



**TOWNSHIP
OF
LOWER MERION**
MONTGOMERY COUNTY

TOWNSHIP ENGINEER

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LOWM 254.34

February 25, 2019

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

**Re: Aqua-Addition and Parking Lot Improvements
Preliminary Plan Review**

Dear Mr. Leswing:

In accordance with your request for the above referenced submission, we have reviewed a set of nineteen (19) plans dated 06-29-18, latest revision dated 02-15-19 and associated stormwater management calculations dated 06-29-18, latest revision dated 02-15-19, prepared by Chester Valley, Inc. We have also reviewed a Traffic Impact Study, dated 07-03-18, prepared by Traffic Planning and Design, Inc. We offer the following comments for your consideration:

A. MAJOR ENGINEERING ISSUES

- ❖ **Stormwater**— Since the principal buildings on the existing residential properties are to be demolished, stormwater rate and volume controls have been provided considering the pre-development ground cover condition as meadow. This has resulted in a significant improvement in the amount of anticipated stormwater runoff from the property. A waiver was granted with the Tentative Sketch allowing direction of runoff generated in the Darby-Cobbs drainage basin into the Lower Merion Drainage Area (i.e. Mill Creek). The design of the proposed facilities is such that it will result in an improvement of the runoff into both of these drainage basins. There are a few minor design revisions/clarifications that have been requested regarding the seepage bed details and the construction phasing. These items must be fully addressed prior to issuance of any permits.
- ❖ **Traffic/ Pedestrian Movement** – A post-development study of the intersection of Lancaster Ave. and Elliott Ave. has been requested. Signal timing adjustments for optimization of operation have been requested to be performed if required and if/as approved by Lower Merion Township and PaDot. Also, since the development can result in increased pedestrian activity at this intersection, we have requested that the ADA ramps and other pedestrian signals there be upgraded. PaDot permits and approvals must be obtained as necessary.

With the resolution of the above major engineering issues and the remaining comments in this letter incorporated, we recommend that the Preliminary Plan be approved.

B. ORDINANCE REQUIREMENTS

1. 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 plan. No tree protection has been indicated

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 of the tree protection fence.

2. Section 101-6A(5)—No impervious cover shall be permitted within the driplines of trees to remain without approval from the Township Arborist. Impacted trees shall be clearly identified on the plan. The Township Arborist must approve the location and extent of the paving if the impacted trees are scheduled to remain.
3. Section 101-6A(6)—Grade changes around the driplines of trees to be retained shall be minimized. 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.
4. 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). Escrow shall be posted to guarantee the survival of the impacted trees until the allotted time has expired.
5. Section 121-4E(4)—A description of how the permanent stormwater control facility 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
6. Section 121-4E(2f)—All seepage beds must contain a sediment trap accessible for maintenance. Additional clarification shall be provided as to where all required sediment traps are located. An adequate detail shall be provided.
7. Section 121-4E(2j)—The size and number of perforations per linear foot of pipe shall be included in the seepage bed detail. Perforations shall not be less than five-sixteenths (5/16") inch in diameter and provide an opening area not less than three and thirty-one hundredth (3.31) square inches per square foot of pipe surface. The size and number for the thirty-six (36") inch pipe shown for the seepage beds must be shown.
8. Section 121-6C—The limits of disturbance shall be adjusted if/as required to include all utility work.
9. Section 121-6F—Existing topography for a peripheral strip of fifty (50') feet shall be provided on the adjacent property on the north and west side in order to clearly define existing drainage patterns.
10. Section 121-6J, Section 121-15—Additional detail is required in the sequence of construction activities. The removal of trees needed for the project shall be listed. Time duration limits for some of the construction phases will be required. These phases shall be clearly indicated on the sequence and the time duration limits for the phase must be coordinated with and approved by the Township Engineer.
11. Section 135-18B(2)—Metes and bounds shall be provided for all existing and proposed property lines on the Layout and Geometry Plan.
12. Section 135-19B(8)—The sight distance for the location of the drive on Elliott Avenue must be shown on the Layout and Geometry Plan and must meet the minimum safe stopping sight distance as

specified by PaDOT Publication Title 67, Chapter 441. The Traffic Safety Unit of the Lower Merion Police Department must approve the final drive configuration/location.

