



**TOWNSHIP  
OF  
LOWER MERION**  
MONTGOMERY COUNTY

**TOWNSHIP ENGINEER**

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LOWM 248.45

November 2, 2018

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

**Re: 9 Presidential Boulevard  
Luxor Bala Cynwyd Development  
Preliminary Plan Review**

Dear Mr. Leswing:

In accordance with your request for the above referenced submission, we have reviewed a set of nine (9) Erosion and Sediment control plans, dated 04-12-18, latest revision dated 07-27-18, a Truck Turning plan dated 08-28-18, and a set of twenty-two (22) plans, dated 09-10-18, with associated post construction stormwater management calculations, dated 09-10-18, all prepared by B L Companies. We have also reviewed a Parking Garage Plan, dated 09-07-18, prepared by Western Development Company. In addition, we have reviewed a Traffic Study, dated 09-10-18, latest revision dated 10-11-18, prepared by Traffic Planning and Design, Inc. We offer the following comments for your consideration:

**A. MAJOR ENGINEERING ISSUES**

- ❖ **Stormwater** – The current design does not provide the code required improvement to the peak rate of runoff with the permanent stormwater facilities. A partial waiver of the stormwater code would be required. Also, the temporary facilities have not been analyzed in order to document that the code required peak rate improvements control during the construction phase has been met. Analysis must be provided to quantify the temporary stormwater control measures proposed and demonstrate code compliance. In addition, the required recharge volume has not been provided as dead storage in the facilities. The dead storage volume has also not been demonstrated to empty within the required twenty-four (24) hours. The basins must be redesigned to meet the code required drain time limits.
- ❖ **Traffic** – The drive aisles in the parking garage do not scale to meet the minimum required width of twenty-two (22') feet. The parking layout/design must be adjusted to meet the minimum standards. Also, additional documentation is required to be submitted in order to verify the trip generation that will be used in the traffic impact fee calculation.

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 101-5C(2b)—The diversion berm and swale are constructed in slopes exceeding twenty-five (25%) percent. A waiver to this code section is required.
2. 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 of trees to be retained within these limits must be shown on the plan. The detail shall be revised on the plans to comply with current township standards. 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.
3. 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 any impervious surface if trees impacted by the installation are scheduled to remain.
4. 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.
5. 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.
6. Section 101-6B(2)—If trenches for utilities or 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.
7. 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
8. Section 121-4A(1)—The proposed temporary during construction stormwater management controls shall be qualified in the calculations. It must be clearly documented that the worst cover condition has been analyzed in the calculations and all required code improvements to rate control have been provided unless waived by the Board of Commissioners.
9. Section 121-4A(1a)—As the property is located within the a Non-Act 167 Drainage Area, the five (5) year post-development frequency storm must be controlled to the two (2) year

pre-development rate of the percentage of the pre-development rate. The ten (10) year through one hundred (100) year storms must be controlled to the peak discharges which occurred prior to development in the respective storm frequencies. The current design does not control the five (5) or one hundred (100) storms to the required peak rate.

10. Section 121-4E(1b), Section 121-15 —Discharge from the stormwater basins shall be converted from a concentrated flow to a sheet flow. The discharge rate from Basin No 2 shall use the twenty-five (25) year storm outflow to design stilling basin SB-2C.1 Calculations shall also be provided to size the stone and channel dimensions for rip rap channel No. RRC No. 1
11. Section 121-4E(2c), Section 121-15 —Seepage beds shall be designed to empty the total design storm volume in twenty-four (24) hours or less. Calculations verifying this using only the dead storage volume have not been included in the stormwater analysis.
12. Section 121-4E(2c)—Design consideration shall not include infiltration rates in computing required storage volume of a seepage bed. The rates shall be used only to demonstrate that the dead storage volume empties in twenty-four (24) hours or less.
13. Section 121-4E(2d)—The seepage bed details shall be modified to clearly note a minimum twelve (12) inches of cover.
14. 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.
15. 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.
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, listed in the construction sequence and shall be a condition of any permit issuance.
17. 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. The plan shall be presented in recordable form as a covenant running with the land and must be approved by the Township Solicitor prior to recording.
18. 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 revised on the Grading Plan to reflect this and those areas meeting this criterion clearly delineated with shading on the plan.

19. 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.
20. Section 121-6D—Drainage area maps for a during construction stormwater rate control analysis shall be provided with calculations. Drainage area maps for temporary facilities and by-pass areas shall be provided.
21. Section 121-6F, 135-17C(1), 135-33—The existing and proposed contours shall conform to Lower Merion Township Datum.
22. 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.
23. Section 121-6J—Additional detail is required in the sequence of construction activities. Installation of tree protection fence shall be listed. Notification of the Township Engineer shall be listed in the sequence in addition to the County Conservation District presently noted. Removal of any trees shall be clearly listed in the sequence. A notice of forty-eight (48) hours is required by the Township Engineer prior to earthmoving or other required inspection.
24. Section 121-8A—No fill shall be placed which creates a slope steeper than 1 ½ to 1 vertical. This shall be clearly noted on the plan and grading adjusted as required.
25. 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.
26. Section 121-12—An NPDES Permit must be obtained from the Montgomery County Soil Conservation District prior to issuance of any permit.
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 clearly provided on a usable scale plan. The present plan does not clearly show these on the development sheets.
28. Section 135-17B(1)—The existing sanitary sewers shall be shown to within two hundred (200') feet of the development
29. Section 135-17B(1)—The disconnection point for existing utility service locations shall be shown.
30. Section 135-17B(6)—The actual error of closure shall be provided for the lot and shall not be greater than 1:5,000.
31. Section 135-17B(13)—The existing storm sewers, inlets and any other manhole or other structure shall be shown within 300'. Invert, rim, and grate elevations shall be indicated.

