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August 5, 2025

Ms. Jacki Byerley, Planner
Andover Planning Board
Town Office
36 Bartlett Street
Andover, MA 01810

Re: Fifth Peer Review of the Stormwater Design
Ministers Estates Subdivision
39 Sunset Rock Road, Andover, MA

Dear Ms. Byerley and Members of the Board:

The Horsley Witten Group, Inc. (HW) is pleased to provide the Andover Planning Board with this letter summarizing our fifth peer review of the stormwater management for the proposed Ministers Estates definitive subdivision located at 39 Sunset Rock Road in Andover, Massachusetts. We understand that Ministers Lane LLC (Applicant) has applied for the Approval of Definitive Plan for a five-lot subdivision on a 4.90-acre parcel. The Applicant is proposing to construct a 480-foot-long cul-de-sac, with sewer, water, and stormwater management to access the five proposed house lots. The stormwater management includes deep sump catch basins, a grassed swale, and a detention basin with a forebay. The roof runoff from the individual houses will be managed by subsurface infiltration chambers. No wetlands are indicated on the Existing Conditions Plan.

HW conducted a site visit with the Planning Board on June 3, 2025.

The following additional documents and plans were received by HW in response to our July 18, 2025 fourth review letter:

- Letter to Andover Planning Board, regarding the Response to 4th Peer Review of the Stormwater Design, Ministers Estates, prepared by DK Engineering LLC, dated July 29, 2025 (2 pages);
- Email to Jacki Byerley, from Daniel Koravos, dated August 4, 2025 (2 pages);
- Supplemental Project Report on Drainage & Sedimentation Control & Stormwater Report, Ministers Estates, prepared by DK Engineering LLC, dated April 14, 2025, revised August 4, 2025 (50 pages); and
- Definitive Subdivision Plan - Ministers Estates, prepared by DK Engineering LLC, dated April 14, 2025, revised through July 24, 2025 (4 pages) which includes:
    - o Grading Plan 4 of 10
    - o Plan & Profile Sheet 6 of 10
    - o Drainage Detail Sheet #1 7 of 10
    - o Drainage Detail Sheet #2 8 of 10

Stormwater Review

HW has reviewed the documents listed above and has the following comments concerning the stormwater management design in accordance with the Massachusetts Stormwater Handbook (MSH) dated February 2008, and the Town of Andover Stormwater Management and Erosion Control Regulations amended May 11, 2021 (Stormwater Regulations).

In accordance with Section VI. B. of the Andover Stormwater Regulations the Stormwater Management Permit and Narrative provided by the Applicant shall contain sufficient information to verify compliance with the local Stormwater Bylaw and the MassDEP Stormwater Management Handbook (MSH). Below are comments relating to the standards as presented in the MSH. Where the more stringent requirements of the Andover Stormwater Regulations are applicable, those comments are included.

The following comments correlate to our fourth review letter dated July 18, 2025. Comments previously addressed have been eliminated for simplicity. Follow up comments are provided in ***bold italicized underlined font*** where applicable.

1. *Standard 1: No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly or cause erosion in wetlands or waters of the Commonwealth.*
   a. Previously addressed.
2. *Standard 2: Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.*
   a. Previously addressed.
   b. Previously addressed.
   c. Previously addressed.
   d. Previously addressed.
   e. Previously addressed.
   f. The Applicant has provided a Post-Development HydroCAD model. There are multiple nodes regarding infiltration trenches. (Nodes 24, 34, 44) It is unclear where these trenches are on the plans. HW recommends that the Applicant clearly label these stormwater practices on the Grading & Erosion Control Plan. HW further recommends that the Applicant consider providing a separate plan for the stormwater management and utilities layout.

      June 20, 2025: The Applicant has labeled the infiltration trenches on the Grading and Drainage plan. It is unclear how these trenches are connected or receive stormwater. HW recommends that the Applicant clarify the design intent and use in the stormwater narrative and on the grading plans. Furthermore, HW recommends that the Applicant review the setback requirements from slopes as listed in Volume 2, Chapter 2, page 97 of the MSH and confirm the placement of the trenches complies with the requirements.

      July 10, 2025: The Applicant has proposed area drains to capture runoff upgradient of the infiltration trenches and has added 6-inch outlets that are directed towards the southern property line. The HydroCAD model and the plan set are not consistent. For example, the HydroCAD indicates that the top of Infiltration Trench #1 is set at elevation 210.8 feet, with primary 6-inch outlets at elevation 208.75, and the secondary 10-inch outlets at elevation 210.0. Sheet 4

indicates that the southern edge of the trench (top of level spreader) is set at elevation 210, with 6-inch outlets at elevation 208.50 and 10-inch outlets at elevation 208.00. As drawn, it is not obvious where the 6-inch outlets will be installed. It is HW's opinion that the 6-inch outlets should be set at the top of the infiltration trenches as overflow devices. However, it is not clear if that is the intention of the proposed design.

July 18, 2025: The Applicant has made some adjustments to Infiltration Trench #1 and added additional details for clarification. However, the 10-inch outlet device is modeled at elevation 209.73 but is listed on the plan set at elevation 208.0. Furthermore, the 24-inch storage pipes are set with a bottom elevation at 205.3, top elevation at 207.3. The detail on Sheet 8 appears that the 10-inch outlet pipes are connected to the 24-inch storage pipes. However, the 10-inch outlet is higher than the storage pipes. HW recommends that the cross section detail includes the 10-inch outlet pipe and the size of the 24-inch HDPE Perf Pipes be adjusted so they are more proportionally accurate.

