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November 25, 2025

Andover Conservation Commission
Town Office
36 Bartlett Street
Andover, MA 01810

Re: Second Peer Review of the Stormwater Design
305 North Main Street
Andover, Massachusetts
MassDEP File No. 090-1453

Dear Chairman Cooper and Members of the Commission:

The Horsley Witten Group, Inc. (HW) is pleased to provide the Andover Conservation Commission with this letter summarizing our second peer review of the stormwater management for the proposed commercial redevelopment located at 305 North Main Street in Andover, Massachusetts. We understand that The Engineering Corp, Inc. (TEC) on behalf of Lupoli Companies (Applicant) has submitted a Notice of Intent to redevelop the 1.76-acre parcel. The Applicant is proposing to convert the existing building to commercial office use and upgrade the utilities, parking lot, and stormwater management. The stormwater management includes a new closed drainage system, four water quality units and one infiltration basin on the existing drain line. The parcel is located within the Riverfront Area of the Shawsheen River and within Bordering Land Subject to Flooding (BLSF).

The following additional documents and plans were received in response to our initial peer review letter dated October 17, 2025:

- Responses to Stormwater Peer Review Comments, 305 North Main Street, Andover, MA, prepared by The Engineering Corp., Inc., dated November 13, 2025 (7 pages);
- Drainage Report, 305 North Main Street, Andover, Massachusetts, prepared by The Engineering Corp., Inc., dated November 13, 2025 (175 pages); and
- Site Plans for Proposed Redevelopment at 305 North Main Street, Andover, MA, prepared by The Engineering Corp., Inc., dated September 30, 2025, revised November 12, 2025 (14 sheets) which include:
  - Title & Index Sheet C-1
  - Legend & General Notes C-2
  - Demolition, Erosion & Sediment Control Plan C-3
  - Layout & Materials Plan C-4
  - Grading, Drainage & Utilities Plan C-5
  - Landscaping Plan C-6
  - Construction Details C-7
  - Construction Details C-8

- o Construction Details C-9
- o Construction Details C-10
- o Construction Details C-11
- o ALTA/NSPS Land Title Survey
- o Architectural Elevations (Maguiles Perruzzi) A-301
- o Site Lighting Plan (SK & Associates) SL1

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 initial peer review letter dated October 17, 2025. Follow up comments are provided in bold font.

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. The Applicant has analyzed the pre- and post-development stormwater runoff for the site. Under existing conditions, the site sheet flows to the Shawsheen River which runs along the eastern edge of the property. The Applicant has identified this as a single study point (DP-A) onsite in both pre- and post-development conditions. There are three existing outfalls that discharge to the study point. Under proposed conditions, there will be a reduction of impervious cover. Runoff from the proposed impervious cover is directed to catch basins and area drains onsite that lead to water quality units located on the east side of the development. The proposed water quality units will discharge through two of the existing outfalls. It appears one of the areas being drained onsite collects water from multiple area drains, routing a force main which pumps stormwater to an existing catch basin which connects to the third existing outfall. HW recommends that the Applicant investigate options to provide water quality at the third outfall. As proposed, there is a concern that the sediment collected in the existing catch basin will be resuspended and discharged to the Shawsheen River.

      November 25, 2025: The Applicant has stated that providing a water quality unit at the third outfall presents challenges related to both cost and site disturbance. The third outfall only receives a small portion of runoff (approximately 4.9%) from the site area, and the current proposed improvements will achieve approximately 88% total suspended solids (TSS) removal without adding an additional water quality unit. The Applicant has stated that the existing drainage structures will be vacuumed prior to being placed back online and it has included cleaning of the onsite catch basins four times a year. HW finds the Applicant's response reasonable.

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. HW has reviewed the Pre-Development and Post-Development Drainage Maps and the calculations. The report states the total impervious area will increase between the pre and post conditions. However, the areas noted in the summary tables on the Drainage Maps indicate the impervious area will decrease. HW recommends that the Applicant review the report and summary tables and revise as needed.

      <u>November 25, 2025:</u> The Applicant has revised the report and the summary tables, and it shows a slight decrease (686 square feet) in impervious area post development. The Applicant has also updated the HydroCAD model accordingly. No further action is requested.

   b. The Applicant has calculated the runoff using the rational method. The Applicant has shown a reduction in impervious area with the Drainage Maps provided. The routing of the closed pipe network does not appear to be altered. HW acknowledges, pipe networks being similar, that the reduction in impervious area may lead to a reduction in peak discharge. However, the Andover Stormwater Regulations Section IX.E. requires hydrographs to be prepared using the pre- and post-developed condition, curve number values as provided in the section, and TR-55 or TR-20 analysis to develop hydrographs and peak flow rates for the proposed development site. HW recommends that the Applicant reviews the Andover Section IX design criteria and provides the requested documentation.

