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Harrisburg, PA 17101

**RE: REGIONAL ENERGY ACCESS EXPANSION PROJECT
TECHNICAL DEFICIENCY RESPONSE SUBMITTAL
EROSION AND SEDIMENT CONTROL (E&S) PERMIT APPLICATION**

**BUCK TOWNSHIP, BEAR CREEK TOWNSHIP, PLAINS TOWNSHIP, JENKINS TOWNSHIP,
KINGSTON TOWNSHIP, DALLAS TOWNSHIP, WYOMING BOROUGH, WEST WYOMING
BOROUGH, LAFLIN BOROUGH, LUZERNE COUNTY
ROSS TOWNSHIP, CHESTNUTHILL TOWNSHIP, TUNKHANNOCK TOWNSHIP, MONROE
COUNTY
LOWER MOUNT BETHEL TOWNSHIP, NORTHAMPTON COUNTY
LOWER MAKEFIELD TOWNSHIP, BUCKS COUNTY
EAST WHITELAND TOWNSHIP, CHESTER COUNTY;**

PADEP APPLICATION NO. ESG830021002-00; APS ID NO. 1036787; AUTH ID NO. 1350583

Dear Ms. Albert;

On April 8, 2021, Transcontinental Gas Pipe Line Company, LLC (Transco), a subsidiary of The Williams Companies, Inc., submitted a Chapter 102 Erosion and Sediment Control (E&S) Permit Application to the Pennsylvania Department of Environmental Protection (PADEP) for earth disturbance associated with the proposed Regional Energy Access Expansion (Project) located in Luzerne, Monroe, Northampton, Bucks, and Chester Counties. The PADEP issued technical deficiencies on January 7, 2022. The response package herein responds to PADEP's technical deficiencies. PADEP's comments are provided below with Transco responses.

Minor design changes, modifications, and updates have been incorporated since the original April 2021 submission. This includes addressing Chapter 102 and 105 technical deficiencies, design modifications requested by the Federal Energy Regulatory Commission and other alterations that occurred.

Northampton County

1. **The maximum slope length, as provided on Standard E&S Worksheet #1, is exceeded above the proposed 24" CFS #9. Maximum slope lengths should conform to those provided in Figure 4.2 of the E&SPC Manual. [25 Pa Code §102.4(b)(5)(viii), 25 Pa Code §102.1 l(a)(I)].**

Compost filter sock sizes have been updated to maximum slope lengths outlined in the E&SPC Manual.

2. **Provide typical detail(s) for proper handling of potential sinkholes identified as a soil limitation and as having the potential to cause pollution to the surface waters on the detail sheet(s) (page 6 of the E&SPC Manual). [25 Pa Code §102.4(b)(5)(ix), 25 Pa Code §102.1 l(a)(I)].**

A construction detail has been added to the plans to address the potential for sinkholes.

3. **Provide instructions for proper handling of potential sinkholes identified as a soil limitation and having the potential to cause pollution to the surface waters (page 6 of the E&SPC Manual). [25 Pa Code §102.4(b)(5)(xii), 25 Pa Code §102.1 l(a)(I)].**

The soil limitations notes have been updated and a construction detail was added to the plans that outline instructions for sinkhole handling and repair.

4. **Resubmission fee should be submitted to the District with the revised plans and narratives for review (per Section VIII, Northampton County Conservation District Erosion and Sediment Pollution Control Plan Review Fee Schedule.). [25 Pa Code §102.6(b)(3)].**

A permit resubmission fee is included with this response to the Northampton County Conservation District.

Monroe County

5. **It appears that the project discharges to Mud Pond Run (EV, MF) from Miles 54.25 to Mile 55.60. Please update the Receiving Waters List on the cover sheet, the ribbon on the plan drawings, and the Application. [25 Pa Code §102.4(b)(5)(v)]**

The receiving waters list has been updated on the drawings and application to reflect this change.

6. **It appears additional E&S controls (compost socks and slope blankets) are required for the grading operations related to the installation of the tanks on the MLV505LD86 site. Please add the BMP's to the plan and address the installation of the BMP's in the sequence of construction. [25 Pa Code §102.4(b)(5)(vi)]**

Additional erosion and sediment control BMPs have been added to the plan as well as the installation of the BMPs in the sequence of construction, They have been designed to coincide with the temporary grading operations associated with the tanks at MLV505LD86.

7. **Pipeline Installation Sequence: Step 15 (installation of perimeter controls) should be performed prior to any grubbing operations occurring at the site (step 10). Please revise the sequence to install perimeter controls prior to all grubbing operations. [25 Pa Code § 102.4(b)(5)(vii)]**

The Sequence of Construction has been updated to address this concern. Clearing and grubbing will only be completed to the extent necessary to complete installation of the perimeter controls needed for further site development. This change has also been applied to Sheet 67 of the Regional Energy Lateral E&S Plan set of drawings.

- 8. Please include the stockpiling of topsoil materials in the sequence of construction for use as part of the final site restoration. [25 Pa Code §102.4(b)(5)(vii)]**

The Sequence of Construction has been updated to address this concern. This change has also been applied to Sheet 67 of the Regional Energy Lateral E&S Plan set of drawings.

- 9. Please indicate in the sequence how the material removed from the trenching operation will be stored (stockpiled or spread/compacted for access road). [25 Pa Code §102.4(b)(5)(vii)]**

The Sequence of Construction has been updated to indicate how the material removed from the trenching operation will be stored.. This change has also been applied to Sheet 67 of the Regional Energy Lateral E&S Plan set of drawings.

- 10. The "Pipeline Work Sequence in Wetlands" should include the requirement to remove compost filter socks in their entirety (compost and tube) in areas adjacent to wetlands. Compost shall not be placed in wetland areas. [25 Pa Code §102.4(b)(5)(vii)]**

The Sequence of Construction has been updated to address this concern. This change has also been applied to Sheet 67 of the Regional Energy Lateral E&S Plan set of drawings.

- 11. The "Pipeline Work Sequence at Stream Crossings" should include the requirement to excavate and segregate stream bottom material into a separate stockpile for reuse as part of the restoration of the stream area. [25 Pa Code §102.4(b)(5)(vii)]**

The Sequence of Construction has been updated to address this concern. This change has also been applied to Sheet 67 of the Regional Energy Lateral E&S Plan set of drawings.

