



January 6, 2021

Jon Altshul, Township Manager  
Westtown Township  
1039 Wilmington Pike  
West Chester, PA 19382

RE: Sawhill Court Subdivision  
Land Development Review  
Westtown Township  
WTT-20-414

Dear Mr. Altshul,

As requested, CEDARVILLE Engineering Group LLC (CEG) has completed a review of the Land Development Plan for Sawhill Court Subdivision. The site (UPI#67-4-82) comprising roughly 6.31 acres, is located on the southwest side of S. Concord Road in the M-U Multi-Use Zoning District of Westtown Township. The project includes: the demolition of existing structures, the construction of a Residential Subdivision consisting of 10 twin units (20 dwellings), a roadway, public sewer, drainage systems and infiltration BMPs to manage the increased impervious coverage.

The following information was received by our office on December 14, 2020:

- A. Full size plan titled "Preliminary/Final Land Development", prepared by InLand Design, LLC, consisting of fifteen (15) sheets dated December 7, 2020.
- B. Post Construction Stormwater Plan Narrative, prepared by InLand Design, LLC, dated December 7, 2020.
- C. Sewage Facilities Planning Module Application Mailer for Sawhill Court.
- D. Waiver Request letter prepared by InLand Design, LLC, dated December 7, 2020.

The following waivers have been requested by the applicant from the Westtown Township Stormwater Management and Subdivision & Land Development Ordinances:

- Section 144-305.K(2) to allow the infiltration of Stormwater within 100 feet of downhill structures.
- Section 149-602: Requiring the plans to be submitted and approved as a separate preliminary and then final Land Development Plan submission.
- Section 149-911.B to allow the installation of rolled curb instead of upright curb.
- Section 149-924.D(12)(b) to waive the requirement of planting the required number of compensatory trees.



The referenced documents have been reviewed for compliance with Chapter 80 – Erosion, Sediment Control and Grading, Chapter 144 – Westtown Township Stormwater Management, Chapter 149 – Subdivision of Land, and Chapter 170 – Zoning Ordinances.

The following comments are offered for your consideration:

**EROSION AND SEDIMENT CONTROL COMMENTS (WESTTOWN TOWNSHIP CODE, CHAPTER 80, EROSION, SEDIMENT CONTROL AND GRADING):**

1. *Section 80-5.C – An improvements plan at the same scale as the topographical survey showing and describing all changes to the site, including cuts, fills, structures, paving and utilities:*
  - Grading associates with the proposed Sediment Traps shall be shown on the plan.
  - Details associated with the three proposed sediment traps shall be provided.
  - Operation and maintenance notes associated with all proposed erosion and sedimentation control facilities shall be provided.
  
2. *Section 80-5.D – A written description of soil erosion and sediment and control measures (with appropriate plans and specifications), in accordance with standards and specifications of the USDA Soil Conservation Service, Chester County Conservation District and township ordinances, including, without limitation, retention basins or other control measures necessary to limit the rate of stormwater runoff to comply with the requirements of §80-6C hereof.*

An Erosion and Sedimentation Narrative and Report shall be included as part of the submission. Calculations shall be provided supporting the design of:

- The 3 Temporary Sediment Traps
- The Temporary Diversion Pipe
- The Compost Filter Sock

**STORMWATER MANAGEMENT COMMENTS (WESTTOWN TOWNSHIP CODE, CHAPTER 144, STORMWATER MANAGEMENT):**

3. *Section 144-301.C.(2) – The applicant has received a letter of adequacy or approval for the erosion and sediment control plan review by the municipality and the Conservation District (if required), and has received all other local, state and federal permit approvals required for the project involving the regulated activity.*

*Section 144-302.A – Permit requirements by other governmental agencies.*

The following shall be provided:

- A Letter of Adequacy and NPDES Permit shall be forwarded to the Township. Receipt of the referenced letter and permit shall be required prior to plan recording.
4. *Section 144-301.J – For all regulated activities, erosion and sediment control BMPs shall be designed, implemented, operated, and maintained during the regulated activities (i.e., during construction) as required to meet the purposes and requirements of this chapter, to meet the erosion and sediment control requirements of the municipality, if applicable, and to meet all requirements under Title 25 of the Pa. Code and the Clean Streams Law.*



The information referenced in above Comments #1 and #2 shall be provided.

