



LOWM 255.16

November 24, 2017

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

**Re: 205 Llanfair Road Subdivision  
Preliminary Plan Review**

Dear Mr. Leswing:

In accordance with your request for the above referenced submission, we have reviewed a set of six (6) plans dated 06-19-17, latest revision dated 11-16-17, and associated stormwater calculations dated 11-16-17, prepared by RKW Engineering Services. We offer the following comments for your consideration:

**A. MAJOR ENGINEERING ISSUES**

- ❖ **Stormwater**—The percolation tests were not performed in the area of the proposed bed. Consequently, the test depth was not at an elevation deep enough to verify the basin empty times required by code. Additional testing must be performed in the area of the bed and to sufficient depth in order to ensure the proper functioning of the system and compliance with township codes.
- ❖ **Sanitary Lateral/Easement**—An active sanitary lateral serving an adjoining property is located on this development parcel. The line must be adequately relocated prior to any building permit issuance. The developer of this parcel has indicated that they would pay the cost for the relocation. Escrow shall be posted for the relocation prior to recording the Final Plan.
- ❖ **Irregular Lot**—A waiver is required to allow the new common property line to be created with an acute angle to the right-of-way of Llanfair Road. We recommend approval of the waiver needed to create this line as it allows retention of the existing dwelling and therefore reduces the amount of disturbance for the development.

With the above major issues and other items in this letter addressed, we recommend approval of the Preliminary Plans.

**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. Since the tree protection fence is not shown at the driplines of all trees to remain, the Township Arborist must approve the location.
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 if any impacted trees are scheduled to remain.
3. Section 101-6A(6)—Grade changes around the driplines of trees to be retained shall be minimized. The temporary berm and permanent swale between lot Nos. 1 and 2 is within the driplines of trees to remain. All impacted trees shall be clearly marked 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 storm piping and 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 made a condition of permit issuance.
6. Section 121-4A(23)—Since a perennial or intermittent stream passes through the site, a stream buffer must be maintained to a minimum of ten (10') 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. The Planning Department and the Township Arborist must approve the buffer planting if/as required.
7. 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 in recordable form. 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.



8. Section 121-4E(21)—Seepage beds shall not receive runoff until the entire drainage area contributory to the infiltration BMP has achieved final stabilization. The conversion timing of the temporary basin to permanent basins must be approved by the Township Engineer. This shall be noted on the plans and in the construction sequence.
9. Section 121-4F(2), 121-15—Diversion berms and swales must be documented in the stormwater report to be adequate. Spot elevations and drainage arrows shall be provided to clarify the design/grading and ensure the swale cross sections are adequate.
10. 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.
11. Section 121-6D—Time of concentration analysis worksheets analysis shall be provided for all analyzed, post-development drainage areas to ensure the proper development of each. The paths shall be shown on the drainage area maps.
12. Section 121-6J—Additional detail is required for the sequence of construction activities. The adequate sealing of the sanitary sewer lateral to be abandoned and reconnection to a gravity main shall be listed prior to any earth work. Notice shall be provided to the Township Engineer before the seal of existing lines. The removal of trees and clearing in the area of stormwater controls for the construction phase shall be listed. The demolition of the existing house and garage that is noted shall be removed as they are now to be retained. Notification of the Township Engineer for inspection shall be listed prior to installation of all storm piping, before the temporary basin is removed and before the underground basin is converted to its permanent condition. Removal of sediment barriers shall be performed only after concurrence of the Township Engineer. Installation of the level spreader system shall be listed. These shall be clearly noted in the sequence.
13. Section 121-12—An NPDES Permit must be obtained from the Montgomery County Soil Conservation District prior to issuance of any permit.
14. Section 121-15—A minimum depth of twenty-four (24") inches between the bottom of the proposed seepage beds and the limiting zones must be demonstrated. The location of the soil tests is not in the vicinity of the bed. Additional soil tests shall be submitted or the basins redesigned if/as required to demonstrate compliance.
15. Section 121-4E(2d)—The seepage bed shall be dimensioned to be located ten (10') feet from any basement wall.
16. Section 121-4E(2i)—Soil permeability tests shall be performed to a depth adequate to demonstrate the functioning of the system. The location of the percolation test indicates that this has not been performed deep enough to meet this criterion. New tests shall be taken in the vicinity of the bed at or below elevation 291.00'.