- 12. The "Pipeline Work Sequence at Stream Crossings" should include the requirement to install slope blankets on disturbed areas within 50 of the top of bank of the stream. [25 Pa Code §102.4(b)(5)(vii)]**

The Sequence of Construction has been updated to address this concern. This change has also been applied to Sheet 67 of the Regional Energy Lateral E&S Plan set of drawings.

- 13. The "Pipeline Work Sequence at Stream Crossings" should include the requirement to install riparian buffer plantings/seeding in riparian areas disturbed by construction. [25 Pa Code §102.4(b)(5)(vii)]**

The Sequence of Construction has been updated to address this concern. This change has also been applied to Sheet 67 of the Regional Energy Lateral E&S Plan set of drawings.

- 14. Please include in the "Pipeline Work Sequence at Stream Crossings" that pumped water filter bags should discharge into well-vegetated areas and the distance from the discharge to the top of bank of the stream should be maximized to the extent practical. Please make a similar revision for work adjacent to wetlands. [25 Pa Code §102.4(b)(5)(vii)]**

The Sequence of Construction has been updated to address this concern. This change has also been applied to Sheet 67 of the Regional Energy Lateral E&S Plan set of drawings.

- 15. A site-specific sequence of construction should be provided for the MLV505LD86 construction, including grading for tank placement, road installation, PCSM BMP installation, removal and regrading of the tank areas, and final site restoration. The sequence should also refer to the detailed PCSM BMP installation sequence on the PCSM drawings. [25 Pa Code §102.4(b)(5)(vii)]**

A site-specific sequence of construction addressing this concern has been added to Sheet 36 of the E&S Plan drawings.

- 16. Please provide calculations for the determination of the flows and pipe sizing for the clean water crossing pipes. In addition, please specify the rock size to be used for the outlet basins associated with these pipes and include this information on the plan drawings. [25 Pa Code § 102.4(b)(5)(viii)]**

Calculations for the determination of the flows and pipe sizing for the clean water crossing pipes have been added to Attachment 3 of Section 2. Rock sizes have been added to the Clean Water Crossing detail on Sheet 46 of the E&S Drawings. Sizing is based on the discharge velocity of the CWC.

- 17. Please provide calculations for the sizing of the diversion channels. [25 Pa Code § 102.4(b)(5)(viii)]**

Calculations for the sizing for the diversion channels has been added to Attachment 3 of Section 2.

- 18. Please add a prominent note to the plan drawings that sheet flow shall be maintained to the compost filter socks. If concentrated flow/overtopping occurs, a rock filter outlet shall be installed at the point of concentration/overtopping. [25 Pa Code § 102.4(b)(5)(ix)]**

A note has been added to the drawings that states “Sheet flow shall be maintained to the compost filter socks. If concentrated flow/overtopping occurs, a rock filter outlet shall be installed at the point of concentration/overtopping.”

- 19. Please upgrade compost Sock EL-CFS-CY1-001 to a 24" sock (Dwg 3) to maintain consistent sock size in this area. [25 Pa Code §102.4(b)(5)(ix)]**

The compost filter sock has been revised to 24”, as requested.

- 20. Please add a prominent note on Drawings 3-5 to install the contractor yard in sections as conditions and the need for additional space is required to limit the extent of earth disturbance in this area. [25 Pa Code §102.4(b)(5)(ix)]**

A statement has been added on each sheet noted indicating “The contractor yard should be installed in sections as conditions and the need for additional space is required to limit the extent of earth disturbance in this area.”

- 21. Please clarify the need for parallel rows of compost socks at Stations 753+00 to 758+50. In general, compost socks are not installed in a parallel fashion. [25 Pa Code §102.4(b)(5)(ix)]**

The compost filter sock was shown on both sides of an existing landowner driveway. The sock on the west (downgradient) side of the existing driveway was removed and a note added that the driveway will be maintained for landowner access during construction.

- 22. Compost Socks are shown along the downstream edge of the work corridor. In many cases, the socks are shown perpendicular rather than parallel to the existing grade. These socks will act as diversion channels that will funnel water towards the low point of the compost socks. A Rock Filter Outlet should be provided at these points. Please review the plans and add rock filters in the appropriate points where significant drainage areas and natural low points occur, including the following [25 Pa Code §102.4(b)(5)(ix)]:**
- a. North and East comers of Contractor Yard CY-MO-001 (Drawing5)**
 - b. Station 754+50 left**
 - c. Station 759+00 left**
 - d. Station 905+50 left**
 - e. Station 912+00 left**
 - f. Station 924+75 left**

The rock filter outlets have been added at the locations requested. Additional rock filter outlets were added at other locations and are shown on the plan drawings.

- 23. Please review the flow direction on the waterbars. In general, waterbars should discharge away from the work area (and not allow flow to re-enter the work area downstream) and away from adjacent developed land as much as practical. The direction of discharge should be reconsidered at the following locations [25 Pa Code §102.4(b)(5)(ix)]:**
- a. Station 772+50**
 - b. Station 935+40 (slide uphill)**
 - c. Station 1078+00**
 - d. Station 1080+50**
 - e. Station 1179+ 25**

The waterbars at station 772+50, 1078+00 and 1080+50 were adjusted, as requested, to direct water to the opposite side of the ROW. The waterbar at 935+40 was adjusted to align with the existing vegetated swale. The waterbar at 1179+25 was not adjusted as the current alignment avoids directing flow to residences.

- 24. Please provide a callout and/or other additional information on the plans to identify the area which required riparian buffer plantings and seeding (may reference standard details VCR-1 and VCR-2). [25 Pa Code §102.4(b)(5)(ix)]**

Areas requiring riparian buffer plantings and seeding have been identified on the E&S drawing sheets as VCR-1 or VCR-2, referencing the details on Sheet 42 of the plan set.

- 25. The Legend on the E&S sheets includes the identification of geohazard areas and details are provided on how to address these areas. However, these areas do not appear to be identified in the plan drawing ribbon. Please identify these areas as shown in the legend. [25 Pa Code §102.4(b)(5)(ix)]**

The geohazard areas were inadvertently not displayed in the original submittal. The drawings have been updated and the geohazard areas are shown on the plans and in the legend. Additionally, a table is included on Sheet 52 that outlines the specific geohazard type, treatment, and location.