5. *Section 144-301.K – The design of all BMPs and conveyances shall incorporate sound engineering principles and practices in a manner that does not aggravate existing stormwater problems as identified by the municipality. The municipality reserves the right to disapprove any design that would result in construction in an area affected by existing problem(s) or continuation of an existing stormwater problem(s).*

The following shall be addressed:

- The outlets of BMP 2 and BMP 3 proposed discharge to a proposed storm sewer which ultimately conveys flow to both an existing 12-inch CMP (Inlet 2) and an existing 24-inch HDPE, contained within an existing easement. Clarification shall be provided as to the amount of discharge proposed at each pipe, with supporting calculations provided demonstrating that these pipes have adequate capacity to convey the discharge flows.
  - The emergency spillway proposed for BMP 3 shall be relocated in an area away from the outlet pipe. A berm and inlet shall be provided downslope of the emergency spillway and shall convey flow discharged from the spillway to the storm sewer run between Inlets 1 and 3.
  - A berm shall be provided upslope of the west tract boundary to ensure unmanaged flow is adequately conveyed to Inlets 1-3.
  - The overflow structure associated with BMP 2 shall be identified. A berm and inlet shall be provided downslope of this structure and shall convey flow to the proposed storm sewer run between Inlets 1 – 3.
6. *Section 144-301.P(2)– Additional water quality requirements. The municipality may require additional stormwater control measures for stormwater discharges to special management areas, including, but not limited to: Any water body or watershed with an approved total maximum daily load (TMDL), Specifically Goose Creek Watershed. Total phosphorous is the assigned TMDL pollutant to Westtown Township within the Goose Creek Watershed, including but not limited to:*
- [1] Rain gardens/bioretention.*
  - [2] Constructed wetlands.*
  - [3] Permanent compost filter sock.*
  - [4] Water quality inlet filter.*

*Section 144-305.G)– The municipality may require additional water quality and runoff control measures for stormwater discharging to special management areas such as those listed in Section 144-301. P.*

Additional BMPs including but not limited to rain gardens, water quality inlet filters, and compost material shall be provided to meet a pollution load reduction of 85%, as set forth in the Pennsylvania Best Management Practices Manual. BMP Worksheet 12, “Water Quality Analysis of Pollutant Loading from All Disturbed Areas” shall be provided with the Post Construction Stormwater Management Report and shall be used to compute the required reduction. Worksheet 13 shall be completed for each individual BMP proposed, with the BMPs achieving the required pollution reductions as specified by the BMP Manual.

7. *Section 144-306.K.(2) – All infiltration practices shall be set back at least 100 feet upgradient and 10 feet down gradient from all buildings and features with subgrade elements (e.g., basements, foundation walls, etc.), unless otherwise approved by the Municipal Engineer.*



The applicant has requested a waiver from this section of the ordinance as it pertains to BMPs 1 and 2. CEDARVILLE does not recommend consideration of this this request. The applicant shall:

- Investigate relocating and reconfiguring the infiltration bed to meet the requirement set forth in the Ordinance.
- Provide dimensions on the plan clearly showing that the required separation is maintained between both the proposed structures on the tract and the existing off-site dwellings.

8. *Section 144-305.C – The design of the facility outlet shall provide for protection from clogging and unwanted sedimentation.*

A detail of the Riser Structure proposed for BMP 3 shall be provided to demonstrate compliance with the above referenced Ordinance section.

9. *Section 144-306.M – During site construction, all infiltration practice components shall be protected from compaction due to heavy equipment operation or storage of fill or construction material. Infiltration areas shall also be protected from sedimentation. Areas that are accidentally compacted or graded shall be remediated to restore soil composition and porosity. Adequate documentation to this effect shall be submitted to the Municipal Engineer for review. All areas designated for infiltration shall not receive runoff until the contributory drainage area has achieved final stabilization.*

Orange construction fencing shall be added to the area surrounding the proposed infiltration BMPs to prevent compaction from construction vehicles during site construction. Installation and removal of the fence shall be referenced in the Construction Sequence.

10. *Section 144-306.P – All infiltration practices shall have appropriate positive overflow controls.*

The location of the overflow controls for BMP 1 and BMP 2 shall be clearly shown on the plan and details.

11. *Section 144-307.A – For regulated activities involving new development with one or more acres of earth disturbance, the applicant shall comply with the following stream channel protection requirements to minimize stream channel erosion and associated water quality impacts to the receiving water: The peak flow rate of the post-construction two-year, twenty-four-hour design storm shall be reduced to the predevelopment peak flow rate of the one-year, twenty-four-hour duration precipitation, using the SCS Type II distribution.*

*Section 144-309.D(4)(c)[2] – At the discretion of the Municipal Engineer regulated activities that involve a combination of both new development and redevelopment activities, as defined in this chapter, may apply to the redevelopment and new development portions of the regulated activity.*

*Section 144-202 – Definitions: NEW DEVELOPMENT – Any regulated activity involving placement or construction of new impervious surface or grading over existing pervious areas not classified as redevelopment as defined in this chapter.*

The area of new development, as defined above, shall be delineated on the Existing Features and Demolition Plan and shall clearly show the area in which new development is proposed. If the resultant new development disturbance equals or exceeds one acre, the peak flow rate requirements as specified above shall be complied with.



