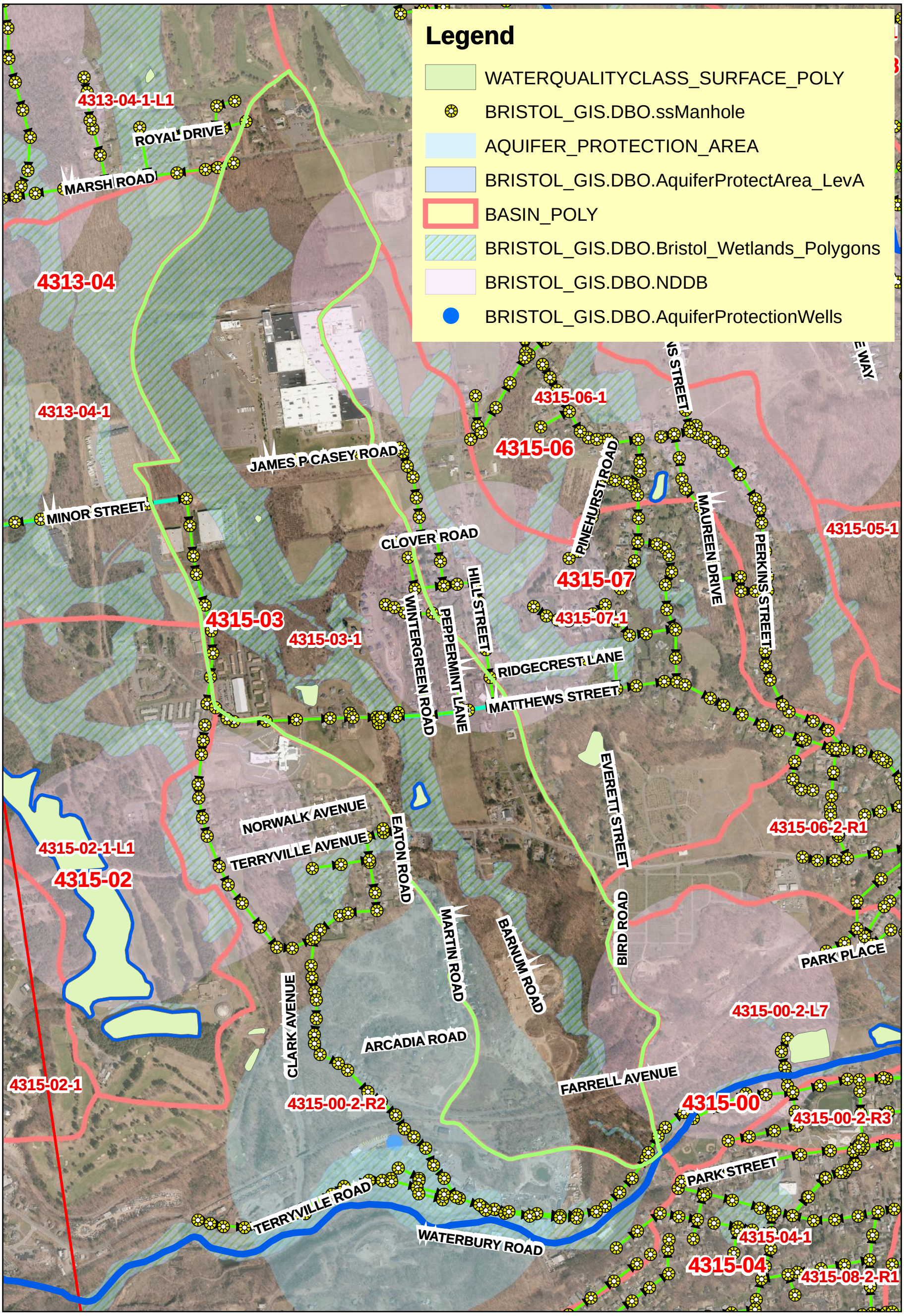
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-26-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-03 BRISTOL , CT
Sub Basin 4315-03-1



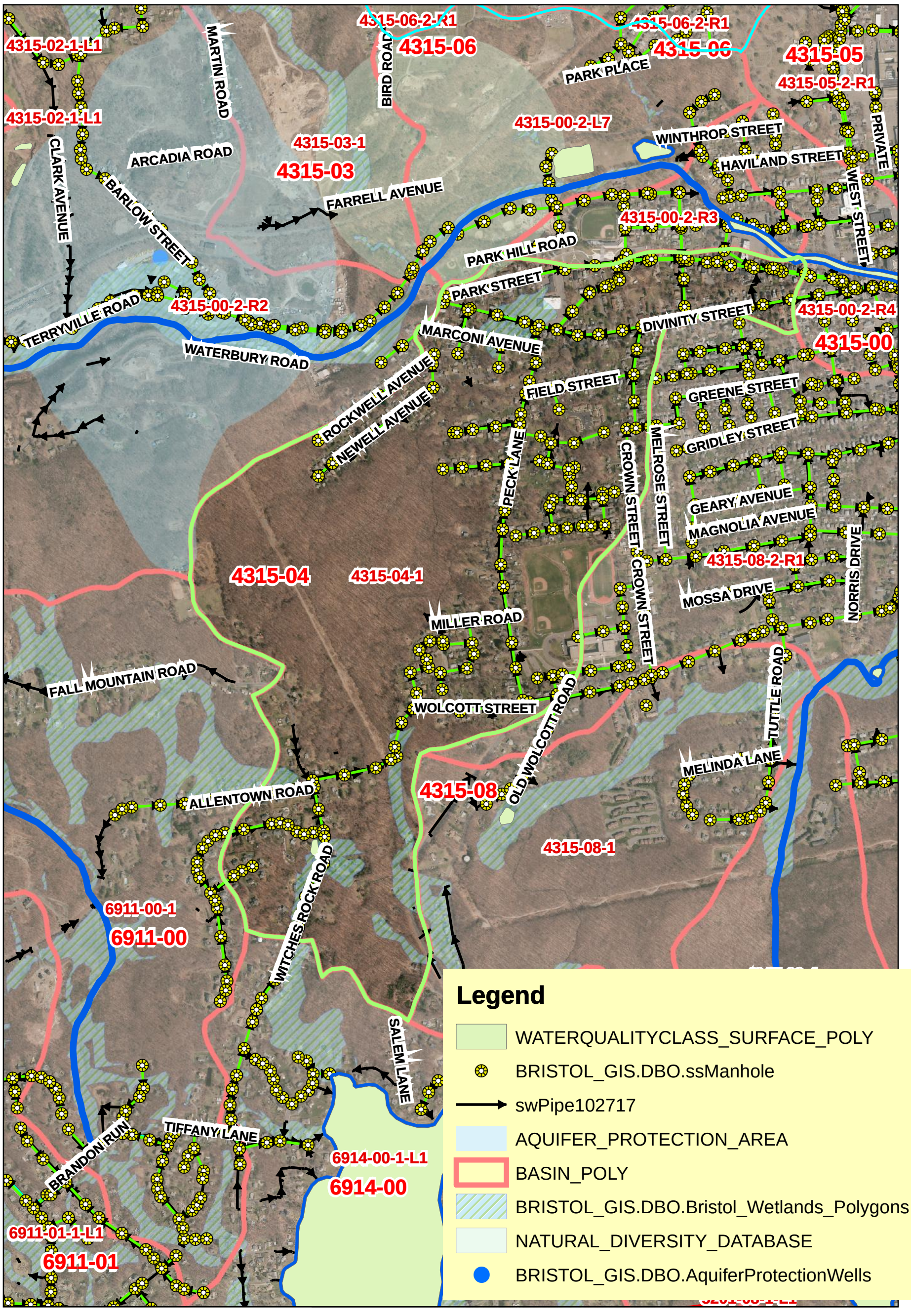
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-26-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-04 BRISTOL , CT
Sub Basin 4315-04-1