- 26. Wetland Equipment Crossing (WEM) Detail, Drawing 40: Please specify the minimum size of compost filter sock to install along the edges of the timber matting. [25 Pa Code §102.4(b)(5)(ix)]**

The detail has been revised to note that a 12" compost filter sock is to be installed along the timber matting.

- 27. Waterbar Details: On a previous project completed by Williams in Monroe County (Franklin Loop), the trench excavation material was spread out and compacted on the downstream side of the trench to create a corridor for construction vehicles to traverse along the pipeline. This operation would create a drop-off condition along the edge of this corridor. Downstream of the waterbar/compost sock BMP, rill or gully erosion would occur where the discharge traveled down the exposed slope. Please add a note to the detail to monitor the discharge below the waterbar/sock on exposed slopes. Repair erosion and provide additional BMP's (rock protection or sock at the base of the slope) to minimize sediment leaving the work area. [25 Pa Code §102.4(b)(5)(ix)]**

The waterbar detail has been updated to add note 6, stating "Contractor should monitor the discharge below the waterbar/sock on exposed slopes, repair erosion and provide additional BMP's (rock check dams, additional compost filter sock, or similar) to minimize sediment leaving the work area."

- 28. Waterbar Detail: Please add a note to the detail to evaluate the water flow direction and waterbar location to utilize existing points of concentrated discharge and to minimize flows from re-entering the work area. [25 Pa Code §102.4(b)(5)(ix)]**

The waterbar detail has been updated to add note 7, stating "Contractor should evaluate flow direction and waterbar location to utilize existing points of concentrated discharge and to minimize flows from re-entering the work area."

- 29. Waterbar and Broad Based Dip Details: Please add the requirements to inspect the compost sock traps/sumps at these devices for overtopping or undermining of the compost socks, and to increase the size of the sump and/or compost sock to maximize filtering of runoff. [25 Pa Code §102.4(b)(5)(ix)]**

The waterbar and broad-based dip details have been updated, stating "Contractor should inspect the compost filter sock sumps at the waterbars for overtopping or undermining of the compost filter socks. Increase the size of the sump and/or compost filter sock to maximize filtering of runoff."

- 30. Bored Waterbody Crossing (WBX) Detail: Please note to stockpile soil material 50' from the top of bank to limit impacts within the stream floodway. [25 Pa Code §102.4(b)(5)(ix)]**

The bored waterbody crossing detail has been updated, noting the minimum stock pile soil set back of 50'.

- 31. Diversion Channel Detail: For the earth berm alternative, please revise the erosion control matting on the bottom area of the berm to extend upslope to the elevation of the top of berm rather than the 5' minimum dimension. [25 Pa Code §102.4(b)(5)(ix)]**

The diversion channel detail has been updated, as requested.

- 32. Please update the Application and other supporting information as a result of addressing the review comments in this letter. [25 Pa Code §102.6(a)(1)]**

The application and supporting documents have been updated to address the response to review comments contained herein.

- 33. Please provide an updated status of the various PNDI issues related to the project. Resolution of PNDI issues is required prior to permit issuance. [25 Pa Code §102.6(a)(1)]**

Section 1-8 of the application has been revised to reflect the current status of PNDI consultation.

- 34. The ML V505LD86 site proposes drainage and driveway work within Sugar Hollow Road, which is a state road. Please provide the status of submittals and approvals for work proposed within the state road right of way. The project proposes storm piping within the right of way which may interfere/impact the existing roadway drainage facilities, requiring revisions to the design. [25 Pa Code §102.6(a)(1)]**

The driveway permit applications will be submitted to PennDOT. As part of the driveway permit approval, the PennDOT permit will state that drainage must be maintained to eliminate ponding of water or water flowing out onto the state roadway. The project will abide to this permit condition.

- 35. The fee for service for the next submittal is \$11,766.00, payable to "Monroe County Conservation District". [25 Pa Code §102.6(b)(3)]**

The requested review fee is included with this response package.

Chester County

- 36. The plan is titled as an E & S but the proposed plan has structural PCSM BMPs proposed and a separate PCSM Plan has been provided. Please remove Site Restoration from the title block. [25 Pa Code §102.1 l(a)(1)&(2)]**

“Site Restoration” has been removed from the title block. References to site restoration have been removed from the drawings.

- 37. Please provide the required site engineer Critical Stage inspections in the Sequence of Construction (SOC). [25 Pa Code §102.1 l(a)l, §102.1 l(a)(2)]**

The Sequence of Construction has been updated accordingly.

- 38. The second to last step of the SOC should be a final Critical Stage inspection by the site's engineer to verify all installed PCSM BMPs are installed and not impacted by construction activities/ runoff. [25 Pa Code §102.1 l(a)(1)&(2)]**

The Sequence of Construction has been updated accordingly.

- 39. The last step of the SOC should be to submit a Notice of Termination once the project is complete and permanently stabilized. [25 Pa Code §102.1 l(a)(1)]**

The Sequence of Construction has been updated accordingly.

- 40. Please illustrate the topsoil stockpile on the plans. [25 Pa Code §102.1 l(a)(1)]**

A topsoil stockpile has been added to the drawing.

- 41. Please make sure the perimeter controls are installed in the SOC. [25 Pa Code § 102.1 l(a)(1)]**

The Sequence of Construction has been updated accordingly.

- 42. It appears the proposed Rock Construction Entrance will be installed on an existing driveway. If this driveway is paved it may be better to relocate it to where the contractor will have to access off paved areas to unpaved areas. Please evaluate and revise if needed. [25 Pa Code §102.1 l(a)(l)]**

This road is currently constructed with gravel. Therefore, the Rock Construction Entrance will be able to be installed per the plans.

Luzerne County

Lateral

- 43. Please explain why wetland regrading is proposed and verify that this is an acceptable activity. [25 Pa Code §102.4(b)(5)(iii)]**

The wetland regrading is proposed in areas where ATV traffic has impacted wetlands on the existing right-of-way. The purpose of the additional work area is to remove rutting, erosion, etc. from the wetland. Transco has coordinated with PADEP on the activity and associated impacts are included within the Chapter 105 permit application.

- 44. Please show on the plans how the area of hydrostatic discharge on Sheet 40 will be accessed. [25 Pa Code §102.4(b)(5)(iii)]**

Sheet 40 has been updated with a call out that notes: "Hydrostatic test discharge structure will be accessed through use of AR-LU-052 and use of proposed limits of disturbance."

