



**TOWNSHIP
OF
LOWER MERION**
MONTGOMERY COUNTY

TOWNSHIP ENGINEER

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LOWM 256.20

November 25, 2019

Christopher Leswing, Director of Building and Planning
Township of Lower Merion
75 East Lancaster Avenue
Ardmore, PA 19003

Re: 930 Stoke Road and 1701, 1725 Mt. Pleasant Road Subdivision
Tentative Sketch Review

Dear Mr. Leswing:

In accordance with your request for the above referenced submission, we have reviewed a set of Five (5) plans dated 02-14-18, latest revision dated 11-14-19, prepared by Momenee, Inc. We offer the following comments for your consideration:

A. MAJOR ENGINEERING ISSUES

- ❖ **Stormwater**—The proposed drainage patterns have not been shown on the plan. Areas to be directed to the stormwater beds and those to be uncontrolled are not clearly shown. The stormwater facilities must also be demonstrated, if feasible, to recharge the increased volume of runoff from the twenty-five (25) year storm. They must be able to drain in the code required twenty-four (24) hours for all rate control volume. Infiltrometer tests must be performed and submitted for review in order to demonstrate that code requirements have been met.

With the resolution of the above major engineering issue and the remaining comments in this letter incorporated, we recommend that the Tentative Sketch be approved.

B. ORDINANCE REQUIREMENTS

1. Section 101-5D(1)—The wetland report used to determine the limits of the wetlands shown on the plan shall be submitted for review. The wetland line shall be clearly shown on the Open Space Tentative Sketch Plan in order to determine the relation to the proposed improvements. The delineation must be confirmed by the Township Engineer's office prior to approval of the Preliminary Plan. Revisions to the delineation line shall be performed if/as required depending on the verification.
2. Section 101-5D(3)—The driveway location for the proposed new lot and single family dwelling shall be revised as required to prevent disturbance to any wetlands.

3. Section 101-6A(1)—All woody vegetation to be retained within twenty-five (25') feet of a building site or disturbed area shall be protected from equipment damage by fencing placed at the driplines. Accurate location of the driplines must be shown on the plans. If the tree protection fence is not shown at the driplines of all trees to remain, the Township Arborist must approve the location. This will be fully evaluated with the Preliminary Plans
4. Section 101-6A(5)—No impervious cover shall be permitted within the driplines of trees to remain without approval from the Township Arborist. The Township Arborist must approve the location and extent of the impervious surfaces if the impacted trees are scheduled to remain. This will be fully evaluated with the Preliminary Plans.
5. Section 101-6A(6)—Grade changes around the driplines of trees to be retained shall be minimized. Impacted trees shall be clearly identified on the plan. Treatment of the impacted trees prior to construction to protect the root system shall be performed if/as directed by the Township Arborist. The Township Arborist must also approve the procedure. This will be fully evaluated with the Preliminary Plans.
6. Section 101-6A(8)—Should any trees not scheduled or permitted to be removed be irreparably damaged during construction and die within eighteen (18) months of the conclusion of construction activities, those trees will be required to be replaced in accordance with the provision of Section 101-9A(2).
7. Section 101-6B(2)—If trenches for storm facilities are proposed within the driplines of trees, all disturbed roots must be cut as cleanly as possible. The trench must be backfilled as quickly as possible, avoiding compaction. Tree limbs must be cut back in proportion to the root area loss. This shall be noted on the Preliminary Plans and made a condition of permit issuance.
8. Section 121-4A(1b)1—As the property is located within the Lower Merion Act 167 Drainage Area Release Rate District 1-6, the two (2) year post development peak rate of runoff shall be controlled to the one (1) year pre-development peak rate of runoff. The five (5) year frequency storm must be controlled to the two (2) year pre-development rate. For the ten (10), twenty-five (25) year, fifty (50) and one hundred (100) year storms, the post development rate shall be controlled to the peak discharges which occurred prior to development in the respective storm frequencies. This will be evaluated with the Preliminary Plan submission.
9. Section 121-4A(23)—Since a perennial or intermittent stream passes through the site, a stream buffer must be maintained to a minimum of fifty (50') feet to either side of the top-of-bank of the channel. The buffer area shall provide appropriate native vegetation. Appendix H of the Pennsylvania Handbook of Best Management Practices for Developing Areas shall be used for the plant list. This shall be evaluated with the Preliminary Plans.
10. Section 135-16B(14), 121-4E(1b), 121-15 —All proposed drainage patterns have not been clearly indicated on the tentative sketch plans. All areas to have runoff collected and conveyed to a storm facility and those to be left uncontrolled shall be clearly identified.

