

SMMA

Recharge Volume and Drawdown

61 Waverly Street
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61 Waverly St, Ashland MA

Residences at Ashland

SMMA Job No. 24142
Date: 3/6/2026
Calc by: KIC
Check by: WWP

Hydrologic	
Soil Group	Target Depth Factor (in)
A	0.60
B	0.35
C	0.25
D	0.10

Required Recharge Volume

Note: Required recharge volume is calculated utilizing DEP's "static method"

Rv = F*imp.area

	Contributing Impervious Area		Target Depth Factor (F)* <i>in</i>	Required Volume (Rv) <i>cf</i>	Adjusted Required Volume (Rv) <i>cf</i>	
	<i>sf</i>	<i>acre</i>				
Prop. Roof	HSG A	55,562	1.28	0.60	2,778	3,658
Prop. Surface Impervious Area	HSG A	164,976	3.79	0.60	8,249	10,861
Total Proposed Impervious	HSG A	220,538	5.06	0.60	11,027	14,519
Existing Impervious	HSG A	688	0.02	0.60	34	45
Total Required Recharge Volume	HSG A	219,850	5.05	0.60	10,993	14,474

*recharge volume required for Hydrologic Group A Soils per Mass Stormwater Manual

Recharge Volume Adjustment

Proposed New Impervious Area Within the limit of Work	5.06
Proposed Impervious Area Within the limit of Work Directed to Recharge System	3.84
Proposed Impervious Area Within the limit of Work Not Directed to Recharge System	1.22
Percent Impervious Area Directed to Recharge System	75.9%
* Ratio of New Impervious Area to Impervious Area Directed to Recharge	1.32

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Provided Recharge Volume

	Surface Area <i>sf</i>	Recharge Provided <i>cf</i>	Notes
Subsurface System SIS-1	10,920	19,445	below outlet
Subsurface System SIS-2	7,800	11,507	below outlet
TOTAL		30,952	Combined, BMPs receive runoff from 3.84 acres impervious area or 76% of the total impervious area

Drawdown Time

	Recharge Volume <i>cf</i>	K (Rawls Rate) <i>in/hr</i>	Bottom Area <i>sf</i>	Time* <i>hr</i>
Subsurface System SIS-1	19,445	2.41	10,920	8.9
Subsurface System SIS-2	11,507	2.41	7,800	7.3

*Time = Recharge Volume / K * Bottom Area