



**TOWNSHIP
OF
LOWER MERION**
MONTGOMERY COUNTY

TOWNSHIP ENGINEER

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LOWM 254.80

February 24, 2020

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

**Re: French International School
6 Bala Ave and 23 W. City Avenue
Preliminary Plan Review**

Dear Mr. Leswing:

In accordance with your request for the above referenced submission, we have reviewed a set of eighteen (18) plans dated 06-13-19, latest revision dated 02-14-20, and associated stormwater management calculations dated 01-06-20, prepared by Site Engineering Concepts, LLC. We have also reviewed a Traffic Impact Study, dated 01-03-20, prepared by McMahon Assoc., Inc. We offer the following comments for your consideration:

A. MAJOR ENGINEERING ISSUES

- ❖ **Stormwater** – In accordance with our requests made during the Tentative Sketch review, the applicant has proposed a design that significantly reduces the rate and volume of runoff flowing toward the north. This reduction exceeds the normal stormwater improvements required by the code. We request that the level of stormwater improvements provided in this submission be made a condition of Preliminary Plan approval. This will ensure that the stormwater improvements are not reduced in some future development or through any permit application. It should also be noted that for the southern direction, with the comments in this letter incorporated, all required stormwater code improvements will have been verified to have been fully made and improvements to that direction will also result.

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 verified to have been shown on the plan. Since the tree protection fence has not been shown at the driplines of all trees to

- remain, the Township Arborist must approve the location of the tree protection fence shown on the plan.
2. 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.
 3. 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.
 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 101-6B(2)—Since 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 plan and made a condition of permit issuance.
 6. 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
 7. Section 121-4A(4)—The responsibility for the continued maintenance and operation of the detention basin and other facilities shall be the obligation of the property owner. This note shall be clearly indicated on the plan.
 8. Section 121-4E(1b)—Discharge from the stormwater basin shall be converted from a concentrated flow to a sheet flow. Calculations shall be provided qualifying the design of the level spreader proposed.
 9. Section 121-4E(2d)—The distance between Seepage Bed B and the proposed Art Center shall be dimensioned on the plan and must be a minimum of ten (10') feet from any basement wall.
 10. Section 121-4E(2f)—All seepage beds must contain a sediment trap accessible for maintenance. The present submission does not include a sediment trap for all stormwater directed to the basin. The reference to "no sump needed" on the detail shall be removed and the minimum sump dimension at the inlet bottom shall be provided.

11. Section 121-4E(2j), 1221-15—The size and number of perforations per linear foot of pipe shall be included in the level spreader detail in addition to the opening performance standard specification currently listed.
12. Section 121-4E(2L)—Seepage beds shall not receive runoff until the entire contributory area to the BMP has been stabilized. Approval from the Township Engineer to convert the temporary basin to a permanent basin shall be clearly indicated in the construction sequence and shall be made a condition of permit issuance.
13. 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.
14. Section 121-4F(10)—Structures and/or cleanouts shall be used where abrupt changes are made in storm sewer alignment. These cleanouts shall be clearly indicated on the plan. Structures must be used for all pipe diameters equal to or greater than twelve (12") inches. This will include any pipe to be reused for the outflow of Basin B and for the connection of inlet 11 to the outflow pipe.
15. 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 plan.
16. 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 During Construction Erosion Control Plan and those areas meeting this criterion clearly delineated with shading on the plan.
17. 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 plans.
18. 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 and the disturbance for Phase 1 and Phase 2 shall be tabulated individually.
19. Section 121-6F—Existing topography for a peripheral strip of forty (40) feet shall be provided on the adjacent property on the north side in order to clearly define existing drainage patterns.
20. Section 121-6J—Additional detail is required in the sequence of construction activities. Approval from the Township Engineer shall be listed to be obtained prior to earthmoving, prior to conversion of the temporary basin to the permanent bed, and prior to the removal of any erosion control measure.
21. 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.

