Atlantic
DESIGN ENGINEERS, INC.

September 1, 2022

Neal Price
Associate Principal, Senior Hydrogeologist
Horsley Witten Group
90 Rt. 6A, Unit 1
Sandwich, MA 02563

RE: Response to Recommendations from Horsley Witten Group, Inc.
E-Mail Dated August 3, 2022
91 and 101 Fearing Hill Road Solar Project – Wareham, MA
ADE Job #3055.02

Dear Mr. Price:

This response letter addresses the recommendations made in your e-mail dated August 3, 2022 for the above-referenced project. Please note that your recommendations are in bold text, and our responses follow in italics:

4. In the Post-Development HydroCAD model (REV3) the Applicant has updated the railroad grade storage to only include the area directly related to the single culvert. The Applicant has not provided the revised Pre-Development model. **The Applicant should confirm the storage area has been updated in both the Pre- and Post-Development models.**

   The storage area has been updated in both the Pre- and Post-Development models. Refer to Stormwater Addendum #3.

5. The Applicant has made changes to the diversion swale.

   a. In the revised HydroCAD model, the Applicant has reduced the slope to the minimum slope of the whole swale but is still modeling the swale as one item with a constant slope. While this change partially addresses the concerns about the areas with shallow slope, it does not address previous concerns about the areas

P.O. Box 1051
Sandwich, MA 02563
(508) 888-9282 · FAX 888-5859
email: ade@atlanticcompanies.com
www.atlanticcompanies.com

with steeper slopes. **HW still recommends splitting the swale into multiple sections to more accurately model slope, velocity, and depth.**
The swale modeling has been divided up into multiple sections and the capacity calculations as well as the rip-rap sizing and impact basin calculations have been updated accordingly. Refer to Stormwater Addendum #3.

b. The diversion swale ends before it reaches the stormwater basin, while the underlying 6-inch pipe in stone continues father down the hill to discharge at the stormwater basin. The Applicant has added a rip rap apron at both ends of the pipe to prevent erosion. It appears that the apron for the pipe may be undersized. **HW recommends the Applicant check sizing on the pipe apron and update both rip rap aprons to accommodate any changes to velocity based on HydroCAD changes suggested in 5.a. above.**

The rip-rap apron sizing calculations have been updated accordingly in Stormwater Addendum #3.

c. The Applicant has changed the erosion control matting to a biodegradable version. *This recommendation has been addressed to HW satisfaction.*

6. As previously noted, details of that monitoring plan are currently being discussed and will be determined prior to final approval. **HW notes that the Planning Board and/or Conservation Commission may include this in their conditions.**

No response necessary.

7. The Applicant has provided calculations for the scour pool sizing. **HW requests that the Applicant provide the formulas that were used to calculate the scour pools. If necessary, the Applicant should update the scour pools to accommodate any changes to velocity based on HydroCAD changes suggested in 5.a. above.**

These formulas and scour pool calculations were updated accordingly in Stormwater Addendum #3.

8. The Applicant has provided an additional detail for the diversion swale/trench crossing at the access road. The detail includes the underground trench but the plans indicate that the berm and swale end before the road. HW is concerned that any flow in the swale (above

the stone trench) will not cross the access road but will flow down the access road, back toward Fearing Hill Road. **HW recommends the applicant provide further detail about this area to ensure that short-circuited overland flow down the access road does not occur.**

The access road in this area has been revised to provide a high point immediately downgradient of the diversion trench road crossing, preventing bypass of the trench. Refer to the revised grading design and the detail on the site plans.

HW also had the following new recommendations:

9. The Applicant has proposed to pave the first 50 feet of the access road, per Charles Rowley's recommendation. HW notes that stormwater for the access road below the diversion swale crossing, and immediately surrounding area, is unmanaged outside of the addition of a stone swath on each side of the access road. It is unclear to what extent this proposed stone will capture and manage the road runoff and to what extent runoff may exit the site onto Fearing Hill Road. **HW recommends that this area be modeled as a separate drainage area with sufficient stormwater management practices to prevent any increase in runoff to Fearing Hill Road under proposed conditions.**

   As discussed, we have revised the entrance road grading design to provide a low point in the access road, preventing any runoff from the access road discharging onto Fearing Hill Road. A rip-rap/swale is provided along with sizing calculations. This will maintain the existing/current pattern of runoff from the site alongside Fearing Hill Road to the ultimate design point of the railroad grade/ditch.

10. **As part of the SWPPP, the Applicant should ensure that until the site is stabilized, stormwater should not be directed to the final stormwater basins, as this will compromise their functionality long term.**

    As discussed, because the stormwater basins are not designed to infiltrate, they will be utilized as temporary sediment forebays until the site is fully stabilized.

    A construction phasing/erosion control plan has been added to the plan set.

Please call us at (508) 888-9282 if you should have any questions.

Sincerely,

ATLANTIC DESIGN ENGINEERS, INC.

Richard J. Tabaczynski, P.E.
Vice President

RJT/rp

CC: Wareham MA 3, LLC
Charles Rowley
Wareham Planning Board