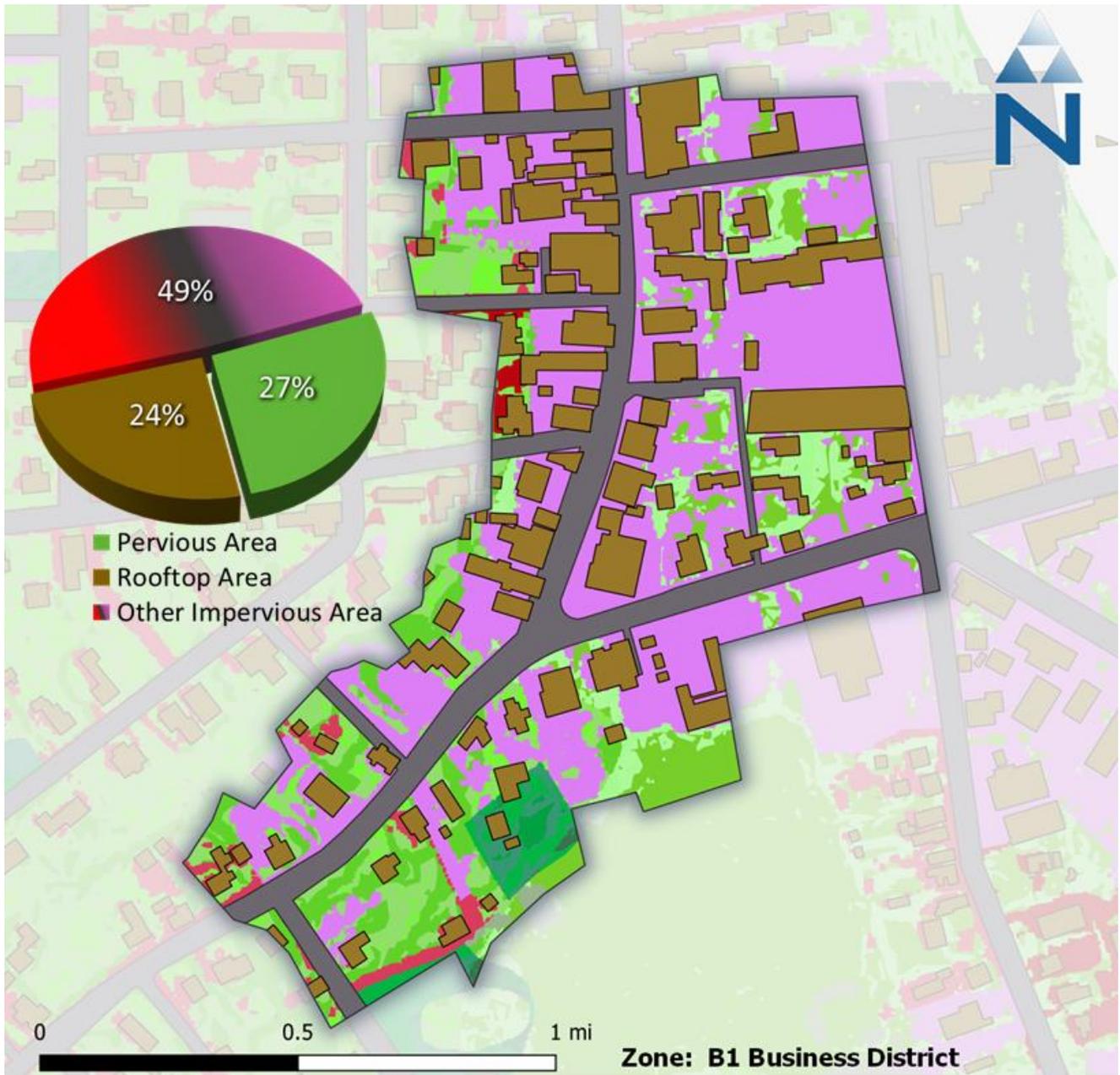


APPENDIX-K: TISBURY GI IMPLEMENTATION STRATEGIES BY
ZONING DISTRICT

B1 Business District

Figure K-1 presents the HRUs for the B1 Business District zone. Impervious surfaces make up a high proportion of the area, with 73% of the land consisting of rooftops and other impervious surfaces. The zone has relatively limited opportunities for GI SCM implementation (Figure K-2). A 0.4-inch design criteria achieved a 78% reduction in flow volume and a 92% reduction in TN loading (Figure K-3). The TN reductions were achieved at a cost of \$325,037. Table K-1 presents the implementation solution for capturing 0.4 inches, including SCM storage capacity, cost, and volume and TN removal by land use.

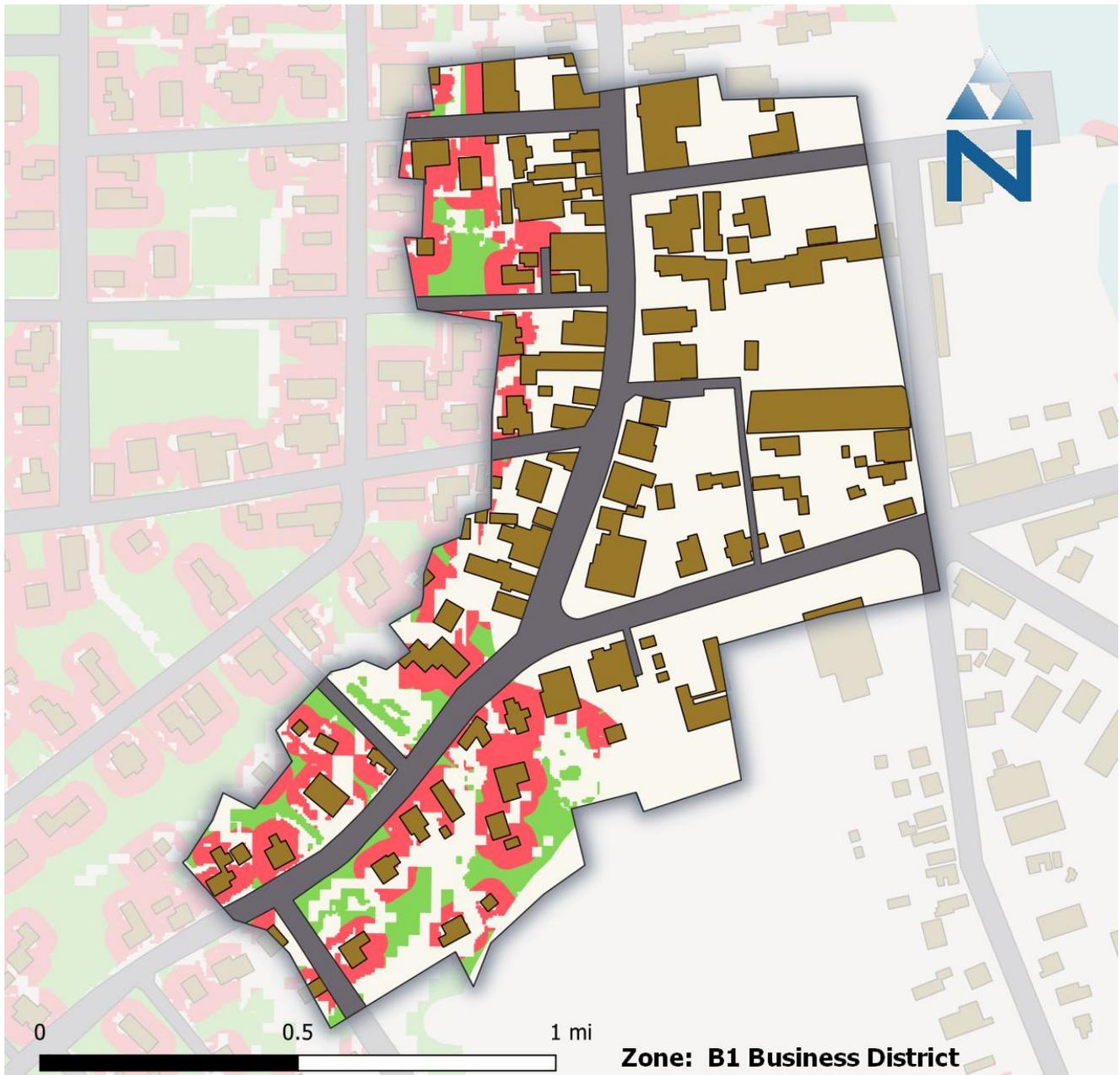


Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ Agriculture Pervious_A_High ■ Agriculture Pervious_A_Low ■ Agriculture Pervious_A_Medium ■ Agriculture Pervious_B_High ■ Agriculture Pervious_B_Low ■ Agriculture Pervious_B_Medium ■ Agriculture_IMP ■ Developed Pervious_A_High ■ Developed Pervious_A_Low ■ Developed Pervious_A_Medium ■ Developed Pervious_B_High ■ Developed Pervious_B_Low ■ Developed Pervious_B_Medium ■ Developed Pervious_C_High ■ Developed Pervious_C_Low ■ Developed Pervious_C_Medium ■ Developed Pervious_D_High | <ul style="list-style-type: none"> ■ Developed Pervious_D_Low ■ Developed Pervious_D_Medium ■ Forest Pervious_A_High ■ Forest Pervious_A_Low ■ Forest Pervious_A_Medium ■ Forest Pervious_B_High ■ Forest Pervious_B_Low ■ Forest Pervious_B_Medium ■ Forest_IMP ■ Open Land_IMP ■ Commercial_IMP ■ Low Density Residential_IMP ■ Medium Density Residential_IMP ■ High Density Residential_IMP ■ Highway_IMP ■ Industrial_IMP ■ Water |
|--|---|



Figure K-1. HRU distribution in the B1 Business District Zone of Tisbury, MA.



Legend

-  Roads
-  Rooftops
- GI SCM opportunity
-  Infiltration
-  Rooftop disconnection

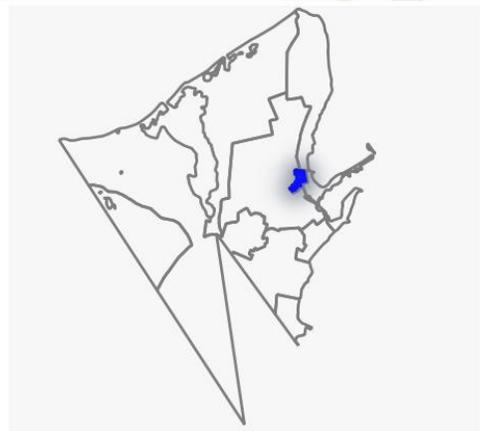


Figure K-2. GI SCM opportunities in the B1 Business District Zone of Tisbury, MA.

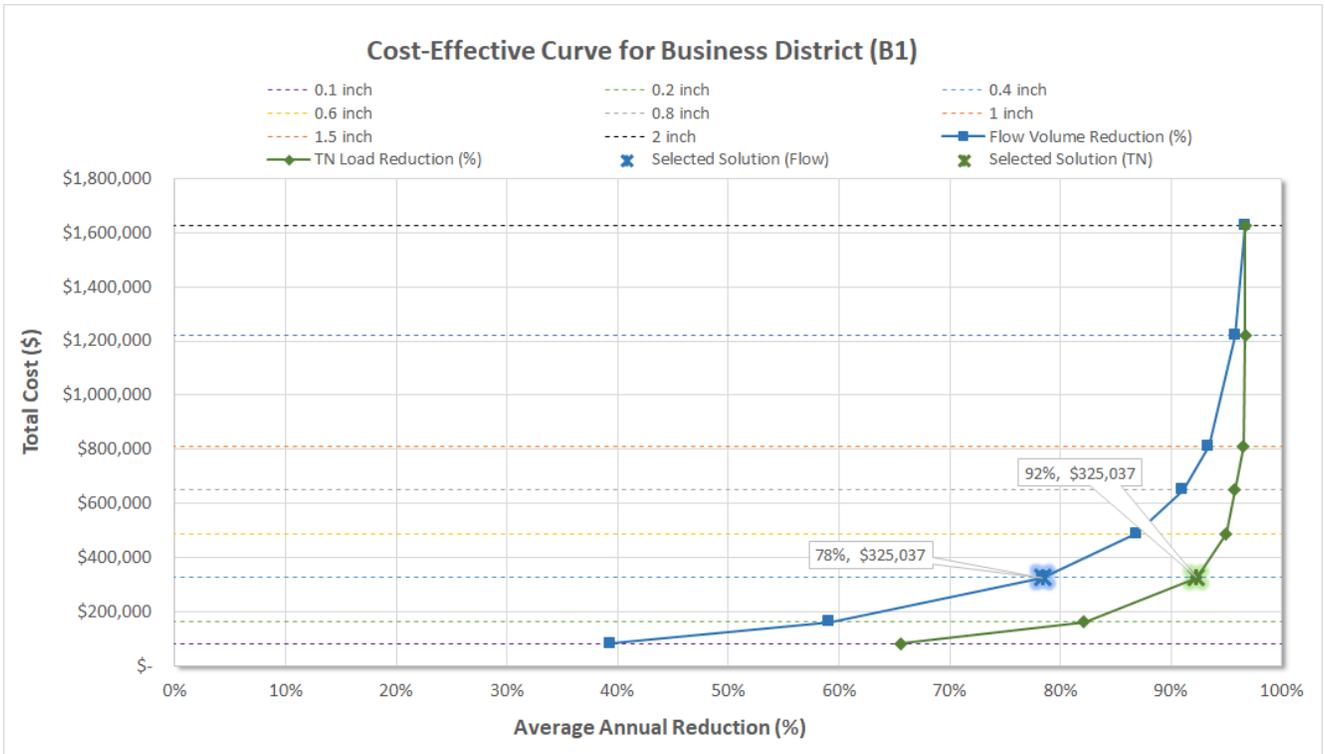


Figure K-3. Cost effectiveness curves for incremental sizing of GI SCM opportunities in the B1 Business District Zone of Tisbury, MA.

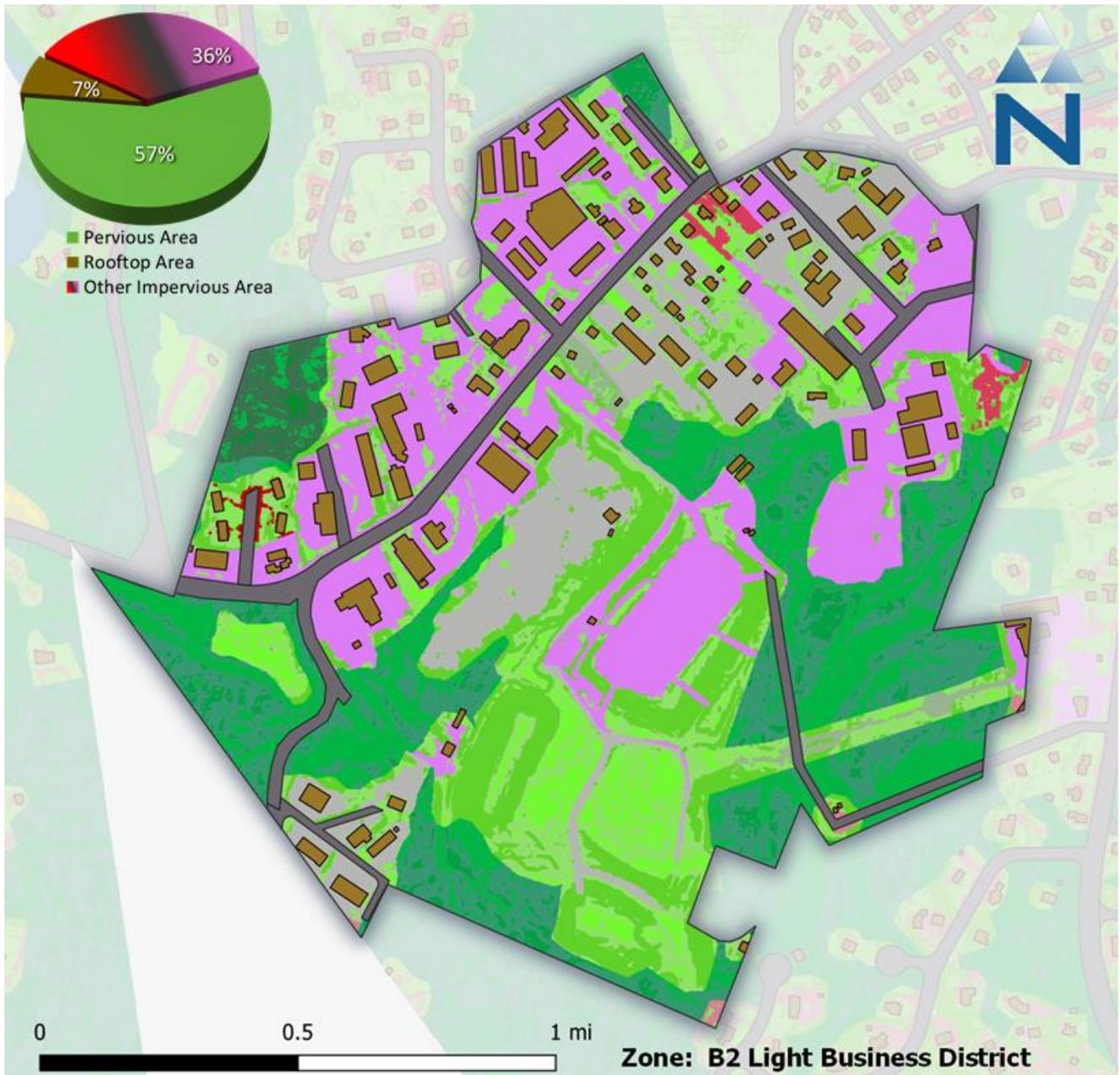
Table K-1. Infiltration GI SCM Solution (0.4 inches) for the B1 Business District of Tisbury, MA