12. *Section 144-309.A – Stormwater runoff from all regulated activity site with a drainage area of greater than five acres shall be calculated using a generally accepted calculation technique that is based on the NRCS Soil Cover Complex Method.*

The following shall be addressed pertaining to the time of concentration calculations included in the PCSM report.

- The time of concentration calculations for pre-development conditions, for both undisturbed and disturbed areas, shall be verified. It appears the same values were used for both conditions; however, the drainage area map reflect two separate drainage areas.
- Computations including sheet flow shall be eliminated from the drainage areas associated with BMP 3 and bypass flow.

13. *Section 144-309.D(2)(c) – For regulated activities involving redevelopment, the following ground cover assumptions shall be used: For areas that are impervious surfaces, predevelopment calculations shall assume at least 20% of the existing impervious surface are to be disturbed as “meadow” ground cover.*

The coverage computation shown in the PCSM Report shall clearly reference the existing impervious coverage computed as meadow in the Pre-Development Disturbed Area calculations.

14. *Section 144-309.D(3)(a) – The following additional ground cover assumptions shall apply to regulated activities within the Chester Creek Watershed: Redevelopment projects within the Chester Creek Watershed shall meet peak discharge requirements based on the adjusted runoff control number (RCN) or “C” value illustrated by Figure C-1 in Appendix C.*

The CN values referenced in the PCSM Report shall coincide with the criteria specified above and shall be referenced in the Report.

15. *Section 144-310.B – Any stormwater basin required regulated by this chapter designed to store runoff and require a berm or earthen embankment shall be designed to provide an emergency spillway to safely convey flow up to and including the one-hundred year proposed conditions. The height of embankment shall provide a minimum one foot of freeboard above the maximum pool elevation computed when the facility function for the one-hundred year proposed conditions inflow. Should any BMP require a dam safety permit under PA Chapter 105 regulations, the facility shall be design in accordance with and meet the regulations of PA Chapter 105 concerning dam safety. PA Chapter concerning dam safety. PA Chapter 105 may require the safe conveyance of storms larger than one-hundred-year event.*

As currently shown, the distance between the spillway crest and top of berm is 9 inches. The emergency spillway shall be designed to provide a minimum one foot of freeboard, between the top of the water surface within the spillway to the top of berm.

16. *Section 144-310.G – Adequate erosion protection and energy dissipation shall be provided along all open channels and at all points of discharge. Design methods shall be consistent with the Federal Highway Administration Hydraulic Engineering Circular Number 11 (Publication No. FHWA-IP-89-016, as amended) and the PADEP Erosion and Sediment Pollution Control Program Manual (Publication No. 363-2134-008, as amended), or other design guidance acceptable to the Municipal Engineer.*

Stabilization (erosion control blanket) shall be provided in the following areas, with type specified and supporting calculations provided.



- Along the swale to the rear of Lots 1-5.
- Along the swale to the rear of Lots 13-16.

17. *Section 144-311.B.(6) – Calculations shall be provided to show the flow in the system, pipe size, allowable flow, actual flow, and velocity.*

Conveyance calculations shall be provided for the 24-inch HDPE exiting Inlet 1 and the 12-inch CMP exiting Inlet 2 to confirm that the pipe capacity is adequate to accommodate the proposed flow. The referenced pipe shall have sufficient capacity to handle flow from the overflow structures of BMPs 2 and 3. The plans shall clearly show the existing downstream inverts and slopes associated with the existing pipes.

18. *Section 144-311.B.(8) – Storm sewers shall have a minimum inside diameter of 15 inches.*

The outlet pipe discharging from BMP 3 Riser to Inlet shall be a minimum of 15”.

19. *Section 144-311.B.(11) – Velocity within the storm sewer system shall be no less than three feet per second and no greater than 11 feet per second for the design storm peak flow.*

The referenced velocity is exceeded within the following pipe runs as currently shown for the 100-year storm:

- 2.9 to 2.8
- 2.8 to 2.6
- 2.6 to 2.5
- 2.5 to 2.4
- 1.7 to 1.6
- 2.0 to 3
- 3. To 2
- 2 to 1

A 25-year storm frequency may be used to determine velocity.