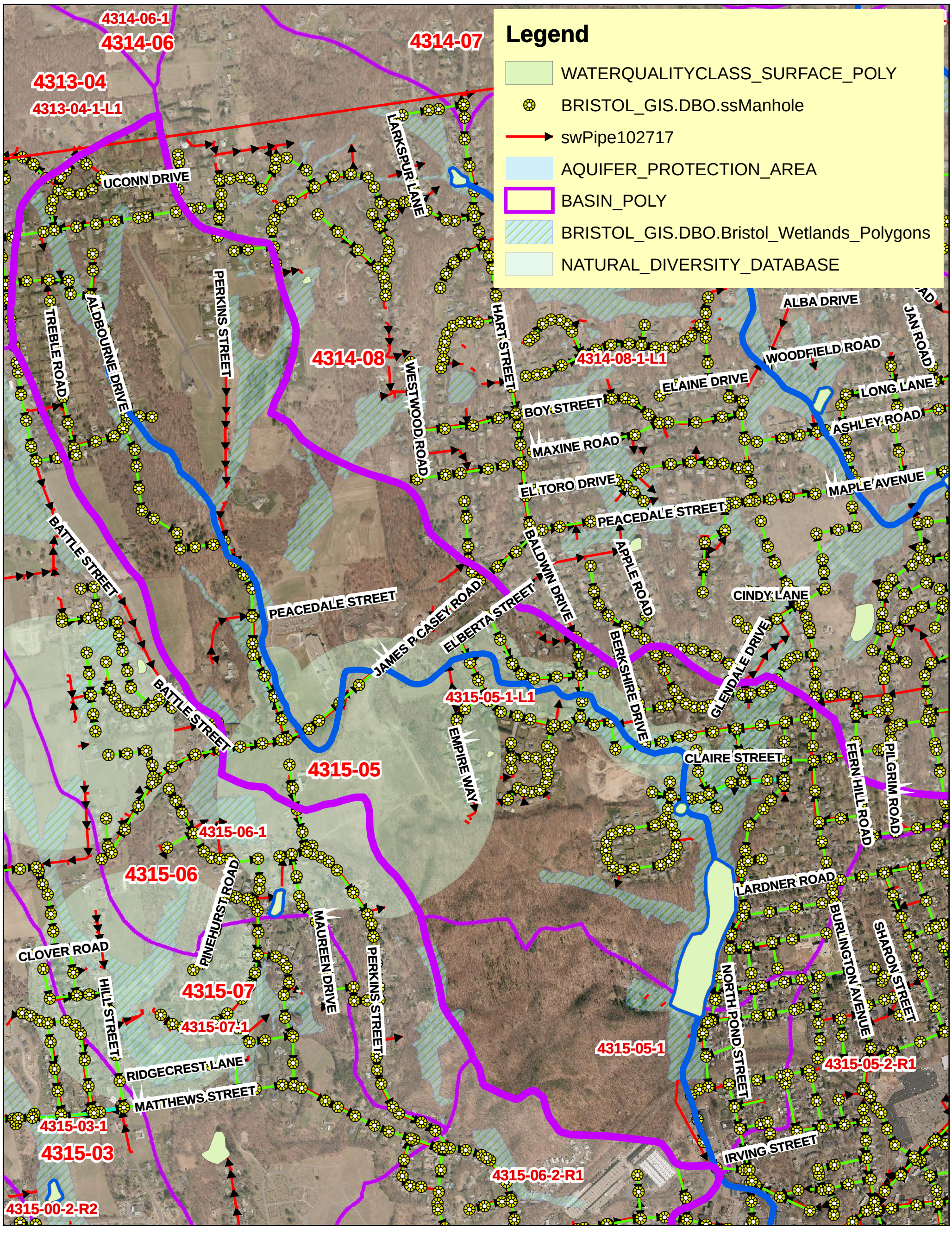
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-26-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-05 BRISTOL , CT
Sub Basin 4315-05-1
Sub Basin 4315-05-1-L1



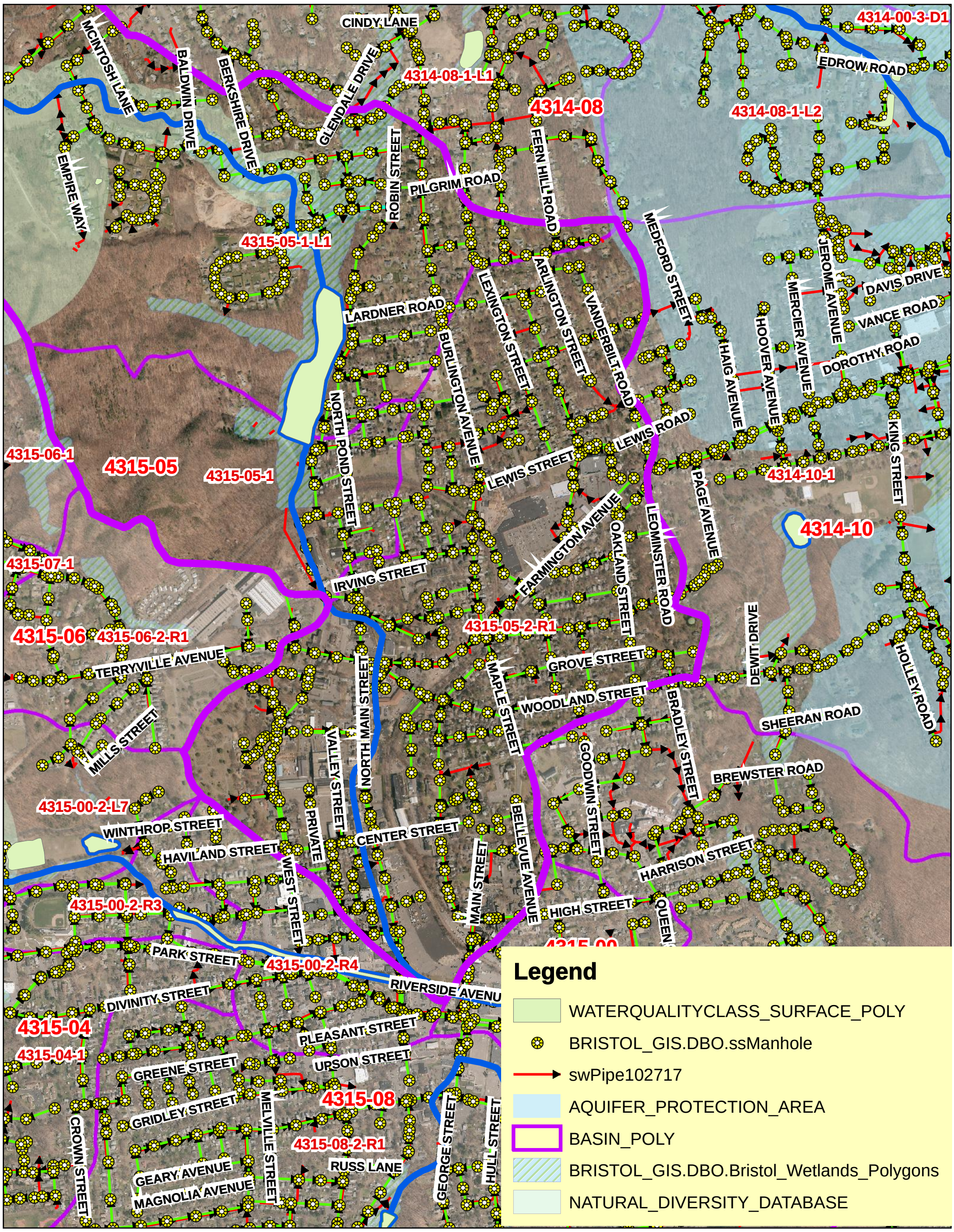
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-05 BRISTOL , CT
Sub Basin 4315-05-2-R1