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Business District (B1) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Forest	Infiltration Trench (Rooftop disconnected)	A	0.045	484	42,064	0.350	\$1,616
		B	-	-	-	-	-
		C	0.004	42	2,681	0.028	\$140
	Infiltration Basin (Other IC disconnected)	A	0.053	571	50,004	0.417	\$952
		B	-	-	-	-	-
		C	0.005	49	3,039	0.034	\$82
Agriculture	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Commercial	Infiltration Trench (Rooftop disconnected)	A	1.957	21,257	1,846,809	22.161	\$70,986
		B	-	-	-	-	-
		C	2.087	22,666	1,450,334	22.184	\$75,690
	Infiltration Basin (Other IC disconnected)	A	4.036	43,838	3,841,518	46.169	\$73,136
		B	-	-	-	-	-
		C	4.304	46,744	2,876,950	45.748	\$77,984
Industrial	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Low Density Residential	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Medium Density Residential	Infiltration Trench (Rooftop disconnected)	A	0.254	2,762	239,945	2.649	\$9,222
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.504	5,470	479,331	5.300	\$9,126
		B	-	-	-	-	-
		C	-	-	-	-	-
High Density Residential	Infiltration Trench (Rooftop disconnected)	A	0.097	1,058	91,935	1.015	\$3,534
		B	-	-	-	-	-
		C	0.001	7	470	0.007	\$24
	Infiltration Basin (Other IC disconnected)	A	0.098	1,064	93,196	1.030	\$1,774
		B	-	-	-	-	-
		C	0.001	7	455	0.007	\$12

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Business District (B1) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Highway	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Open Land	Infiltration Trench (Rooftop disconnected)	A	0.000	0	10	0.000	\$0
		B	-	-	-	-	-
		C	0.000	3	165	0.002	\$8
	Infiltration Basin (Other IC disconnected)	A	0.002	19	1,652	0.014	\$32
		B	-	-	-	-	-
		C	0.040	429	26,427	0.291	\$716
Total	Infiltration Trench (Rooftop disconnected)	A	2.353	25,562	2,220,763	26.175	\$85,358
		B	-	-	-	-	-
		C	2.092	22,718	1,453,649	22.220	\$75,864
	Infiltration Basin (Other IC disconnected)	A	4.692	50,961	4,465,702	52.930	\$85,020
		B	-	-	-	-	-
		C	4.348	47,230	2,906,870	46.080	\$78,796

B2 Light Business District

Figure K-4 presents the HRUs for the B1 Business District zone. The majority of land in the district is pervious surfaces, with 43% of the land consisting of rooftops and other impervious surfaces. Figure K-5 presents the GI SCM opportunities for the area. A 0.4-inch design criteria achieved a 91% reduction in flow volume and a 96% reduction in TN loading (Figure K-6). The reductions were achieved at a cost of \$1,130,554. Table K-2 presents the implementation solution for capturing 0.4 inches, including SCM storage capacity, cost, and volume and TN removal by land use.

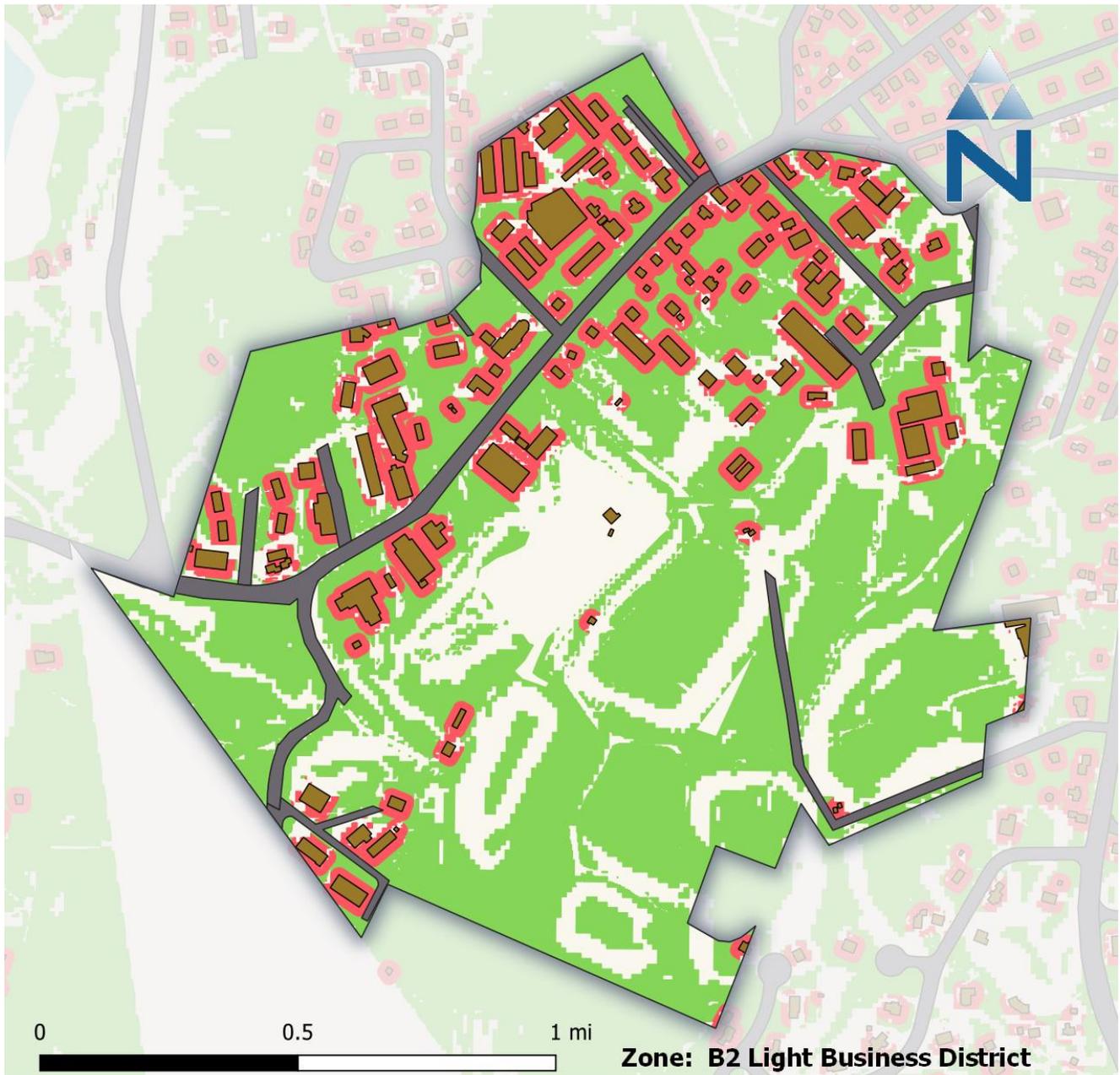


Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ Agriculture Pervious_A_High ■ Agriculture Pervious_A_Low ■ Agriculture Pervious_A_Medium ■ Agriculture Pervious_B_High ■ Agriculture Pervious_B_Low ■ Agriculture Pervious_B_Medium ■ Agriculture_IMP ■ Developed Pervious_A_High ■ Developed Pervious_A_Low ■ Developed Pervious_A_Medium ■ Developed Pervious_B_High ■ Developed Pervious_B_Low ■ Developed Pervious_B_Medium ■ Developed Pervious_C_High ■ Developed Pervious_C_Low ■ Developed Pervious_C_Medium ■ Developed Pervious_D_High | <ul style="list-style-type: none"> ■ Developed Pervious_D_Low ■ Developed Pervious_D_Medium ■ Forest Pervious_A_High ■ Forest Pervious_A_Low ■ Forest Pervious_A_Medium ■ Forest Pervious_B_High ■ Forest Pervious_B_Low ■ Forest Pervious_B_Medium ■ Forest_IMP ■ Open Land_IMP ■ Commercial_IMP ■ Low Density Residential_IMP ■ Medium Density Residential_IMP ■ High Density Residential_IMP ■ Highway_IMP ■ Industrial_IMP ■ Water |
|--|---|



Figure K-4. HRU distribution in the B2 Light Business District Zone of Tisbury, MA.



Legend

-  Roads
-  Rooftops
- GI SCM opportunity
-  Infiltration
-  Rooftop disconnection



Figure K-5. GI SCM opportunities in the B2 Light Business District Zone of Tisbury, MA.

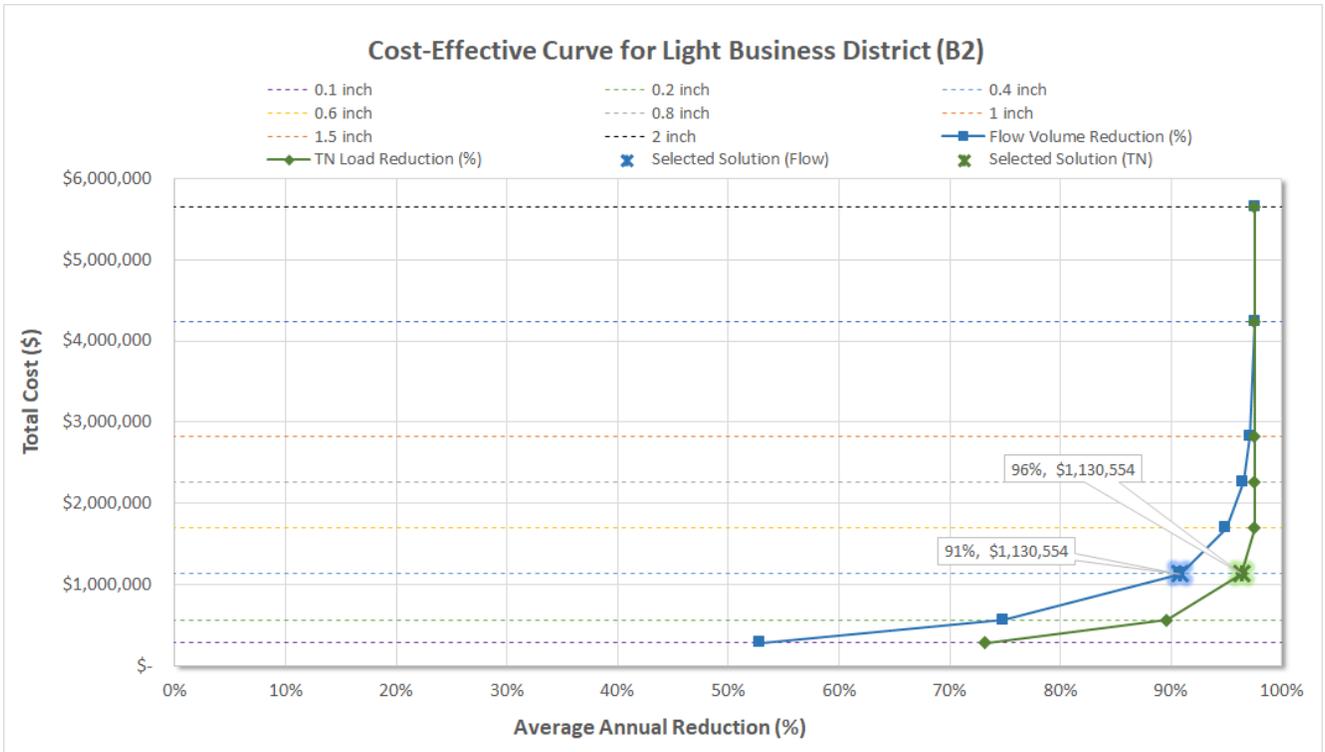


Figure K-6. Cost effectiveness curves for incremental sizing of GI SCM opportunities in the B2 Light Business District Zone of Tisbury, MA.

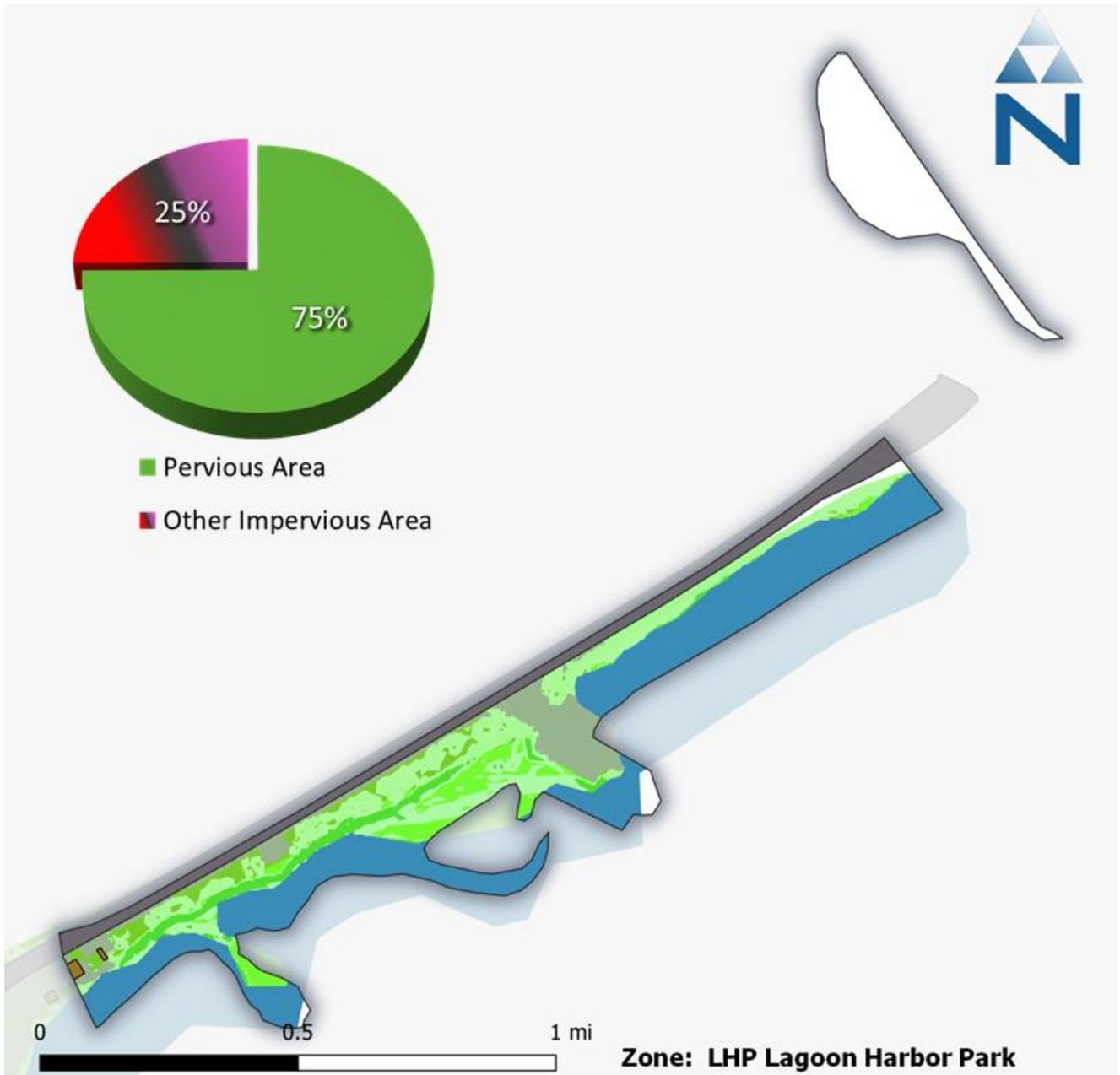
Table K-2. Infiltration GI SCM Solution (0.4 inches) for the B1 Business District of Tisbury, MA