- 45. Perimeter BMPs have not been provided for resources on Sheets 8, 25, and 29. Please check all other areas. [25 Pa Code §102.4(b)(5)(vii)]**

Compost Filter Socks have been added around resources on Sheets 8, 25, and 29. An evaluation was completed to determine if other areas required perimeter BMPs, and appropriate BMP's were added as necessary.

- 46. Provide a site-specific sequence of BMP installation and removal in accordance with Chapter 2 of the E&SPC Manual. [25 Pa Code § 102.4(b)(5)(vii), 25 Pa Code § 102.1 l(a)(l)]**

The Sequence of Construction for the BMP installation is located on Sheet 67 of the Regional Energy Lateral plan set. A site-specific Sequence of Construction has also been added to the plan set for the valve sites and tie-ins.

- 47. Provide calculations to show that compost filter sock traps provide the required 2,000 cubic feet per acre storage capacity. §102.1 l(a)(l) Standard E&S Worksheet #14 is recommended for this purpose. [25 Pa Code §102.4(b)(5)(vii)]**

Compost filter sock traps are not proposed. The details and call out in the legend have been removed from the drawing.

- 48. The plan map(s) show a conflict between compost filter sock in wetlands and proposed timber mats. Explain how this conflict will be resolved. [25 Pa Code §102.4(b)(5)(ix)]**

Compost filter sock is shown overlapping with the timber matting, as it relates to post-construction placement of compost filter sock. Once the timber matting is removed, compost filter sock will be in place around the resource (stream/wetland) until vegetative stabilization is achieved.

49. Please remove compost filter socks from inside existing wetlands. [25 Pa Code §102.4(b)(5)(ix)]

Consistent with 25 Pa Code §102.4(b)(5)(ix), compost filter sock is located within wetlands along the edge of the LOD to contain spoils during construction from leaving the LOD and entering undisturbed portions of the wetland.

50. The plan map(s) show(s) compost sock(s) crossing contours. Sediment barriers should be installed at existing level grade (E&SPC Manual, pages 61 and 75). §102.1 l(a)(l) Please make all necessary corrections. Sock against contours on side cast material on the side of the pipeline and at resource is acceptable. [25 Pa Code §102.4(b)(5)(ix)]

The primary intent of the composts socks is to manage sediment from side cast material. Additionally, J-hook silt socks are proposed to manage areas where placement of CFS is not feasible along contours. The compost filter sock with J-hook detail was added on Sheet 77 of the plans.

51. Sheet 24 shows waterbars discharging to the proposed access road. Please revise. [25 Pa Code §102.4(b)(5)(ix)]

Water bars will terminate in a sump area. A French Mattress will be installed through the existing roadway to allow the sump area to drain rather than overtopping the road. In addition, a broad-based dip has been added immediately downslope of the French Mattress to facilitate flow into the mattress and to avoid excessive concentrated flow along the road side.

52. Compost filter sock trap locations could not be located. Please provide sheet numbers on table detail. [25 Pa Code §102.4(b)(5)(ix)]

Compost filter sock traps are not proposed. The details have been removed from the drawing.

53. Please provide a clean out stake for Compost filter sock traps. [25 Pa Code §102.4(b)(5)(ix)]

Compost filter sock traps are not proposed. The details have been removed from the drawing.

54. Compost filter sock trap table specifies the use of a 12" diameter sock which is inconsistent with typical detail. [25 Pa Code §102.4(b)(5)(ix)]

Compost filter sock traps are not proposed. The details have been removed from the drawing.

MLV515RA20 Site

55. As per the Pennsylvania Stormwater Best Management Practices Manual, Appendix C, Protocol 2, a 2-foot clearance should be maintained between the bottom of the proposed BMP where infiltration is to occur and any limiting zone (mottling, seasonally high water table, bedrock, etc.). The proposed BMP has the potential to have an inadequate distance as specified by the manual. Please provide testing /documentation that shows an adequate distance exists or revise the BMP as required. Please discuss this matter with DEP.

Test pitting has been completed in and around the proposed stormwater BMP. Based on the test pit data, a minimum of 2 feet of separation is provided between the BMP bottom and a limiting zone. Test pit data is included in Attachment 3 of the PCSM Plan. Additional language has been added to Section 6 - "Post Construction Stormwater Management Best Management Practices, Installation Sequence and PCSM Critical Stages" to discuss the methodology used to determine a

minimum isolation distance of 24" from any limiting zone. This language has been added for each site requiring PCSM controls. Finally, this information is also presented on the PCSM drawings, which shows the BMP elevation, the location and elevation of the test pit, the depth of the test pit, and the assumed separation of the BMP bottom to the limiting zone.

- 56. The plan map(s) show channel DC-DI and OP3 discharging to an area that is not identified as surface water. If this is a non-surface water discharge, provide a discharge analysis according to Ch. 102 Off-Site Discharges of SW to Non-Surface Waters FAQ. [25 Pa Code §102.4(b)(5)(iv)]**

An Offsite Discharge Report has been prepared to address each point of discharge from the site. The report is included in Attachment 4 of the E&S Plan and Attachment 6 of the PCSM Plan Narratives.

- 57. Please relabel the collector channel at ML V-515RA20 accordingly. [25 Pa Code §102.4(b)(5)(iii)]**

Channels conveying stormwater to the infiltration berm have been relabeled as "PCSM Channels." The channel used to divert upgradient stormwater around the pad has been labeled "PCSM Diversion Channel."

- 58. Please provide proposed final contours for all proposed earthmoving (including channels) that meet the standards in Item 3 on page 2 and on page 398 in the E&SPC Manual. [25 Pa Code §102.4(b)(5)(iii), 25 Pa Code §102.1 l(a)(l)]**

Contours for all permanent grading, including channels, is outlined on the plan drawings.

- 59. Provide a site-specific sequence of BMP installation and removal in accordance with Chapter 2 of the E&SPC Manual. [25 Pa Code §102.4(b)(5)(vii), 25 Pa Code §102.1 l(a)(l)]**

A site-specific Sequence of Construction has been added to Sheet 67 of the E&S Plan Drawings.

- 60. Please explain the purpose of the pipe outlet through the proposed Infiltration Berm. [25 Pa Code §102.4(b)(5)(ix)]**

The pipe outlet through the berm is used to mitigate the peak flow rates of the design storms.