20. *Section 144-311.B.(12) – Storm sewer profiles shall be provided for all systems and shall show all applicable design information including, but not limited to, pipe size, material, slope, invert and grate/ground elevations, and cover.*

A storm sewer profile shall be provided for the following storm sewer runs:

- BMP 2 Outlet Structure to Inlet 1.
- BMP 3 Outlet Structure to Inlet 1.

21. *Section 144-311.C.(1) – Detention/retention basins. All basins shall be designed and constructed to include, but not be limited to, the following standards: Berm constructed of earth of a clay base with no topsoil and a cutoff trench key continuous along the berm base. Construction details and sequence shall indicate that compaction tests shall be performed by the applicant and observed by the Township Engineer or assigned representative thereof. Trench key shall be of 95% compaction or greater.*

The above information shall be clearly noted on the Detail for BMP 3.



22. *Section 144-311.C.(2) – The top of the berm shall be a minimum of 10 feet. The sides shall have a maximum slope of three horizontal to one vertical (3:1).*

The top of berm width shall be increased to ten (10) feet and shall be clearly shown on the Plan and Detail.

23. *Section 144-311.C.(3) – The bottom of the basin shall have a minimum slope of 2% and any channel shall have a minimum slope of 0.5%.*

It is acknowledged that BMP 3 has been designed as an infiltration facility with a flat bottom to facilitate infiltration. CEG offers no objection to consideration of a waiver of this requirement; however, this request must be made formally by the applicant.

24. *Section 144-311.C.(4) – The riser shall be precast concrete, box inlet or equivalent with grate top and shall be built into the berm whenever possible.*

The detail for BMP 3 shall be revised to demonstrate compliance with the above referenced requirement.

25. *Section 144-311.C.(5) – The barrel shall be concrete pipe with anti-seep collars with a minimum projection of two feet beyond the pipe. Anti-seep collar design calculations shall be provided.*

The following shall be provided:

- The detail for BMP 3 shall be revised to reference a reinforced concrete outlet pipe.
- Anti-seep collars shall be provided along the outlet pipe. A detail of the collars shall be provided, along with supporting calculations.

26. *Section 144-311.C.(6) – Emergency spillway shall be constructed of concrete/grass pavers or riprap protection. Protection shall extend down the basin slopes at the spillway location. Calculations shall be provided to ensure adequate protection is provided.*

The following shall be provided:

- A detail of the emergency spillway cross section, including the stabilization proposed.
- Calculations supporting the stabilization proposed.
- The plans shall clearly show the limits of required stabilization as referenced above.

27. *Section 144-402 – The SWM site plan shall consist of a general description of the project including items described in § 144-304, calculations, maps, and plans. A note on the maps shall refer to the associated computations and erosion and sediment control plan by title and date. The cover sheet of the computations and erosion and sediment control plan shall refer to the associated maps by title and date. All SWM site plan materials shall be submitted to the municipality in a format that is clear, concise, legible, neat, and well organized; otherwise, the SWM site plan shall not be accepted for review and shall be returned to the applicant.*

The Plans and Report must be revised to reference one another by title and date as required by the above referenced section of the Ordinance.

28. *Section 144-402.B.(4) – The following signature block signed and sealed by the qualified licensed professional responsible for the preparation of the SWM site plan:*



"I (name), on this date (date of signature), hereby certify to the best of my knowledge that the SWM site plan meets all design standards and criteria of the Westtown Township Code, Chapter 144, Stormwater Management."

The referenced signature block shall be included on the Plans, signed and sealed.

29. Section 144-402.C.(2) – The name of the project, tax parcel number(s), and the names, addresses and phone numbers of the owner of the property, the applicant, firm preparing the plan.

The phone number of the property owner/applicant must be added to the Plan.

30. Section 144-402.G – Inspections, operation, and maintenance requirements. The following documents shall be prepared and submitted to the Township for review and approval as part of the SWM site plan, in accordance with the requirements of Article VII, for each BMP and conveyance included in the SWM site plan (including any to be located on any property other than the property being developed by the applicant);

- (1) An O&M plan.
- (2) An O&M agreement.
- (3) Any easement agreements that are needed to ensure access, inspection, maintenance, operation, repair and permanent protection of any permanent BMP(s) and conveyances associated with the regulated activity.
- (4) Any written deed, deed amendment or equivalent document (if needed) to be recorded against a subject property, as shown on the SWM site plan maps or plan sheets, or recorded plan sheets for the purpose of protecting and prohibiting disturbance to a BMP or conveyance; and
- (5) Written approval, easement agreements, or other documentation for discharges to adjacent or down-gradient properties when required to comply with § 144-301G and Article VII of this chapter.

