



**TOWNSHIP
OF
LOWER MERION**
MONTGOMERY COUNTY

TOWNSHIP ENGINEER

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LOWM 256.22

November 7, 2019

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

**Re: 1800 W. Montgomery Ave and 1835 County Line Rd.
Proposed Athletic Fields
Tentative Sketch Plan Review**

Dear Mr. Leswing:

In accordance with your request for the above referenced submission, we have reviewed a set of three (3) plans dated 04-15-19, latest revision dated 10-31-19, prepared by Chester Valley Engineers. Also, we have reviewed a Soil Boring Report, dated 10-31-19, prepared by David Blackmore Associates, Inc. In addition, we have reviewed a transportation Impact Assessment, dated 03-01-19, prepared by F. Tavani and Associates, Inc. and a wetland delineation report, dated 02-01-19, prepared by GHD Services, Inc. We offer the following comments for your consideration:

A. MAJOR ENGINEERING ISSUES

- ❖ **Stormwater**—Since the principal building on one of the properties for this consolidated site will be demolished, stormwater rate and volume controls must be provided considering the predevelopment ground cover condition as meadow for that property. The rate control volume ultimately provided must be capable of draining in twenty-four (24) hours. Proper soil testing must be performed to verify code requirements. Also, no temporary during construction stormwater areas have been clearly identified. This must be clarified on the Tentative Sketch plans. In addition, due to the location of the site in multiple Act 167 Districts and due to the shape and topography of the site, several different points of interest must be evaluated in the stormwater design in order to document the required stormwater improvement at each location. We have also requested that the outflow from the existing stormwater facilities on 1835 County Line Rd be considered when determining the existing runoff rates. This must be fully evaluated with the Preliminary Plans.
- ❖ **Traffic**—A Pavement Marking and Signage plan has been requested to be submitted with the Preliminary Plan that will show the necessary vehicular controls for safe and efficient

movement of traffic through the parking and queueing areas. Evaluation of the driveway operation during the PM peak traffic hours and for any third party use of the fields has been requested. Also, full evaluation of the intersection of County Line/Spring Mill Rd must be included in the traffic study. These shall be submitted and evaluated with the Preliminary Plans.

With resolution of the above Major Engineering issues and the remaining comments in this letter adequately addressed, we recommend that the Tentative Sketch Plan be approved.

B. ORDINANCE REQUIREMENTS

1. Section 101-5C(2b)—Portions of a proposed field is shown in areas where steep slopes exist. A waiver to this code section is required. We support a waiver to this section since the soil investigation indicates that these are man-made slopes and the fact that they are also very small in size.
2. Section 101-5D—The data sheets used to generate the conclusions in the wetland report shall be submitted for review. This shall include upland and wetland data points. A site plan shall be provided in the report indicating the photograph locations in order to orient the photographs included. The delineation must be confirmed by the Township Engineer's office in the field prior to approval of the Preliminary Plan. Revisions to the wet land limit shown shall be made if/as required. Also, the proposed layout shall be performed if/as required depending on the verification.
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. The location of the fence shall be provided. A detail shall be included on the plans that complies with township standards. The Township Arborist must approve the location of the tree protection fence if it is not indicated at the driplines. This shall be fully evaluated with the Preliminary Plan Submission.
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 surface if the impacted trees are scheduled to remain.
5. Section 101-6A(6)—Grade changes around the driplines of trees to be retained shall be minimized. Impacted trees to remain shall be clearly identified. Treatment of any 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 shall be evaluated with the Preliminary Plan.

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 utilities and 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 plans and made a condition of permit issuance.
8. Section 121-4A(1b)1—The property is located such that it is split between the Darby- Cobbs and the Lower Merion Act 167 stormwater districts. Furthermore, the portion of the property within the Lower Merion Act 167 District is divided between a Provisional Infiltration Sub-area and a 70% reduction release rate district. The post development peak rates of runoff in each direction must be controlled to the proper predevelopment rate. Three points of interest shall be considered for this and the proposed stormwater facilities sized to meet the required code. The Township Engineer shall be contacted by the applicant's consultant to discuss the location of the points of interest and the proper parameters to use in developing the allowable peak rates of runoff. It should be noted that a meadow ground cover condition shall be used where required by code for the predevelopment condition for this analysis. This shall be fully evaluated with the Preliminary Plan submission.
9. Section 121-6D—Time of concentration analysis worksheets analysis shall be provided for all analyzed, pre, during, and post-development drainage areas to ensure the proper development of each. This shall be evaluated with the Preliminary Plan.
10. Section 121-4A(1)—During construction stormwater management controls shall be addressed in the calculations. It must be clearly documented that the worst cover condition has been analyzed in the calculations. Added phasing of the construction may be required depending upon the evaluation. This shall be further evaluated with the preliminary plans.
11. Section 121-5B(4A)—Since more than seventy-five (75%) percent of the principal building area of the structure on 1800 W. Montgomery Ave is being demolished, the Cn number for the predevelopment conditions on that property shall be considered as meadow for all rate and volume control analysis. This shall be fully evaluated with the Preliminary Plans.
12. Section 121-4A(4)—The responsibility for the continued maintenance and operation of the detention basins and other stormwater facilities shall be the obligation of the property owner. This note shall be clearly indicated on the Preliminary Plans.
13. Section 121-4A(8), Section 121-15—Areas of existing diffused drainage onto adjacent properties must be managed such that the peak rate of runoff does not increase in the general direction of discharge. All analyzed "points of interest" used to evaluate the code

required rate control requirements shall be discussed/coordinated with the Township Engineer's office prior to submission of the Preliminary Plans.