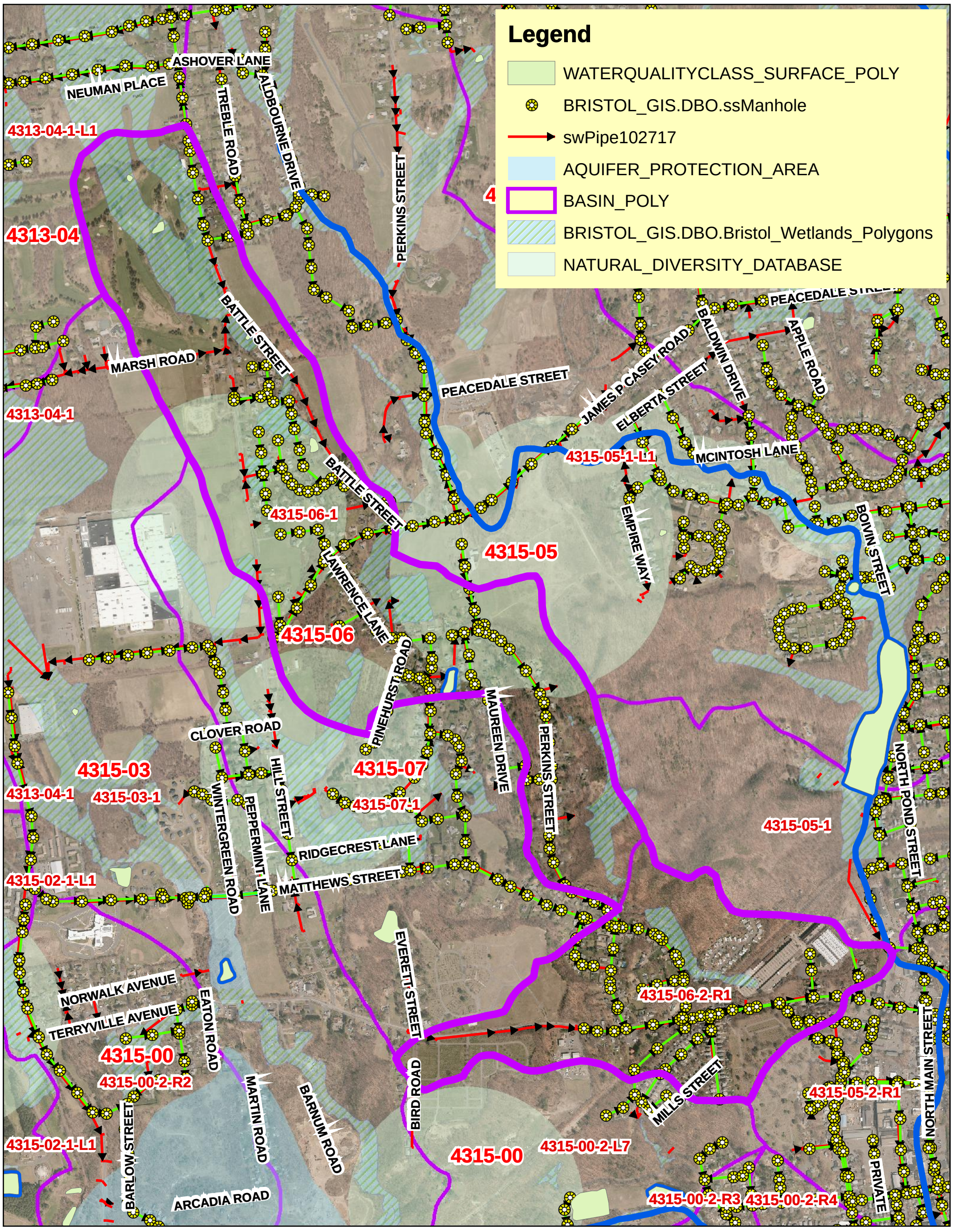
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-06 BRISTOL , CT
Sub Basin 4315-06-1
Sub Basin 4315-06-2-R1



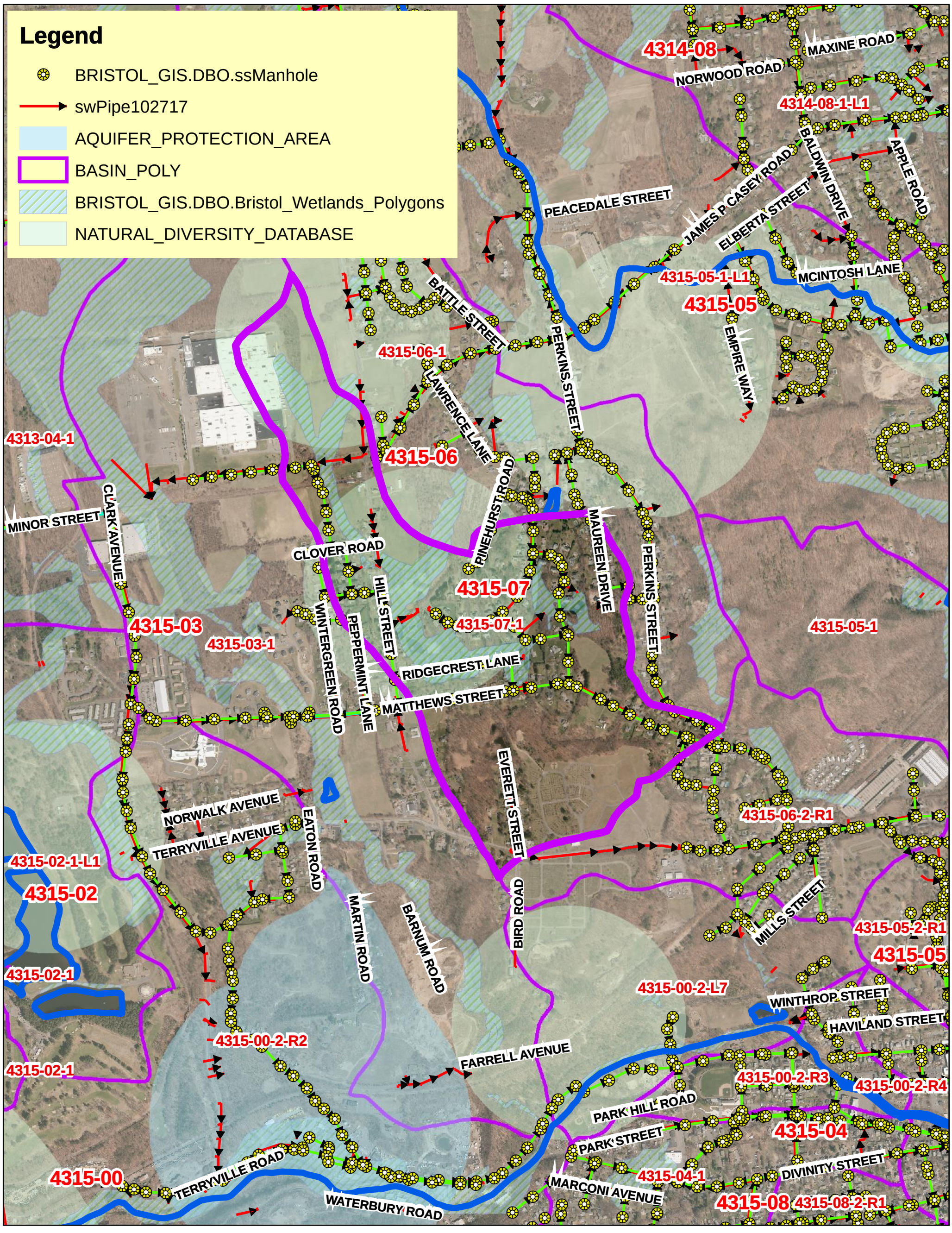
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-07 BRISTOL , CT
Sub Basin 4315-07-1



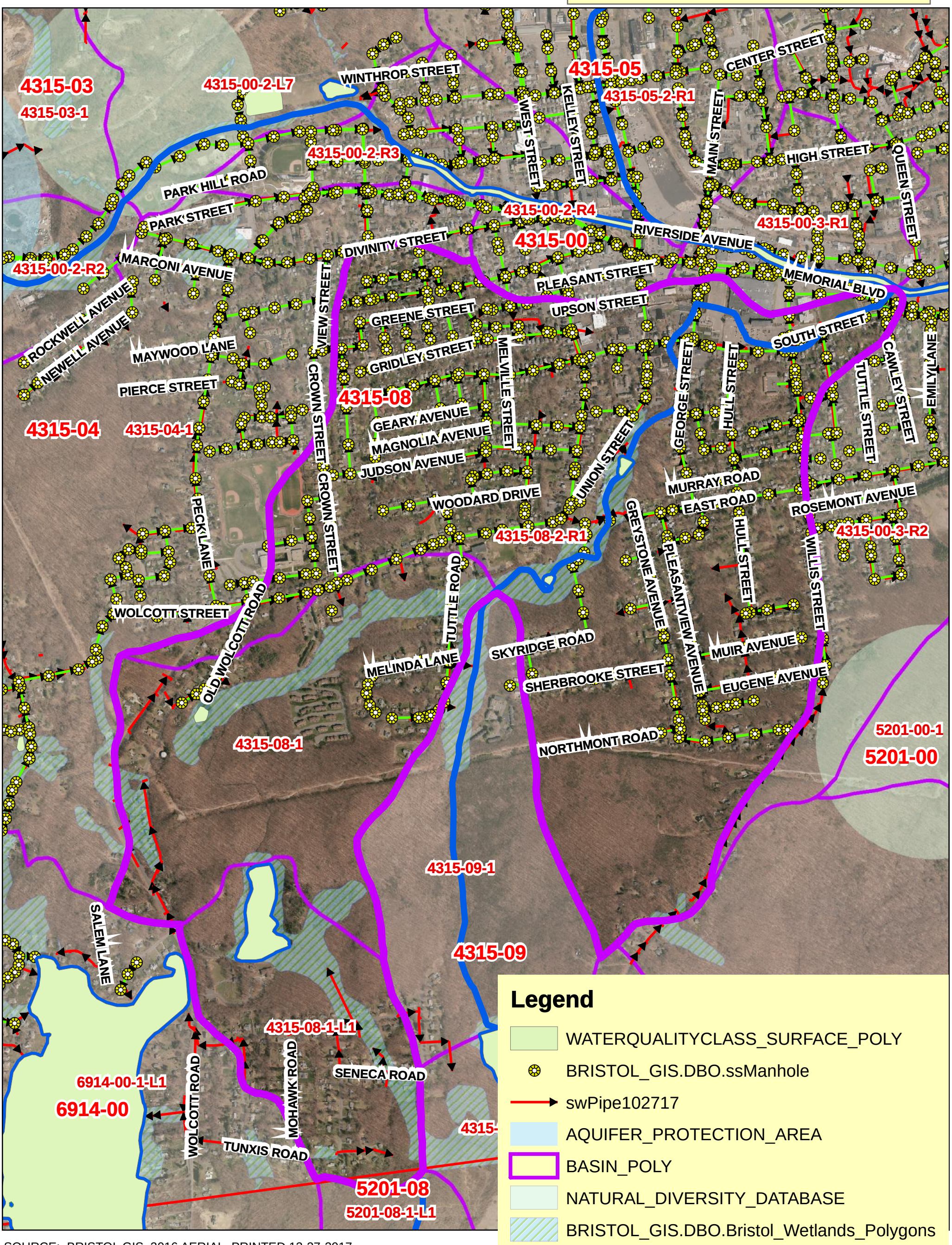
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-08 BRISTOL , CT
Sub Basin 4315-08-1
Sub Basin 4315-08-1-L1
Sub Basin 4315-08-2-R1