17. 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.
18. Section 135-16B—The existing stream shall be shown on the plan to within two hundred (200') feet of the property line.
19. Section 135-17B(1)—The limits of the existing granite curb shall be shown on the plan and labeled.
20. Section 135-17B(1), 135-17B(13)—The existing structures and driveways on adjoining properties within two hundred (200') feet of the development shall be clearly provided. The present plan does not clearly show these on the development sheets.
21. Section 135-17B(2)—The cartway width shall be provided for the public portion of Llanfair Road. The limits of existing curb shall be provided. The type of curb shall be clearly labeled.
22. Section 135-17B(13)—The existing storm inlets, manhole or 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.
23. Section 135-17B(13)—Parking restriction and traffic control signs shall be shown within 200'.
24. Section 135-17B(1)—All existing utility service locations shall be shown from the existing structure to the mains. These shall be shown on the Existing Conditions Plan.
25. Section 135-17C(13)—The location of existing storm sewers and culverts shall be fully shown within 200'. The size, material and termination of the sewers shall be clearly provided. The condition of the culvert at the intersection of St. Georges Rd and Llanfair Road shall be evaluated by a professional engineer and any recommended repairs made as a condition of the development.
26. Section 135-27K—Land developments that adjoin existing streets that do not conform to the width as required by the code must dedicate additional right-of-way in order to be compliant. An additional five (5') feet is required along St. Georges Road and Llanfair Rod. This is required in order to facilitate any sidewalk installation on St. Georges Road.
27. 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.

28. Section 135-35A(3)—Property lines must be created to be perpendicular to the right-of-way lines. A waiver to this section of the code is required in order to facilitate retainage of the existing structure. We recommend granting a waiver to this code section as retaining the existing structure reduces the amount of disturbance on the development.
29. 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 properties.
30. Section 135-17A(1)—The perimeter tract survey shall be certified with a registered surveyor seal and signature.
31. Section 135-17C(5)—The material and slope of all proposed sanitary laterals shall be shown. The vent and trap locations shall be indicated. The locations and design shall comply with township standards and requirements. Separate permits and approvals will be required for all lateral work.
32. 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. An iron pin shall be provided where monuments cannot be installed. Approval from the Township Engineer is required for the substitution.
33. Section 155-167.7(B)—The wooded lot calculations shall be revised to reflect the number of trees shown to be removed on the lots. The compensatory tree requirement shall be adjusted accordingly.

#### **C. ENGINEERING COMMENTS**

1. The reference vertical datum shall be shown on the plan and conform to the township datum.
2. A detail of the boulder and other retaining walls shall be provided. Calculations must be provided for wall heights exceeding four (4') feet. Top of wall and bottom of wall elevations shall be added to clarify the design.
3. The stair tread, riser and railings final design must comply with the applicable building code. This shall be noted on the plan.
4. A fill material stockpile location shall be provided. Silt fencing shall be shown around the soil stockpiles.
5. All existing structures to remain shall be clearly noted on the Existing Conditions Plan. The areas of paving to be removed shall be indicated.

6. It shall be clearly noted on the plans where the existing utilities are to be disconnected, sealed and/or removed.
7. A cross section detail of the proposed patio shall be provided on the plan.
8. Dimensions of the proposed drive widths on Lot No. 1 shall be provided on the plan to better define the impervious limits.
9. A minimum isolation distance of ten (10') feet shall be dimensioned on the plan between the sanitary lines and the water services.
10. Inlet No. 4 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.
11. Jute netting and seed shall be specified for the temporary basin side slopes. These areas shall be delineated with shading on the plan. Spot elevations shall be added to the temporary basins to clarify grading.
12. Inlet protection shall be provided for all existing inlets downgrade of earth disturbance and for all proposed inlets until final stabilization of the site is achieved. A detail shall be provided that is consistent with township standards.
13. The berm on the temporary basin shall be raised to provide one (1') foot of freeboard above the maximum flow elevation in the spillway. The spot elevations on the plan view must correspond to the elevations on the detail.
14. The length of the existing and proposed driveway openings at the cartway shall be dimensioned on the Grading Plan. The plan shall note that the driveway to cartway edge shall be properly sealed.
15. The sight distance must be verified to meet the minimum sight distance. The Township Shade Tree Commission must approve the removal of any tree in the public right-of-way of Llanfair Road.
16. A condition of the subdivision of the adjoining parcel required that the sanitary lateral from 146 Anton Road be relocated to the gravity main built with that subdivision. This relocation/connection was never performed and the lateral is still active across 205 Llanfair Road. A Condition of Approval of this current subdivision is therefore required to be established predicated the adequate relocation of the active sewer lateral to the issuance of any Building Permit. The developer has agreed to pay for the connection to the required main. Escrow for the relocation shall be posted prior to recording the Final Plan.
17. The water service for Lot No. 2 shall be shown all the way to the proposed structure.

18. The location of existing storm piping from the inlet shown on the plan near the structure on Lot No. 1 shall be clarified. The structure labeled "M.H." on proposed Lot No. 2 shall be clarified as to use and disposition.

19. The average lot slope calculations shown on Sheet No. 2 shall be removed as they no longer apply to the lot line shown.

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  
RKW Engineering Services  
Ben Gross, 205 Llanfair Rd, Ardmore, PA 19003