Section 144-701.D - General Requirements for protection, operation and maintenance of stormwater BMPs and conveyances - For any BMP or man-made conveyance (including any to be located on any property other than the property being developed by the applicant) to be owned by a person other than the Township:

- (1) An O&M agreement shall be submitted to the Township for review and approval; and
- (2) The O&M plan shall be attached to, incorporated within, and recorded as a public record along with a fully executed O&M agreement, all of which shall be recorded as a restrictive covenant that runs with the land and shall be binding upon the landowner and any heirs, administrators, successors in interest or assigns of the landowner.

A Stormwater Management Operation & Maintenance Agreement will need to be executed and recorded for the proposed stormwater BMPs, to include all BMPs shown on the PCSM Plan. The O&M Agreement shall be provided by Westtown Township upon approval of the Plan. The applicable signatures included under the Stormwater Management Operation & Maintenance Statement, Sheet 1, must be signed by the property owner prior to recording. The Operation & Maintenance Agreement shall be recorded concurrently with the Land Development Plan.

**SUBDIVISION AND LAND DEVELOPMENT COMMENTS (WESTTOWN TOWNSHIP CODE, CHAPTER 149, SUBDIVISION OF LAND):**

31. Section 149-201 - Definitions – LOT AREA – The acreage contained within the property lines of a lot, as defined in the deed or as shown on an approved subdivision plan. Such acreage shall be exclusive of the following: D. Every lot created by subdivision shall have a contiguous and uninterrupted area equal to 75 %





*of the minimum lot area required by the applicable zoning district, which is unencumbered by wetland, one-hundred-year floodplains, steep slopes, and /or stormwater management basin/ facilities.*

Precautionary and Prohibitive Steep Slopes, as defined in Section 170-402 of the Westtown Township Zoning Ordinance shall be shown on the Plan, to demonstrate compliance with the above criteria and the applicable criteria set forth in the referenced section of the Zoning Ordinance.

32. *Section 149-600.C – If the preliminary plan and all supporting data comply in all respects with the requirements for final plans (see Article VII), the Township may, in the case of small subdivisions involving no new streets or limited development of land, proceed to final action at the first consideration of the plan if a written request for final approval is made by the applicant and agreed to by the Board of Supervisors..*

The applicant has requested a waiver from submission of a Preliminary Plan. CEG does not support consideration of this request based upon the extent of improvements proposed.

33. *Section 149-602.B.(8) – Location and elevation of the benchmark to which contour elevations refer. Where reasonable and practical, datum used shall be USGS (United States Geodetic Survey) from a known, established benchmark. All subdivisions and/or land developments shall have an actual field run or aerial topography.*

Note #3 under “Existing Conditions Notes’ Sheet 1 shall be revised to reference a physical benchmark on the Plans. The location of the project benchmark shall be shown on the Plan.

34. *Section 149-602.B.(10) – Location and ownership of all existing sewer lines, water lines, fire hydrants, utility transmission line, culverts, bridges, railroads, water courses, trees, wetlands (or certification that are not present), soils, easements, rights-of-way and other significant man-made or natural features within the proposed subdivision and within 50 feet from the boundaries of the propose subdivision.*

The following information shall be shown on the Plans:

- Easements associated with the storm 12” and 24” storm sewer along the adjacent properties to the west.
- Certification that no wetlands exist on site.

35. *Section 149-602.C.(3).d – Size and location of water mains and fire hydrants.*

Applicant to provide size and location of water mains and fire hydrants.

36. *Section 149-802.B – Tract boundaries and the zoning classification of all abutting properties.*

The zoning classification of all abutting properties shall be noted on the Plan as required by the above referenced section of the Ordinance.

37. *Section 149-803.B.(g)[5] – If stormwater facilities will not be municipally owned, the developer shall establish a leg right of the Township to access the facilities for periodic inspections and maintenance at the Township’s discretion. However, the Township is under no obligation to perform such inspection and maintenance. The Township may require that the entity responsible for maintenance of stormwater facilities reimburse the Township for costs of maintenance and repair of stormwater facilities if that entity fails to perform its duties.*



Reference to a blanket easement being provided is shown under PCSM Plan Notes on the PCSM Plan. This note shall be added to the Record Plan.

38. *Section 149-903.A(3)– Collector Street Right-of-Way shall be 60 feet and cartway width shall be 28 feet.*

CEG defers to the Westtown Township Traffic Engineer regarding required widening along South Concord Road.