14. Section 121-4E(2c)—The rate control volume of seepage beds shall be designed to empty the total design storm volume in twenty-four (24) hours or less. Calculations verifying this shall be submitted with the Preliminary Plans.
15. Section 121-4E(2f)—All proposed seepage beds must contain a sediment trap accessible for maintenance. Details shall be submitted with the Preliminary Plans.
16. 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 must be submitted with the Preliminary Plan submission.
17. Section 121-4B(2a)1—At a minimum, 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. Pre-development conditions considering meadow cover for the property of 1800 W. Montgomery Ave must be used for the determination.
18. Section 121-4B(2d)4, 121-15—A minimum depth of twenty-four (24") inches between the bottom of the proposed seepage bed and the limiting zone must be demonstrated. Soil tests shall be submitted with the Preliminary Plans as required in order to demonstrate compliance.
19. Section 121-4B (2d) 2—For areas within the Darby-Cobbs Act 167 District, in addition to the twenty-five (25) year recharge requirement, the calculations must demonstrate that the Re_v infiltration volume requirements have been met for all impervious surface shown on the site.
20. Section 121-4B(2d)5—The seepage bed designed to control runoff into the Darby-Cobbs Act 167 Drainage basin must be demonstrated to empty the Re_v volume within four (4) days. Calculations demonstrating this must be submitted with the Preliminary Plans.
21. Section 121-4B(2d)6— For areas within the Darby-Cobbs Act 167 District , the water quality volume (WQ_v) must be calculated and demonstrated to be sufficient for the design. This shall be demonstrated at the Preliminary Plan Stage.
22. 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 shall be fully evaluated with the Preliminary Plans.
23. Section 121-6J—A sequence of construction activities shall be submitted. Installation of tree protection fence, erosion control, temporary basins, seepage beds and the requested

roof collection systems 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 demolition of the buildings and existing paving shall be listed. Notification of the Township Engineer for inspection shall be listed prior to installation of any seepage bed and storm piping. This shall be fully evaluated with the Preliminary Plan.

24. Section 121-10—No grading changes shall be shown within three (3') feet of the property line in order to ensure transition to the grading on the adjoining property. This shall be clearly noted on the plan.
25. Section 121-12—An NPDES Permit must be obtained from the Montgomery County Soil Conservation District prior to issuance of any permits.
26. 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 does not adversely impact the adjacent properties. Diversion berms, stoned construction staging areas, and inlets/piping shall be noted to be provided as required and/or as directed by the township so as to ensure acceptable conditions during the construction phase. This shall be fully evaluated during the Preliminary Plan.
27. Section 121-5A(1)—The maximum bare areas shall not exceed twenty-five (25%) percent of the total area at any one time. Phasing of the construction will be required.
28. 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.
29. Section 121-6B—Certification attesting to the completeness of the design and compliance with Chapter 121 of the Lower Merion Code shall be included and signed on the grading plans.
30. Section 133-15C—The driveway to County Line Rd. must be constructed to allow any requested sidewalk to cross at an even grade (i.e. no handicap ramps). This shall be verified at the Preliminary Plan submission.
31. Section 133-15F—Concrete aprons shall be shown and labeled at the County Line Road driveway location.
32. Section 135-16B(13), 121-15—The soil hydrologic classification shall use Type B soil in the analysis if it is determined to present a more conservative design. This shall be fully evaluated with the preliminary Plan Submission.
33. Section 135-16B(14), 121-4E(1b), 121-15 —Discharge from all stormwater basins and seepage beds shall be converted from a concentrated flow to a sheet flow. The overflow shall be piped to a level spreader or bubble-up spreader. The location of the outflow shall

match existing areas of drainage and shall be field located with concurrence of the Township Engineer. Calculations shall be submitted with the Preliminary Plans qualifying the designs. Details of must be provided and will be fully evaluated with the Preliminary Plan.

