

## MEMORANDUM

**TO:** Dauphin County Conservation District  
PA DEP Southcentral Regional Office

**FROM:** Pennoni

**DATE:** January 31, 2023

**SUBJECT:** 7464 & 7600 Linglestown Road  
West Hanover Township, Dauphin County

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A previous permit submission (NPDES Permit Application No. PAC220297) was withdrawn. DEP provided technical deficiencies. A new NOI for PAG-02 permit application is being submitted for the 7464 & 7600 Linglestown Road project. In preparation of the 2023 NOI Permit submission, we have addressed comments pursuant to DEP's letter dated February 20, 2022. Summarized below are the comments and the respective responses.

E&S Plan [identified by the District unless otherwise noted]

1. The Sequence of Construction (SOC) does not include the installation of the proposed inlets and associated storm sewer conveyance systems per each Phase and stage nor the Diversion Channels for Sediment Basins A, B, C, & D. Revise accordingly. [25 Pa. Code § 102.4(b)(5)(vii)]

**The installation of the proposed inlets and associated storm sewer conveyance systems per each phase and stage have been added to the Sequence of Construction. Diversion Channels are not used for Sediment Basins A, B, C, and D.**

2. The Sediment Basin Embankment and Spillway w/Skimmer detail does not include the Key Trench Depth specifications. Revise accordingly. [25 Pa. Code § 102.4(b)(5)(viii)]

**Key Trench depths are now included on sheet ES 15.4.**

3. Clarify if the project is proposing the installation of Filter Diaphragm(s) in conjunction with anti-seep collars and/or concrete cradles. If so, provide Figure 7.8. [25 Pa. Code § 102.4(b)(5)(viii)]

**There are no proposed filter diaphragms proposed as a part of this project. Filter diaphragms in the notes of the Concrete Cradle detail on sheet 15.3 has been removed.**

4. Clarify the purpose of the Sock/Rock Filter Systems in a series shown in Phase 1. As shown, the Sock/Rock Filter systems are an alternative design and use. Provide calculations and other information or documents that were used during the design of the BMPs. [25 Pa. Code §102.4(b)(7)]

**The purpose of the Rock/Sock Filter System is to provide sediment control in the northeaster ravine. There is insufficient area and depth to properly size a sediment basin in this area. The tributary are is mainly cut with a fill area on the downslope side. In phase II, the northeastern ravine will be filled from the downslope side at the same time the grading south of the ravine**

**will start to have runoff directed to sediment basin D. Note 16 in the staging of construction provides detail for the installation of the rock/sock filter system and staging sequence.**

5. Sediment Basin Emergency Spillway detail(s) 7-12 or 7-13 with associated Table information have not been provided on the plan drawings. Revise accordingly. [25 Pa. Code § 102.4(b)(5)(viii)]

**All the information in the table associated with figure 7-13 is now provided with the “Emergency Spillway with TRM Lining” detail on sheet ES 15.4.**

6. Clarify the proposed Diversion Channels for Sediment Basins A, B, C, & D and the calculations provided on Worksheet 11. For example, why the input for the multiplier is “N/A” as well as for Allowable Velocity ( $V_a$ ). It appears the calculations are based on the 100-year storm whereas the Bottom Width: Flow Depth Ratio does not adhere to the 12:1 max, etc. [25 Pa. Code § 102.4(b)(5)(viii)]

**Worksheet 11 is used to determine stability of the emergency spillways for these basins. TR-55 100-yr routed flows were used, so the multiplier is not applicable. The Allowable Velocity has been added. The calculated flow depth ratios are very conservative as the higher the first number the longer the width and the flow depth is decrease which provides better stability.**

7. Provide additional information regarding the proposed Stilling Well to ensure the dimensions conform to Figures 9.8, 9.9, & 9.10 of the E&S Manual. [25 Pa. Code § 102.4(b)(5)(viii)]