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Light Business District (B2) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Forest	Infiltration Trench (Rooftop disconnected)	A	0.066	720	62,586	0.521	\$2,406
		B	0.005	55	4,062	0.039	\$184
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	1.980	21,509	1,884,859	15.712	\$35,884
		B	0.152	1,651	120,495	1.157	\$2,754
		C	-	-	-	-	-
Agriculture	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Commercial	Infiltration Trench (Rooftop disconnected)	A	6.020	65,385	5,680,607	68.166	\$218,344
		B	0.097	1,054	77,447	1.065	\$3,520
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	27.418	297,812	26,097,210	313.647	\$496,850
		B	0.442	4,802	350,501	4.853	\$8,012
		C	-	-	-	-	-
Industrial	Infiltration Trench (Rooftop disconnected)	A	2.188	23,769	2,065,064	24.780	\$79,374
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	12.662	137,528	12,051,494	144.840	\$229,442
		B	-	-	-	-	-
		C	-	-	-	-	-
Low Density Residential	Infiltration Trench (Rooftop disconnected)	A	0.030	327	28,448	0.314	\$1,094
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.228	2,472	216,616	2.395	\$4,124
		B	-	-	-	-	-
		C	-	-	-	-	-
Medium Density Residential	Infiltration Trench (Rooftop disconnected)	A	0.109	1,181	102,600	1.133	\$3,944
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.740	8,036	704,180	7.786	\$13,406
		B	-	-	-	-	-
		C	-	-	-	-	-
High Density Residential	Infiltration Trench (Rooftop disconnected)	A	0.163	1,766	153,434	1.694	\$5,898
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.316	3,433	300,817	3.326	\$5,728
		B	-	-	-	-	-
		C	-	-	-	-	-

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Light Business District (B2) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Highway	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Open Land	Infiltration Trench (Rooftop disconnected)	A	0.044	475	41,273	0.344	\$1,586
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.994	10,792	945,727	7.884	\$18,006
		B	-	-	-	-	-
		C	-	-	-	-	-
Total	Infiltration Trench (Rooftop disconnected)	A	8.620	93,625	8,134,013	96.952	\$312,644
		B	0.102	1,110	81,509	1.104	\$3,706
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	44.337	481,582	42,200,903	495.591	\$803,440
		B	0.594	6,453	470,995	6.010	\$10,766
		C	-	-	-	-	-

LHP Lagoon Harbor Park

Figure K-7 presents the HRUs for the Lagoon Harbor Park Zone. The majority of land in the district is pervious surfaces, with 25% of the area consisting of rooftops and other impervious surfaces. The GIS analyses did not identify any opportunities for GI SCM implementation in the area (Figure K-8) due to proximity to mapped wetlands, these areas present regulatory and physical barriers that limit the feasibility of infiltration-based opportunities. Given the lack of GI SCM implementation in the Lagoon Harbor Park zone, no cost effectiveness curves were generated. The analysis was based on a desktop review of geospatial data, on-the-ground field assessment may help identify opportunities missed in this assessment.

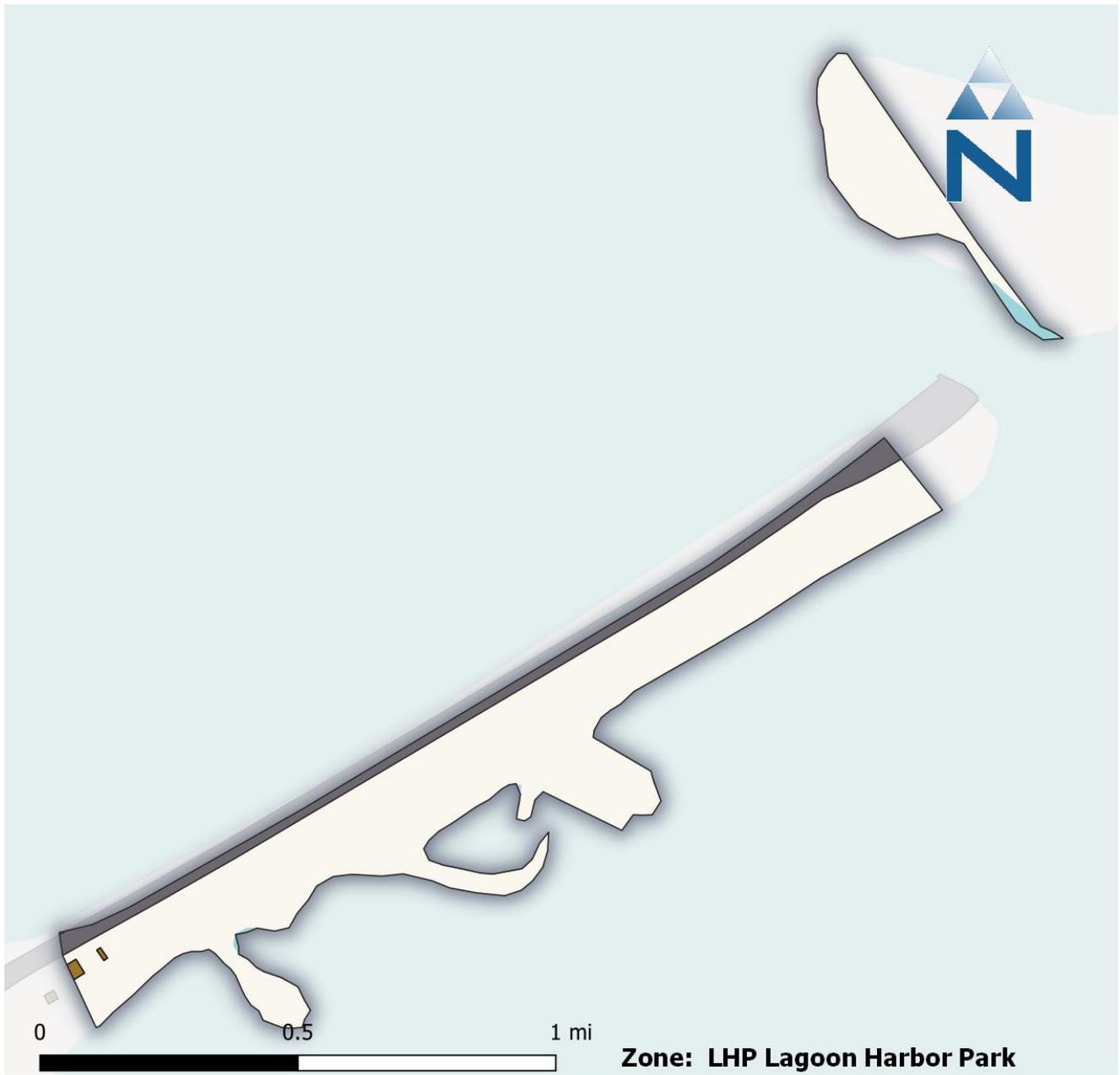


Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ Agriculture Pervious_A_High ■ Agriculture Pervious_A_Low ■ Agriculture Pervious_A_Medium ■ Agriculture Pervious_B_High ■ Agriculture Pervious_B_Low ■ Agriculture Pervious_B_Medium ■ Agriculture_IMP ■ Developed Pervious_A_High ■ Developed Pervious_A_Low ■ Developed Pervious_A_Medium ■ Developed Pervious_B_High ■ Developed Pervious_B_Low ■ Developed Pervious_B_Medium ■ Developed Pervious_C_High ■ Developed Pervious_C_Low ■ Developed Pervious_C_Medium ■ Developed Pervious_D_High | <ul style="list-style-type: none"> ■ Developed Pervious_D_Low ■ Developed Pervious_D_Medium ■ Forest Pervious_A_High ■ Forest Pervious_A_Low ■ Forest Pervious_A_Medium ■ Forest Pervious_B_High ■ Forest Pervious_B_Low ■ Forest Pervious_B_Medium ■ Forest_IMP ■ Open Land_IMP ■ Commercial_IMP ■ Low Density Residential_IMP ■ Medium Density Residential_IMP ■ High Density Residential_IMP ■ Highway_IMP ■ Industrial_IMP ■ Water |
|--|---|



Figure K-7. HRU distribution in the Lagoon Harbor Park Zone of Tisbury, MA.



Legend

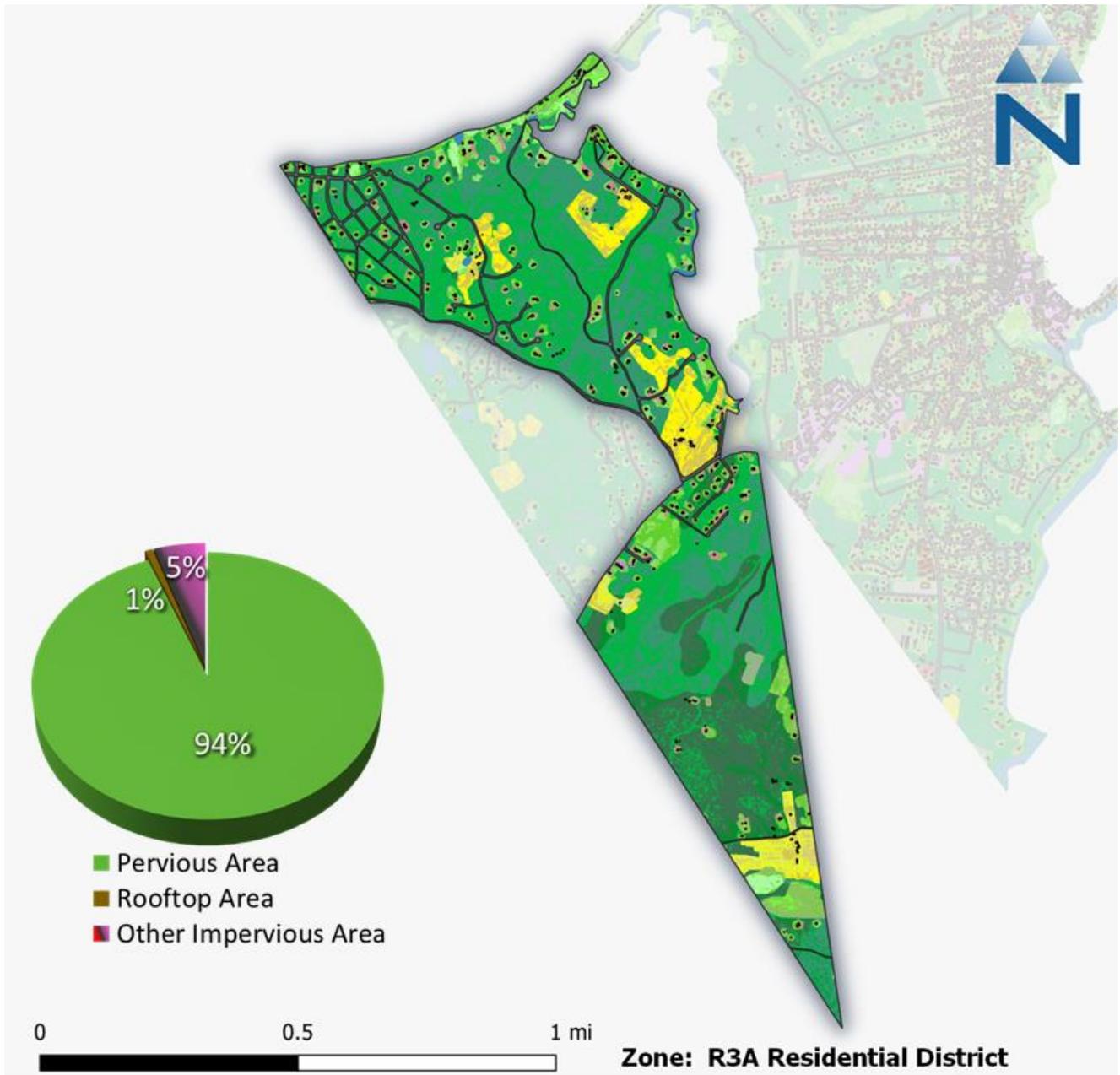
- Roads
- Rooftops
- GI SCM opportunity
- Infiltration
- Rooftop disconnection



Figure K-8. GI SCM opportunities in the Lagoon Harbor Park Zone of Tisbury, MA.

R3A Residential District

Figure K-9 presents the HRUs for the R3A Residential District Zone. The majority of land in the district is pervious surfaces, with only 6% of the area consisting of rooftops and other impervious surfaces. Figure K-10 presents the GI SCM opportunities in the area. A 0.4-inch design criteria achieved a 57% reduction in flow volume and a 54% reduction in TN loading (Figure K-11). The reductions were achieved at a cost of \$1,608,886. Interestingly, the TN and flow curves cross each other at a relatively small design interval (approximately 0.3 inches). The graph suggests that managing TN in the R3A residential zone through GI SCM implementation to treat impervious surfaces becomes exceedingly expensive with little improvement to load reductions. This is likely because the zone is dominated by pervious surfaces, including agriculture, the TN loading from which is not treated in this analysis by the GIS SCM opportunities. Table K-3 presents the implementation solution for capturing 0.4 inches, including SCM storage capacity, cost, and volume and TN removal by land use.



Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ Agriculture Pervious_A_High ■ Agriculture Pervious_A_Low ■ Agriculture Pervious_A_Medium ■ Agriculture Pervious_B_High ■ Agriculture Pervious_B_Low ■ Agriculture Pervious_B_Medium ■ Agriculture_IMP ■ Developed Pervious_A_High ■ Developed Pervious_A_Low ■ Developed Pervious_A_Medium ■ Developed Pervious_B_High ■ Developed Pervious_B_Low ■ Developed Pervious_B_Medium ■ Developed Pervious_C_High ■ Developed Pervious_C_Low ■ Developed Pervious_C_Medium ■ Developed Pervious_D_High | <ul style="list-style-type: none"> ■ Developed Pervious_D_Low ■ Developed Pervious_D_Medium ■ Forest Pervious_A_High ■ Forest Pervious_A_Low ■ Forest Pervious_A_Medium ■ Forest Pervious_B_High ■ Forest Pervious_B_Low ■ Forest Pervious_B_Medium ■ Forest_IMP ■ Open Land_IMP ■ Commercial_IMP ■ Low Density Residential_IMP ■ Medium Density Residential_IMP ■ High Density Residential_IMP ■ Highway_IMP ■ Industrial_IMP ■ Water |
|--|---|

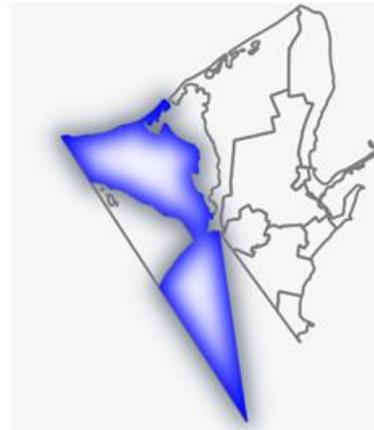
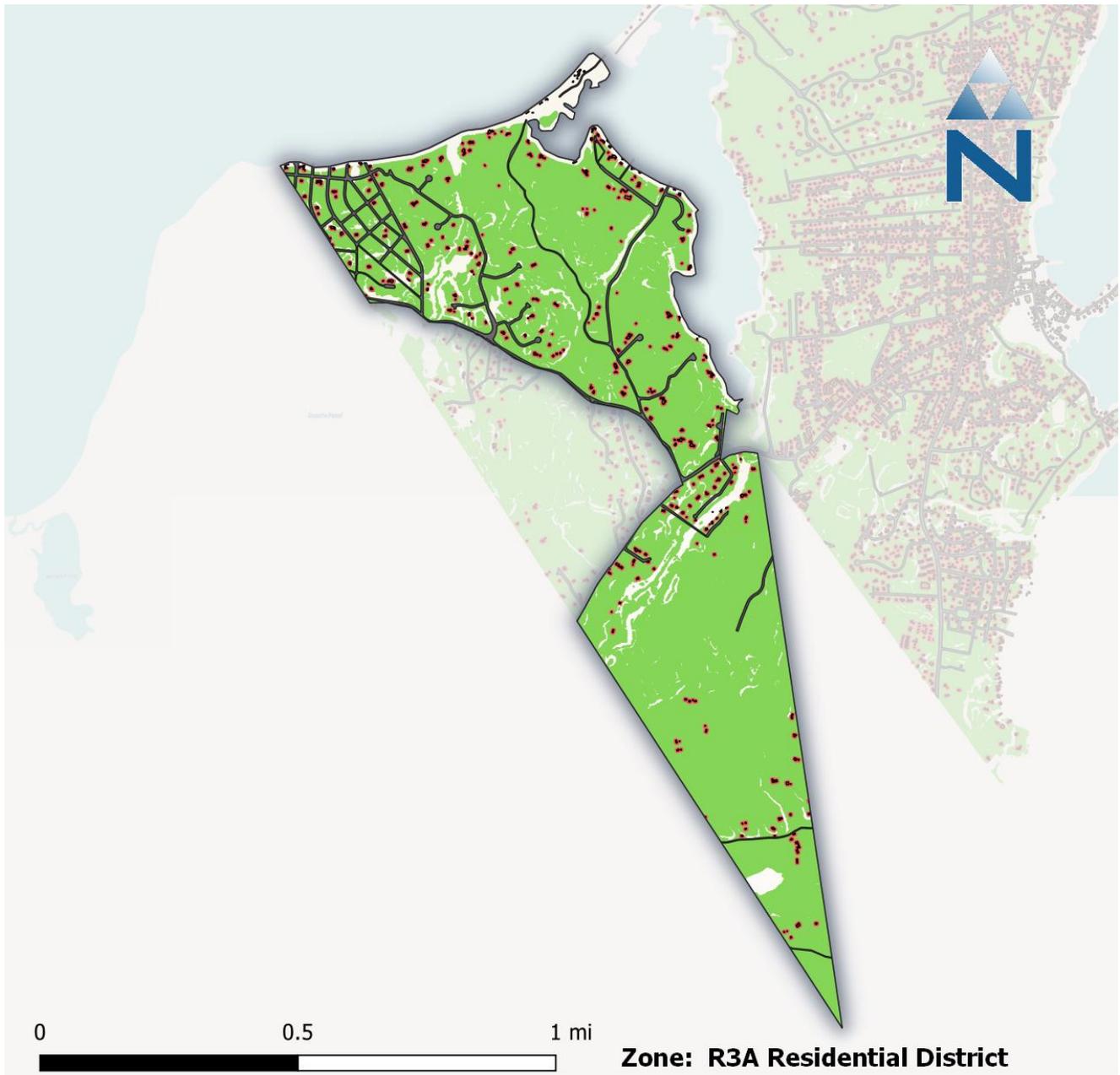


Figure K-9. HRU distribution in the R3A Residential District Zone of Tisbury, MA.