Discharge from the stormwater basins shall be converted from a concentrated flow to a sheet flow. The overflow shall be piped to a level spreader, bubble-up spreader or if determined to be feasible, conveyed to an existing storm sewer system. Details must be fully evaluated with the Preliminary Plan.

11. Section 135-16B(15), Section 121-4A(2)—The roof drains from the proposed dwelling have not been shown to be directly connected to the seepage bed. The location, material, size and slope of all lines must be indicated. The capacity of the design must be documented clearly in the calculations. This will be fully evaluated with the Preliminary Plans
12. Section 121-4B(2a)1—The increased volume of stormwater generated by the proposed development for the twenty five (25) year storm shall be recharged. Calculations documenting this shall be submitted. This will be fully evaluated with the Preliminary Plans.
13. Section 121-4B(2d)3—Field tests such as double ring infiltrometer or hydraulic conductivity tests shall be performed at the level of the soil infiltration in order to demonstrate adequate design parameters. Complete test reports must be submitted. The location of each test must be indicated on the plan. This will be fully evaluated with the Preliminary Plans.
14. Section 121-4E(1b)—Discharge from the stormwater basins shall be converted from a concentrated flow to a sheet flow. The overflows shall be piped to a level spreader, bubble-up spreader or if feasible, connected into a closed storm pipe system. A detail of any spreader or bubble-up system shall be added to the plans. Calculations shall be provided qualifying the design proposed. This will be fully evaluated with the Preliminary Plans.
15. Section 121-4E(2c)—Seepage beds shall be designed to empty the total design storm volume in twenty-four (24) hours or less. Calculations verifying this shall be included in the stormwater analysis. Percolation rates obtained in an acceptable area and at the required depth shall be used in the analysis. This will be fully evaluated with the Preliminary Plans.
16. Section 121-4E(2L)—Seepage beds shall not receive runoff until the entire contributory area to the BMP has been stabilized. This note shall be clearly indicated on the plan and in the construction sequence. A temporary basin must be designed and shown on the plan or waivers for during construction rate controls must be obtained. This will be fully evaluated with the Preliminary Plans.
17. Section 121-4E(4)—A description of how the permanent stormwater control facilities will be operated and maintained shall be submitted by the design engineer. The frequency of inspection shall be listed on the plan. The contact information for the party responsible for the operation and maintenance of the facility shall be listed. This will be fully evaluated with the Preliminary Plans
18. Section 121-5A(2)—The maximum time of exposure for bare soil areas shall be twenty (20) days before stabilization measures are implemented. This shall be clearly noted on the Preliminary plans.

19. Section 121-5A(6)—Newly graded slopes of over twenty-five (25%) percent must be stabilized with sod or jute netting and seed. This shall be noted on the Grading Plan and those areas meeting this criterion clearly delineated with shading on the plan. This will be fully evaluated with the Preliminary Plans.
20. Section 121-6C—The limits of disturbance shall be clearly delineated on the plan. The amount of square feet of earth disturbance shall be listed. This will be fully evaluated with the Preliminary Plans.
21. Section 121-6H—The size and species of trees on the property within twenty-five (25') feet of disturbance shall be included on the plan. This will be fully evaluated with the Preliminary Plans.
22. Section 121-6J—A sequence of construction activities shall be submitted. Installation of tree protection fence, a temporary basin(s), seepage beds, roof collection system, and level spreader system or outflow connections shall be listed. Notification of the Township Engineer shall be listed in the sequence following installation of protective barriers and prior to earth disturbance. The removal of trees and clearing in the area of activity shall be listed. Protection of the on-lot sanitary disposal areas shall be listed. The construction of the new single family house and other proposed improvements shall be listed. Notification of the Township Engineer for inspection shall be listed prior to installation of the seepage bed and piping. A notice of forty-eight (48) hours is required by the Township Engineer prior to earthmoving or other required inspection.
23. Section 121-12—An NPDES Permit must be obtained from the Montgomery County Soil Conservation District prior to issuance of any permit if the total disturbed area is greater than one acre.
24. Section 121-15—The runoff crossing to the adjacent properties during the construction phase of the project shall be managed so that the water quality/quantity impact is minimized to the adjacent properties. Diversion berms, stoned construction staging areas, and inlets/piping shall be noted to be provided as required or as directed by the township so as to ensure acceptable conditions during the construction phase.
25. Section 135-16B(14)—The location of any existing stormwater management systems on any of the properties in the development and the associated piping shall be shown on the plan.
26. Section 135-17A(1)—The tract perimeter survey must be sealed by a registered land surveyor. This shall be verified to have been provided with the Preliminary Plans.
27. Section 135-17B(1), 135-17B(13)—The existing structures and driveways on adjoining properties within two hundred (200') feet of the property shall be more clearly provided. The present plan does not clearly show these on the development sheets.
28. Section 135-17B(1)—All existing utility service locations shall be shown on the proposed Tentative Sketch Open Space Plan.