13. Section 135-19B(8)—Maneuverability diagrams must be submitted for the parking spaces and aisles. Parking spaces with less than adequate maneuverability shall not count toward the required parking amount.
14. Section 135-19B(8)—The traffic study shall be revised to include the crash history data for 2018.
15. Section 135-19B(8)—A post development evaluation of the signal at Lancaster Ave. and Elliott Ave. shall be made. Signal timing shall be reviewed and optimization of the signal timings shall be evaluated. Timing adjustments shall be made if required and approved by Lower Merion Township and PaDot.
16. Section 135-19B(8)—Since the development could result in increased pedestrian activity at the intersection of Lancaster Ave. and Elliott Ave., it is recommended that the applicant upgrade the ADA ramps and other pedestrian signals at this intersection. PaDOT permit plans and approvals must be obtained. The Township shall be copies on all written communications with PaDot.
17. Section 135-19B(8)—The plans indicate that the sight distance shown as available assumes the removal of the existing vegetation and Aqua sign. The removal of these items shall be made a condition of approval as without the removals the sight lines are not acceptable.
18. Section 135-19B(8)—The sight distance triangle at the Old Lancaster Rd. driveway shall be shown on the plan. The driveway must be documented to meet the minimum safe stopping distance as specified by PaDot. Clearing of the vegetation and/or grading shall be performed as required in order to improve the sight distance at this location.
19. 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. This must be provided on the plans.
20. Section 135-40—A Planning Module must be approved by the City of Philadelphia and the DEP prior to recording the Final Plan.
21. Section 135-35A(2)—The lot lines created at the edge of the addition do not meet the requirements of this code section. The irregularity of the lot has been increased. A waiver to this code section appears to be required.
22. Section 155-167.7(B)—The total number of trees removed for the proposed construction shall be clearly indicated.

C. ENGINEERING COMMENTS

1. Existing depressed curb, not part of the proposed driveway access shall be noted to be raised to full reveal. The length of any curb to be raised to full reveal shall be dimensioned on the plan.
2. A Lighting Plan shall be submitted. The Director of Building and Planning must approve the lighting plan.

3. Silt fencing shall be shown around the topsoil and fill material stockpiles.
4. Adequate protection during construction for the seepage beds must be provided and shown on the plans.
5. It shall be clearly noted on the plans where existing utilities are to be disconnected and removed.
6. The dimensions of the biofiltration area must be clarified. The full design shall be provided on the plans.
7. The manhole receiving the connection of the basin outflow pipe shall be noted on the Grading and Utility Plan to be repaired or replaced as directed by the township.
8. A detail of the proposed inlets shall be provided.
9. The proposed seepage beds shall be dimensioned to be a minimum of five (5') feet from the existing underground electric service.
10. AASHTO No. 1 stone shall be used in the seepage bed in the main parking area.
11. All HDPE pipe shall be further specified as smooth interior.
12. The trench drain outlet structure invert elevation and length/slope of the pipe shown in the detail shall be verified to be consistent with the calculations.
13. Sidewalk details shall be revised to conform to township standards. A minimum concrete compressive strength of 4000 psi shall be specified.
14. Sidewalk and curb shall be repaired/replaced at the direction of the township. This shall be made a condition of approval.
15. Details of the masonry seating wall shall be provided. Additional top of wall and bottom of wall elevations shall be added to clarify the design.
16. A Planting Plan must be approved by the Planning Department and the Township Arborist. The greening standards must be documented to be achieved in order for the amount of impervious provided on the plan to be permitted.
17. The construction entrance detail shall be modified to indicate placement of the AASHTO No. 1 stone starting five (5') feet from the cartway. Crushed stone shall be shown in the area between the start of the entrance and the curb line.
18. The mean grade of the addition shall be calculated and shown on the plan. The architectural plans must be coordinated with and must comply with the grading proposed with this application.
19. The radii at all driveway access/egress must be shown on the Layout and Geometry Plan and must be demonstrated to be adequate.
20. The Zoning Officer must approve the number and tabulation of the parking demand schedule listed.

21. Separate permits and approvals must be obtained from the Public Works Department for all sanitary lateral work.
22. 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,



Kevin J. Bowers, P.E.

PENNONI ASSOCIATES

Township Engineer

Cc: Robert E. Duncan, Assistant Township Manager
Chester Valley, Inc.
Traffic Planning and Design, Inc.
Aqua Pennsylvania, Inc.