34. Section 135-16B(15)—Areas for stormwater management have not been fully provided. The location of required “during construction” temporary facilities have not been clearly indicated for all potential points of interest on the development site.
35. Section 135-16B (14) – Proposed drainage patterns must be clearly shown. Areas to be directed to stormwater facilities and those to go uncontrolled must be clearly indicated.
36. Section 135-16B(15), 121-4A(2)—All roof drains have not been clearly shown to be directly connected to a stormwater facility. The location of the proposed collection system shall be shown. Details regarding the size, slope, and material of the conveyance lines shall be evaluated with the Preliminary Plan.
37. Section 135-17B(6)—The error of closure shall be provided for the consolidated lot and shall not be greater than 1:5,000.
38. Section 135-19B(2)—The location of existing and proposed utility services shall be provided on the plan from the structures to the mains. This shall be fully indicated on the Preliminary Plans.
39. Section 135-28A – Sidewalks shall be shown on the property frontage if/as required by the Board of Commissioners. The design and details must comply with township standards. This shall be fully evaluated with the Preliminary Plans.
40. 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 where feasible as determined by the Township Engineer.
41. Section 135-40—A Planning Module or Exemption must be approved by the City of Philadelphia and the DEP prior to recording the Final Plan.
42. Section 135-41.1(A)—Adequate water supply must be documented for the development. A letter from Aqua Pennsylvania must be submitted certifying adequate supply for the additional demand. This shall be submitted with the Preliminary Plan.

C. ENGINEERING COMMENTS

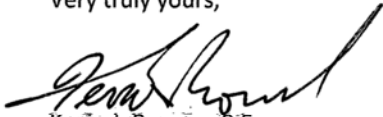
1. The existing stormwater management system on 1835 County Line Road shall be fully shown on the plan. The current outflow from the basin shall be considered when determining the predevelopment peak rates of runoff and the code allowable limits.
2. The actual sight distance triangles shall be shown for the driveway to County Line Road. The sight distance must meet the minimum safe stopping distance required by PaDOT Publication Title 67, Chapter 441. Calculations shall be provided as necessary. It shall be noted what improvements if any are necessary to be performed in order to achieve the required sight distance. The Traffic Safety Unit of the Lower Merion Police Department must approve the final drive configuration. This shall be fully evaluated with the Preliminary Plan.
3. Erosion control measures shall be provided on the plan. Details that conform to township standards shall be shown. This shall be evaluated during the Preliminary Plan.
4. A soil stockpile location shall be provided. This shall be shown with the Preliminary Plans.
5. A note shall be added to the plan indicating that the Township Engineer shall be notified 48 hours prior to the installation of any seepage bed and prior to the start of earthmoving activities.
6. A Lighting Plan must be submitted and must be approved by the Director of Building and Planning.
7. A Planting Plan must be approved by the Planning Department and the Township Arborist.
8. Concrete apron shall be indicated at the driveway access location to County Line Road. The width of the apron at the cartway shall be dimensioned on the Plan. The radii at the aprons shall be dimensioned on the plan and be demonstrated to be adequate. The sidewalks on County Line Road shall be shown to cross the driveway at grade adjacent to the concrete apron, i.e. no handicap ramps. Detectable warning surfaces shall be shown on the sidewalks in advance of the crossing of the drive by the sidewalk. These items shall be provided with the Preliminary Plans.
9. Details of the concrete apron and any requested sidewalk shall be provided. Details must conform to township standards.
10. Additional signage and pavement markings shall be added/shown in order to better control and clarify vehicular movement. Stop bars/Signs and double-yellow centerline pavement markings shall be clearly provided as required in order to provide safe and efficient movement of traffic. All traffic control signage shall be provided on a "Signage and Pavement Marking" plan. This shall be submitted and fully evaluated with the Preliminary Plan submission.

11. Maneuverability diagrams must be submitted with the Preliminary Plans. Adequate turning radii for all vehicle movements shall be documented. Fire truck access and maneuverability must be fully documented to be adequate if/as required by the Fire Marshal.
12. A post development study of the analyzed intersections, site drive and streets shall be made to determine accuracy of the trip projections and distributions and to determine if added mitigation measures are needed.
13. The proposed impervious surface amounts tabulated/itemized on the Plan must be fully verified/evaluated with the Preliminary Plan.
14. A detail of any proposed retaining walls shall be provided. Calculations must be provided for wall clear heights exceeding four (4') feet or for walls with equivalent surcharge loading if/as applicable. This shall be submitted with the Preliminary Plans.
15. "No Parking by Order of the Fire Marshal" signs shall be added where required by the Chief Fire Officer.
16. The minimum number of parking spaces required for this development must be approved by the Zoning Officer. Opportunities for addition parking spaces shall be investigated. This shall be evaluated with the Preliminary Plans.
17. Pedestrian connection of the fields to the proposed school must be fully investigated and implemented if feasible and directed by the Board of Commissioners. This shall be fully evaluated with the Preliminary Plans.
18. The Traffic Study submitted did not address traffic associated with the fields after normal school hours. The trip generation for the PM peak traffic hours shall be investigated with the revised study submitted with the Preliminary Plans. Also, the impact to the traffic at the intersection of County Line Road/Spring Mill Road and to the site driveways shall be performed for the peak PM traffic hours. In addition, the use of the fields by third parties or special events is recommended to be investigated. These items shall be evaluated with the Preliminary Plans.
19. The open grading permit No. 2910 issued for 1835 County Line Road must be closed out prior to Final Plan approval for this development.
20. 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.

November 7, 2019

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 Engineers, Inc.
GHD Services, Inc.
David Blackmore and Associates, Inc.
Lower Merion School District