- 61. The plan map(s) show(s) compost sock(s) crossing contours. Sediment barriers should be installed at existing level grade (E&SPC Manual, pages 61 and 75). §102.1 l(a)(l) Please make all necessary corrections. [25 Pa Code §102.4(b)(5)(ix)]**

Where feasible, the compost filter sock has been revised to follow contours. Additionally, J-hook silt socks are proposed to manage areas where placement of CFS is not feasible along contours. The compost filter sock detail on Sheet 77 has been updated to include the compost filter sock with J-hook information.

MLV515RA30 Site

- 62. As per the Pennsylvania Stormwater Best Management Practices Manual, Appendix C, Protocol 2, a 2-foot clearance should be maintained between the bottom of the proposed BMP where infiltration is to occur and any limiting zone (mottling, seasonally high water table, bedrock, etc.). The proposed BMP has the potential to have an inadequate distance as**

specified by the manual. Please provide testing /documentation that shows an adequate distance exists or revise the BMP as required. Please discuss this matter with DEP.

Test pitting has been completed in and around the proposed stormwater BMP. Based on the test pit data, a minimum of 2 feet of separation is provided between the BMP bottom and a limiting zone. Test pit data is included in Attachment 3 of the PCSM Plan. Additional language has been added to Section 6 - "Post Construction Stormwater Management Best Management Practices, Installation Sequence and PCSM Critical Stages" to discuss the methodology used to determine a minimum isolation distance of 24" from any limiting zone. This language has been added for each site requiring PCSM controls. Finally, this information is also presented on the PCSM drawings, which shows the BMP elevation, the location and elevation of the test pit, the depth of the test pit, and the assumed separation of the BMP bottom to the limiting zone.

63. Swale 1 contours show a ponding area, not a swale. [25 Pa Code §102.4(b)(5)(iii)]

This BMP has been modified to utilize an infiltration berm.

64. Provide a site-specific sequence of BMP installation and removal in accordance with Chapter 2 of the E&SPC Manual. [25 Pa Code §102.4(b)(5)(vii), 25 Pa Code § 102.1 l(a)(l)]

A site specific Sequence of Construction has been added to Sheet 67 of the E&S Plan Drawings.

Carverton Tie-In

65. As per the Pennsylvania Stormwater Best Management Practices Manual, Appendix C, Protocol 2, a 2-foot clearance should be maintained between the bottom of the proposed BMP where infiltration is to occur and any limiting zone (mottling, seasonally high water table, bedrock, etc.). The proposed BMP has the potential to have an inadequate distance as specified by the manual. Please provide testing /documentation that shows an adequate distance exists or revise the BMP as required. Please discuss this matter with DEP.

Test pitting has been completed in and around the proposed stormwater BMP. Based on the test pit data, a minimum of 2 feet of separation is provided between the BMP bottom and a limiting zone. Test pit data is included in Attachment 3 of the PCSM Plan. Additional language has been added to Section 6 - "Post Construction Stormwater Management Best Management Practices, Installation Sequence and PCSM Critical Stages" to discuss the methodology used to determine a minimum isolation distance of 24" from any limiting zone. This language has been added for each site requiring PCSM controls. Finally, this information is also presented on the PCSM drawings, which shows the BMP elevation, the location and elevation of the test pit, the depth of the test pit, and the assumed separation of the BMP bottom to the limiting zone.

66. Perimeter BMPs have not been provided downslope of all earth disturbance. [25 Pa Code §102.4(b)(5)(vii)]

Additional compost filter sock has been added downslope of the proposed pad embankment to control sedimentation during construction of the pad.

67. Provide a site-specific sequence of BMP installation and removal in accordance with Chapter 2 of the E&SPC Manual. [25 Pa Code §102.4(b)(5)(vii), 25 Pa Code §102.1 l(a)(l)]

A site-specific Sequence of Construction has been added to Sheet 67 of the E&S Plan Drawings.

Lower Demund Tie-In

- 68. As per the Pennsylvania Stormwater Best Management Practices Manual, Appendix C, Protocol 2, a 2-foot clearance should be maintained between the bottom of the proposed BMP where infiltration is to occur and any limiting zone (mottling, seasonally high water table, bedrock, etc.). The proposed BMP has the potential to have an inadequate distance as specified by the manual. Please provide testing /documentation that shows an adequate distance exists or revise the BMP as required. Please discuss this matter with DEP.**

Test pitting has been completed in and around the proposed stormwater BMP. Based on the test pit data, a minimum of 2 feet of separation is provided between the BMP bottom and a limiting zone. Test pit data is included in Attachment 3 of the PCSM Plan. Additional language has been added to Section 6 - "Post Construction Stormwater Management Best Management Practices, Installation Sequence and PCSM Critical Stages" to discuss the methodology used to determine a minimum isolation distance of 24" from any limiting zone. This language has been added for each site requiring PCSM controls. Finally, this information is also presented on the PCSM drawings, which shows the BMP elevation, the location and elevation of the test pit, the depth of the test pit, and the assumed separation of the BMP bottom to the limiting zone.

- 69. Please provide proposed final contours for all proposed earthmoving (including channels) that meet the standards in Item 3 on page 2 and on page 398 in the E&SPC Manual. [25 Pa Code §102.4(b)(5)(iii), 25 Pa Code §102.1 l(a)(l)]**

Contours for all permanent grading, including channels, that meet the standards in Item 3 on page 2 and on page 398 in the E&SPC Manual is outlined on the plan drawings.

- 70. Provide a site-specific sequence of BMP installation and removal in accordance with Chapter 2 of the E&SPC Manual. [25 Pa Code §102.4(b)(5)(vii), 25 Pa Code § 102.1 l(a)(l)]**

A site-specific Sequence of Construction has been added to Sheet 67 of the E&S Plan Drawings.

Hildebrandt Tie-In

- 71. As per the Pennsylvania Stormwater Best Management Practices Manual, Appendix C, Protocol 2, a 2-foot clearance should be maintained between the bottom of the proposed BMP where infiltration is to occur and any limiting zone (mottling, seasonally high water table, bedrock, etc.). The proposed BMP has the potential to have an inadequate distance as specified by the manual. Please provide testing /documentation that shows an adequate distance exists or revise the BMP as required. Please discuss this matter with DEP.**

Test pitting has been completed in and around the proposed stormwater BMP. Based on the test pit data, a minimum of 2 feet of separation is provided between the BMP bottom and a limiting zone. Test pit data is included in Attachment 3 of the PCSM Plan. Additional language has been added to Section 6 - "Post Construction Stormwater Management Best Management Practices, Installation Sequence and PCSM Critical Stages" to discuss the methodology used to determine a minimum isolation distance of 24" from any limiting zone. This language has been added for each site requiring PCSM controls. Finally, this information is also presented on the PCSM drawings, which shows the BMP elevation, the location and elevation of the test pit, the depth of the test pit, and the assumed separation of the BMP bottom to the limiting zone.