39. *Section 149-903.A(3)– Minor Street Right-of-Way shall be 50 feet and cartway width shall be 24 feet.*

CEG supports the dedicated area shown for snow removal; however, it is recommended that this area be contained within a snow removal easement to allow maintenance of this area to be the responsibility of the Homeowners Association.

40. *Section 149-911.B – Vertical curbs meeting the dimensional requirements for plain cement concrete curb contained in the PennDOT Standards for Roadway Construction (RC-64) shall be required on all streets.*

Applicant is requesting a waiver for this section of the Ordinance and proposing rolled curb be utilized in lieu of vertical curb due to the closely spaced driveways on the site. CEG does not support this waiver request, unless the applicant can provide supporting documentation from the Township Public Works Director that the proposed rolled curb is acceptable.

41. *Section 149-915.K – Driveway Design Requirements.*

*Section 149-915.K(1) – The grade of the driveway within 20 feet of the pavement edge or the curbline of the public road, Township or state, shall not exceed 4%. The maximum grade permitted beyond this point is 15%. Vertical curves shall be used a change of grades exceeding 5%.*

*Section 149-915.K(2) – Width of driveway within the legal right-of-way of the public road shall be at least 10 feet and shall be nine feet within the property line. Adequate turnaround surface shall be provided on the property so egress to the street is in a forward direction. Where the grade of the driveway exceeds 10%, at least on level parking space shall be provided just within the property line for emergency parking.*

*Section 149-915.K(4) – Discharge of roof drains or downspouts onto the driveway which slopes toward the street shall not be permitted. No drainpipe for any basement sump pump, foundation drain, disposal field, terrace, roof or pavement shall be discharged onto the public right-of-way.*

The following shall be provided:

- Large scale plan views of the proposed driveways, showing spot elevations, slopes, and dimensions to demonstrate compliance with the above referenced criteria.
- Locations of all proposed roof drains shall be shown to demonstrate compliance with the above referenced criteria.

42. *Section 149-916 – Sidewalks and paths. Sidewalks, bike paths and other paths may be required to be installed at the discretion of the Board of Supervisors upon the recommendation of the Planning Commission*

*Section 149-916.A – All materials entering into the construction of sidewalk and the method of construction and installation shall be in accordance with PennDOT Specification Publication 408, except that the compacted thickness of the aggregate bed shall be four inches. Sidewalk across driveways and driveway*



*aprons shall be constructed with six inches of concrete reinforced with six-by-six s1.4 by s1.4 welded wire fabric place two inches from the finished surface. Sidewalks shall have a minimum width of four feet and be located four feet behind the curblin unless approved otherwise.*

*Section 149-916.B – Sidewalks at intersections shall be constructed to provide for handicapped access.*

*Section 149-916.C – Details and specification for the construction of bike paths and other paths shall be submitted with preliminary plans for review and approval by the Township Planning Commission and Township Engineer.*

The following shall be addressed:

- A sidewalk detail has been provided on Sheet 15, however no proposed sidewalk has been shown on the plan. CEG recommends the Township consider sidewalk along both sides of Sawhill Court, and along the tract frontage abutting South Concord Road.
- If deemed required, the plans and Typical Roadway Cross Section Detail shall clearly show the sidewalk location in accordance with the above criteria.
- ADA ramps shall be provided at the intersections of Sawhill Court and South Concord Road. Large scale details, showing spot elevations, slopes, and dimension in accordance with the latest ADA Standards shall be provided.
- Details and specifications associated with the proposed 4-foot trail shall be provided.
- Details for the apron to be provided at the driveway crossing shall be provided.

*43. Section 149-918.B – Water distribution, approvals and reviews. No construction of any water distribution system shall commence prior to written approval and or comments from the DEP, CCHD, Fire Marshal, and Township Engineer.*

The above referenced approvals shall be obtained, with correspondence provided to the Township, prior to plan recording.

*44. Section 149-921.C(4) – The plan shall designate the use of common open space, the type of maintenance to be provided, and a planting plan or schedule. In designating use and maintenance, the following classes may be used.*

*Section 149-921.C(4)(a) – Lawn. A grass area with or without trees which may be used by the residents for a variety of purposes and which shall be mowed regularly to ensure a neat and tidy appearance.*

*Section 149-921.C(4)(b) – Natural area. An area of natural vegetation undisturbed during construction or replanted; such areas may contain pathways. Meadows shall be maintained as such. Maintenance may be minimal buy shall prevent the proliferation of undesirable plants. Litter, dead trees and brush shall be removed, and streams kept in free-flowing condition.*

*Section 149-921.C(4)(c) – Recreation area. An area designated for a specific recreational use, including by way of example tennis, swimming, playfield and tot lots. Such areas shall be located and maintained in such manner as not to create a hazard or nuisance and shall perpetuate the proposed use.*

*Section 149-921.C(4)(d) – Stormwater detention/retention and sewage disposal areas. Detention or retention areas or land used for surface (land application) for subsurface sewage disposal and holding or settlement ponds.*



An Open Space Management Plan shall be provided in accordance with the above referenced criteria and the applicable criteria set forth in Section 149-921.