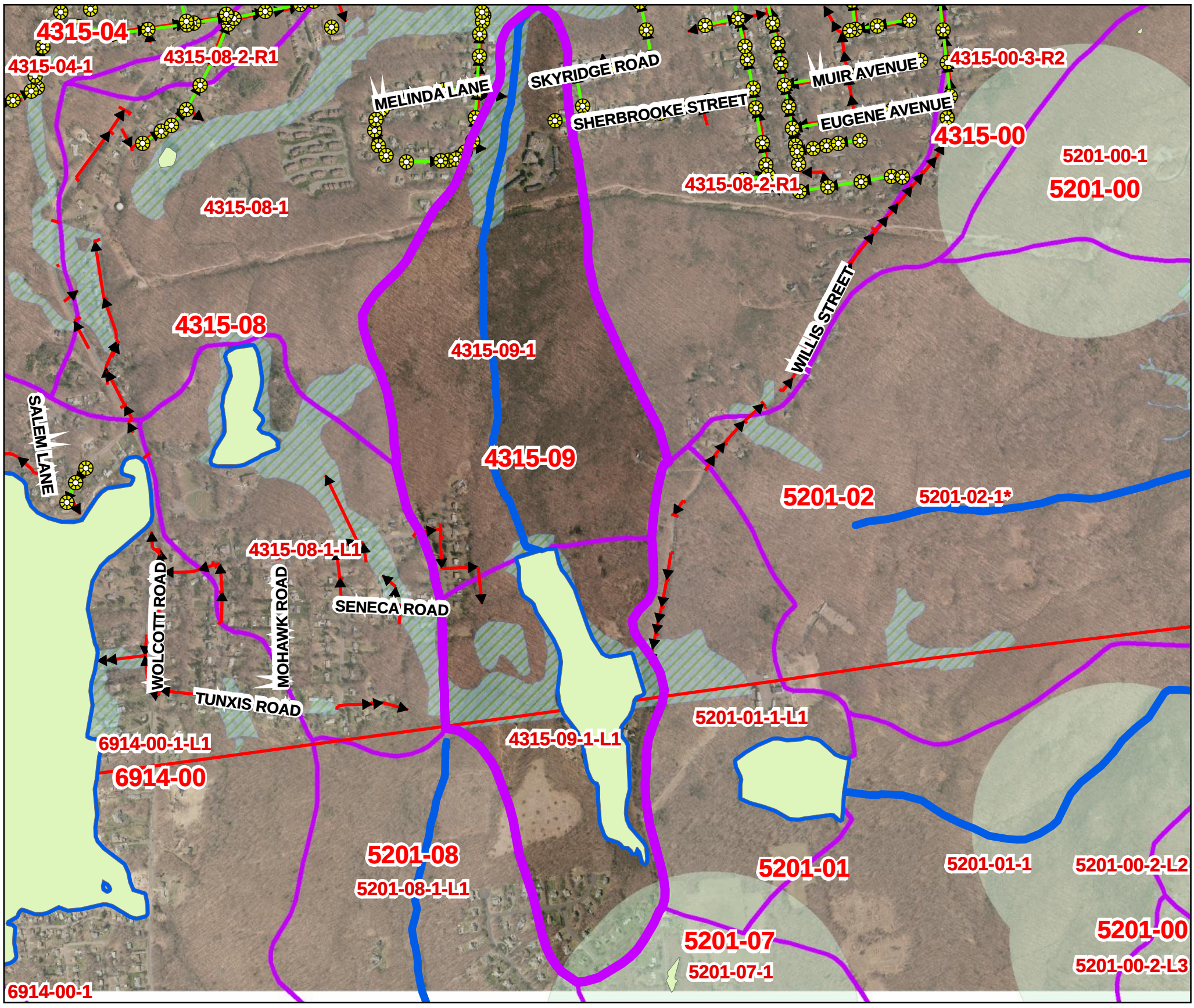
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-09 BRISTOL , CT
Sub Basin 4315-09-1
Sub Basin 4315-09-1-L1



SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

Legend

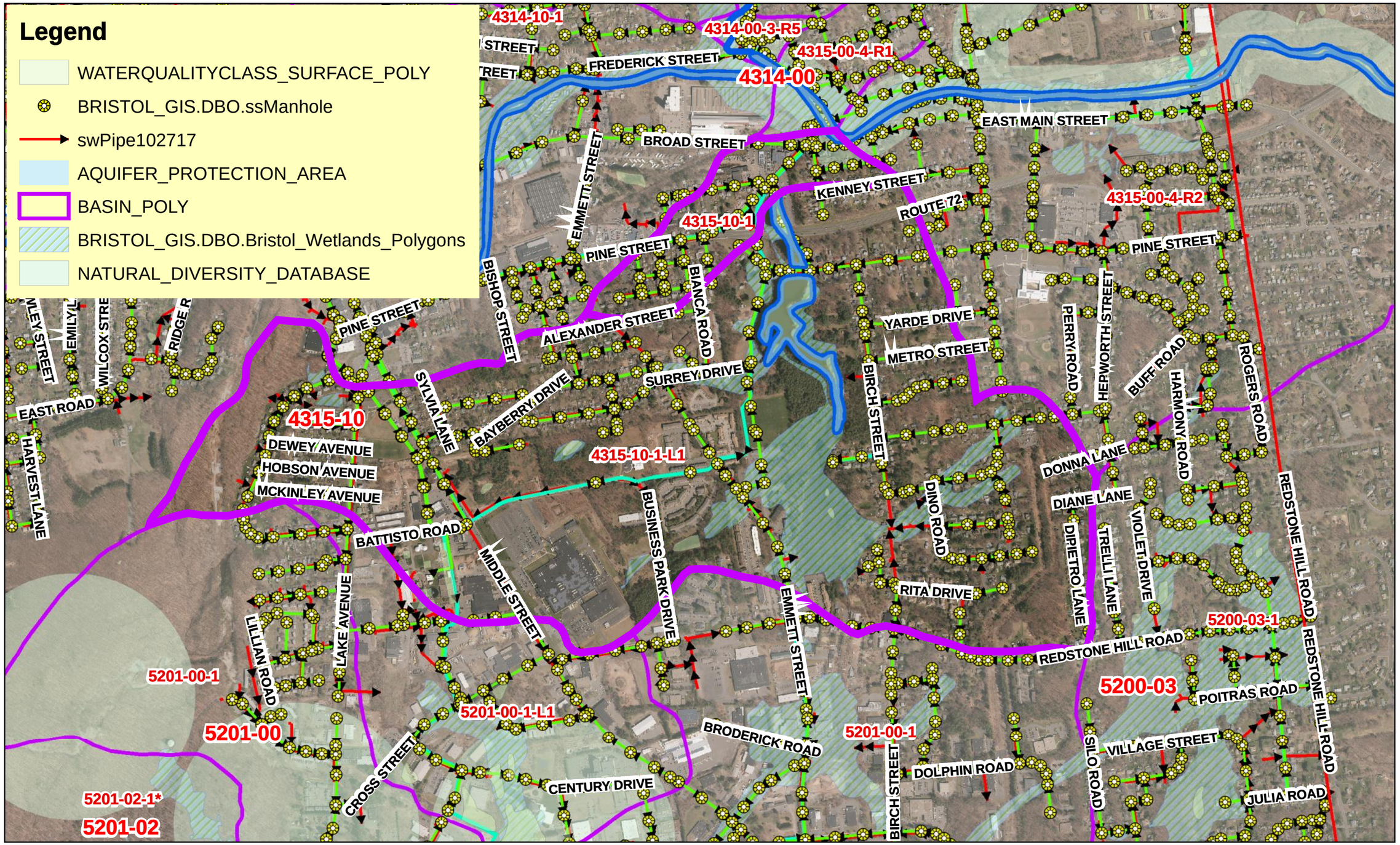
- WATERQUALITYCLASS_SURFACE_POLY
- BRISTOL_GIS.DBO.ssManhole
- swPipe102717
- AQUIFER_PROTECTION_AREA
- BASIN_POLY
- BRISTOL_GIS.DBO.Bristol_Wetlands_Polygons
- NATURAL_DIVERSITY_DATABASE