- 72. Provide a site-specific sequence of BMP installation and removal in accordance with Chapter 2 of the E&SPC Manual. [25 Pa Code §102.4(b)(5)(vii), 25 Pa Code § 102.1 l(a)(l)]**

A site-specific Sequence of Construction has been added to Sheet 67 of the E&S Plan Drawings.

- 73. Level spreader does not appear to be shown on a level grade. Please revise accordingly. [25 Pa Code §102.4(b)(5)(ix)]**

The level spreader has been shown approximately parallel to the 1276' contour. Additionally, the level spreader detail was modified to accommodate construction in this area.

Compressor Station 515

- 74. Please show existing stormwater BMPs. [25 Pa Code §102.4(b)(5)(i)]**

The E&S and PCSM plans have been updated to show additional existing stormwater BMP's.

- 75. All symbols shown on the plan drawing have not been provided in the legend (ex. Beige shading). [25 Pa Code § 102.4(b)(5)(iii)]**

Items have been incorporated into the legend or called out directly on the plan. A callout to the beige area has been added to the plan identifying this area as part of the Regional Energy Lateral Component of the Project.

- 76. Step 14 calls for the installation of Collector Channels that are not shown on the E&S plan. Channels should be stabilized "as per plan". [25 Pa Code §102.4(b)(5)(vii)]**

The Sequence of Construction has been revised to address this comment (step 15).

- 77. Specify in the construction sequence the critical stages when the licensed professional must be allowed to oversee the installation of structural PCSM BMP(s) as required by §102.8 (k). [25 Pa Code §102.4(b)(5)(vii)]**

An asterisk is now included adjacent to the sequence where critical stage oversight is required.

- 78. The E&S plan Sheet 4 notes the installation of a level spreader downslope of the infiltration berm. It is recommended that the berm be initially installed and channel/piping begin from the downstream end upslope, to alleviate the need for a spreader and berm disturbance. [25 Pa Code §102.4(b)(5)(vii)]**

The intent of the level spreader is to discharge flow from the BMP as sheet flow rather than concentrated flow. The Sequence of Construction has been revised to identify that the infiltration berm will be constructed first and PCSM channels constructed from the downstream side and progress upgradient.

- 79. The rock filter/inlet protection typical on the plan drawing(s) does not meet the standards shown on Standard Construction Detail Number #4-14. §102.1 l(a)(l) Please make all necessary changes. [25 Pa Code §102.4(b)(5)(ix)]**

The rock filter/inlet protection typical on the plan drawings has been revised to meet standard construction detail #4-14.

- 80. The plan map(s) show(s) compost sock(s) crossing contours. Sediment barriers should be installed at existing level grade (E&SPC Manual, pages 61 and 75). §102.1 l(a)(l) Please make all necessary corrections. [25 Pa Code §102.4(b)(5)(ix)]**

Where feasible, the plan map(s) showing compost filter sock(s) have been revised to follow contours. Additionally, J-hook silt socks are proposed to manage areas where placement of CFS is not feasible along contours. The compost filter sock detail on sheet 77 has been updated to include the compost filter sock with j-hook information.

- 81. Provide a construction detail for the proposed level spreader (Item 9, page 5 of the E&SPC Manual). [25 Pa Code §102.4(b)(5)(ix), 25 Pa Code §102.1 l(a)(l)]**

A detail for the proposed level spreaders has been added to Sheet 6 of the PCSM Plan set and Sheet 10 of the E&S Plan set.

- 82. Provide a typical detail for each type of channel proposed (Item 9, page 5 of the E&SPC Manual). [25 Pa Code §102.4(b)(5)(ix), 25 Pa Code §102.1 l(a)(l)]**

The detail has been updated to include both a vegetated channel and a rock-lined channel.

Contractor Yard

- 83. BMPs have not been shown on the plan drawing per step 6 (sock diversions and sediment trap) of the construction sequence. [25 Pa Code §102.4(b)(5)(vii)]**

The Sequence of Construction Note 6 has been revised to specify the BMPs proposed at the contractor yard

- 84. Geological Hazard Assessment and Mitigation Plan:**

- a. The Geological Hazard Assessment and Mitigation Plan did not include any geologic field investigation, drilling, or test pitting, to confirm the findings of the desktop review. Following the desktop reference review, the field geohazard assessment consisted of walking the ROW and immediately adjacent areas to observe the existing ground surface conditions and to document evidence of past landslide events. The Geological Hazard Assessment should, at a minimum, include the geotechnical investigations that were conducted at resource crossings. [25 Pa Code §102.4(b)(5)(xiii)]**

The Geohazard Assessment, located in Attachment B of the application, has been updated and now includes soil boring information for trenchless crossings of resources (Attachments B-9 through B-13).

- b. The Geological Hazard Assessment and Mitigation Plan indicates that Acid Producing Rock (APR) will likely be encountered. According to the Plan, the Marcellus Shale is expected to be encountered from MP 45.55-46.7, previously strip-mined areas are present from MP 16.6-16.32, and soils pertaining to strip mining and mine spoils is shown between MPs: 9.61 - 9.75, 9.84 - 9.89, 11.06 - 11.34, 11.47 - 11.60, 11.70 - 11.77, 11.96 -12.38, 12.50 - 12.80, 12.90 - 13.14, 13.32 -13.47, 15.30 - 15.70, 15.83 - 15.93, and 16.16 -16.32. Section 3.4 of the plan states "If coal or other acid producing rock is encountered in sufficient concentrations it can be mitigated in accordance with PADEP guidelines". APR is not mentioned on the E&S Plans. Please indicate what concentration of APR will trigger mitigation actions and what qualified professional will be onsite to determine that APR is present. [25 Pa Code § 102.4(b)(5)(xii)]**

The Erosion and Sedimental Control Plans and Geohazard Assessments have been updated to include the requested Acid Producing Rock Plan as well as the responsible onsite individual who will determine if APR is present.