**The Stilling Well has been Eliminated.**

8. Clarify the Flow Length: Width Ratio at Elevation 3 for Sediment Basin D as it does not conform to the recommended guidance. Revise accordingly. [25 Pa. Code § 102.4(b)(5)(viii)]

**Baffle boards have been added to Sediment Basin D in phase 2 to provide the proper length : width ratio required.**

9. Clarify why Sediment Basin A on Worksheet 12 states the basin as temporary whereas Worksheet 18 Anti-Seep Collar Design states it as permanent. Review and revise accordingly as the calculations shown on Worksheet 18 reflect Basin A in a permanent condition. [25 Pa. Code § 102.4(b)(5)(viii)]

**Worksheet 12 now shows Sediment Basin as permanent as it will be converted to a Subsurface Infiltration Bed (BMP #1).**

10. It appears CFS 21 and 22 slope lengths do not comply with Figure 4.2, Review and revise accordingly. [25 Pa. Code § 102.4(b)(5)(viii)]

**The lengths of CFS 21 & 22 now comply with Figure 4.2.**

11. Provide the Manufacturer’s recommended Stapling information to the plan drawings for all proposed types of Erosion Control Blanketing (ECB). [25 Pa. Code § 102.4(b)(5)(ix)]

**The Manufacturer's recommended Stapling information has been added the Sheet ES 15.2.**

12. Provide a Topsoil Stockpile Construction Detail to the plan drawings and include the proposed Compost Filter Sock (CFS) diameter size. [25 Pa. Code § 102.4(b)(5)(ix)]

**Topsoil Stockpile Construction detail with Compost Filter Sock diameter size included on sheet ES 15.3.**

13. As per the PAG-02 permit conditions, all E&S BMP's must be ABACT if the project is in the Chesapeake Bay watershed. Therefore, the designer shall ensure all BMPs are ABACT (the Rock Construction Entrance (RCE) shall have a wash rack or be extended to 100 feet) and provide all appropriate construction details per BMP. The appropriate RCE detail can be found on DEP's "Alternative E&S and PCSM BMPs" document. [25 Pa. Code § 102.4(b)(5)(ix)]

**Rock Construction Entrance #2 (RCE #2) is now 100ft in length. This can be seen on ES 12.0 and ES 13.0 and the detail on ES 15.2.**

14. The Concrete Washout detail provided on Sheet 15.3 does not specify the minimum inside diameter of the Concrete Washout. The district recommends a minimum diameter of twelve feet. Revise accordingly. [25 Pa. Code § 102.4(b)(5)(ix)]

**Note #4 was added, stating "Washout to be installed with a minimum interior diameter of 12'."**

15. The Trash Rack for Permanent Structures detail on Sheet 15.5 does not include the "Section" detail and relating specifications. Revise accordingly. [25 Pa. Code § 102.4(b)(5)(ix)]

**On Sheet ES 15.4, the detail has been replaced with standard detail 7-5 from the E&S manual which includes the anti-vortex "section" detail.**

16. On sheet 15.2, please revise item 8 in the "Standard Notes" section to include "runoff event of a ¼ (0.25) inch or more. [25 Pa. Code § 102.4(b)(5)(ix)]

**Item 8 in the Standard Notes section on sheet 15.2 now includes a runoff event 0.25 inches.**

17. On sheet 15.2, please revise item 1 in the "NPDES Permit Notes" section to include "180 days" rather than 90 days for General Permit Renewals. [25 Pa. Code § 102.4(b)(5)(ix)]

**Item 1 in the "NPDES Permit Notes" section now requires 180 days for General Permit Renewals.**

18. On sheet 15.2, please revise item 18 in the "E&S Control Measures" section to include the correct contact information for Dauphin County Conservation District. [25 Pa. Code § 102.4(b)(5)(ix)]