This size and material of all storm sewers shall be provided. The street inlet noted to receive sediment protection shall be clearly indicated on the plan. A detail of the protection device shall be provided.

32. Section 135-17C(2d)—A driveway profile shall be provided since the grade of the drive exceeds ten (10%) percent.
33. Section 135-19B(8)—The actual sight distance triangles shall be shown for each driveway. The sight distance must meet the desirable sight distance as specified by PaDOT. The Traffic Safety Unit of the Lower Merion Police Department must approve the final drive condition.
34. 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.
35. 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.
36. 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.
37. Section 155-167.7(B)—Wooded lot calculations shall be provided on the plans for reference. The total number of trees removed for the proposed construction shall be indicated.
38. Section 155-217D(1d) – Conditional use approval is required for the second drive location on the south-east side. The drive is needed to facilitate future shared access to the adjoining property.
39. Section 135-19B(8) – The parking aisles and stalls in the parking garage must be dimensioned on the plan. The aisles currently scale below the minimum required width of twenty-two (22') feet for two way traffic.
40. Section 135-19B(8) – Double yellow centerline pavement markings shall be shown at all stop bars. Stop bars and signage/pavement marking shall be shown at the internal parking garage aisles in order to better control the movement of traffic.
41. Section 135-19B(8) – Maneuverability diagrams for passenger cars shall be shown for the parking garage spaces. Spaces with poor maneuverability cannot count toward the required parking number.
42. Section 135-19B(8) - Details for the design of the vehicle connection drive proposed in the twenty-four (24') foot wide easement to the adjoining property shall be provided. An alternate layout including grading shall be provided to ensure feasibility of construction. The easement limits shall be overlaid on the alternate layout. Additional traffic analysis would be required to be made to fully evaluate the future redistribution of traffic.

43. Section 135-19B(8)- The proposed development is located within the City Avenue Act 209 Transportation Impact Fee area and as such a Transportation Impact Fee is to be applied for the anticipated trip generation from the development. The study must document whether the currently unoccupied building on the site to be demolished was active at the time of the Act 209 study. If the building was unoccupied, the impact fee would be based upon the full anticipated 108 new PM trips. If it was occupied, the difference of 76 PM trips can be used for the impact fee.
44. Section 135-19B(8) - The study indicates that the intersection of City Avenue and Presidential Boulevard will operate at a slightly better LOS E with the development than under no-development conditions and appears to be based on a modified future traffic signal timing. The study must provide a table that outlines what future traffic signal timing assumptions were made for each study intersection in order to clearly identify future impact.
45. Section 135-19B(8) - The analysis indicates that there is a fifty foot long right turn lane on the northbound approach to the intersection of Presidential Blvd and City Avenue, however the existing condition appears to be a channelized right turn rather than a full turn lane. The applicant shall confirm whether this condition would change any of the analysis results.

### **C. ENGINEERING COMMENTS**

1. A detail of the retaining walls shall be provided. Top and bottom of wall elevations shall be provided and the limits of the wall locations shall be clearly indicated. Calculations must be provided for wall heights exceeding four (4') feet.
2. A Lighting Plan must be submitted and approved by the Director of Building and Planning prior to recording the Final Plan.
3. The Planting Plan must be approved by the Planning Department and the Township Arborist prior to issuance of the permit/recording the Final Plan.
4. Depressed granite curb and concrete apron shall be clearly labeled at the new driveway access location.
5. The construction entrance detail shall be modified to indicate placement of the AASHTO No. 1 stone starting five (5') feet from the cartway of Presidential Blvd. Crushed stone shall be shown in the area between the start of the entrance and the curb line.
6. The pool will require a separate building permit. The pool, equipment, and enclosure must comply with 2009 IBC, Section 3109. The pool equipment, enclosure, and self-closing gate shall be shown on the plan.
7. The impervious surface tabulation shall be further itemized to include listings for proposed parking/driveways, patio, pool, walls, walks, etc.

8. Dimensions shall be added to the proposed impervious surfaces in order to more clearly define the limits.

9. Soil stockpile No. 1 shall be shown shifted outside the right-of-way of Presidential Blvd.

10. Geotextile fabric shall be specified to surround seepage bed No. 2. Currently, the detail indicates an impermeable liner. AASHTO No. 1 stone shall also be specified for the recharge stone. The pipe shall be indicated to be perforated in order to be consistent with the information on the profiles and the intent to recharge stormwater.

11. The location of the four (4) car share spaces shall be shown on the Plan.

12. The location of the twenty (20) bicycle parking spaces shall be shown more clearly on the plan documenting that the area provided is sufficient.

13. No stopping or standing signs shall be shown on the property frontage.

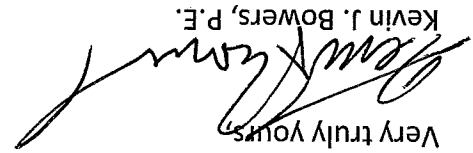
14. Notes shall be added to the full reveal and depressed granite curb detail that include the following:

- The depressed curb height for the driveway shall be  $\frac{1}{4}$  inch for each inch of existing curb reveal
- Any curb replacement must meet existing curb reveal height.
- One foot cut back is needed in the street area where any curb is adjusted and/or replaced. All joints must be sealed.
- An additional concrete support is needed mid-span of each section of depressed curb in the driveway area

15. The Zoning Officer must approve the number of required parking spaces provided for the development.

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,  


**PENNONI ASSOCIATES**

Kevin J. Bowers, P.E.

Township Engineer

Cc: Robert E. Duncan, Assistant Township Manager

B L Companies

Traffic Planning and Design, Inc.

Western Development Company