85. Preparedness, Prevention, and Contingency (PPC) Plan:

- a. Section 6.2 of Inadvertent Return Response, and Contingency Plan: A loss of circulation must be reported to the DEP in accordance with 25 Pa Code §78a.68a (i) and 25 Pa Code §91.33. An important part of the inspection and monitoring protocol includes a well-defined notification system. The developed notification system should identify which incidents are reportable, which need to be reported immediately, clearly state which staff are responsible for reporting, and which entities need to be notified. (25 Pa Code §102.5(1))**

Sections 6 and 8.2 of the Direct Pipe Monitoring, Inadvertent Return Response, and Contingency Plan have been updated to outline the monitoring and agency notification requirements.

- b. Section 7 of the Inadvertent Return Response and Contingency Plan: Please include in the Inadvertent Returns Response and Contingency Plan provisions to contact the Department immediately by email, phone, or electronically delivered letter if a loss of pressure or an inadvertent return occurs during drilling operations. Drilling operations should not continue until a Professional Engineer (PE) or Professional Geologist (PG) has performed an inspection of the drilling site and drill alignment. The PE or PG should then notify the Department in writing that the drilling can commence without the risk of an inadvertent return. (25 Pa Code §102.5(1))**

Sections 6 and 8.2 of the Direct Pipe Monitoring, Inadvertent Return Response, and Contingency Plan have been updated to outline the monitoring and agency notification requirements.

- c. **Should an inadvertent return occur during drilling operations, a Re-evaluation Report should be submitted to the Department by the PE or PG examining the drilling alignment and ensuring that another inadvertent return is unlikely. The Department will need to review this submitted information and approve the restarting of drilling operations. [25 Pa Code § 102.5(1)], [25 Pa. Code § 105.302(6)]**

Sections 6 and 8.2 of the Direct Pipe Monitoring, Inadvertent Return Response, and Contingency Plan have been updated to outline the monitoring and agency notification requirements.

- d. **Section 7 of the Inadvertent Return Response and Contingency Plan refers to Sections 7.2.1 and Section 7.2.2, please clarify as these Sections are not present within the document. [25 Pa Code § 102.5(1)]**

Section 7.2.1 and 7.2.2 references were removed from the Direct Pipe Plan

- e. **Section 7.6 of the Inadvertent Return Response and Contingency Plan states no wells or public water supplies were located within 1,000 ft of the proposed DP crossing. Please confirm that this includes all water supplies. The definition of water supply can be found in 25 Pa. Code § 78a.1. The section of regulations dealing with the "Protection of Water Supplies" can be found in 25 Pa. Code § 78a.51 and 25 Pa. Code §§ 91.31 - 91.34. Project proponents utilizing trenchless technology need to incorporate a plan for locating private water supplies, in addition to public water supplies, and should evaluate all information sources to locate and identify all private water supplies. DEP recommends using the following guidelines to locate and identify private water supplies: Locate all private wells within a minimum of 450-feet of the centerline of the pipeline in non-karst terrain, and a minimum of 1000-feet in karst terrain or areas that include limestone and dolomite bedrock. The project proponent should compile mailing lists for all properties at a minimum of 450-feet (1,000-feet in karst) from the pipeline, or utility line, centerline to inquire as to whether a private well or other water supply (e.g. spring) is present on the property. [25 Pa Code §102.5(1)]**

Transco has not identified any public or private water supplies with 1,000 ft of the proposed DP crossing, and therefore, no impacts are expected. Section 7.3 - Potable Water Supply has been updated within the Direct Pipe Plan.

- f. **Section 3.2 of the Inadvertent Return Response and Contingency Plan states the Direct Pipe (DP) path will be monitored from the banks as it crosses under the river. DEP recommends monitoring the DP path via boat should a loss of circulation (LOC), significantly diminished circulation or lubrication fluid volume loss occur. [25 Pa Code § 102.5(1)]**

Section 3.2 of the Direct Pipe Plan has been updated to indicate Transco's contractors will use a boat or an unmanned aerial vehicle may during inspections.

Application Form

- 86. Within the Notice of Intent (NOI), the Receiving Waters is not clear what each stream Designated Use Stream Classification or Existing Use Stream Classification. Please revise the**

NOI so that each stream has a designated use and/or existing use classification. [25 Pa Code §102.6(a)(1)]

Attachment 1-1.1 included with the Erosion and Sediment Control Permit Application has been updated to clarify the existing and designated uses are outlined in the table.

- 87. The NOI does not indicate if there are any tributaries to streams that will be a receiving water or will have any earth disturbance within the tributary watershed. Please revise the NOI to include all tributaries that have earth disturbance associated with the construction of the pipeline or associated ancillary facilities. Also, please include the designated use and/or existing use classification for each tributary. [25 Pa Code §102.6(a)(1)]**

Attachment 1-1.1 included with the Erosion and Sediment Control Permit Application has been updated to outline all tributary watersheds. The existing and designated uses are outlined in the table.

- 88. The submitted PNDI receipt does not appear to include the work within Chester County. Please confirm and provide all necessary PNDI receipts, PNDI clearances, etc. for the portion of the work within Chester County. [§102.6(a)(2)]**

The September 4, 2020 PNDI consultation submitted via the PNDI online includes Compressor Station 200. This consultation is included in Section 1-8 of the NOI. The only survey requirement was for the Bog Turtle at this site. A habitat assessment was completed and no habitat was identified. A report was submitted to the USFWS. Consultation is ongoing with the USFWS.

PCSM Module(s)

- 89. Please provide the depth or elevations of the infiltration testing performed on the project. It appears from the soils report that infiltration testing was performed at 48" below the ground surface, near the termination depth of the tests pits. The infiltration berms are assuming infiltration at the ground surface and the report notes a lean silt and lean clay layer 10-12" below the surface. Infiltration testing should be performed in the same soil strata where infiltration will occur. [25 Pa Code §102.8(f)(8)]**

The depth/elevation of testing has been added to the soils and infiltration report. Additional language has been added to the soil and infiltration report discussing the use of the infiltration data in the BMP design. The proposed design for the Sugar Hollow site utilizes five BMPs: two infiltration berms, two subsurface infiltration beds and one infiltration basin. The following table summarizes the infiltration testing elevations and BMP elevations.