**The phone number of 717-921-8100 is provided in item 18 under "Erosion and Sedimentation Control Measures"**

19. Per Phase I and II, it appears the proposed 12in. CFS to be installed around Wetland C (to remain) poses the potential to not be adequate. Particularly during the installation of BMP 8 as well as the installation and removal of proposed Staging Area 1. To prevent possible encroachment and sediment laden water from entering the Wetland, ensure the BMP was designed to the most conservative slope and flow path criteria. Revise the CFS (37-41) in this area as needed. [25 Pa. Code § 102.4(b)(5)(ix)]

**The compost filter socks around Wetland C have been increased to 32” according to the calculations on Worksheet #1.**

20. It appears the installation of CFS around proposed Retaining Walls 1 and 2 may be necessary to protect the existing wetlands during the installation of the Retaining Walls, pipe and outlet protection for HW-100-1 and EW-100-0. Review and revise accordingly. [25 Pa. Code § 102.4(b)(5)(ix)]

**Diversion Filter Socks #1-#4 are proposed around these features during installation.**

21. The proposed Diversion Channels per E&S Module 1 and Worksheet 11 have not been clearly labeled on the plan drawings. Revise accordingly. [25 Pa. Code § 102.4(b)(5)(ix)]

**There are no Diversion Channels as a part of this design. The inclusion of diversion channels in the E&S Module 1 was erroneous. The channels in worksheet 11 are all emergency spillway calculations. See the response to comment #6 for additional information.**

22. POI002 for Temporary Sediment Basins A and B on Worksheet 12 states that the discharge is to a surface water. Clearly label the surface water that these facilities will be discharging to. [25 Pa. Code § 102.4(b)(5)(ix)]

**Temporary Sediment Basins A and B do not drain to a surface water. Both Worksheets 12 have been corrected to reflect this. The NOI was updated accordingly for POI002.**

23. Ensure that all CFS are labeled sequentially as it appears 5 and 13 have been missed and others duplicated. [25 Pa. Code § 102.4(b)(5)(ix)]

**All CFS are now labeled sequentially.**

24. Revise CFS 56 to ensure that barrier ends extend enough upslope. [25 Pa. Code § 102.4(b)(5)(ix)]

**The length of the ends of CFS 56 have been increased upslope.**

25. Standard Construction Detail 3-16, Pumped Water Filter Bag (PWFB), located on Sheet 15.3 does not depict the ABACT required Compost Filter Sock (CFS) Ring surrounding the PWFB. Revise accordingly. [25 Pa. Code § 102.4(b)(5)(ix)]

**The Pumped Water Filter Bag now includes a Compost Filter Sock Ring around the PWFB.**

26. Since both Type M and Type C inlets are proposed, label each inlet with its proposed type of inlet

protection and provide a Table that includes the Inlet Number, Inlet Type, and Location on the plan drawings. [25 Pa. Code § 102.4(b)(5)(ix)]

**All of the inlet protection is now labeled with the appropriate type. A table including the inlet name and type of protection is now included on Sheet ES 15.3.**

27. Show the Stone Landing Berms associated with the proposed Skimmers on the plan drawings. [25 Pa. Code § 102.4(b)(5)(ix)]

**The Stone Landing Berms have been added to the plan drawings.**

28. The drawings do not clearly show the Soil boundaries as shown on the NRCS Soil Map. Revise accordingly. [25 Pa. Code § 102.4(b)(5)(ix)]

**The Soil boundaries have been clearly shown on the plan drawings.**

29. Please explain what the “+” symbol on the drawings represents and update the legend accordingly. [25 Pa. Code § 102.4(b)(5)(ix)]

**The “+” hatch pattern refers to the area with TRM lining is to be installed. The symbology has been added to the legend.**

