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ALLEN & MAJOR ASSOCIATES, INC.

May 2, 2022

To: Alaa M. Abusalah
Director of Development & Inspectional Services/Town Planner
3 Washburn Square
Leicester, Massachusetts 01524

A&M Project #: 2889-01

Re: Skyview Estates
Drywell Design
651 Main Street
Map 21/Parcel B5.1

Copy: Kevin Quinn – Quinn Engineering

Dear Ms. Abusalah,

Per the instruction of the Planning Board the overall plans were revised to facilitate a minimum spacing between the homes of 20 feet. In doing so, the locations of the proposed drywells needed to be updated and the infiltration calculations updated.

Drywell Design

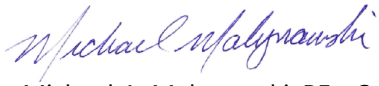
Per MA DEP Stormwater Management Standards, Volume 3, Chapter 1, *"Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures…"*. To overcome this, the project has proposed the installation of approximately 45 drywells to be constructed. Additionally, MADEP requires that such measures be situated a minimum of 2 vertical feet above the ESHWT. To better illustrate compliance with this A&M has prepared the following plan entitled "Test Pit Summary Plan, Sheet C-103E". In addition to providing the numerical separation between an observed ESHWT and the bottom of the drywells, the test pit logs were also included. Furthermore, calculations illustrating compliance with Standard #3 – Groundwater Recharge are attached.

Water Resources Protection Overlay District (WRPOD)

As indicated above, several drywells were removed as part of the design due to separation to ESHWT requirements. To illustrate compliance with the stormwater recharge standard, as enumerated in §7.1.04, 2, a, within the area designated at Water Resources Protection Overlay District, the previously prepared supplemental calculations which illustrate that the required infiltration is achieved within the area of the overlay district have been provided herein.

We trust that this explanation fulfills the request for additional information and illustrates that the project meets or exceeds normal engineering practices. We thank you in advance for your anticipated cooperation regarding this project and look forward to meeting to discuss the plans.

Very Truly Yours,
ALLEN & MAJOR ASSOCIATES, INC.



Michael A. Malynowski, PE - Senior Project Manager

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Project No.	2889-01	**Sheet**	1 of 1
Project Description	Skyview Estates		
	Leicester, MA		
Calculated By	JG	**Date**	04/29/22
Checked By	MAM		

TOTAL RECHARGE FOR ENTIRE PROJECT

Standard # 3: Groundwater Recharge

Proposed recharge system: Dry Well

In accordance with *MADEP – Volume 2, Technical Guide for Compliance with Massachusetts Stormwater Management Standards, dated January 2008*

A soils require a Volume to recharge of	**0.60**	**inches**
B soils require a Volume to recharge of	**0.35**	**inches**
C soils require a Volume to recharge of	**0.25**	**inches**
D soils require a Volume to recharge of	**0.10**	**inches**

Impervious area within: A-soils =	0	sf
Impervious area within: B-soils =	14,898	sf
Impervious area within: C-soils =	401,275	sf
Impervious area within: D-soils =	0	sf

Weighted Groundwater Recharge Depth = **0.25 in**

Total Site Volume required to be recharged =

416,172 sf x 1" / 12 x 0.25 in = **8,794 cf**

Site volume recharge provided by = volume within residential drywells

45 Drywells at each grouping of homes Volume= 196

= **8,820** c.f. Total Volume Recharged > **8,794 cf** (OK)

Unit #01	=	Drywell #01	Unit #28	=	Drywell #26
Unit #01	=	Drywell #02	Unit #28	=	Drywell #27
Unit #02	=	Drywell #03	Unit #32	=	Drywell #28
Unit #02	=	Drywell #04	Unit #32	=	Drywell #29
Unit #03	=	Drywell #05	Unit #33	=	Drywell #30
Unit #04	=	Drywell #06	Unit #33	=	Drywell #31
Unit #05	=	Drywell #07	Unit #33	=	Drywell #32
Unit #06	=	Drywell #08	Unit #34	=	Drywell #33
Unit #07	=	Drywell #09	Unit #34	=	Drywell #34
Unit #08	=	Drywell #10	Unit #35	=	Drywell #35
Unit #09	=	Drywell #11	Unit #35	=	Drywell #36
Unit #10	=	Drywell #12	Unit #36	=	Drywell #37
Unit #11	=	Drywell #13	Unit #36	=	Drywell #38
Unit #12	=	Drywell #14	Unit #37	=	Drywell #39
Unit #12	=	Drywell #15	Unit #37	=	Drywell #40
Unit #13	=	Drywell #16	Unit #38	=	Drywell #41
Unit #13	=	Drywell #17	Unit #39	=	Drywell #42
Unit #14	=	Drywell #18	Unit #39	=	Drywell #43
Unit #15	=	Drywell #19	Unit #39	=	Drywell #44
Unit #15	=	Drywell #20	Unit #39	=	Drywell #45
Unit #16	=	Drywell #21			
Unit #16	=	Drywell #22			
Unit #17	=	Drywell #23			
Unit #18	=	Drywell #24			
Unit #18	=	Drywell #25			

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RECHARGE CALCULATION FOR AREA WITHin WATERSHED OVERLAY PROTECTION DISTRICT ONLY

Standard # 3: Groundwater Recharge

Proposed recharge system: Dry Well

In accordance with *MADEP – Volume 2, Technical Guide for Compliance with Massachusetts Stormwater Management Standards, dated January 2008*

A soils require a Volume to recharge of	**0.60**	**inches**
B soils require a Volume to recharge of	**0.35**	**inches**
C soils require a Volume to recharge of	**0.25**	**inches**
D soils require a Volume to recharge of	**0.10**	**inches**

Impervious area within: A-soils =	0	sf
Impervious area within: B-soils =	566	sf
Impervious area within: C-soils =	171,496	sf
Impervious area within: D-soils =	0	sf

Weighted Groundwater Recharge Depth = **0.25 in**

Total Site Volume required to be recharged =

172,062 sf x 1" / 12 x 0.25 in = **3,589 cf**

Site volume recharge provided by = volume within residential drywells

House Drywell = 196 cf

Unit #28	Drywell #26	=	196	cf
Unit #28	Drywell #27	=	196	cf
Unit #32	Drywell #28	=	196	cf
Unit #32	Drywell #29	=	196	cf
Unit #33	Drywell #30	=	196	cf
Unit #33	Drywell #31	=	196	cf
Unit #33	Drywell #32	=	196	cf
Unit #34	Drywell #33	=	196	cf
Unit #34	Drywell #34	=	196	cf
Unit #35	Drywell #35	=	196	cf
Unit #35	Drywell #36	=	196	cf
Unit #36	Drywell #37	=	196	cf
Unit #36	Drywell #38	=	196	cf
Unit #37	Drywell #39	=	196	cf
Unit #37	Drywell #40	=	196	cf
Unit #38	Drywell #41	=	196	cf
Unit #39	Drywell #42	=	196	cf
Unit #39	Drywell #43	=	196	cf
Unit #39	Drywell #44	=	196	cf
Unit #39	Drywell #45	=	196	cf
	Total	=	*3920*	*cf*

= **3,920** c.f. Total Volume Recharged > **3,589 cf** (OK)