Legend

-  Roads
-  Rooftops
- GI SCM opportunity
-  Infiltration
-  Rooftop disconnection

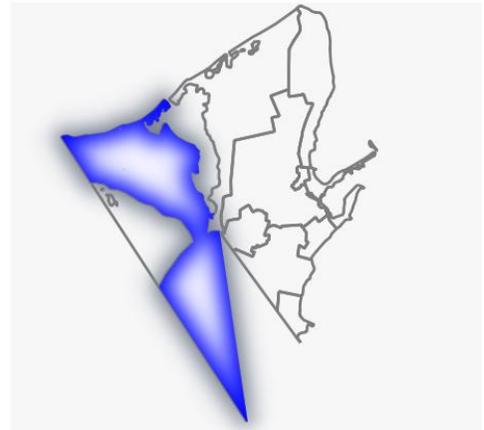


Figure K-10. GI SCM opportunities in the R3A Residential District Zone of Tisbury, MA.

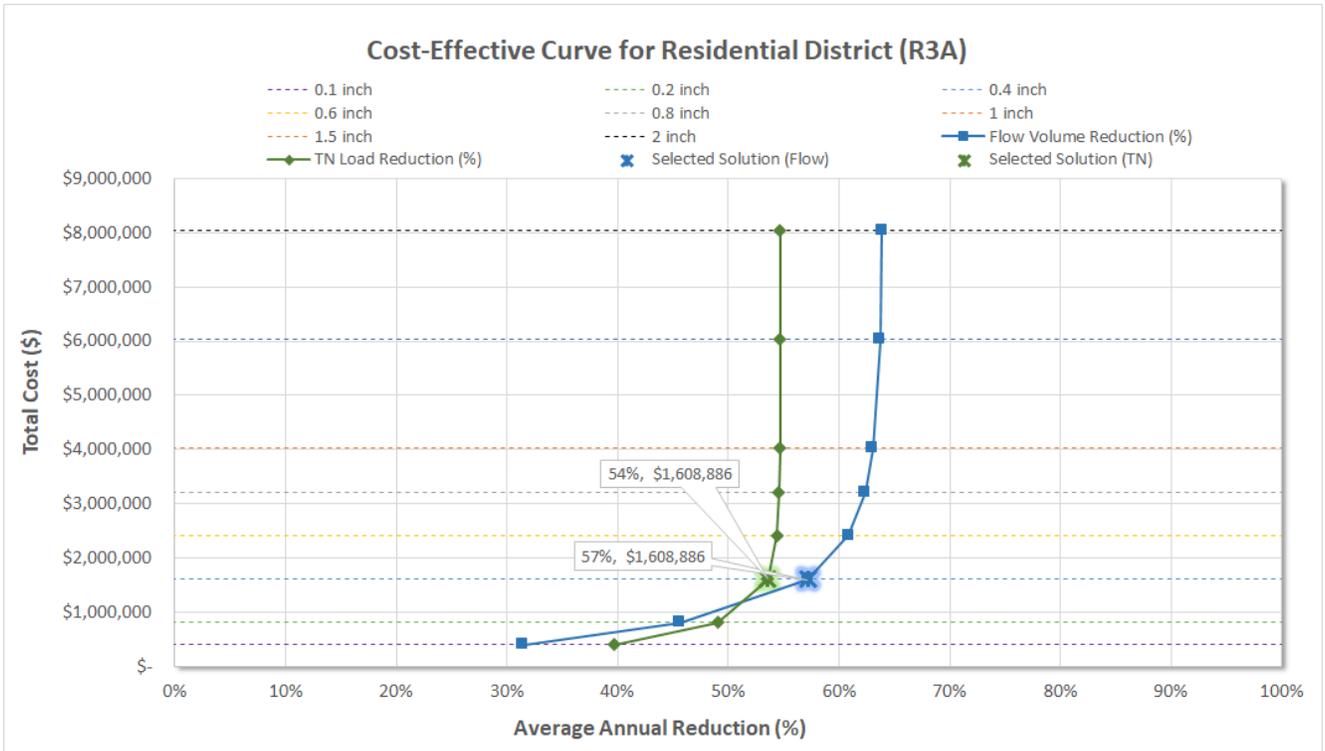


Figure K-11. Cost effectiveness curves for incremental sizing of GI SCM opportunities in the R3A Residential District Zone of Tisbury, MA.

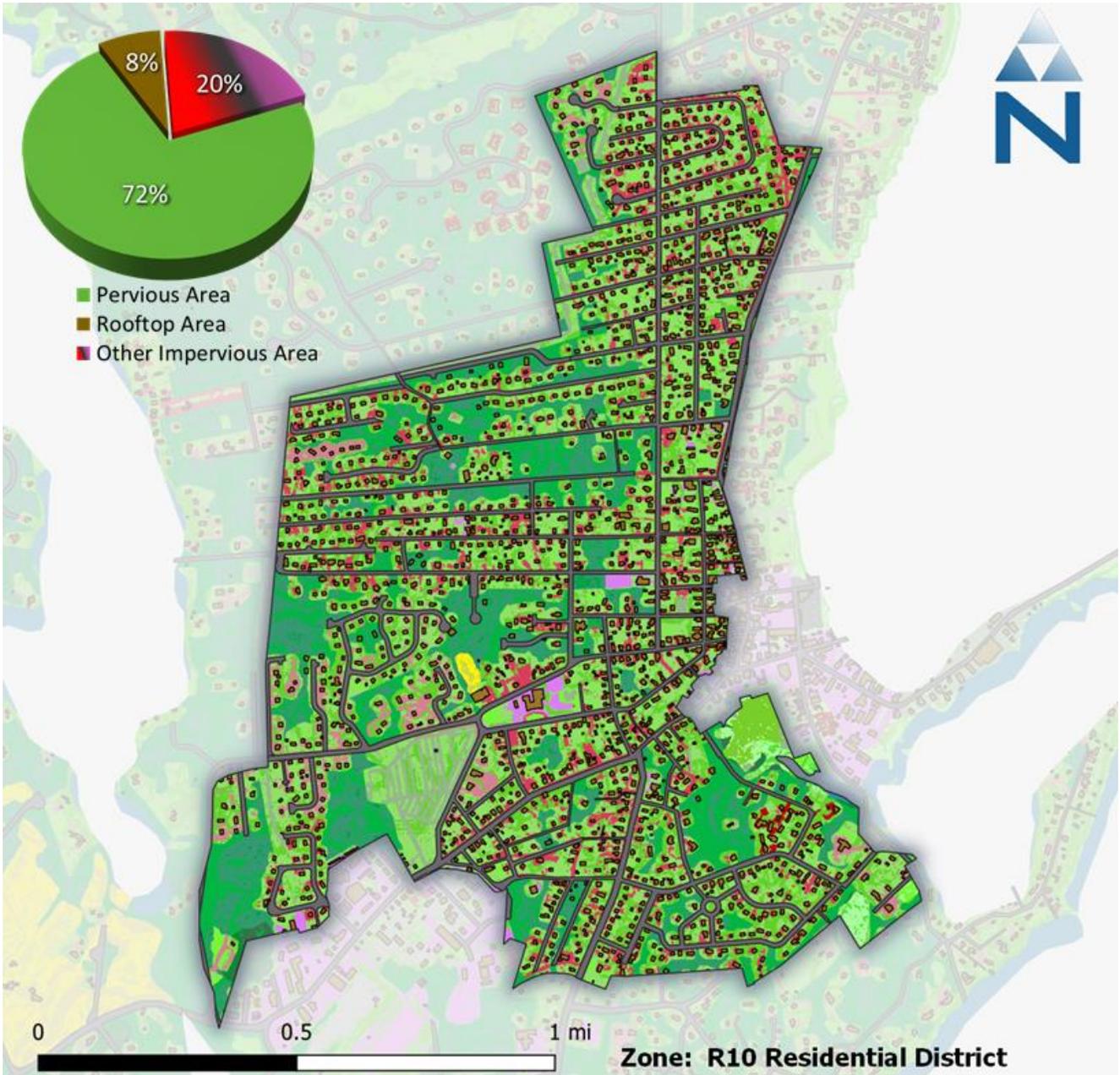
Table K-3. Infiltration GI SCM Solution (0.4 inches) for the R3A Residential District of Tisbury, MA

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Residential District (R3A) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Forest	Infiltration Trench (Rooftop disconnected)	A	0.752	8,168	709,608	5.906	\$27,274
		B	0.226	2,450	179,990	1.717	\$8,182
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	32.876	357,096	31,292,214	260.857	\$595,756
		B	9.862	107,118	7,818,943	75.088	\$178,710
		C	-	-	-	-	-
Agriculture	Infiltration Trench (Rooftop disconnected)	A	0.697	7,569	657,580	5.473	\$25,276
		B	0.241	2,622	192,633	1.838	\$8,756
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	4.343	47,170	4,133,460	34.457	\$78,694
		B	1.505	16,342	1,192,827	11.455	\$27,264
		C	-	-	-	-	-
Commercial	Infiltration Trench (Rooftop disconnected)	A	0.125	1,359	118,047	1.417	\$4,538
		B	0.031	340	24,993	0.344	\$1,136
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.360	3,911	342,716	4.119	\$6,524
		B	0.090	979	71,480	0.990	\$1,634
		C	-	-	-	-	-
Industrial	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Low Density Residential	Infiltration Trench (Rooftop disconnected)	A	6.768	73,517	6,387,061	70.511	\$245,498
		B	1.337	14,524	1,066,935	13.503	\$48,498
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	11.037	119,876	10,504,730	116.149	\$199,994
		B	2.180	23,682	1,728,636	22.019	\$39,510
		C	-	-	-	-	-
Medium Density Residential	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
High Density Residential	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Residential District (R3A) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Highway	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Open Land	Infiltration Trench (Rooftop disconnected)	A	0.115	1,251	108,673	0.905	\$4,178
		B	0.165	1,787	131,308	1.253	\$5,968
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	2.306	25,047	2,194,856	18.297	\$41,786
		B	3.295	35,791	2,612,509	25.089	\$59,712
		C	-	-	-	-	-
Total	Infiltration Trench (Rooftop disconnected)	A	8.457	91,863	7,980,969	84.212	\$306,762
		B	2.000	21,723	1,595,859	18.656	\$72,542
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	50.922	553,100	48,467,977	433.878	\$922,756
		B	16.932	183,912	13,424,395	134.640	\$306,828
		C	-	-	-	-	-

R10 Residential District

Figure K-12 presents the HRUs for the R10 Residential District Zone. The majority of land in the district is pervious surfaces, with 28% of the area consisting of rooftops and other impervious surfaces. Figure K-13 presents the GI SCM opportunities in the area. A 0.4-inch design criteria achieved an 89% reduction in flow volume and a 93% reduction in TN loading (Figure K-14). The reductions were achieved at a cost of \$4,169,444. Table K-4 presents the implementation solution for capturing 0.4 inches, including SCM storage capacity, cost, and volume and TN removal by land use.



Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ Agriculture Pervious_A_High ■ Agriculture Pervious_A_Low ■ Agriculture Pervious_A_Medium ■ Agriculture Pervious_B_High ■ Agriculture Pervious_B_Low ■ Agriculture Pervious_B_Medium ■ Agriculture_IMP ■ Developed Pervious_A_High ■ Developed Pervious_A_Low ■ Developed Pervious_A_Medium ■ Developed Pervious_B_High ■ Developed Pervious_B_Low ■ Developed Pervious_B_Medium ■ Developed Pervious_C_High ■ Developed Pervious_C_Low ■ Developed Pervious_C_Medium ■ Developed Pervious_D_High | <ul style="list-style-type: none"> ■ Developed Pervious_D_Low ■ Developed Pervious_D_Medium ■ Forest Pervious_A_High ■ Forest Pervious_A_Low ■ Forest Pervious_A_Medium ■ Forest Pervious_B_High ■ Forest Pervious_B_Low ■ Forest Pervious_B_Medium ■ Forest_IMP ■ Open Land_IMP ■ Commercial_IMP ■ Low Density Residential_IMP ■ Medium Density Residential_IMP ■ High Density Residential_IMP ■ Highway_IMP ■ Industrial_IMP ■ Water |
|--|---|

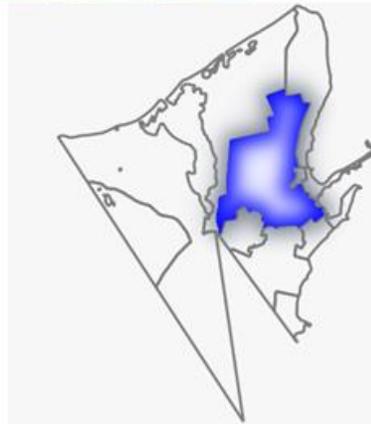
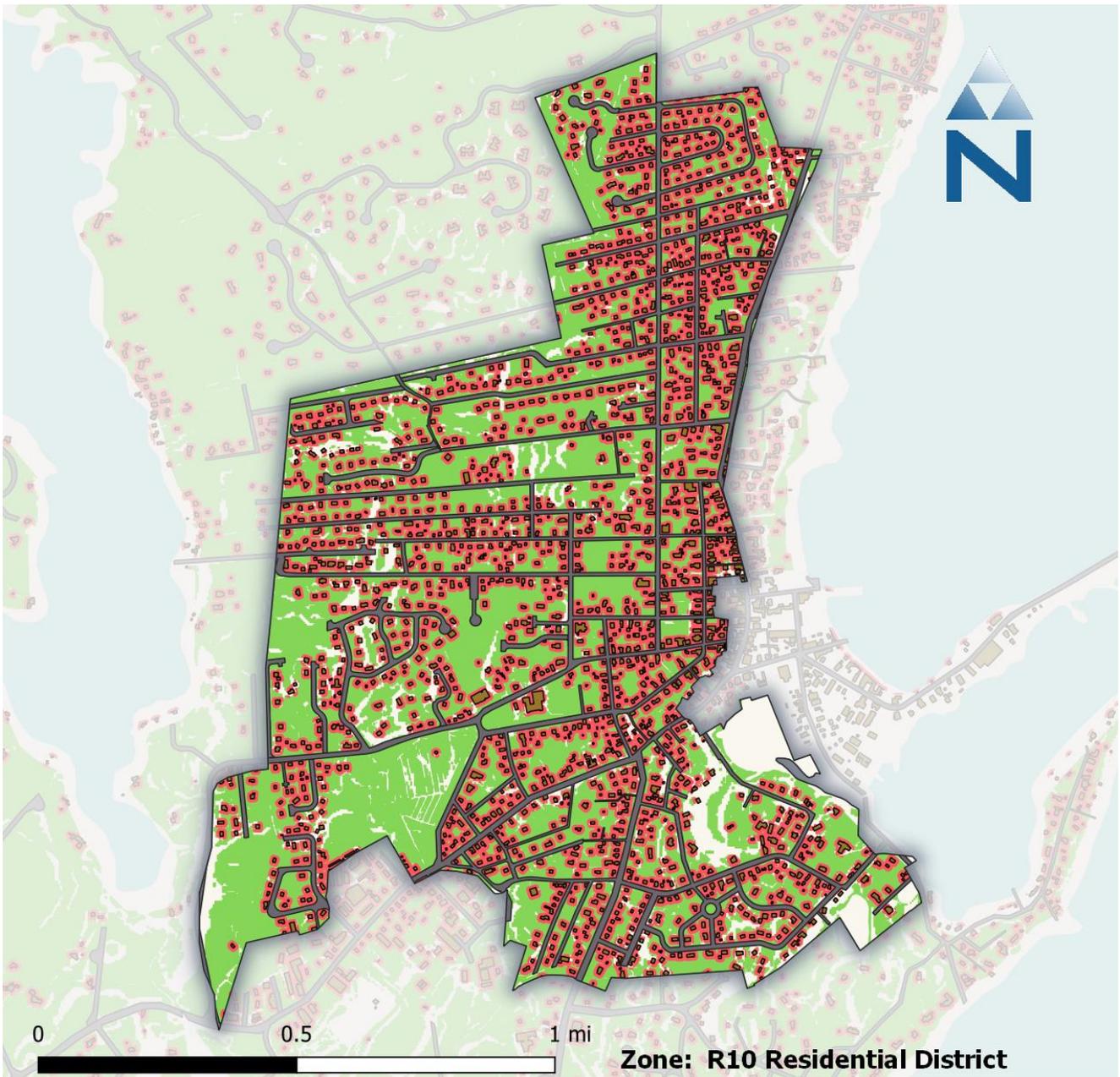


Figure K-12. HRU distribution in the R10 Residential District Zone of Tisbury, MA.