      <u>November 25, 2025:</u> The Applicant has provided hydrographs and curve number values for the pre- and post-developed condition in Appendix A of the Drainage Report, the TR-20 method has been used to develop peak flow rates and hydrographs. The values presented appear reasonable. No further action is requested.

   c. The Applicant has provided NOAA Atlas 14 rainfall data. HW concurs with the precipitation rates utilized in the HydroCAD model.

      <u>November 25, 2025:</u> HW has no further comments.

   d. The Applicant has proposed routing an existing catch basin on the south side of the parcel to a proposed water quality unit in the parking lot area via a proposed pipe labeled P-11. HW recommends that the Applicant clarify what will happen to the existing 12-inch reinforced concrete pipe (RCP) from the catch basin.

      <u>November 25, 2025:</u> The Applicant has removed pipe P-11 in the original design to allow installation of a proposed water quality unit, and it has proposed a 12-inch HDPE (P-8) pipe to be installed as shown on Sheet C-5 of the Site Plans. HW recommends that the Applicant clarify what will happen to the existing 12-inch RCP from the catch basin.

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

   a. The Applicant has increased the total pervious area on the parcel by 1,583 sf therefore increasing the recharge volume slightly. HW recommends that the Applicant document that it has provided additional recharge to the maximum extent practicable in accordance with the Andover Stormwater Regulations Section IX.B.2.c.

<u>November 25, 2025:</u> The Applicant has revised the pre- and post-development drainage area summary tables in the Drainage Report, and it shows a 686-sf decrease in impervious area. The Applicant has also conducted soil testing and designed a small infiltration basin to provide additional recharge to the maximum extent practicable. HW finds the addition of the infiltration basin and the Applicant's documentation of the onsite conditions to be acceptable.

b. The Applicant has stated there is no area within the limit of work to provide recharge. The proposed project includes milling and overlaying most of the existing parking lot and retrofitting the existing drainage network. Furthermore, It does not appear that the Applicant has provided test pits or a geotechnical report of the site to justify the inability to provide recharge onsite. HW recommends that the Applicant review the site design to incorporate some recharge onsite or provide additional documentation confirming that recharge onsite is not feasible due to poor soils or high groundwater.

<u>November 25, 2025:</u> The Applicant has provided the test pits logs in the Drainage Report, and it has proposed a shallow infiltration basin with a bottom elevation of 33.5 feet in the existing central landscape island located in the southern parking lot to provide additional recharge. The Applicant has further noted that the proposed infiltration basin will provide approximately 23% of the required 1,139.6 cubic feet of recharge. The Applicant has also evaluated the feasibility of other subsurface infiltration practices; however, due to high groundwater level of 31.5 feet and the site's location entirely within the floodplain, it has concluded that the proposed infiltration basin is the most feasible option. No further action is requested.

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 (TP) at a rate of 60% for new projects and 80% and 50%, respectively for redevelopment projects.*

a. Per the Andover Stormwater Regulations Section IX.C.2.f. pretreatment structures shall be sized to hold an annual sediment loading. HW recommends that the Applicant provide the applicable calculation to confirm it has met this requirement.

<u>November 25, 2025:</u> The Applicant has provided the annual sediment loading calculation in the Responses to Stormwater Peer Review Comments, and it has stated that the 73.2 cubic feet annual sediment loading requirement is met by the proposed design. HW notes that the Applicant has used conflicting values of 14 CF/WQU and 24 CF/WQU for the proposed Contech Cascade Separator (WQU). HW recommends that the Applicant clarify the values and the calculation for documentation purposes. HW agrees that the Applicant has met the requirement.

b. Per Section IX.D.1, stormwater systems shall be designed to remove a percentage of total suspended solids and total phosphorus. The Applicant has not provided TSS or TP removal calculations for this project. HW recommends that the Applicant submit documentation showing the treatment train(s) to confirm removal at the redevelopment specified rate.

<u>November 25, 2025:</u> The Applicant has revised the proposed system, and it has included one Contech Cascade water quality unit, two Contech Jellyfish filters, one Contech Filterra Bioscape unit and one infiltration basin. The Applicant has provided third-party TSS and TP removal calculations in Appendix B of the

Drainage Report, and it shows that 88% TSS and 73% TP removal rate will be achieved under the proposed systems. No further action is requested.

c. The Applicant has provided two Contech CDS water quality units. HW recommends that the Applicant provide documentation from a third party that confirms the percentage of TSS removal provided.

<u>November 25, 2025:</u> The Applicant has provided third-party TSS and TP removal calculations in Appendix B of the Drainage Report, and it shows that 88% TSS and 73% TP removal rate will be achieved under the proposed systems, meeting the requirement for redevelopment projects. No further action is requested.

d. HW recommends that the Applicant document if the Shawsheen River is subject to a Total Maximum Daily Load (TMDL) per Section IX.D.2.