45. *Section 149-922.B(2) All buffers shall include a completion planted visual barrier to landscape screen. Such visual barrier shall be fully attainable within a three-year period. Where the existing tree masses do not fully screen the area or where there are no existing tree masses, planting shall be added to compete the visual barrier within the prescribed time period.*

The plan currently does not show the preservation of existing tree masses along the north and west tract boundary lines. Proposed landscaping in these areas shall be increased to provide a complete visual barrier and shall eliminate the gaps between the landscaping as shown.

46. *Section 149-924.D(11) – A tree protection management plan must be submitted at the time of preliminary plan application if there are 10 or more viable trees proposed to be cut or removed from the property. The Tree Protection Management Plan shall contain the following information on a plot plan: A chart tabulating the diameter inches being removed, the required diameter inches to be replaced and the equivalent number of compensatory trees.*

A Tree Protection Management Plan must be provided as referenced above, based upon the extent of tree removal depicted on the Existing Conditions and Demolition Plan, and as verified by aerial photography. The Landscape Plan shall be revised to clearly demonstrate that the compensatory trees proposed meet the requirements set forth in Section 149-924.D(12) of the Ordinance. The Tree Protection Management Plan shall include all applicable criteria set forth in Section 149-924.D.

47. *Section 149-924.D(12)(b) – Compensatory planting. Compensatory trees shall be provided in the following ratios, based upon the sum totals of the diameter inches of trees being removed. The stands are applicable to both deciduous and evergreen trees. Compensation is not required for shrubs, unless otherwise required by the Board of Supervisors.*

- i. For viable non-specimen: one inch of new tree caliper shall be provided for every four inches of existing tree diameter cut or removed. For example, if a single trunked, twenty-inch diameter oak is removed, five diameter inches shall be replanted.
- ii. For viable specimen: one inch of new tree diameter for every one inch of existing tree diameter cut or removed. Where it has been determined by the Zoning Officer that a specimen tree has been or is proposed to be cut or removed, the person responsible shall be fined no more than \$1,000.
- iii. For existing street trees within the right-of-way, one tree, with a caliper of 3 ½ inches shall be replanted as a canopy tree in accordance with Section 149-925I(6).

The applicant has requested a waiver from this section of the Ordinance. CEG does not support this request, as the existing vegetation which serves as a buffer to the properties to the north, west, and south will be removed as a result of the improvements proposed; therefore, warranting the provision of compensatory plantings.

48. *Section 149-925.I(2) – A two-year maintenance and replacement guaranty shall be provided to the Township by the landscape contractor. All plantings which do not survive after the expiration of the maintenance guaranty shall be replaced by the owner.*



A note shall be added to the Landscape Plan and Record Plan, stating the above.

49. *Section 149-927 – Sanitary sewage disposal and treatment facilities.*

CEG defers comments pertaining to this Ordinance section to the Township Sanitary Sewer Engineer.

50. *Section 149-403.A – Before the final plan is signed by the Board of Supervisors, the applicant shall submit an agreement, subject to the approval of the Board of Supervisors, provided for, but not limited to , the following where applicable: In accordance with the approved final plan, the applicant will layout and construct all street and other improvements, including , but not limited to, grading, paving , curbs, gutter, sidewalks, streetlights, fire hydrants, water mains, street singses, shade trees, storm and sanitary sewers, stormwater management structures, landscaping, traffic control devices, open space areas, and erosion and sediment control measures.*

*Section 144-403.C – The applicant shall sign a tri-party agreement with a financial institution and the Township guaranteeing and securing completion of the improvements listed in Subsection A, except as provide for in Subsection E, within one year of the date of the approved plan.*

Financial security in an amount acceptable to the Township shall be provided prior to Plan recording. A Construction Cost Estimate shall be submitted for review and approval, with the required financial security incorporated into a Developer's Agreement to be executed prior to Plan recording.