Legend

- Roads
- Rooftops
- GI SCM opportunity
- Infiltration
- Rooftop disconnection

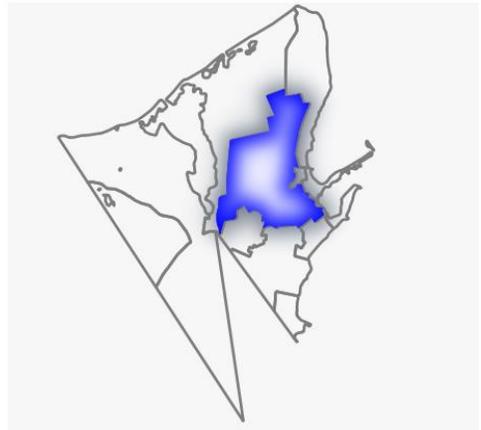


Figure K-13. GI SCM opportunities in the R10 Residential District Zone of Tisbury, MA.

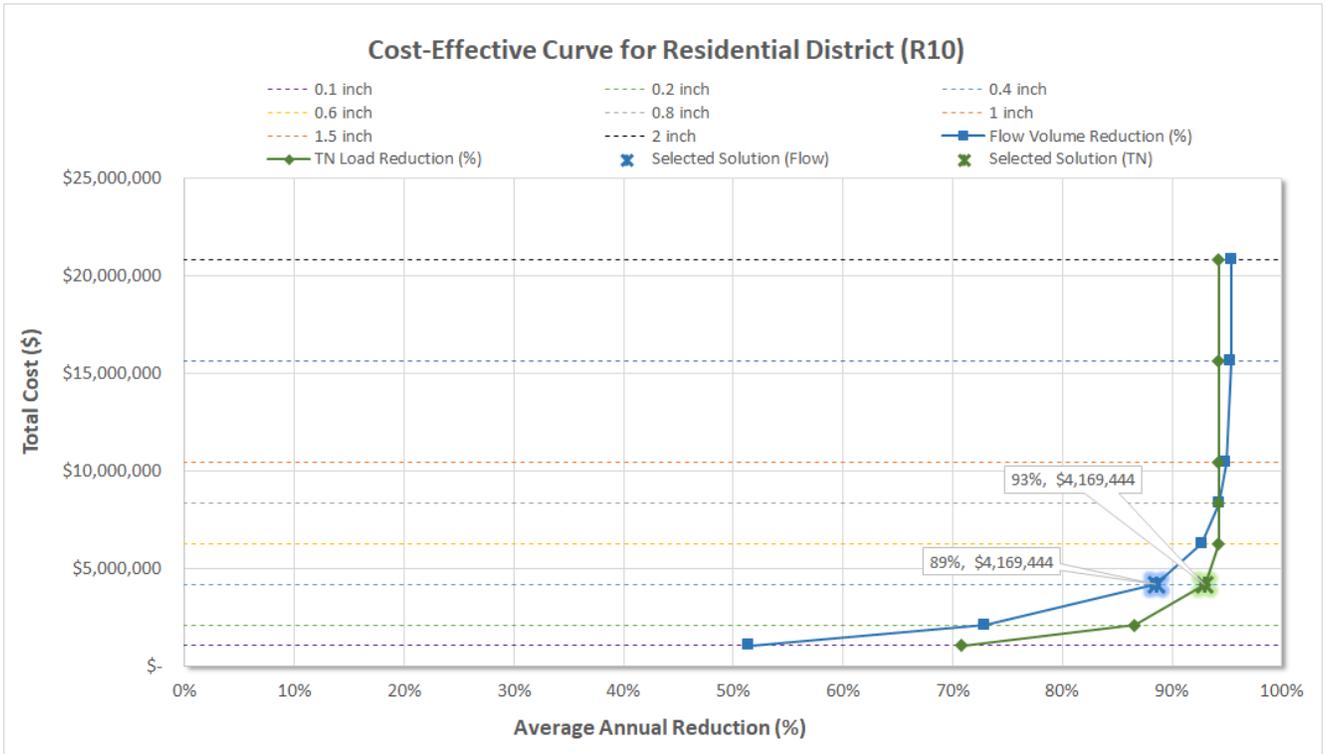


Figure K-14. Cost effectiveness curves for incremental sizing of GI SCM opportunities in the R10 Residential District Zone of Tisbury, MA.

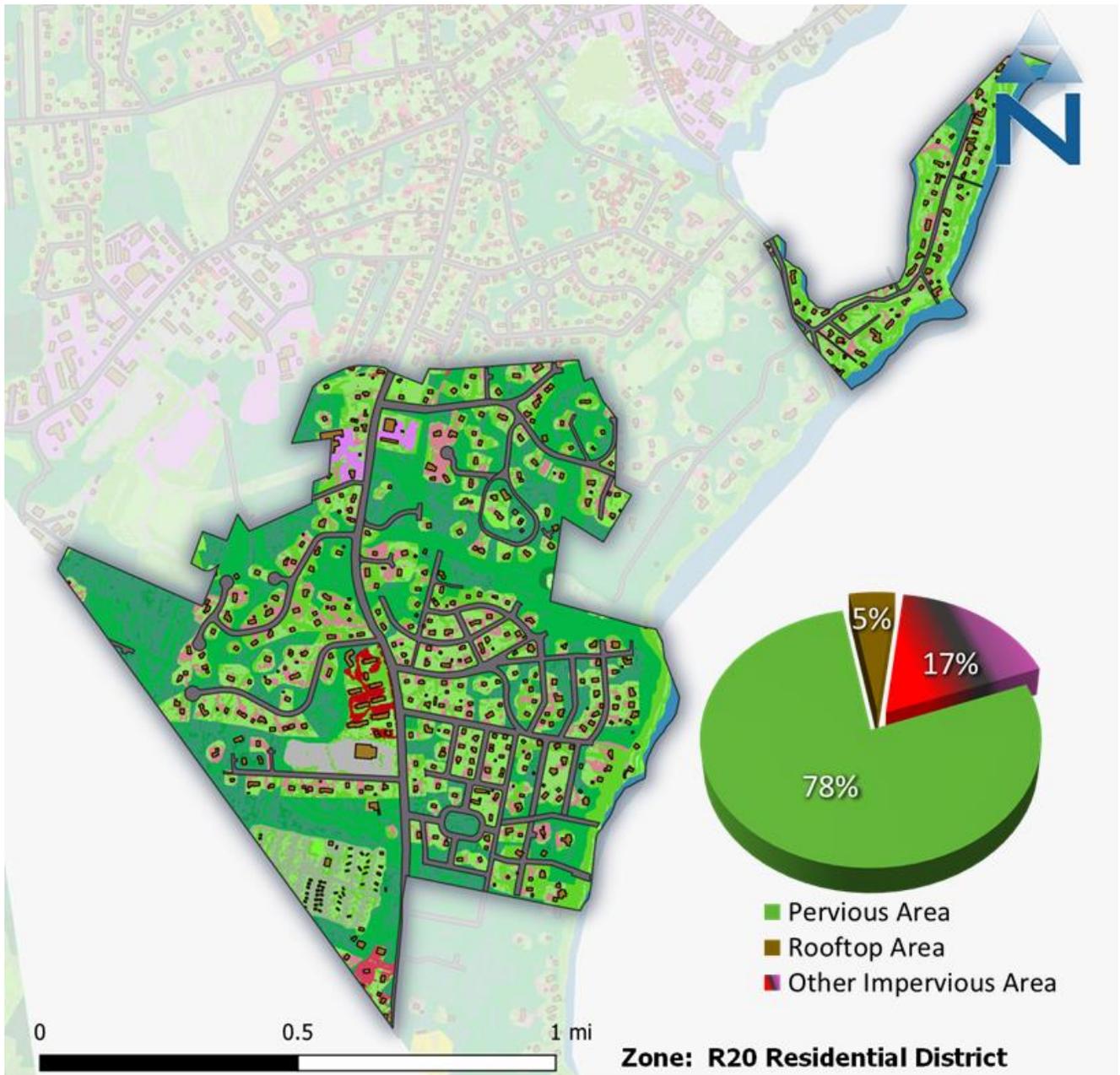
Table K-4. Infiltration GI SCM Solution (0.4 inches) for the R10 Residential District of Tisbury, MA

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Residential District (R10) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Forest	Infiltration Trench (Rooftop disconnected)	A	1.669	18,124	1,574,573	13.106	\$60,522
		B	0.016	173	12,739	0.122	\$580
		C	0.004	40	2,551	0.027	\$134
	Infiltration Basin (Other IC disconnected)	A	9.901	107,543	9,423,987	78.560	\$179,418
		B	0.095	1,029	75,111	0.721	\$1,716
		C	0.022	237	14,558	0.161	\$394
Agriculture	Infiltration Trench (Rooftop disconnected)	A	0.006	70	6,063	0.050	\$234
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Commercial	Infiltration Trench (Rooftop disconnected)	A	2.197	23,862	2,073,142	24.877	\$79,684
		B	-	-	-	-	-
		C	0.029	320	20,498	0.314	\$1,070
	Infiltration Basin (Other IC disconnected)	A	6.212	67,474	5,912,736	71.062	\$112,570
		B	-	-	-	-	-
		C	0.083	906	55,751	0.887	\$1,512
Industrial	Infiltration Trench (Rooftop disconnected)	A	0.031	333	28,915	0.347	\$1,112
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.497	5,395	472,746	5.682	\$9,000
		B	-	-	-	-	-
		C	-	-	-	-	-
Low Density Residential	Infiltration Trench (Rooftop disconnected)	A	5.491	59,641	5,181,553	57.203	\$199,162
		B	0.029	311	22,868	0.289	\$1,040
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	18.402	199,880	17,515,429	193.664	\$333,466
		B	0.096	1,043	76,149	0.970	\$1,740
		C	-	-	-	-	-
Medium Density Residential	Infiltration Trench (Rooftop disconnected)	A	38.645	419,758	36,468,186	402.597	\$1,401,714
		B	-	-	-	-	-
		C	0.000	2	111	0.002	\$6
	Infiltration Basin (Other IC disconnected)	A	83.954	911,884	79,908,082	883.527	\$1,521,326
		B	-	-	-	-	-
		C	0.000	4	232	0.003	\$6
High Density Residential	Infiltration Trench (Rooftop disconnected)	A	0.924	10,038	872,102	9.628	\$33,520
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	1.310	14,228	1,246,779	13.785	\$23,736
		B	-	-	-	-	-
		C	-	-	-	-	-

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Residential District (R10) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Highway	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	\$2,382
		B	-	-	-	-	-
		C	-	-	-	-	\$558
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	\$164,380
		B	-	-	-	-	-
		C	-	-	-	-	\$38,464
Open Land	Infiltration Trench (Rooftop disconnected)	A	0.066	713	61,981	0.516	\$2,382
		B	-	-	-	-	-
		C	0.015	167	10,681	0.113	\$558
	Infiltration Basin (Other IC disconnected)	A	9.071	98,530	8,634,143	71.976	\$164,380
		B	-	-	-	-	-
		C	2.123	23,055	1,418,955	15.651	\$38,464
Total	Infiltration Trench (Rooftop disconnected)	A	49.029	532,539	46,266,515	508.323	\$1,778,330
		B	0.045	485	35,607	0.411	\$1,618
		C	0.049	529	33,841	0.455	\$1,766
	Infiltration Basin (Other IC disconnected)	A	129.347	1,404,934	123,113,903	1,318.256	\$2,343,898
		B	0.191	2,072	151,259	1.691	\$3,458
		C	2.228	24,201	1,489,497	16.701	\$40,376

R20 Residential District

Figure K-15 presents the HRUs for the R20 Residential District Zone. The majority of land in the district is pervious surfaces, with 22% of the area consisting of rooftops and other impervious surfaces. Figure K-16 presents the GI SCM opportunities in the area. A 0.4-inch design criteria achieved an 87% reduction in flow volume and a 92% reduction in TN loading Figure K-17. The reductions were achieved at a cost of \$1,599,198. Table K-5 presents the implementation solution for capturing 0.4 inches, including SCM storage capacity, cost, and volume and TN removal by land use.



Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ Agriculture Pervious_A_High ■ Agriculture Pervious_A_Low ■ Agriculture Pervious_A_Medium ■ Agriculture Pervious_B_High ■ Agriculture Pervious_B_Low ■ Agriculture Pervious_B_Medium ■ Agriculture_IMP ■ Developed Pervious_A_High ■ Developed Pervious_A_Low ■ Developed Pervious_A_Medium ■ Developed Pervious_B_High ■ Developed Pervious_B_Low ■ Developed Pervious_B_Medium ■ Developed Pervious_C_High ■ Developed Pervious_C_Low ■ Developed Pervious_C_Medium ■ Developed Pervious_D_High | <ul style="list-style-type: none"> ■ Developed Pervious_D_Low ■ Developed Pervious_D_Medium ■ Forest Pervious_A_High ■ Forest Pervious_A_Low ■ Forest Pervious_A_Medium ■ Forest Pervious_B_High ■ Forest Pervious_B_Low ■ Forest Pervious_B_Medium ■ Forest_IMP ■ Open Land_IMP ■ Commercial_IMP ■ Low Density Residential_IMP ■ Medium Density Residential_IMP ■ High Density Residential_IMP ■ Highway_IMP ■ Industrial_IMP ■ Water |
|--|---|

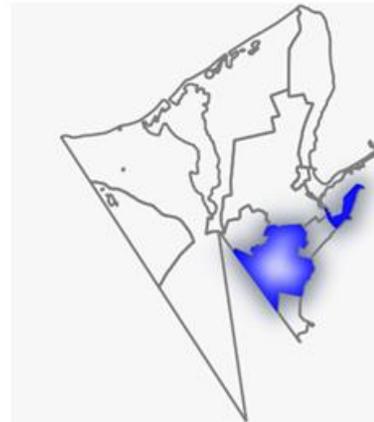
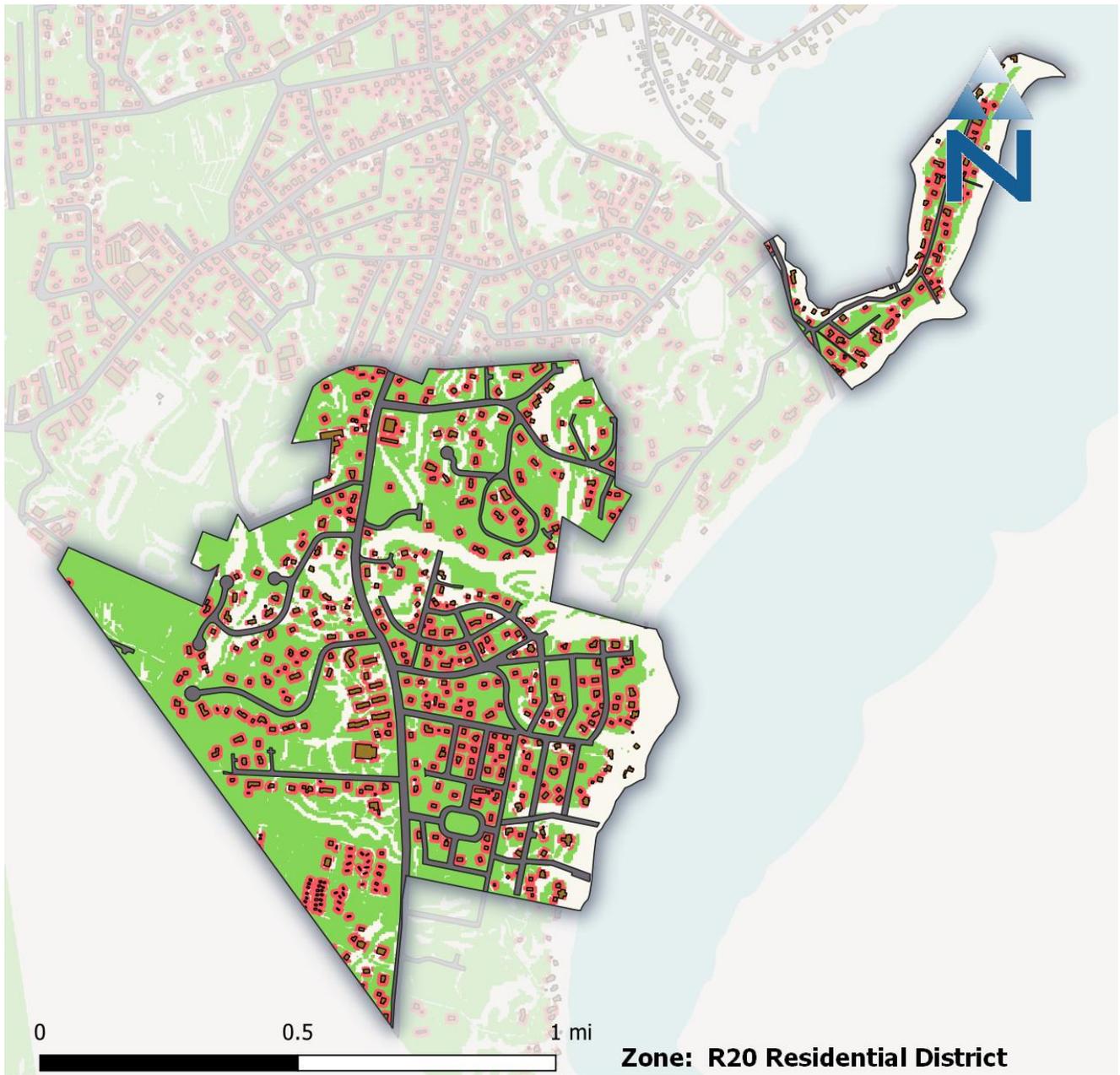


Figure K-15. HRU distribution in the R20 Residential District Zone of Tisbury, MA.



Legend

-  Roads
-  Rooftops
- GI SCM opportunity
-  Infiltration
-  Rooftop disconnection

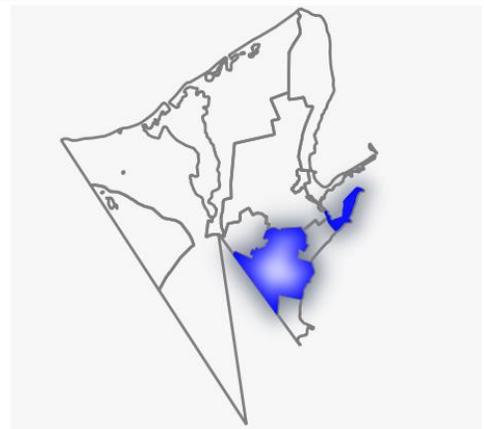


Figure K-16. GI SCM opportunities in the R20 Residential District Zone of Tisbury, MA.

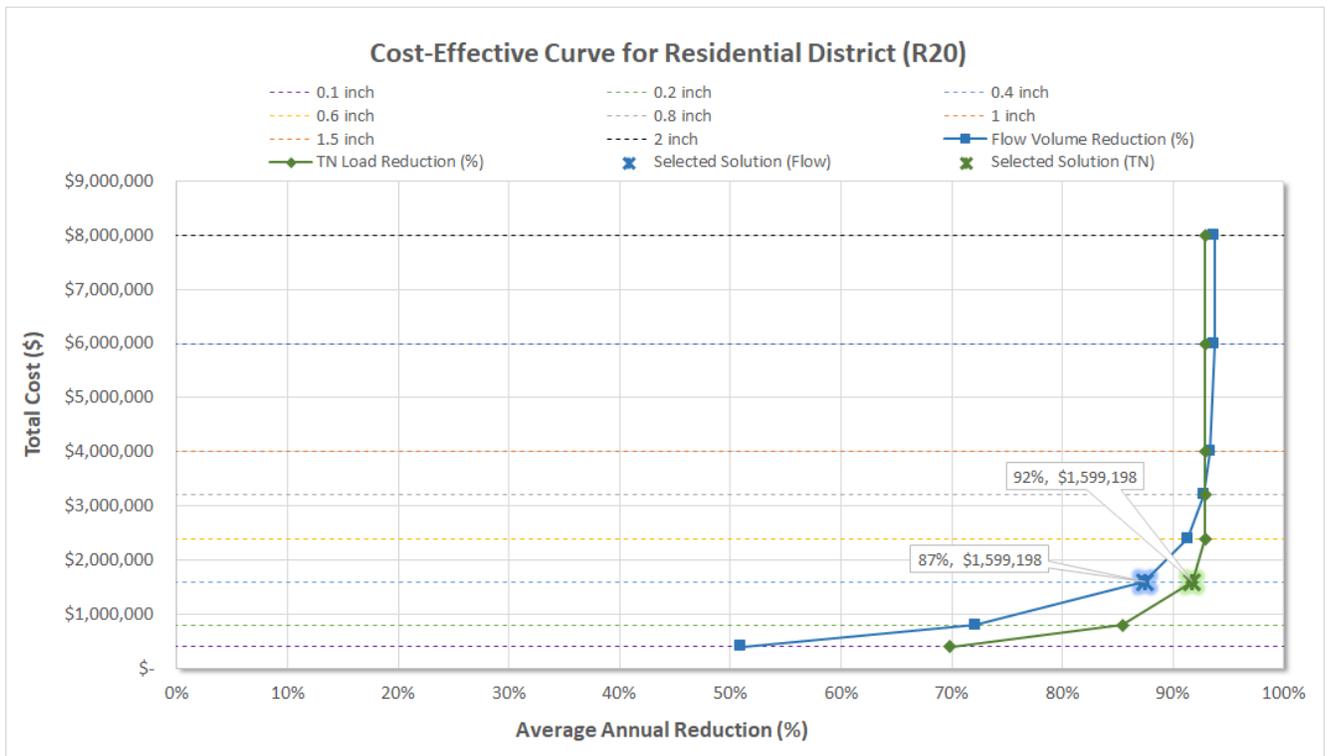


Figure K-17. Cost effectiveness curves for incremental sizing of GI SCM opportunities in the R20 Residential District Zone of Tisbury, MA.

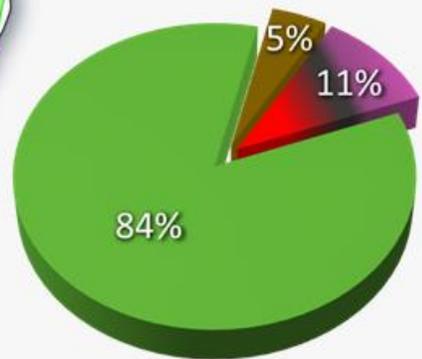
Table K-5. Infiltration GI SCM Solution (0.4 inches) for the R20 Residential District of Tisbury, MA

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Residential District (R20) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Forest	Infiltration Trench (Rooftop disconnected)	A	0.810	8,795	764,139	6.360	\$29,370
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	12.024	130,606	11,444,921	95.407	\$217,894
		B	-	-	-	-	-
		C	-	-	-	-	-
Agriculture	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Commercial	Infiltration Trench (Rooftop disconnected)	A	0.613	6,654	578,059	6.937	\$22,218
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	2.280	24,762	2,169,927	26.079	\$41,312
		B	-	-	-	-	-
		C	-	-	-	-	-
Industrial	Infiltration Trench (Rooftop disconnected)	A	0.386	4,198	364,697	4.376	\$14,018
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	4.521	49,101	4,302,694	51.712	\$81,916
		B	-	-	-	-	-
		C	-	-	-	-	-
Low Density Residential	Infiltration Trench (Rooftop disconnected)	A	12.053	130,920	11,374,174	125.567	\$437,184
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	30.302	329,129	28,841,502	318.894	\$549,098
		B	-	-	-	-	-
		C	-	-	-	-	-
Medium Density Residential	Infiltration Trench (Rooftop disconnected)	A	0.305	3,312	287,747	3.177	\$11,060
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	1.119	12,158	1,065,442	11.780	\$20,284
		B	-	-	-	-	-
		C	-	-	-	-	-
High Density Residential	Infiltration Trench (Rooftop disconnected)	A	0.759	8,245	716,337	7.908	\$27,534
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	2.299	24,969	2,188,038	24.193	\$41,656
		B	-	-	-	-	-
		C	-	-	-	-	-

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Residential District (R20) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Highway	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Open Land	Infiltration Trench (Rooftop disconnected)	A	0.531	5,763	500,643	4.167	\$19,244
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	4.768	51,793	4,538,596	37.834	\$86,408
		B	-	-	-	-	-
		C	-	-	-	-	-
Total	Infiltration Trench (Rooftop disconnected)	A	15.457	167,886	14,585,796	158.492	\$560,628
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	57.313	622,519	54,551,120	565.899	\$1,038,568
		B	-	-	-	-	-
		C	-	-	-	-	-

R25 Residential District

Figure K-18 presents the HRUs for the R25 Residential District Zone. The majority of land in the district is pervious surfaces, with 16% of the area consisting of rooftops and other impervious surfaces. Figure K-19 presents the GI SCM opportunities in the area. A 0.4-inch design criteria achieved an 81% reduction in flow volume and an 84% reduction in TN loading (Figure K-20). The reductions were achieved at a cost of \$1,270,025. Table K-6 presents the implementation solution for capturing 0.4 inches, including SCM storage capacity, cost, and volume and TN removal by land use.



- Pervious Area
- Rooftop Area
- Other Impervious Area

Zone: R25 Residential District

Legend

- | | |
|---|---|
| ■ Agriculture Pervious_A_High | ■ Developed Pervious_D_Low |
| ■ Agriculture Pervious_A_Low | ■ Developed Pervious_D_Medium |
| ■ Agriculture Pervious_A_Medium | ■ Forest Pervious_A_High |
| ■ Agriculture Pervious_B_High | ■ Forest Pervious_A_Low |
| ■ Agriculture Pervious_B_Low | ■ Forest Pervious_A_Medium |
| ■ Agriculture Pervious_B_Medium | ■ Forest Pervious_B_High |
| ■ Agriculture_IMP | ■ Forest Pervious_B_Low |
| ■ Developed Pervious_A_High | ■ Forest Pervious_B_Medium |
| ■ Developed Pervious_A_Low | ■ Forest_IMP |
| ■ Developed Pervious_A_Medium | ■ Open Land_IMP |
| ■ Developed Pervious_B_High | ■ Commercial_IMP |
| ■ Developed Pervious_B_Low | ■ Low Density Residential_IMP |
| ■ Developed Pervious_B_Medium | ■ Medium Density Residential_IMP |
| ■ Developed Pervious_C_High | ■ High Density Residential_IMP |
| ■ Developed Pervious_C_Low | ■ Highway_IMP |
| ■ Developed Pervious_C_Medium | ■ Industrial_IMP |
| ■ Developed Pervious_D_High | ■ Water |

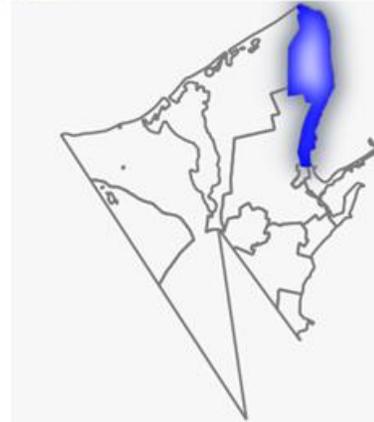
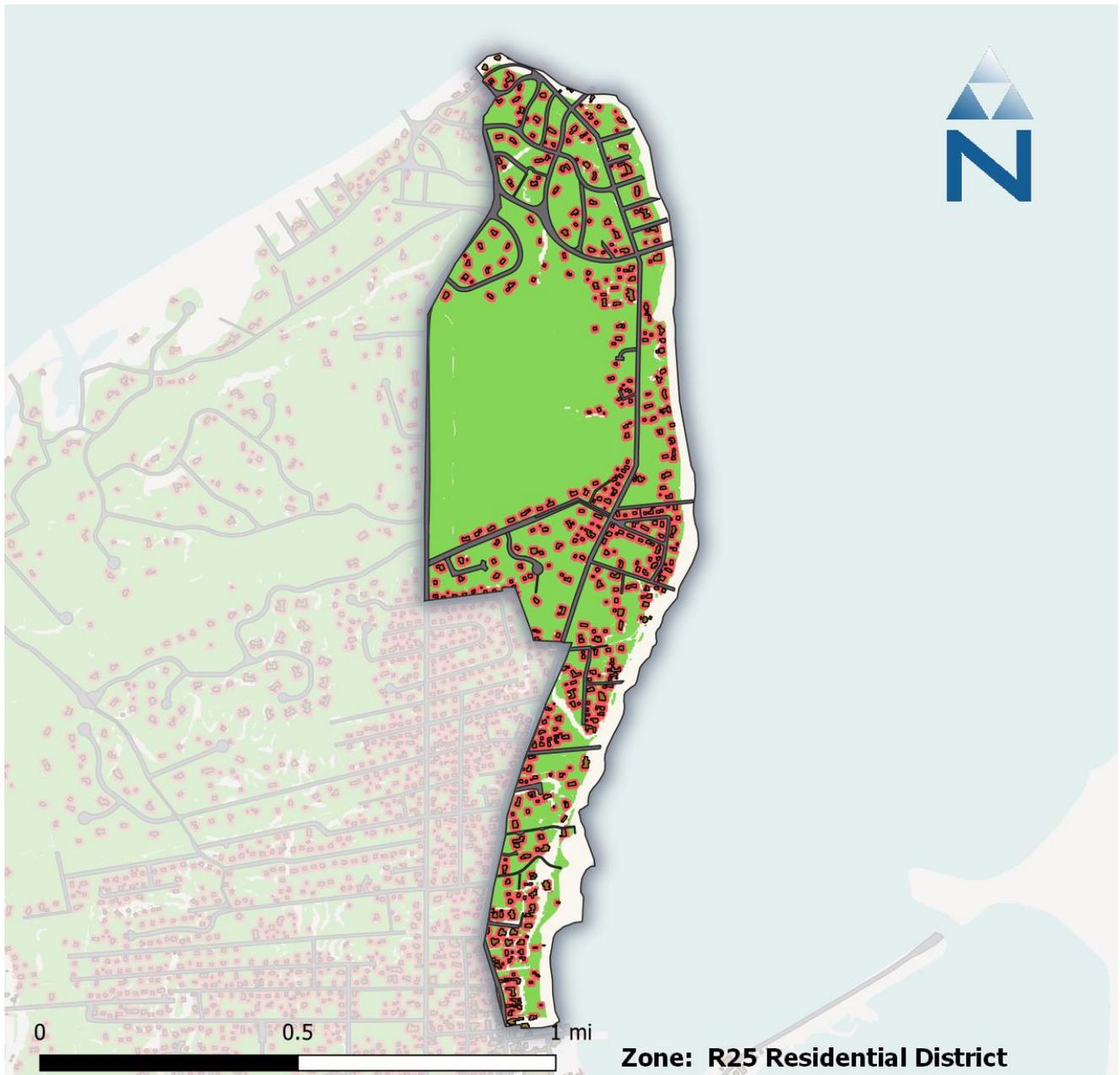


Figure K-18. HRU distribution in the R25 Residential District Zone of Tisbury, MA.