<u>November 25, 2025:</u> The Applicant has stated that the Shawsheen River is subject to a TMDL per Attains Action ID 2587 due to bacterial contamination. No further action is requested.

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

   a. HW notes that proposed development is not considered a land use of higher potential pollutant load. Therefore, Standard 5 is not applicable.

   <u>November 25, 2025:</u> HW has no further comments.

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. The proposed development is not discharging near or into a critical area, Zone II, or an IWPA area; therefore Standard 6 is not applicable. No further action is requested.

   <u>November 25, 2025:</u> HW has no further comments.

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

   a. The Project is proposed to decrease the total impervious area at the site and is therefore considered a Redevelopment. HW recommends that the Applicant review the comments noted within this letter for compliance with Standard 7 and document how it is improving existing conditions.

   <u>November 25, 2025:</u> The Applicant has stated that the proposed improvements will enhance the existing conditions by reducing the site impervious area by 686 sf, and decreasing the total average annual load of TP and TSS post development. No further action is requested.

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 Stormwater Pollution Prevention Plan (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 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. The Applicant has stated a SWPPP will be provided to the Conservation Commission for review prior to land disturbance. HW recommends that the Commission requires receipt of a final signed SWPPP a minimum of 14 days prior to land disturbance.

November 25, 2025: Suggested Special Condition.

b. The Applicant has provided a General Plan and erosion controls details in the plan set. It is unclear where some of the proposed erosion controls are being used. HW recommends delineating a limit of work on the plans, construction entrance, limits of the proposed mill and overlay onsite, and limits of saw cuts for utilities and pavement replacement to help identify locations where erosion controls are needed.

November 25, 2025: The Applicant has provided a limit of work, the construction entrance, and limits of saw cuts for utilities and pavement replacement on Sheet C-3 of the Site Plans. No further action is requested.

c. HW recommends that the Applicant clarify where silt fence and catch basin inlet protection will be used onsite. HW further recommends that catch basin inlet protection be installed in all structures within 100 feet of the site construction entrance.

November 25, 2025: The Applicant has provided the location of the silt fence and the catch basin inlet protection to be installed for erosion control on Sheet C-3 of the Site Plans. It has also stated that catch basin inlet protection shall be provided for all drainage structures within 100 feet of the site construction entrance. No further action is requested.

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

a. In the Stormwater Management Report, the Applicant has provided a Long-Term O&M Plan. The O&M Plan has included the parties responsible, descriptions of the various stormwater practices, clear descriptions of how they should be maintained, and the frequency of inspections. HW recommends providing a maintenance log with the O&M plan for use by the property owner post construction. HW further recommends a simple sketch to illustrate where the practices are located on the site, and a budget, so that the property owner understands what to expect.

November 25, 2025: The Applicant has provided a maintenance log for use by the property owner, a site sketch illustrating the location of the proposed practices and a budget outlining expected costs in Appendix D of the Drainage Report. No further action is requested.

b. The Applicant has provided a Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan. The Plan references compost filter tubes but it is unclear where these are used on the plan set or in the O&M Plan. HW recommends that the Applicant review and revise the O&M Plan as needed.

November 25, 2025: HW notes that the Applicant has provided the location of the proposed compost filter tubes on Sheet C-3 of the Site Plans. No further action is requested.

10. *Standard 10 requires an Illicit Discharge Compliance Statement be provided.*

a. The Applicant has provided a signed Illicit Discharge Compliance Statement. No further action is requested

November 25, 2025: HW has no further comments.

11. *Additional Comments*

a. The Applicant does not appear to have provided phosphorus removal calculations as required by Section IX.D of the Andover Stormwater Regulations.

November 25, 2025: The Applicant has provided phosphorus removal calculations as required. See comment 4.b. No further action is requested.

b. The entire site is within the floodplain. The Applicant is calling for demolition of an existing shed and construction of ramps onsite. It appears that the change in topography may be minimal as a result of the demolition and construction. The Applicant has stated in the NOI that there will be a net gain of 2,084 cubic feet between elevations 28 and 38. HW recommends that the Applicant provide the evaluation of the pre- and post-development compensatory flood storage for documentation purposes.

November 25, 2025: The Applicant has provided the evaluation of the pre- and post-development compensatory flood storage in Figure 3 of the Drainage Report. No further action is requested.

c. HW recommends that the Applicant illustrate on the Site Plans where the floodway associated with the Shawsheen River is in proximity to the parcel.

November 25, 2025: The Applicant has included the 100-year Floodplain on the Location Map on Sheet C-1 of the Site Plans, and it has stated that the delineation is located beyond the limits of the site. No further action is requested.

Conclusions

HW is satisfied that the Applicant has adequately addressed our comments. We suggested that the Applicant provide the Commission with a response to comment 2.d. 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.

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Principal

Chelsea Yuan
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CC: Andover Planning Board