August 5, 2025: The Applicant has clarified the design intent and has adjusted the plans and the HydroCAD model as suggested. No further action is requested.

July 18, 2025: Infiltration Trench #2 has been modeled with the 6-inch outlet device at elevation 210.27. However, Sheet 4 calls out the inverts at elevation 210.18. HW further notes that the HydroCAD model uses horizontal orifices for the outlet devices for Infiltration Trench #2 and #3 while it appears that these devices are all vertical. HW recommends that the Applicant revise the plans or calculations for consistency.

August 5, 2025: The Applicant has adjusted the plans and the HydroCAD model as suggested. No further action is requested.

July 10, 2025: The Applicant has included a level spreader on the southern side of Infiltration Trench #1. HW recommends that the Applicant includes a detail that clearly illustrates the material and dimensions proposed for the level spreader to confirm it will be constructed and remain level at elevation 208.0 as designed.

July 18, 2025: The Applicant has included a detail for the Level Spreader on Sheet 7, provided below. The level spreader is approximately 55 feet long and must be set at elevation 208.0 for the entire 55 feet. HW recommends that the Applicant includes a detail that clearly illustrates the material and dimensions proposed for the level spreader to confirm it can be constructed level at elevation 208.0 as designed. The detail below lacks the type of material proposed and the means to maintain elevation 208 for 55 feet.

August 5, 2025: The Applicant has reduced the length of the level spreader and provided additional construction details on Sheet 8. The HydroCAD model indicates that erosion should not be an issue if the concrete berm is installed at a level elevation of 208.0 for 40 feet. The Planning Board may choose to require an as-built plan of the entire stormwater system including the level spreader as a condition of approval.

g. Previously addressed.

h. Previously addressed.

i. Previously addressed.

j. Previously addressed.

k. Previously addressed.

l. Previously addressed.

m. Previously addressed.

n. Previously addressed.

o. Previously addressed.

p. Previously addressed.

3. *Standard 3 requires that the annual recharge from post-development shall approximate annual recharge from pre-development conditions.*

   a. Previously addressed.

4. *Standard 4 requires that the stormwater system be designed to remove 80% Total Suspended Solids (TSS) and to treat 1-inch of volume from the impervious area for water quality. The Town of Andover requires stormwater management systems to remove TSS at a rate of 90% and total Phosphorus at a rate of 60% for new projects and 80% and 50%, respectively for redevelopment projects.*

   a. Previously addressed.

5. *Standard 5 is related to projects with a Land Use of Higher Potential Pollutant Loads (LUHPPL).*

   a. Standard 5 is not applicable.

6. *Standard 6 is related to projects with stormwater discharging into a critical area, a Zone II, or an Interim Wellhead Protection Area of a public water supply.*

   a. Standard 6 is not applicable.

7. *Standard 7 is related to projects considered Redevelopment.*

   a. Standard 7 is not applicable.

8. *Standard 8 requires a plan to control construction related impacts including erosion, sedimentation, or other pollutant sources.*

   a. The proposed project will be disturbing greater than one acre of land. A SWPPP is required by EPA for land disturbance of greater than 1 acre. The Applicant has provided recommended erosion controls to be included in a SWPPP in Section V. of the Stormwater Report. The SWPPP should include source control and pollution prevention measures, stormwater practices to address erosion and sedimentation, stabilization measures, and procedures for operating and maintaining the proposed stormwater practices. The plan should also identify the parties responsible for implementing the plan. HW recommends that the Planning Board requires receipt of a final signed SWPPP a minimum of 14 days prior to land disturbance.

      June 20, 2025: Suggested Condition of Approval.

   b. Previously addressed.

9. *Standard 9 requires a Long-Term Operation and Maintenance (O & M) Plan to be provided.*

   a. Previously addressed.

10. *Standard 10 requires an Illicit Discharge Compliance Statement be provided.*
    a. Previously addressed.
11. Previously addressed.
12. ***July 18, 2025: HW notes that the catchment area B11 that discharges via a single catch basin to the infiltration basin has a peak flow of 5.3 cfs during a 10-year storm event. The peak flow is 7.1 cfs during a 25-year storm event per the HydroCAD model. HW recommends that the Applicant propose a double catch basin instead of the single catch basin at the end of the cul-de-sac and confirm that the proposed grate inlet can manage the flow directed towards it.***

    August 5, 2025: The Applicant has proposed a double catch basin as suggested. No further action is requested.

Conclusions

HW is satisfied that the Applicant has adequately addressed our comments. The Applicant is advised that the provision of these comments does not relieve him/her of the responsibility to comply with all Town of Andover Codes and By-Laws, Commonwealth of Massachusetts laws, and federal regulations as applicable to this project. Please contact Janet Bernardo at 508-833-6600 or at jbernardo@horsleywitten.com if you have any questions regarding these comments.

Sincerely,

HORSLEY WITTEN GROUP, INC.

Janet Carter Bernardo

Janet Carter Bernardo, P.E.
Principal