Legend

- Roads
- Rooftops
- GI SCM opportunity
- Infiltration
- Rooftop disconnection

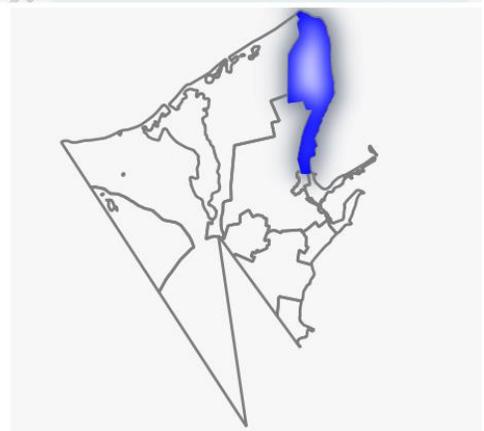


Figure K-19. GI SCM opportunities in the R25 Residential District Zone of Tisbury, MA.

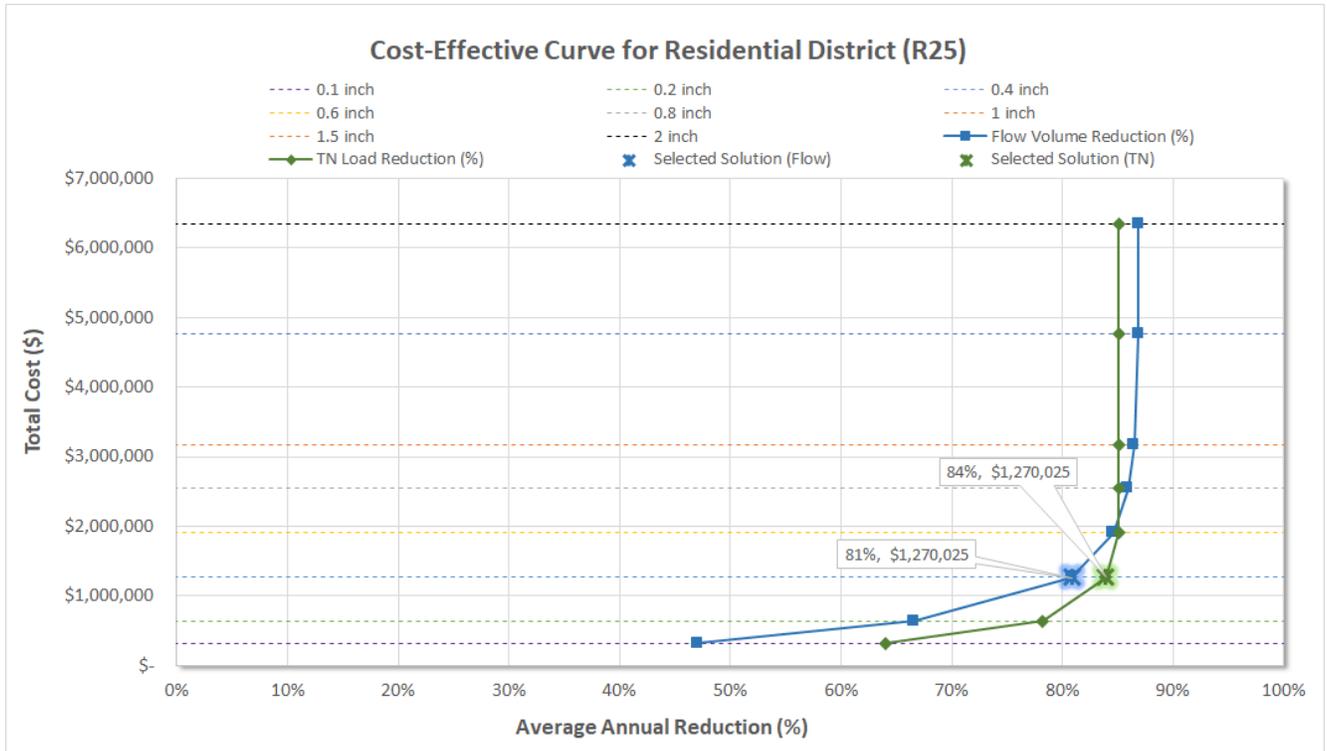


Figure K-20. Cost effectiveness curves for incremental sizing of GI SCM opportunities in the R25 Residential District Zone of Tisbury, MA.

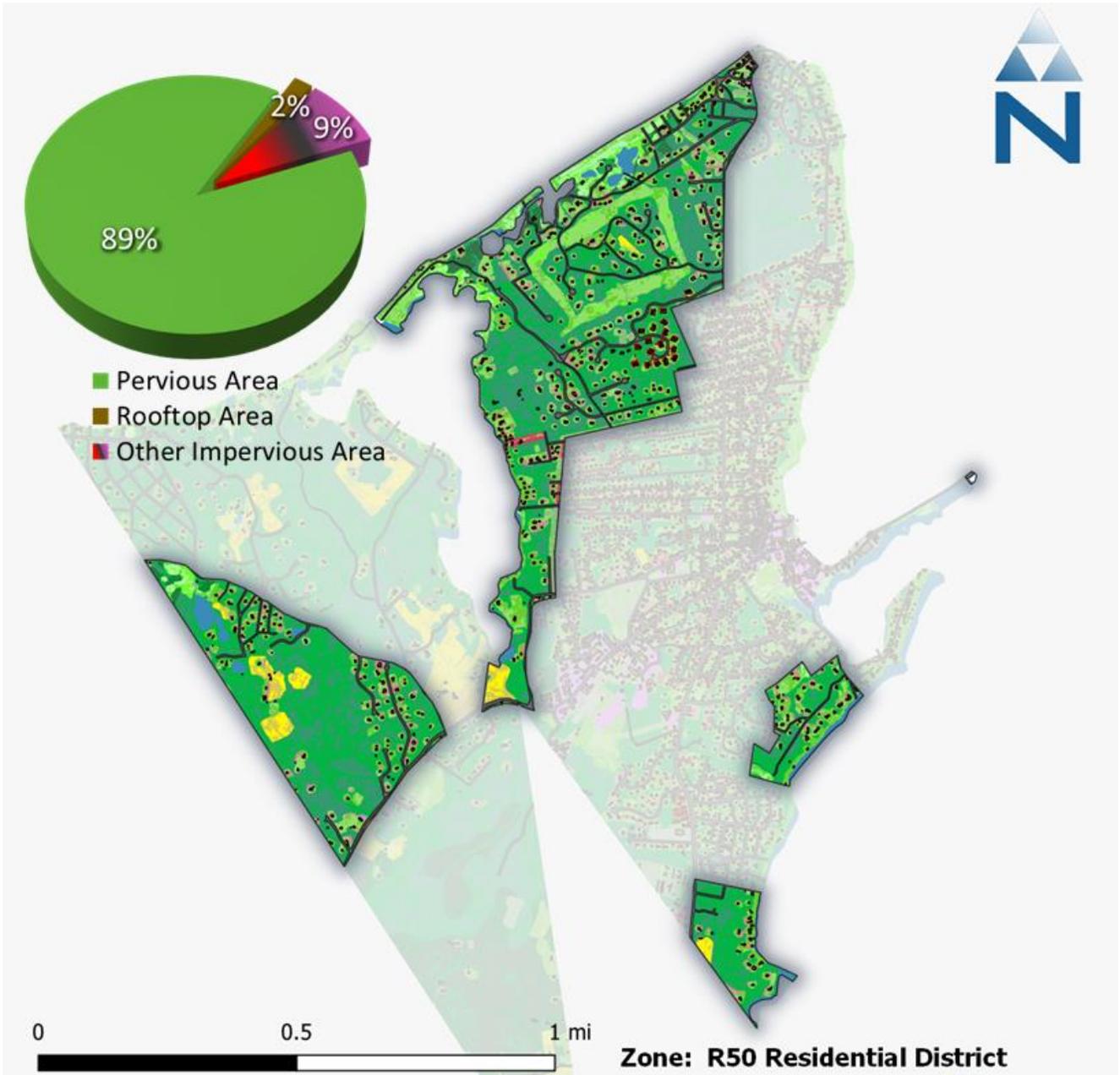
Table K-6. Infiltration GI SCM Solution (0.4 inches) for the R50 Residential District of Tisbury, MA

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Residential District (R25) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Forest	Infiltration Trench (Rooftop disconnected)	A	0.631	6,858	595,781	4.959	\$22,900
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	7.361	79,951	7,006,048	58.404	\$133,384
		B	-	-	-	-	-
		C	-	-	-	-	-
Agriculture	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.114	1,243	108,896	0.908	\$2,074
		B	-	-	-	-	-
		C	-	-	-	-	-
Commercial	Infiltration Trench (Rooftop disconnected)	A	0.504	5,470	475,242	5.703	\$18,266
		B	-	-	-	-	-
		C	0.070	765	48,934	0.748	\$2,554
	Infiltration Basin (Other IC disconnected)	A	1.228	13,340	1,168,965	14.049	\$22,256
		B	-	-	-	-	-
		C	0.172	1,865	114,783	1.825	\$1,556
Industrial	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Low Density Residential	Infiltration Trench (Rooftop disconnected)	A	4.065	44,157	3,836,318	42.352	\$147,456
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	7.355	79,889	7,000,638	77.405	\$133,282
		B	-	-	-	-	-
		C	-	-	-	-	-
Medium Density Residential	Infiltration Trench (Rooftop disconnected)	A	10.635	115,511	10,035,527	110.789	\$385,732
		B	-	-	-	-	-
		C	0.000	2	132	0.002	\$1,556
	Infiltration Basin (Other IC disconnected)	A	17.123	185,986	16,297,919	180.203	\$310,288
		B	-	-	-	-	-
		C	0.000	3	205	0.003	\$1,556
High Density Residential	Infiltration Trench (Rooftop disconnected)	A	0.332	3,607	313,397	3.460	\$12,046
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.407	4,423	387,605	4.286	\$7,380
		B	-	-	-	-	-
		C	-	-	-	-	-

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Residential District (R25) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Highway	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	0.012	134	8,260	0.079	\$224
Open Land	Infiltration Trench (Rooftop disconnected)	A	0.226	2,455	213,318	1.776	\$8,200
		B	-	-	-	-	-
		C	0.000	1	32	0.000	\$2
	Infiltration Basin (Other IC disconnected)	A	3.358	36,473	3,196,145	26.644	\$60,850
		B	-	-	-	-	-
		C	0.001	7	458	0.005	\$12
Total	Infiltration Trench (Rooftop disconnected)	A	16.393	178,059	15,469,584	169.037	\$594,598
		B	-	-	-	-	-
		C	0.071	767	49,098	0.751	\$2,562
	Infiltration Basin (Other IC disconnected)	A	36.947	401,305	35,166,217	361.897	\$669,510
		B	-	-	-	-	-
		C	0.185	2,010	123,705	1.912	\$3,354

R50 Residential District

Figure K-21 presents the HRUs for the R50 Residential District Zone. The majority of land in the district is pervious surfaces, with 11% of the area consisting of rooftops and other impervious surfaces. Figure K-22 presents the GI SCM opportunities in the area. A 0.4-inch design criteria achieved a 75% reduction in flow volume and a 76% reduction in TN loading (Figure K-23). The reductions were achieved at a cost of \$2,816,910. Table K-7 presents the implementation solution for capturing 0.4 inches, including SCM storage capacity, cost, and volume and TN removal by land use.



Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ Agriculture Pervious_A_High ■ Agriculture Pervious_A_Low ■ Agriculture Pervious_A_Medium ■ Agriculture Pervious_B_High ■ Agriculture Pervious_B_Low ■ Agriculture Pervious_B_Medium ■ Agriculture_IMP ■ Developed Pervious_A_High ■ Developed Pervious_A_Low ■ Developed Pervious_A_Medium ■ Developed Pervious_B_High ■ Developed Pervious_B_Low ■ Developed Pervious_B_Medium ■ Developed Pervious_C_High ■ Developed Pervious_C_Low ■ Developed Pervious_C_Medium ■ Developed Pervious_D_High | <ul style="list-style-type: none"> ■ Developed Pervious_D_Low ■ Developed Pervious_D_Medium ■ Forest Pervious_A_High ■ Forest Pervious_A_Low ■ Forest Pervious_A_Medium ■ Forest Pervious_B_High ■ Forest Pervious_B_Low ■ Forest Pervious_B_Medium ■ Forest_IMP ■ Open Land_IMP ■ Commercial_IMP ■ Low Density Residential_IMP ■ Medium Density Residential_IMP ■ High Density Residential_IMP ■ Highway_IMP ■ Industrial_IMP ■ Water |
|--|---|

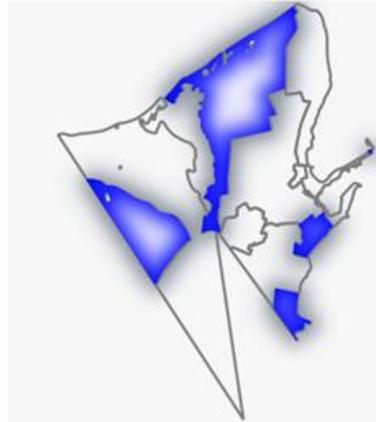


Figure K-21. HRU distribution in the R50 Residential District Zone of Tisbury, MA.



Legend

-  Roads
-  Rooftops
- GI SCM opportunity
-  Infiltration
-  Rooftop disconnection



Figure K-22. GI SCM opportunities in the R50 Residential District Zone of Tisbury, MA.

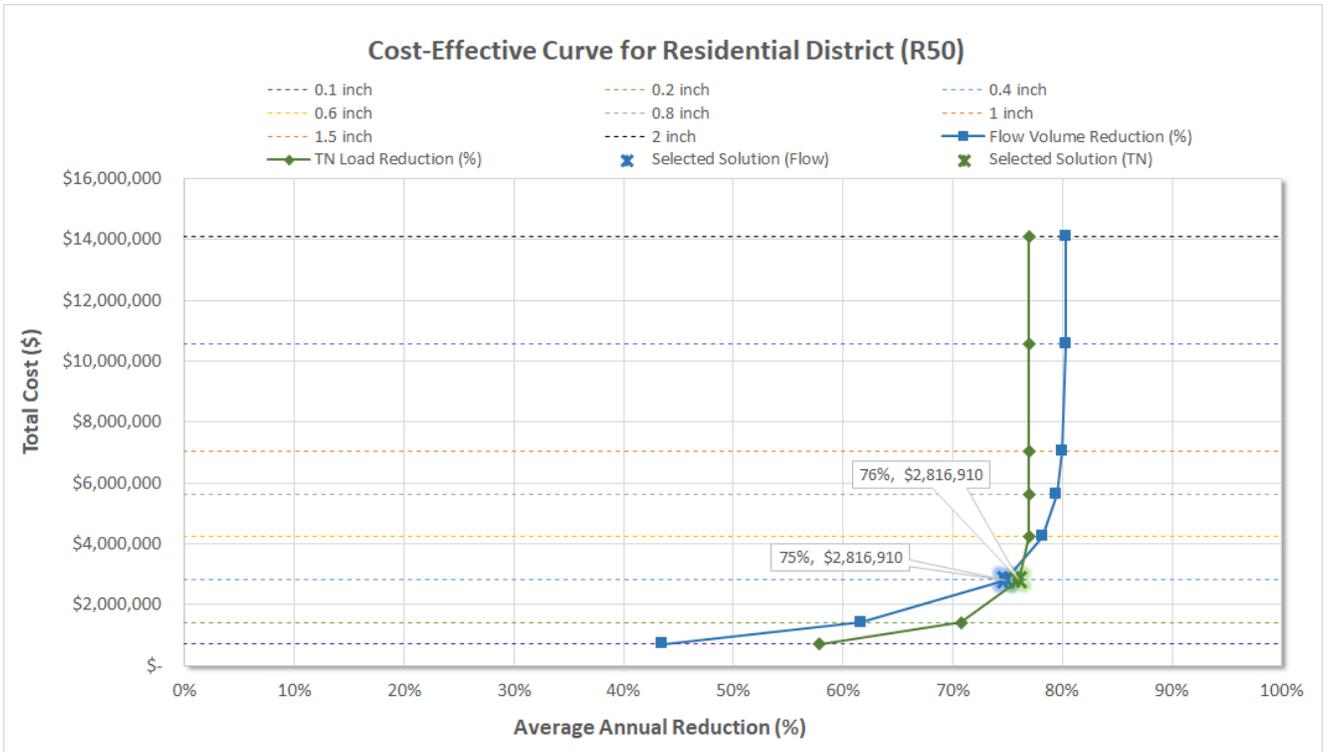


Figure K-23. Cost effectiveness curves for incremental sizing of GI SCM opportunities in the R50 Residential District Zone of Tisbury, MA.