30. Please label which Baffle (A1 & A2) is which for Sediment Basin A. [25 Pa. Code § 102.4(b)(5)(ix)]

**All Sediment Basin Baffles have been labelled.**

PCSM Plan [identified by the DEP unless otherwise noted] NOI

31. The project proposes to discharge to wetlands. Revise the NOI to indicate discharges to wetlands. The NOI instructions indicate to use the following form for indicating wetlands: ‘(Stream Name) via wetlands’ for the points of analysis that discharge to wetlands prior to reaching the stream. All other application documents identifying receiving water should also be revised. [25 Pa Code §102.8(f)(5)]

**The Names of Receiving Waters have been changed to include “via wetlands” where applicable. The other application documents in the NOI form have been changed as well.**

32. Illustrate the discharge pathways to the receiving waters on a location map. [25 Pa Code§102.8(f)(9)]

**An Off-Site Discharge Drainage Map has been added to the PCSM Report as appendix G.**

PCSM Spreadsheets

33. General: The design infiltration period of 96 hours per the PCSM spreadsheet for multiple proposed BMPs exceeds the BMP maintenance recommendations which cite a 72 hour maximum infiltration period. Revise the design to dewater within the recommended 72 hours or otherwise clarify how the design will provide stormwater management in accordance with the regulations with a greater

infiltration timeframe. [25 Pa. Code §102.8(g)(2)].

**The infiltration periods have been revised to reflect the actual time of infiltration as determined by the routing of the BMPs. All of these periods are less than 72 hours.**

34. General: Spreadsheet selections of not vegetated for the BMPS with the exception of the proposed rain garden are inconsistent with the Plans which suggest all of the BMPs are vegetated. Revise application materials for consistency.

**BMPs 2, 5, 6, 7 and 8 have been revised to be vegetated.**

35. DP002 PCSM Spreadsheet: The calculated value of the volume routed to BMP2 on the attached spreadsheet (4,949 cf) is inconsistent with the value of volume to BMP2 entered on the DP002 PCSM spreadsheet (41,933 cf). Review and revise as appropriate. [25 Pa. Code §102.8(f)(8)]

**BMP2 received runoff from BMP1 that is not infiltration credit from BMP1 (94,639 cf – 57,655 cf = 36,984 cf) plus the direct runoff to BMP2 (4,949 cf) which results in 41,933 cf.**

36. DP005 PCSM Spreadsheet: Confirm the calculated volume is for BMP6 and not for BMP1. If for BMP6, the calculated value of the volume routed on the attached spreadsheet is inconsistent with the value of volume to BMP6 entered on the DP005 PCSM spreadsheet. Review and revise as appropriate. [25 Pa. Code §102.8(f)(8)]

**The volume to BMP6 is the volume of the runoff from BMP5 plus the direct runoff volume to BMP6.**

37. DP005 PCSM Spreadsheet: The calculated value of the volume routed to BMP7 on the attached spreadsheet is inconsistent with the value of volume to BMP7 entered on the DP005 PCSM spreadsheet. Review and revise as appropriate. [25 Pa. Code §102.8(f)(8)]

**The volume to BMP7 is the volume from BMP6 (139,756 cf) minus the Infiltration volume (126,314 cf) plus the direct volume to BMP7 (1,976).**

38. DP006 PCSM Spreadsheet: The calculated value of the volume routed to BMP8 on the attached spreadsheet is inconsistent with the value of volume to BMP8 entered on the DP006 PCSM spreadsheet. Review and revise as appropriate. [25 Pa. Code §102.8(f)(8)]

**The routed volume has been corrected.**

39. DP006 PCSM Spreadsheet: The calculated value of the volume routed to BMP9 following the DP006 spreadsheet is not reflected in the DP006 PCSM spreadsheet. Elaborate on the design and function of BMP9. [25 Pa. Code §102.8(f)(8)]