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-10 BRISTOL , CT
Sub Basin 4315-10-1
Sub Basin 4315-10-1-L1



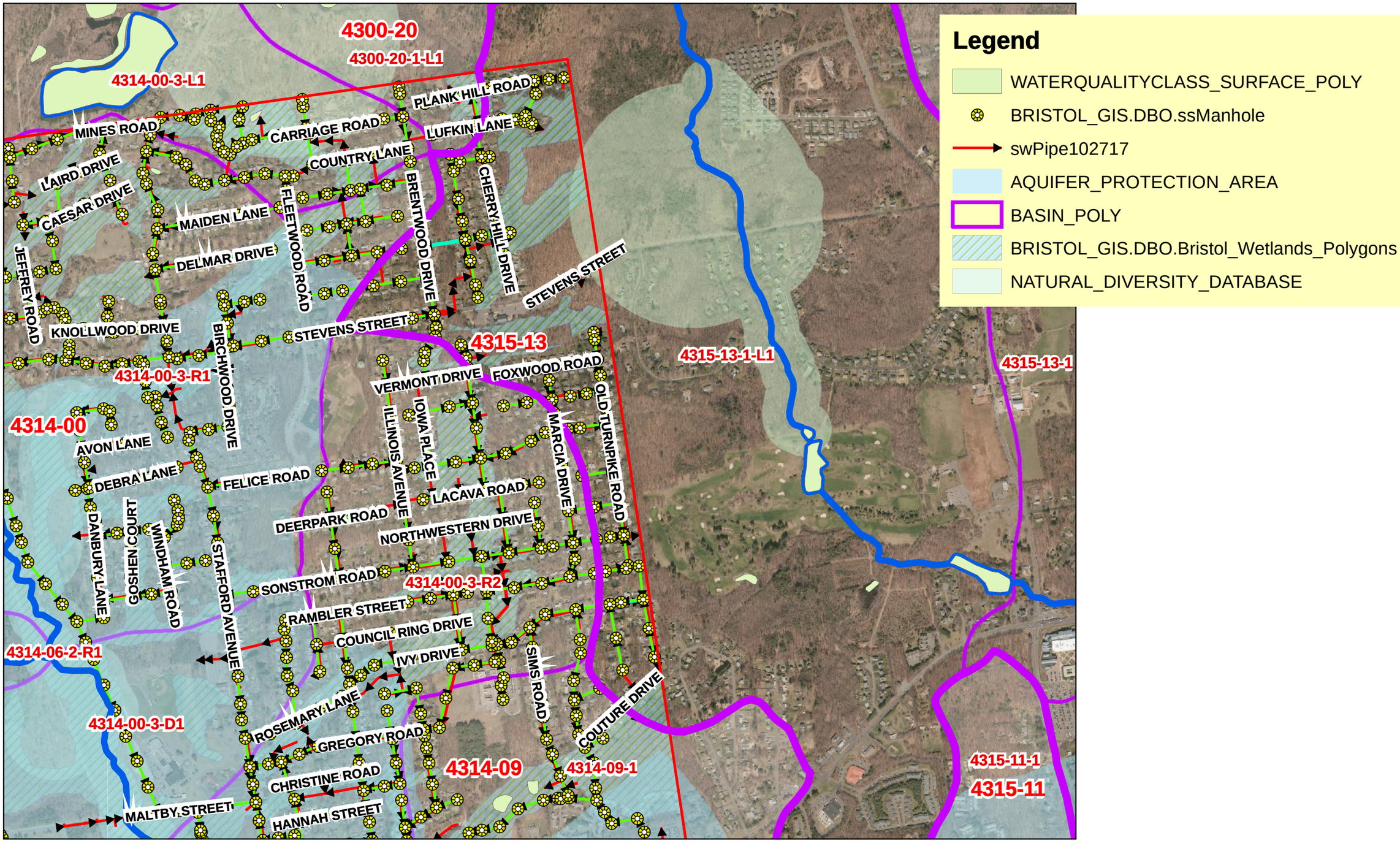
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 4315-13 BRISTOL , CT



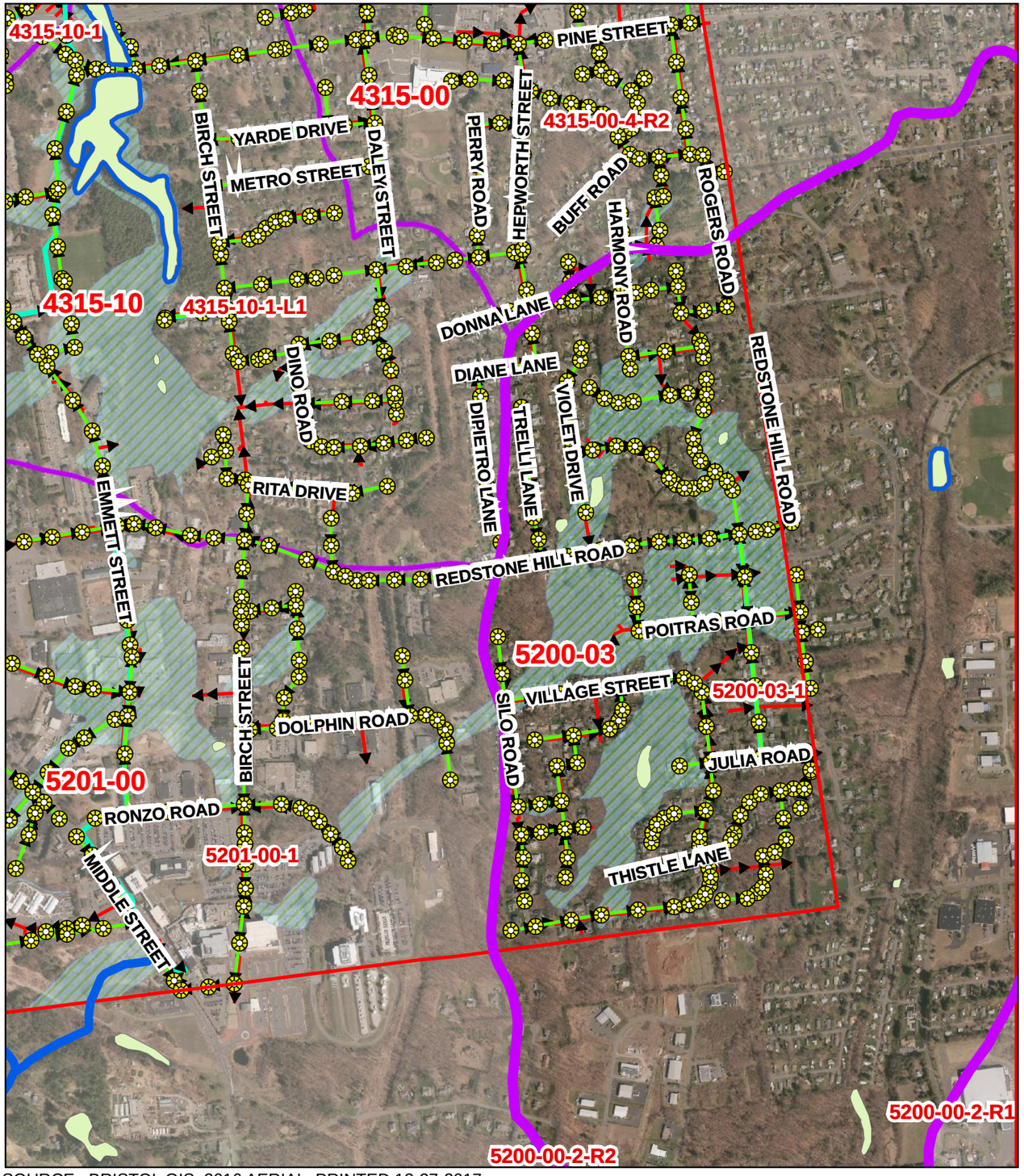
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 5200-03 BRISTOL , CT
Sub Basin 5200-03-1



SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

Legend

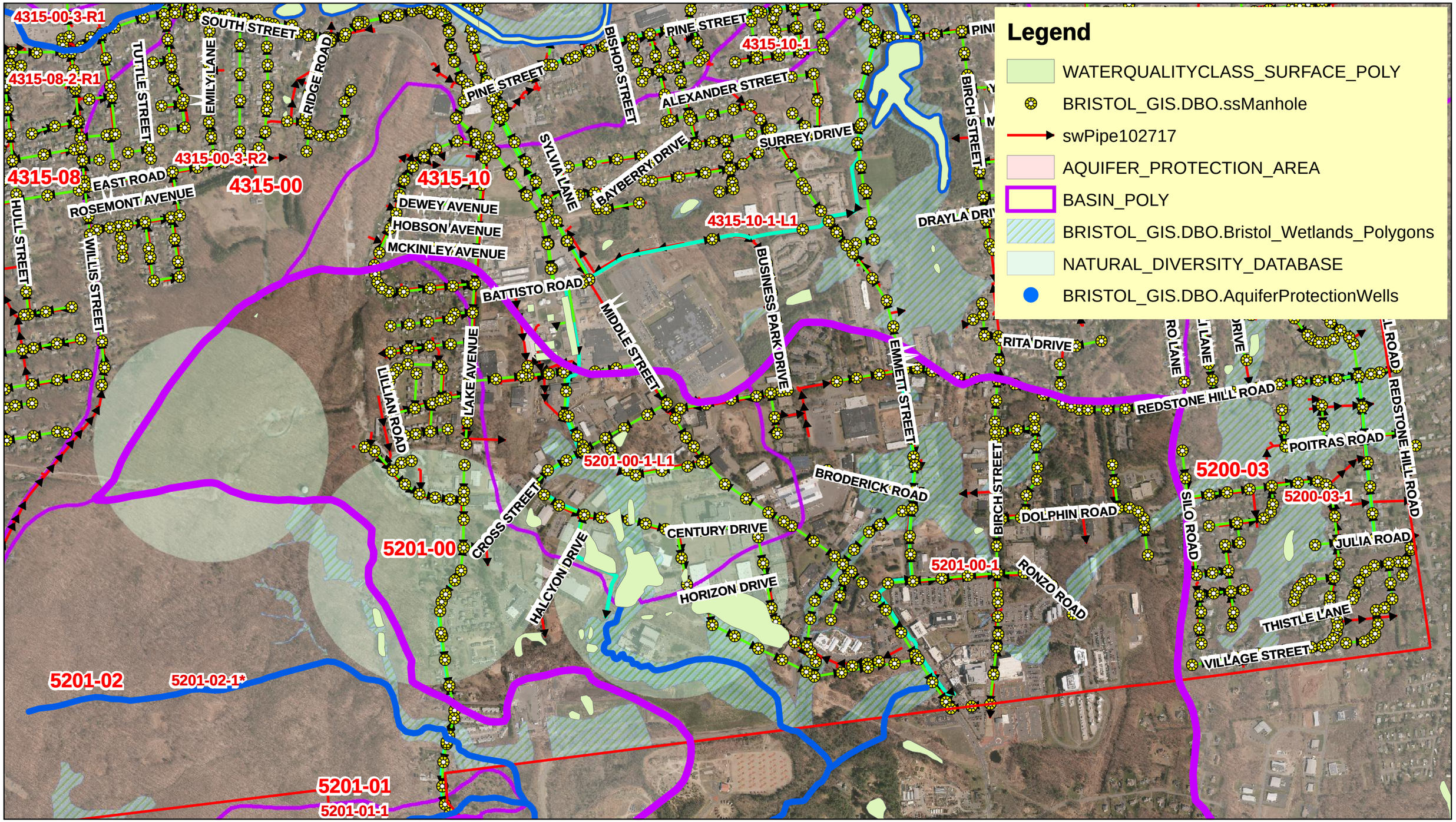
- WATERQUALITYCLASS_SURFACE_POLY
- BRISTOL_GIS.DBO.ssManhole
- swPipe102717
- AQUIFER_PROTECTION_AREA
- BASIN_POLY
- BRISTOL_GIS.DBO.Bristol_Wetlands_Polygons
- NATURAL_DIVERSITY_DATABASE
- BRISTOL_GIS.DBO.AquiferProtectionWells

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 5201-00 BRISTOL , CT
Sub Basin 5201-00-1
Sub Basin 5201-00-1-L1



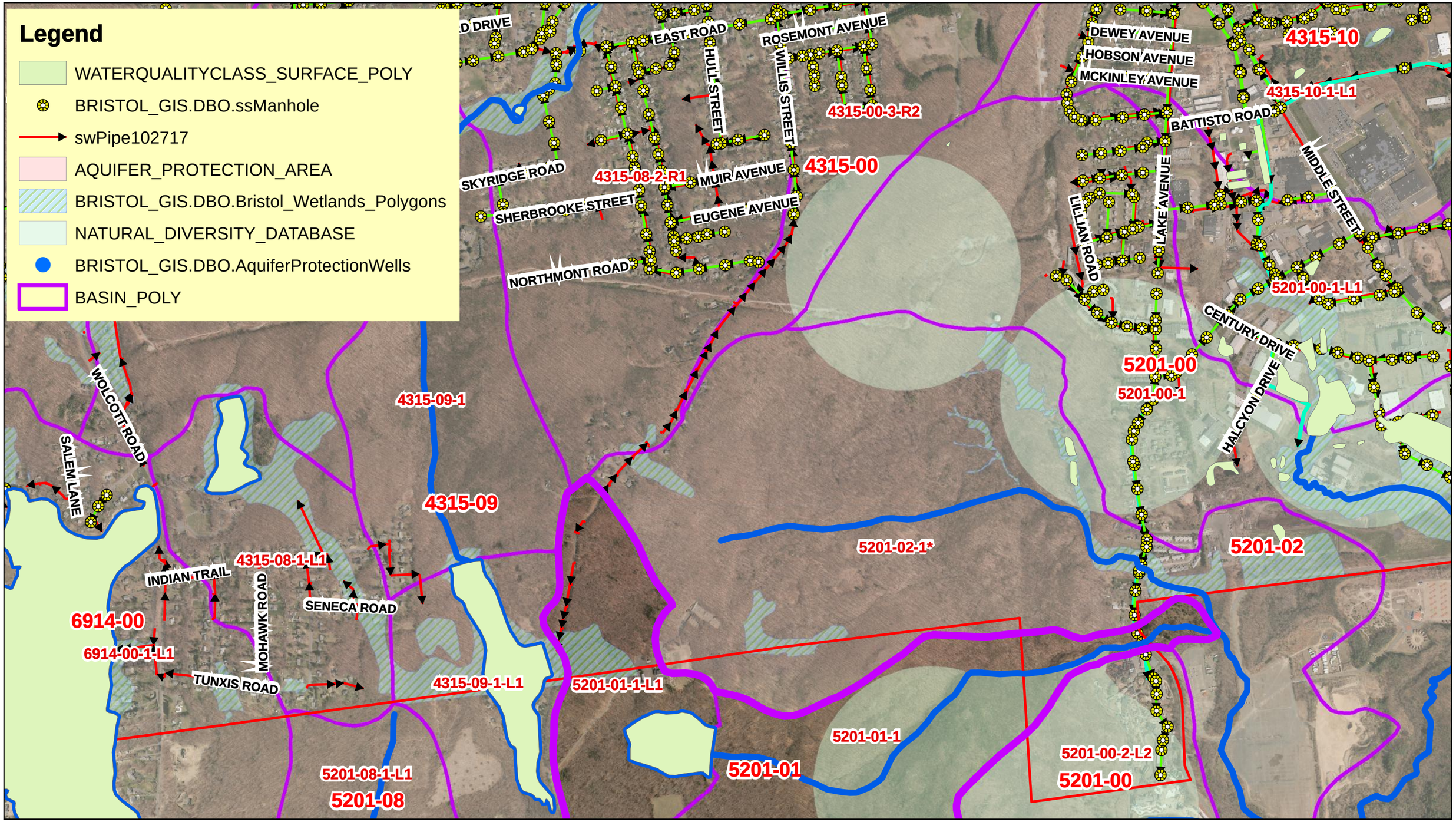
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 5201-01 BRISTOL , CT
Sub Basin 5201-01-1-L1