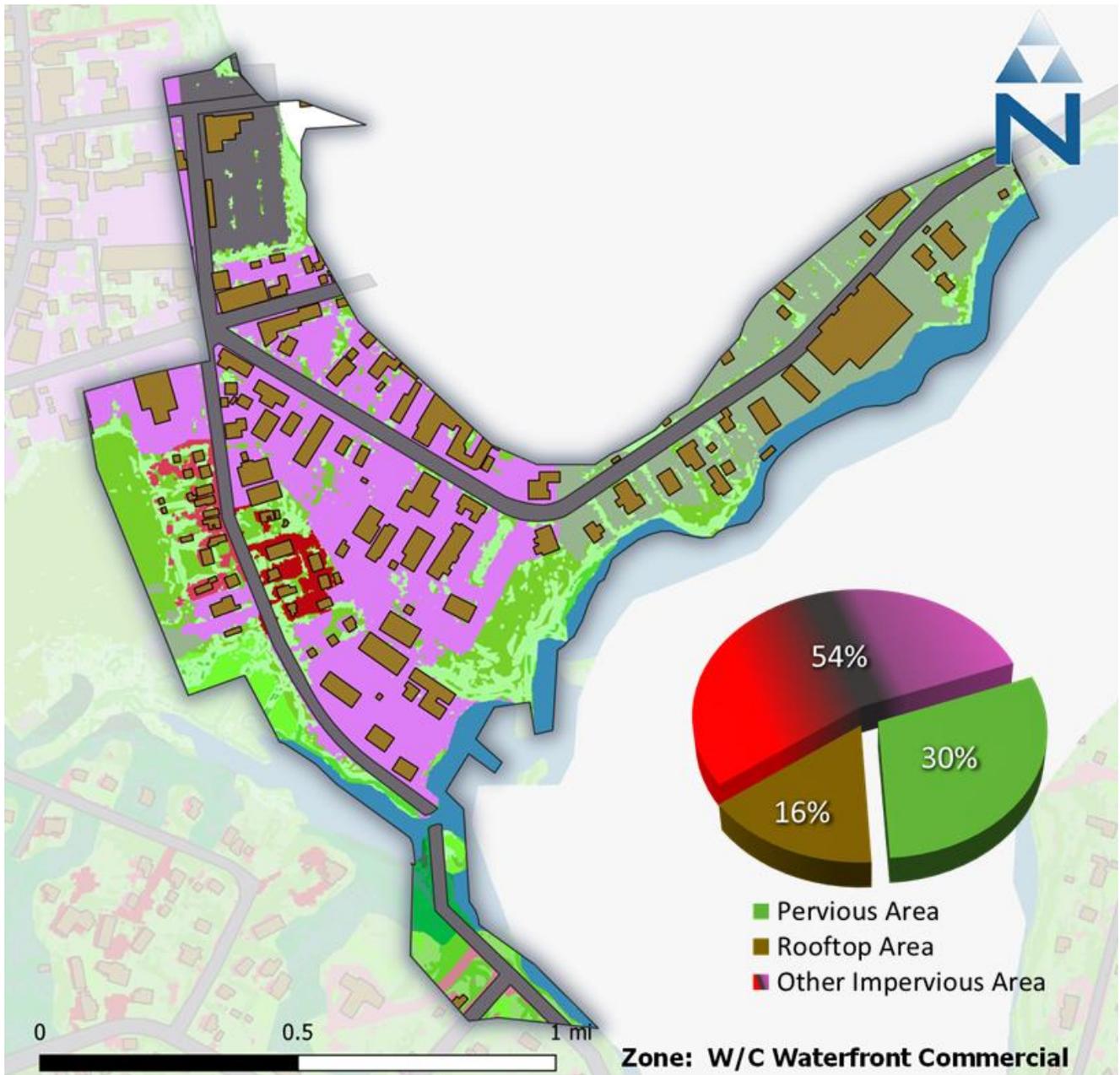
Table K-7. Infiltration GI SCM Solution (0.4 inches) for the R50 Residential District of Tisbury, MA

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Residential District (R50) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Forest	Infiltration Trench (Rooftop disconnected)	A	1.907	20,708	1,799,132	14.975	\$69,152
		B	0.026	278	20,397	0.195	\$928
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	53.779	584,138	51,187,800	426.710	\$974,536
		B	0.721	7,832	571,679	5.490	\$13,066
		C	-	-	-	-	-
Agriculture	Infiltration Trench (Rooftop disconnected)	A	0.083	903	78,444	0.653	\$3,016
		B	0.000	2	117	0.001	\$6
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	1.893	20,566	1,802,187	15.023	\$34,310
		B	0.003	36	2,653	0.025	\$60
		C	-	-	-	-	-
Commercial	Infiltration Trench (Rooftop disconnected)	A	0.390	4,231	367,558	4.411	\$14,128
		B	0.002	18	1,327	0.018	\$60
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.848	9,210	807,042	9.699	\$15,364
		B	0.004	39	2,871	0.040	\$66
		C	-	-	-	-	-
Industrial	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Low Density Residential	Infiltration Trench (Rooftop disconnected)	A	18.279	198,544	17,249,302	190.427	\$663,006
		B	0.253	2,750	202,021	2.557	\$9,184
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	33.765	366,752	32,138,346	355.347	\$611,864
		B	0.468	5,080	370,791	4.723	\$8,474
		C	-	-	-	-	-
Medium Density Residential	Infiltration Trench (Rooftop disconnected)	A	0.781	8,484	737,090	8.137	\$28,332
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	2.256	24,502	2,147,113	23.740	\$40,878
		B	-	-	-	-	-
		C	-	-	-	-	-
High Density Residential	Infiltration Trench (Rooftop disconnected)	A	2.261	24,564	2,134,086	23.560	\$82,028
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	3.598	39,084	3,424,939	37.869	\$65,206
		B	-	-	-	-	-
		C	-	-	-	-	-

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Residential District (R50) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Highway	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Open Land	Infiltration Trench (Rooftop disconnected)	A	0.421	4,576	397,554	3.309	\$15,280
		B	0.001	6	413	0.004	\$18
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	9.257	100,545	8,810,698	73.447	\$167,742
		B	0.011	124	9,026	0.087	\$206
		C	-	-	-	-	-
Total	Infiltration Trench (Rooftop disconnected)	A	24.122	262,010	22,763,165	245.470	\$874,940
		B	0.281	3,053	224,275	2.775	\$10,194
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	105.397	1,144,796	100,318,125	941.836	\$1,909,902
		B	1.207	13,111	957,019	10.365	\$21,874
		C	-	-	-	-	-

WC Waterfront Commercial District

Figure K-24 presents the HRUs for the Waterfront Commercial District. Over half (54%) of the land in the district consists of rooftops and other impervious surfaces. The zone has limited opportunities for GI SCM implementation (Figure K-25). The majority of pervious surfaces that could represent opportunities for GI SCM installation are in areas associated with complicating factors, these areas include close proximity to coastlines, wetlands and structures. The analysis was based on a desktop review of geospatial data, on-the-ground field assessment may help identify opportunities missed in this assessment. A 0.4-inch design criteria achieved a 63% reduction in flow volume and an 84% reduction in TN loading (Figure K-26). The reductions were achieved at a cost of \$619,698. Table K-8 presents the implementation solution for capturing 0.4 inches, including SCM storage capacity, cost, and volume and TN removal by land use.



Legend

- | | |
|--|---|
| <ul style="list-style-type: none"> ■ Agriculture Pervious_A_High ■ Agriculture Pervious_A_Low ■ Agriculture Pervious_A_Medium ■ Agriculture Pervious_B_High ■ Agriculture Pervious_B_Low ■ Agriculture Pervious_B_Medium ■ Agriculture_IMP ■ Developed Pervious_A_High ■ Developed Pervious_A_Low ■ Developed Pervious_A_Medium ■ Developed Pervious_B_High ■ Developed Pervious_B_Low ■ Developed Pervious_B_Medium ■ Developed Pervious_C_High ■ Developed Pervious_C_Low ■ Developed Pervious_C_Medium ■ Developed Pervious_D_High | <ul style="list-style-type: none"> ■ Developed Pervious_D_Low ■ Developed Pervious_D_Medium ■ Forest Pervious_A_High ■ Forest Pervious_A_Low ■ Forest Pervious_A_Medium ■ Forest Pervious_B_High ■ Forest Pervious_B_Low ■ Forest Pervious_B_Medium ■ Forest_IMP ■ Open Land_IMP ■ Commercial_IMP ■ Low Density Residential_IMP ■ Medium Density Residential_IMP ■ High Density Residential_IMP ■ Highway_IMP ■ Industrial_IMP ■ Water |
|--|---|

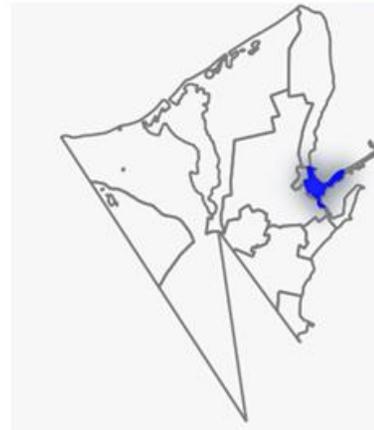


Figure K-24. HRU distribution in the Waterfront Commercial Zone of Tisbury, MA.



Legend

- Roads
- Rooftops
- GI SCM opportunity
- Infiltration
- Rooftop disconnection

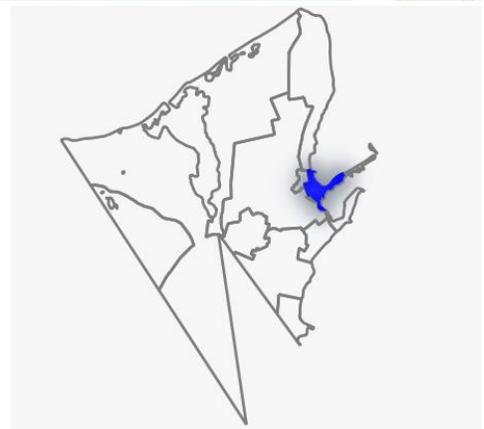


Figure K-25. GI SCM opportunities in the Waterfront Commercial Zone of Tisbury, MA.

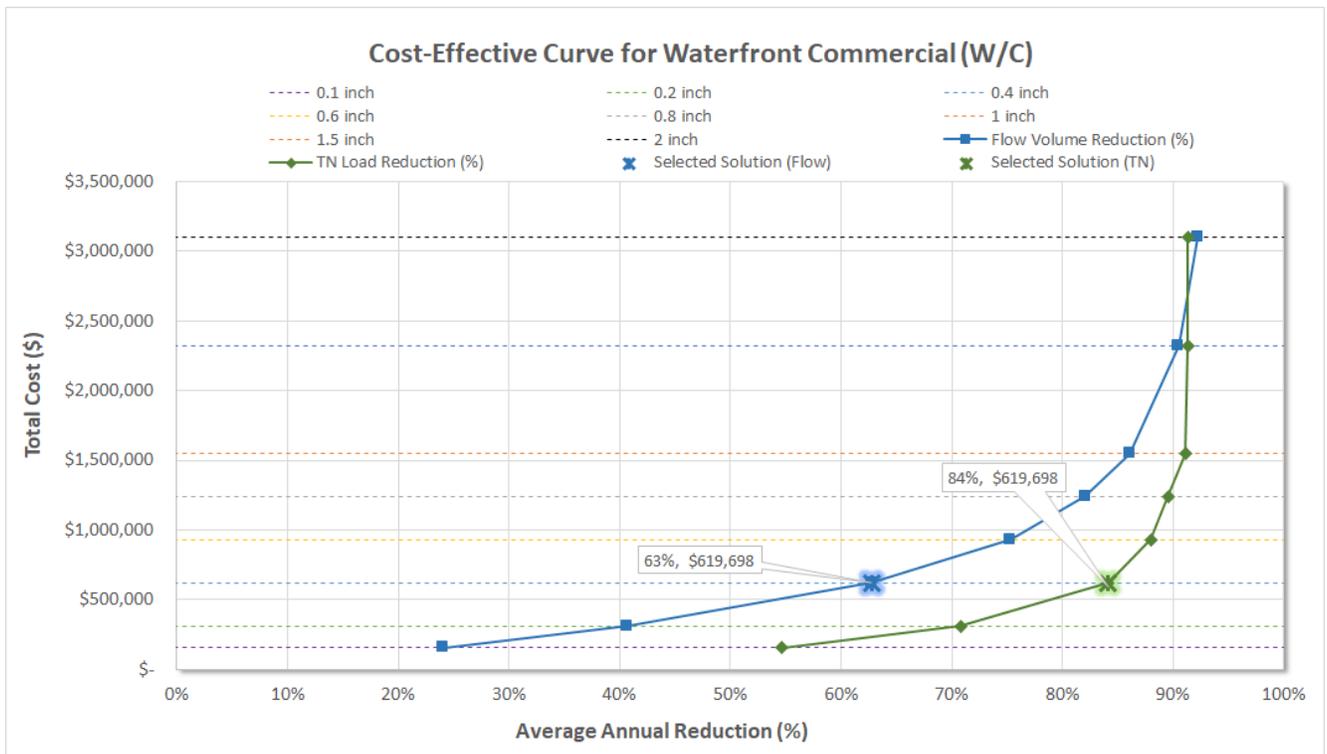


Figure K-26. Cost effectiveness curves for incremental sizing of GI SCM opportunities in the Waterfront Commercial District Zone of Tisbury, MA.

Table K-8. Infiltration GI SCM Solution (0.4 inches) for the Waterfront Commercial District of Tisbury, MA

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Waterfront Commercial (W/C) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Forest	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.293	3,186	279,179	2.327	\$5,316
		B	-	-	-	-	-
		C	-	-	-	-	-
Agriculture	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Commercial	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	3.825	41,548	2,658,522	40.663	\$138,744
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	11.798	128,150	7,887,252	125.421	\$213,796
Industrial	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	-	-	-	-	-
Low Density Residential	Infiltration Trench (Rooftop disconnected)	A	0.017	180	15,623	0.172	\$600
		B	-	-	-	-	-
		C	-	-	-	-	-
	Infiltration Basin (Other IC disconnected)	A	0.305	3,317	290,703	3.214	\$5,534
		B	-	-	-	-	-
		C	-	-	-	-	-
Medium Density Residential	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	0.258	2,802	179,296	2.523	\$9,358
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	0.483	5,247	322,950	4.725	\$8,754
High Density Residential	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	0.226	2,453	156,970	2.209	\$8,192
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	0.599	6,511	400,756	5.863	\$10,864

Land Use Group	SCM Type	HSG	Infiltration GI SCM Solution (0.4 inches) for Waterfront Commercial (W/C) in Tisbury				
			IC Disconnected (acres)	Storage Capacity (gallons)	Flow Volume Captured (gallons/yr)	TN Load Removed (lbs/yr)	SCM Cost (\$)
Highway	Infiltration Trench (Rooftop disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	0.211	2,289	146,493	1.341	\$7,646
	Infiltration Basin (Other IC disconnected)	A	-	-	-	-	-
		B	-	-	-	-	-
		C	2.159	23,447	1,443,116	13.739	\$39,118
Open Land	Infiltration Trench (Rooftop disconnected)	A	0.000	5	425	0.004	\$16
		B	-	-	-	-	-
		C	1.766	19,186	1,227,622	13.024	\$64,068
	Infiltration Basin (Other IC disconnected)	A	0.002	16	1,441	0.012	\$28
		B	-	-	-	-	-
		C	5.942	64,536	3,972,018	43.810	\$107,668
Total	Infiltration Trench (Rooftop disconnected)	A	0.017	185	16,048	0.176	\$616
		B	-	-	-	-	-
		C	6.286	68,278	4,368,902	59.761	\$228,004
	Infiltration Basin (Other IC disconnected)	A	0.600	6,520	571,324	5.554	\$10,878
		B	-	-	-	-	-
		C	20.981	227,892	14,026,092	193.557	\$380,200