22. 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 disturbance will exceed one acre.
23. 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. This shall be made a condition of permit issuance.
24. Section 121-15—The curb on the northeast side of the STEM Center parking area shall be extended and an inlet added for redundancy. The curbing is requested in order to improve the runoff collection ability and to better ensure direction of runoff into the stormwater management system.
25. Section 121-15—The current stormwater design improves the rate and reduces the volume of runoff flowing to the north. The design provides the requested recharge for the increase in the 100 year storm runoff from the development. This requirement shall be made a condition of Preliminary Plan approval to ensure that it is not reduced during the permitting process or in any future development.
26. Section 135-17B(1)—All existing and proposed utility service locations shall be shown from the structures to the mains. The water service and mains are not clearly provided. The gas connection of the existing school building/new Art Building to the main is not clearly indicated. The underground electric connection is not fully shown to the connection to a main in Bala Ave.
27. Section 135-17B(13)—The existing storm sewers, inlets, and any other storm structure shall be shown within 200'. Invert, rim, and grate elevations shall be indicated. The size and material of all storm sewers shall be provided. This has not been fully shown for Bala Avenue.
28. Section 135-18(B2)—The existing lot line to be removed shall be shown as dotted on the record plan.
29. Section 135-19B(8)—Double yellow centerline pavement marking shall be shown at the Bala Ave drive access location. The bus queue area and parent vehicle queue area shall be clearly marked/delineated and shall be adequately signed. The start of the vehicle queues shall be clearly identified on the plan.
30. Section 135-19B(8)—Maneuverability diagrams for bus and emergency vehicles access into and through the site shall be provided and shall demonstrate adequate dimension.
31. Section 135-19B(8)—“No Parking by Order of the Fire Marshal” signs shall be shown if/as requested by the Chief Fire Officer.

32. 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.
33. Section 155-167.7(B)—If additional trees are removed from that shown, additional compensatory trees will be required to be planted.

C. ENGINEERING COMMENTS

1. Top and bottom of retaining wall elevations shall be provided to clarify grading.
2. A fill material and debris stockpile location shall be provided. Notes shall be added regarding stabilization of the stockpiles.
3. The Lighting Plan must be approved by the Director of Building and Planning prior to recording the Final Plan.
4. The Planting Plan must be approved by the Planning Department and the Township Arborist prior to recording the Final Plan.
5. Inlets Nos. 5, 6 and 12 shall be shown to be graded in a twelve (12") inch sump condition in order to increase the efficiency of runoff collection. Spot elevations shall be added to the plan to clarify grading.
6. The length of the construction entrance shown in the plan view must be modified to match the details provided on the plan.
7. A frame and cover detail shall be provided for the sanitary sewer manhole, Outlet Structures A and B, and Manholes A and B. Appropriate labels shall be provided on the castings for each.
8. The 4" diameter sanitary lateral does not have the required minimum slope of two percent. The diameter of the lateral must be increased to 6". The material shall also be specified as Schedule 40 or thicker.
9. The size of the proposed sewer main extension to the new sanitary manhole shown in the profile shall be increased in diameter to 8" in order to be consistent with township sanitary sewer standards. The sewer main must maintain a minimum slope of one percent for terminal runs and shall be maintained privately. This shall be made a condition of permit approval.
10. The existing storm sewer piping to be used to convey the outflow from Basin B must be verified to be in good condition to a point where it connects to the City Inlet at the cartway. Any necessary repair or maintenance shall be performed. A video of the pipe condition shall be provided to the Township for review.

11. Adequate vertical clearance to the overhead wires in the area of the bus travel aisles shall be verified. Adjustments to the wire placement shall be made if/as required.
12. The square footage of the porous walks and the synthetic play surfaces shall be itemized in the impervious tabulation. The walkway width and limits of the play area shall be adequately dimensioned on the plan. The areas shall be included in the impervious totals if/as applicable. The zoning officer must approve any exclusion of the play areas from the impervious total.
13. A specification for the play area surface shall be submitted. It must be evaluated for porosity if it is to be excluded from the impervious surface totals.
14. The trench pavement restoration detail shall be adjusted to comply with the township standard details. A minimum of one-foot of cut-back is required.
15. A PaDOT highway occupancy permit must be obtained for any construction work in the right-of-way. This will include the pavement marking changes in the cartway and any signage revision proposed. The Township shall be copied on all correspondence.
16. A post-development evaluation of the drop off/ pick-up operation shall be performed if/when requested by the Township. The queue of vehicles must not adversely impact the public roads. Adjustments shall be made to the operation if/as required which could include, among other changes, further staggering of the start and dismissal times.
17. The Traffic Impact Fee for this project shall be based on the increase in PM vehicle trips generated as compared with the Act 209 document base conditions. The number of 18 trips shall be used to determine the impact fee.
18. 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
Site Engineering Concepts, LLC.
Traffic Design and Planning, Inc.
French International School