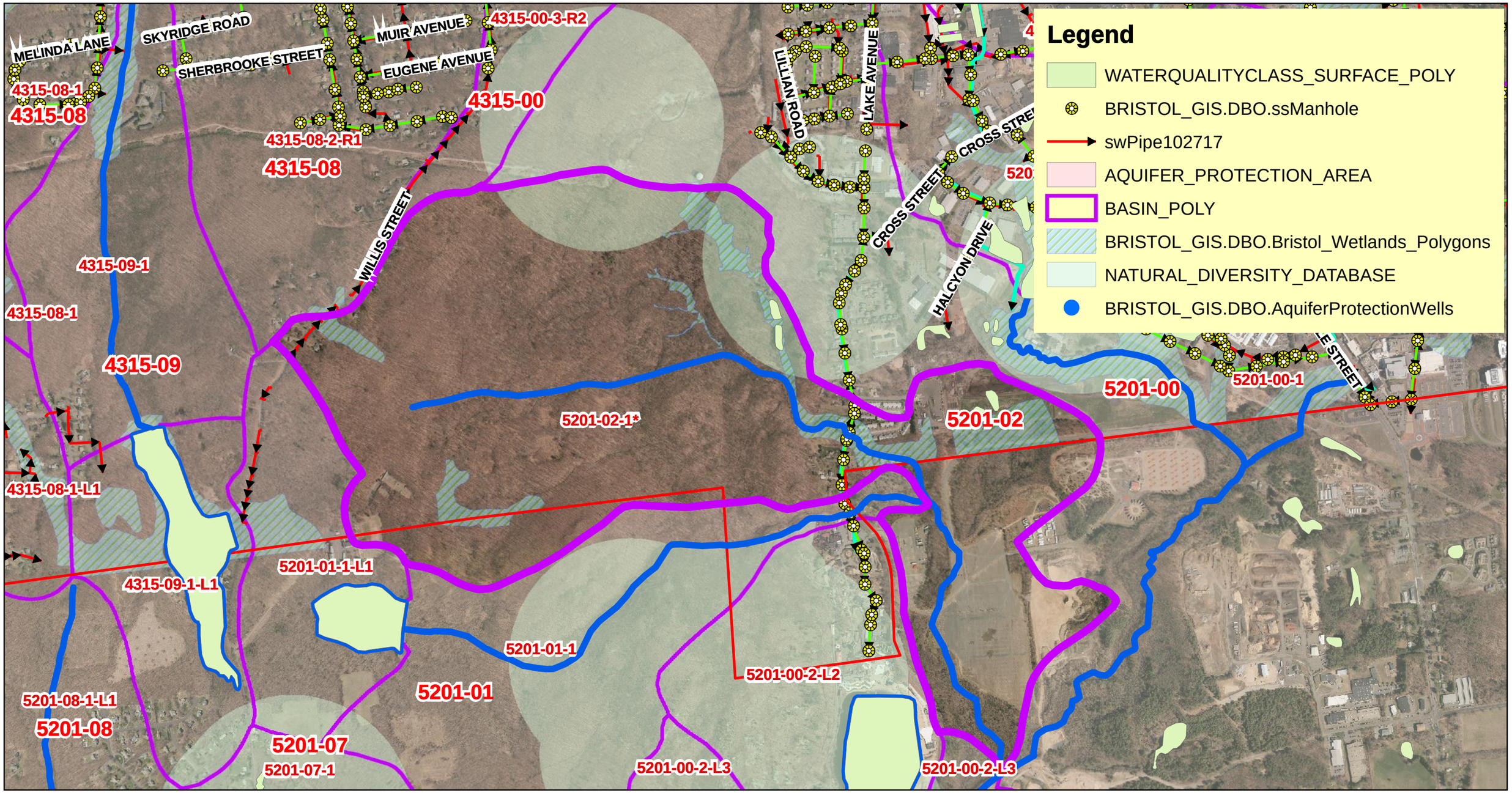
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 5201-02 BRISTOL , CT
Sub Basin 5201-02-1



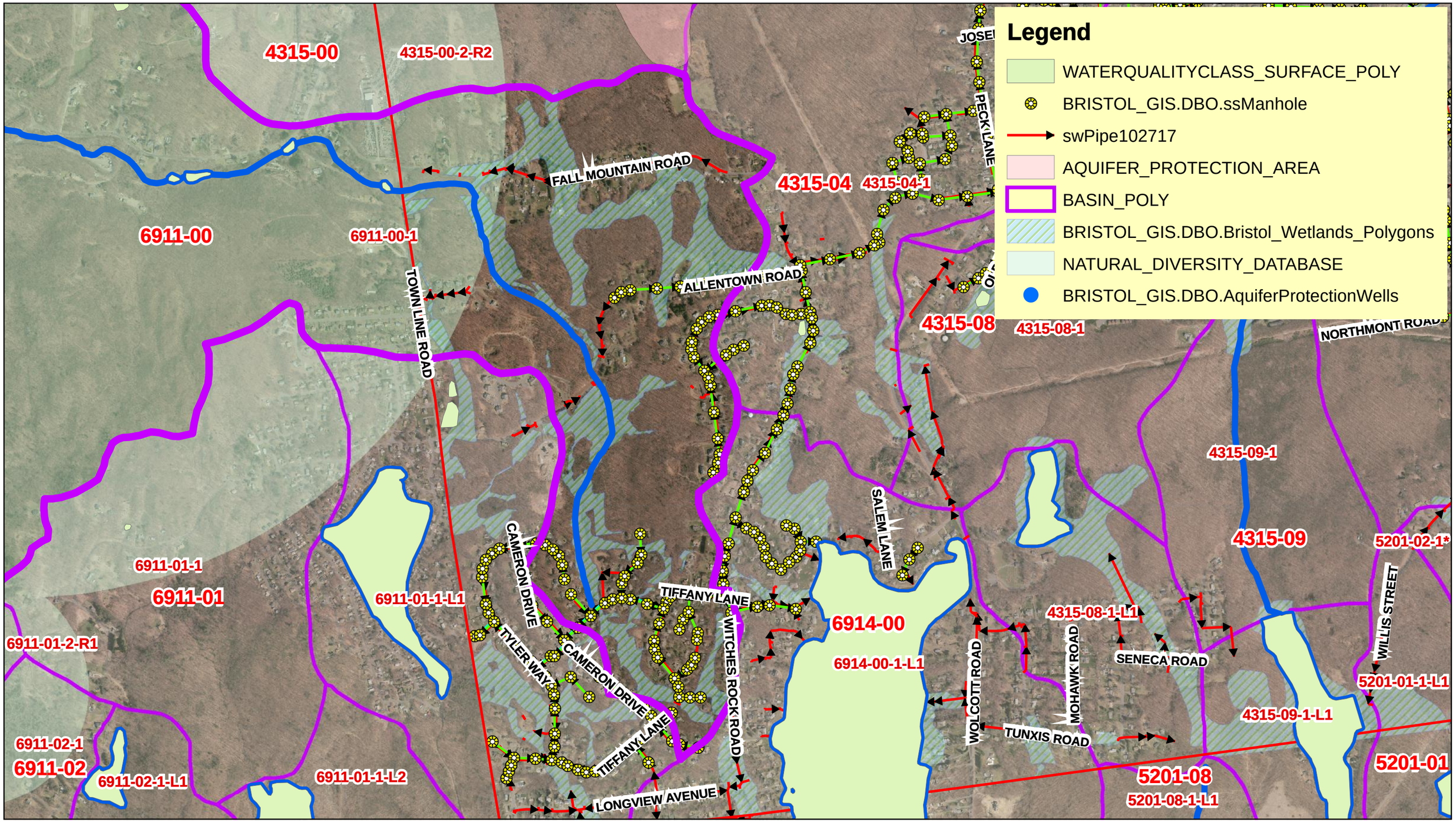
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 6911-00 BRISTOL , CT
Sub Basin 6911-00-1