**ZONING COMMENTS (WESTTOWN TOWNSHIP CODE, CHAPTER 170, ZONING):**

51. *Section 170–802.E(12) - Twin Dwellings – Minimum lot area: 4,800 square feet per dwelling unit*

*Section 170–201 - Definitions – LOT AREA – The acreage contained within the property lines of a lot, as defined in the deed or as shown on an approved subdivision plan. For purposed of compliance with minimum lot area requirements, the following shall be excluded: C. Any area within a permanent drainage easement.*

Lots 6 and 7 contain an easement encompassing a proposed storm sewer. Net lot areas, excluding the area within the easement, shall be shown on the Title Plan to demonstrate compliance with the above referenced criteria.

52. *Section 170–802.E(2) - Twin Dwellings – Maximum building coverage: 30%*  
*Section 170–802.E(3) - Twin Dwellings – Maximum impervious coverage: 30%*

Coverages shall be broken down by individual lot, in tabular form, clearly referencing the maximum allowable building and impervious coverage permitted on each lot.

53. *Section 170–1514.F(1) – Plan Submission -For subdivision and land development applications where site lighting is required for proposed, lighting plans shall be submitted to the Township for review and approval and shall include:*

- a. A site plan, complete with all structures, parking spaces, building entrances, traffic areas (both vehicular and pedestrian), vegetation that might interfere with lighting, and adjacent use that might be adversely impacted by the lighting. Th Plan shall contain a layout of all proposed fixtures by location and type.



- b. Isofootcandle plots for individual fixture installations, or 10 feet by 10 feet illuminance-grid plots for multi-fixture installation, which demonstrate compliance with the intensity and uniformity requirements as set forth in the chapter. Also, vertical footcandles at property line, five feet above finished grade and horizontal foot candles at grade, at property line.
- c. Description of the purpose equipment, including fixture catalog cuts, photometrics, glare reduction devices, lamps, on/off control devices, mounting heights, pole foundation details and mounting methods.

If site lighting is proposed, a Lighting Plan shall be provided in accordance with the above Ordinance section. This plan shall demonstrate compliance with the applicable criteria set forth in Section 170-1514 of the Ordinance. If no lighting is proposed, this shall be noted on the Plan.

### **GENERAL COMMENTS**

54. A Lot Consolidation Plan shall be provided with the plan set and shall be recorded concurrently with the Land Development Plan.
55. The source of where the existing drainage easement was obtained, shown along the west tract boundary, shall be referenced.
56. The following information shall be provided on the Title Plan (Sheet 4):
  - The proposed lot lines shall be clearly shown through the proposed buildings.
  - The easements between Lots 6/7 and 10/11 shall be labelled.
57. The following information shall be provided on the Site Plan (Sheet 4):
  - The Lot numbers associated with the lots proposed to the interior portion of Sawhill Court shall be shown.
  - The easements between Lots 6/7 and 10/11 shall be labelled.
58. The proposed sanitary sewer easement proposed through the adjacent Brennan property shall be shown on the Grading and Utility Plan (Sheet 5).
59. The following clarifications shall be provided on the PCSWM Detail Sheet (Sheet 7):
  - A portion of the text at the top of the Detail from BMP 2 is missing and shall be included with the Detail.
  - The invert elevation shown on the section view of the BMP 2 outlet structure (shown as 447.00) is incorrect and needs to be revised.
60. The finish floor, basement, and garage elevations shall be provided for the interior units, on the Grading and Utilities Plan (Sheet 5) and the PCSM Plan (Sheet 6).
61. A valve system shall be incorporated into the outlet structure for BMP 3 to allow dewatering to the storm sewer system in the event the facility does not dewater within 72 hours.
62. Additional grading shall be provided to the rear of Lot 16 to ensure all drainage is confined to the site. It appears a 360 contour is missing.

### **OTHER AGENCY APPROVALS:**

- Chester County Conservation District (NPDES Permit)
- Pennsylvania Department of Environmental Protection (Sewage Facilities Planning Module Exemption)

Additional comments may be generated as a result of the comments included in this letter. Please do not hesitate to contact me with any questions.



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Best Regards,  
**CEDARVILLE Engineering Group, LLC**

A handwritten signature in black ink, appearing to read 'R. E. Flinchbaugh'.

Robert E. Flinchbaugh, P.E.  
Senior Municipal Engineer

cc: Mila Robinson, Township Planner  
John Snook  
Joel Comanda, P.E., InLand Design, LLC, Engineer  
Hunrise Builders, LLC, Applicant  
Albert Federico, P.E, Albert Federico Consulting, LLC  
William N. Malin, P.E, Carroll Engineering Corp.