**The routed volume has been corrected.**

## PCSM Report

40. Wetlands are a surface water and the project proposes to significantly alter the surface runoff characteristics as well as interrupt the subsurface groundwater recharge and flow to the wetlands. However, the wetlands have not been used as a point of analysis for the PCSM demonstration. Provide a demonstration that the wetlands existing use functions and values will be maintained after the project is constructed. The DEP notes that given the layout of the site and shape of the wetlands, multiple points along the wetland may need analyzed to better ensure all areas of the wetlands are not degraded. [25 Pa. Code §102.8(g)(1) and §102.8(g)(2)]

**A Multipoint Evaluation discussion has been added to the PCSM report.**

41. Provide design calculations for the three proposed level spreaders. [25 Pa. Code §102.8(f)(8)]

**Design calculations for the level spreaders has been added to the PCSM report.**

42. The stormwater infiltration summary indicates that the site is underlain by Karst geologic formations. Appendix C of the BMP Manual recommends a loading ratio of 3 to 1 for impervious surfaces in Karst geology. The table provided in the PCSM report shows that several of the BMPs are well over the recommended loading ratios. Provide additional discussion and/or analysis demonstrating how the loading ratios will not overload the BMPs and prevent the BMPs from providing the required amount of water quality. Also include in the analysis/discussion any potential impacts to the facilities from the high loading ratios and what can be done to prevent them or remediate them. [Pa. Code 25 § 102.8(f)(12), § 102.8(g)(2), and §102.8(g)(5)]

**A discussion regarding the loading ratios ha been added to the PCSM report.**

43. DA.20: Numerous drainage areas on DA 2.0 are inconsistent with the drainage area treated by the proposed BMPs in the PCSM spreadsheets and the drainage areas treated listed in PCSM Module 2. Review and revise application materials for consistency. [25 Pa. Code §102.8(f)(4)]

**These drainage areas are the total area detained by the facility, including the area outside of the LOD. To add clarity, an additional line has been added to the drainage area labels denoting how much of the total area is within the LOD. The drainage area in this line will match the drainage area in the PCSM spreadsheets and Module 2.**

## PCSM Plan

44. Plan SW 16.0: Provide the number and location of proposed Flexstorm water quality filters. [25 Pa. Code §102.8(f)(6)]

**Flexstorm water quality inlets are identified on the plans as the inlets covered by a circular “X”**

45. Plan SW 16.0: Clarify if roof drains are planned and if not, describe alternative. [25 Pa. Code §102.8(f)(6)]

**Roof drains are internal to the building and will connect to the pipe runs from MH 11-5 to MH 11-1, MH 5-14 to MH 5-9, MH 33-4 to MH 33-5 and MH 34-1 to MH 34-3.**

46. Plan SW16.2: Revise the Ownership and Maintenance Section to address BMP6. [25 Pa. Code §102.8(f)(10)]

**BMP6 is now addressed in the Ownership and Maintenance Section.**

47. The locations of the 3 proposed Level Spreaders are not identified on the PCSW Plans. Revise as appropriate. [25 Pa. Code §102.8(f)(6)]

**Level Spreader 1 through 7 are identified on the PCSM plan. 4 level spreaders were added to provide hydrology to the wetlands.**

48. Supply details for the proposed infiltration basins and dry detention basin. [25 Pa. Code §102.8(f)(6)]

**Details for Infiltration Basins and Dry Detention Basins have been added to SW 16.4.**

49. BMP 5 – The inflow pipe discharges near the outlet structure increasing the potential for stormwater to short circuit treatment. Revise the design to distribute the stormwater more evenly throughout the facility. [25 Pa. Code §102.8(f)(6)]

**BMP 5 is used for rate attenuation only. No water quality credits is claimed for BMP5 and BMP6.**

50. Outlet barrels for permanent stormwater management basins should be set in a concrete cradle. Revise the plan to specify a concrete cradle and provide Standard Construction Detail 7-17 or equivalent. [25 Pa. Code §102.8(f)(6) & §102.11(a)(2)]

**Concrete Cradle for Basin Outlet Barrel has been added to Sheet SW 16.4.**