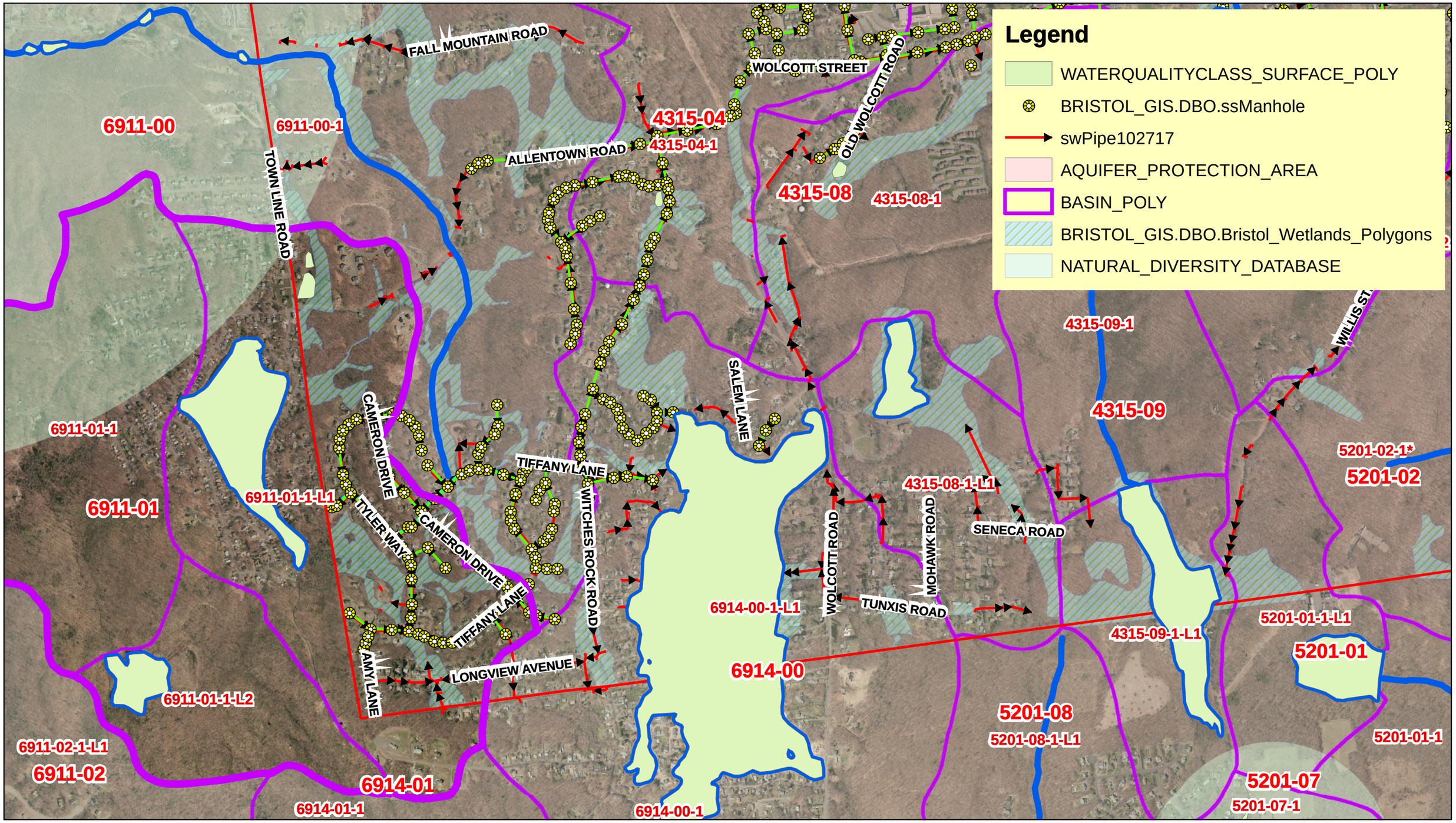
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 6911-01 BRISTOL , CT
Sub Basin 6911-01-1-L1



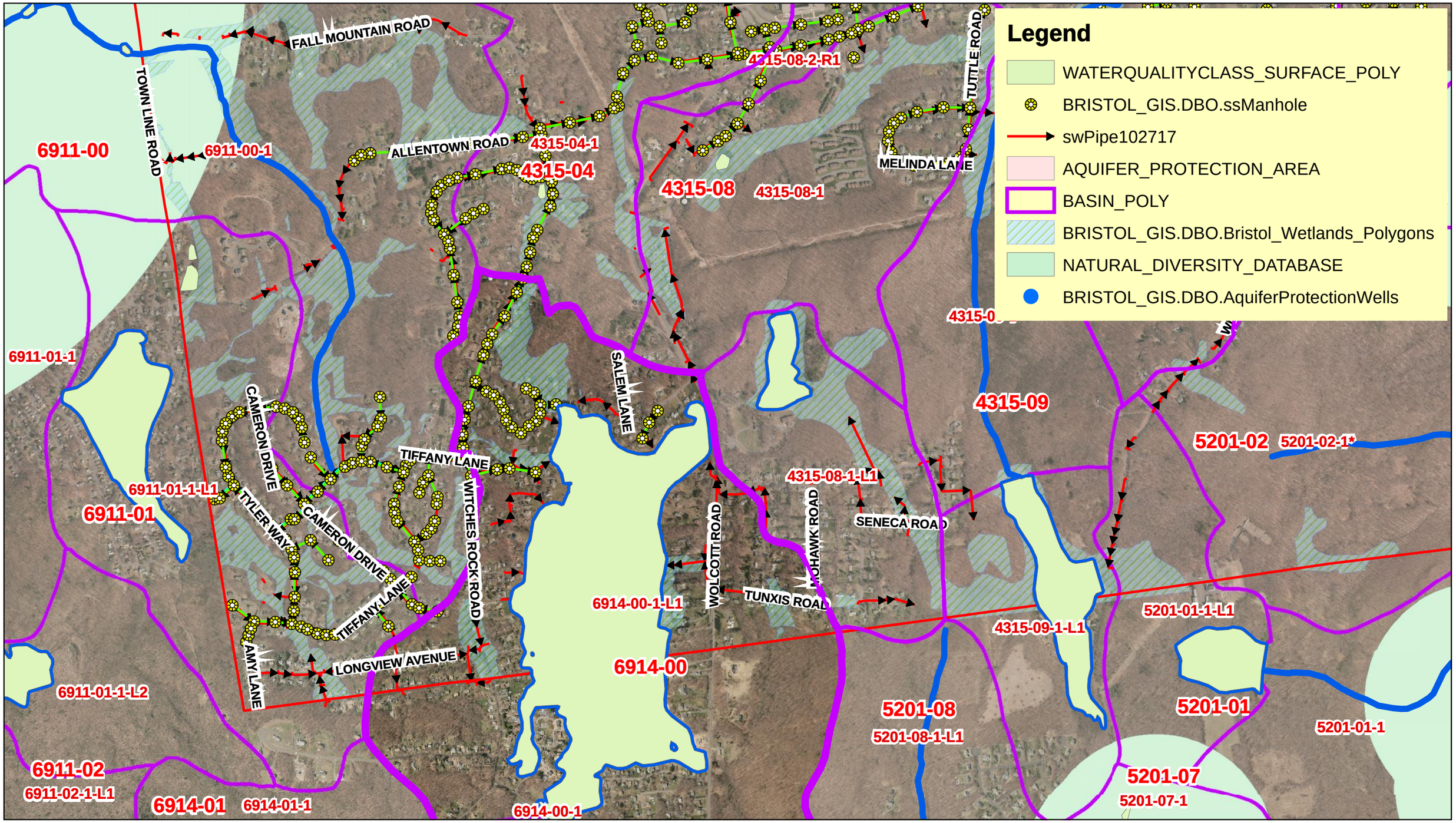
SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017

N

0 500 1,000 2,000 3,000 4,000 Feet

1 inch = 1,000 feet

BASIN 6914-00 BRISTOL , CT
Sub Basin 6914-00-1-L1



SOURCE: BRISTOL GIS, 2016 AERIAL, PRINTED 12-27-2017