29. Section 135-17B(6)—The error of closure shall be provided for each lot and shall not be greater than 1:5,000.
30. Section 135-18(B2)—The existing lot lines to be revised shall be shown as dotted.
31. Section 135-32—Concrete road control monuments shall be shown to be installed at the right-of-way at the intersection of each property line and at all changes in direction. Iron pins or other survey monumentation shall be permitted if concrete monuments cannot be installed. Approval from the Township Engineer is required for the substitution.
32. Section 135-35A(3)—All new property sidelines which are proposed must be at right angles to the right of way. The current property line orientation for the boundary adjacent to 1701 Mt. Pleasant Rd is not at a right angle to the right of way of Chateau Lane. The line orientation must be adjusted and the average slopes/areas of the affected lots shall be revised as required.
33. Section 135-40—A Planning Module or Exemption must be approved by the DEP prior to recording the Final Plan. In lieu of this, a letter from DEP indicating that sewer planning is not required must be submitted.


C. ENGINEERING COMMENTS

1. Erosion control measures shall be provided on the plan. Details that conform to township standards shall be shown. The proposed construction access location shall be indicated. This will be fully evaluated with the Preliminary Plans.
2. A detail of any retaining wall shall be provided. Top and bottom of wall elevations shall be provided and the limits of the wall location shall be clearly shown. Calculations must be provided for wall heights exceeding four (4') feet. This will be fully evaluated with the Preliminary Plans
3. A fill material and topsoil stockpile location shall be provided. Notes shall be added regarding stabilization of the stockpiles. This will be fully evaluated with the Preliminary Plans.
4. Metes and bounds shall be provided for all preservation area/open space area delineation lines. Adequate markers will be required to be installed at required intervals on the lines. This shall be evaluated with the Preliminary Plans.
5. The locations of the existing on-lot sanitary disposal systems including tanks, piping and absorption areas shall be shown. Reserve areas for on-lot systems shall be indicated for all existing and proposed lots.

6. The minimum required separation distance between the proposed on-lot sanitary disposal system and the proposed house, pool and stormwater management system shall be dimensioned on the plan.
7. The existing storm drainage easement serving 1725 Mt. Pleasant Road shall be revised to include locations through all adjoining lots in the subdivision to the discharge location at the terminus of the development.
8. The existing ten (10') wide access path easement through the preservation area shall be clearly labeled on the plan.
9. Any required access easement for the driveway serving the proposed lot for the new single family dwelling shall be demonstrated to have been provided. The Township Solicitor must approve the language of any new easement.
10. The amount of impervious surface allocated to the common drive with 800 Chateau Lane shall be tabulated on the plan. The common portion of driveway must be divided equally between the properties served unless a covenant is recorded establishing a different distribution.
11. The existing and proposed pools on the properties of the subdivision must be demonstrated to be in compliance with 2009 IRC, Appendix G. The pool equipment, enclosure, and self-closing gate shall be shown on the plan. The pool on 930 Stoke Road shall be labeled and the limits clearly identified.
12. A Planting Plan may be required by the Planning Department and the Township Arborist prior to recording the Final Plan
13. A clear and detailed breakdown of the existing and proposed impervious surfaces shall be tabulated on the plans for all lots.
14. Dimensions of all proposed impervious shall be provided as necessary to clearly define the limits. This will be fully evaluated with the Preliminary Plans.
15. A second stage Plan will be required for the proposed lot showing the new single family dwelling.
16. A copy of the revised plan shall be submitted with any changes highlighted. A letter shall also be provided with the revised plan indicating how each requested revision has been addressed in the re-submission.

Please advise if we may be of further assistance in this matter.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Kevin J. Bowers", is written over the typed name.

Kevin J. Bowers, P.E.

PENNONI ASSOCIATES

Township Engineer

Cc: Robert E. Duncan, Assistant Township Manager
Momenee, Inc.