BMP		Infiltration Tests		Comments
ID	Bottom Elevation	ID	Testing Elevation	
Infiltration Berm 1	969'	---	---	The infiltration berms are located next to each other in the same soil series. These soils have a significant rock fragment portion (up to 2") that increases with depth. Note: The top two feet of the subsurface will be replaced with suitable soil amendment.
		---	---	
Infiltration Berm 2	963'	TP-206	959.93'	
		TP-207	960.21'	
Subsurface Infiltration Bed 1	912'	TP-204	910.13'	The top two feet of the subsurface will be replaced with suitable soil amendment.
Subsurface Infiltration Bed 2	912'			
Infiltration Basin 1	924.5'	TP-202	923.17'	The top two feet of the subsurface will be replaced with suitable soil amendment.
		TP-203	920.48'	

90. Please provide a separate Module 3 for each receiving surface water per the application instructions. Attachment 1.1-1 as referenced does not appear to include this information. [25 Pa Code §102.8(h)]

A Module 3 is included for each special protection watershed along each Project component.

91. It appears that there could be an increase in stormwater volume, rate, and quality for storm events up to and including the 2-year/24-hour storm during earth disturbance activities. If so, please uncheck the first box on Module 3 and complete the last portion stating "If a Non-Discharge Alternative will not be utilized, explain the rationale for non-selection, including why none of the alternatives are considered environmentally sound and cost effective." [25 Pa Code § 102.8(h)]

A separate Module 3 has been provided for each special protection watershed associated with the Project. The first box will be unchecked as requested. Alternative siting and Riparian Buffers were not utilized due to the linear nature of the Project. The Project was designed to limit the extent, duration, and area of disturbance. Antidegradation Best Available Combination of Technologies (ABACT) Best Management Practices (BMPs) are proposed within special protection watersheds.

92. Please ensure that all BMPs selected (non-discharge and ABACT) exist within the watershed to each receiving surface water. [25 Pa Code §102.8(h)]

Module 3 has been updated to address this comment.

- 93. Please confirm that adequate efforts have been made to ensure no significant changes to pre-construction hydrology that would affect the wetlands. [25 Pa Code § 102.4(b)(8)]**

A statement regarding potential impacts to wetland hydrology at each PCSM facility is included within Section 3.0 of the PCSM narrative.

- 94. It is unclear whether Module 4 is required for the portion of the work within Chester County, please address. While one was provided, it references Attachment 1.1-1, which does not appear to clarify again whether the project site is within 150 feet of a perennial or intermittent stream, creek, lake, pond, or reservoir with a designated use of High Quality Waters (HQ) or Exceptional Value Waters (EV) for the portion of the project within Chester County. Until this is clarified, and based on the application materials, a technical review of Module 4 was not reviewed by CCCD staff. If required, a review of the riparian buffer requirements of 102.14 and Act 162 of 2014 will be done at the time of resubmission. [25 Pa Code § 102.14]**

Attachment 1.1-1 has been updated to clarify the watershed designation for the Project limits of disturbance (LOD). The LOD is located in a special protection watershed, however, no riparian buffers are located within 150' of the LOD. Module 4 is not required for the Chester County portion of the Project. The Module 4 form states in the Project Site Name Section the applicable Project components for reference.

PCSM Report

- 95. Please provide the maximum loading ratio of 5:1 (impervious area to infiltration area), and the maximum loading ratio of 8:1 (total area to infiltration area) for the infiltration berms. [25 Pa Code § 102.8(f)(8)]**

A maximum loading rate of 5:1 (impervious area to infiltration area) for the infiltration berm has been achieved. However, it was not feasible to achieve an 8:1 ratio of total area to infiltration area without significantly increasing the area disturbed for BMP construction. Much of this drainage area is upgradient undisturbed wooded area. Following review of the Stormwater BMP Manual and conversations with MCCC, it was determined that it would be counterproductive to increase the area of disturbance simply to meet this ratio.

- 96. For MLV-515RA20, PCSM Critical Stages, 3. and 4., mention the construction of a Dry Extended Detention Basin. However, this mainline valve does not have a dry extended detention basin proposed for volume mitigation. Please revise accordingly. [25 Pa Code §102.8(f)(8)]**

The PCSM Critical Stage section has been revised to remove references to a Dry Extended Detention Basin.

- 97. For ML V-515RA30, PCSM Critical Stages, 4., there is the statement, "During construction of the Dry Extended Detention Basin the licensed professional will observe that the BMP is constructed in accordance with the plans and specifications." This mainline valve does not have a dry extended detention basin proposed for volume mitigation. Please revise accordingly. [25 Pa Code §102.8(f)(8)]**

The plan drawings have been revised to remove references to the Dry Extended Detention Basin.

- 98. Mainline valve MLV-515RA30 states that the mainline pad will serve as a PCSM infiltration BMP for volume mitigation. However, within the Valve Yard Pad, compaction of the subgrade is required to limit infiltration in the pad area due to the entire Valve Yard Pad is in fill construction. If compaction is to occur with the mainline valve, then infiltration cannot be accounted for within this area. [25 Pa Code § 102.8(f)(8)]**

The mainline pad will not be utilized for volume mitigation. The application has been revised accordingly.

- 99. For MLV-515RA30, PCSM Critical Stages, 5., there is the statement, "following installation of the Valve Yard Pad sub grade to ensure stormwater flow is directed to the infiltration berm." This mainline valve does not have any infiltration berms proposed for volume mitigation. Please revise accordingly. [25 Pa Code §102.8(f)(8)]**

The vegetated swale associated with this facility has been redesigned as an infiltration berm. The pad subgrade shall be graded to drain to the swale.

- 100. For the Carverton Road Tie-In, the Regional Energy Lateral PCSM Report states that soil amendment will be used to attenuate and infiltrate peak flow rate and volume from impervious areas. Please show on the Carverton Tie-In PCSM Drawings the location(s) of the proposed PCSM BMP soil amendment. [25 Pa Code §102.8(f)(8)]**

A soil amendment is proposed to be installed within the footprint of the infiltration berm to account for potentially high infiltration rates at the facility. The soil amendment area has been added to the Carverton PCSM Proposed Conditions drawing.

- 101. The Carverton Tie-In states that the mainline pad will serve as a PCSM infiltration BMP for volume mitigation. However, within the BMP Installation Sequence, Valve Yard Pad, compaction of the subgrade is required to limit infiltration in the pad area due to the entire Valve Yard Pad is in fill construction. If compaction is to occur with the Carverton Tie-In, then infiltration cannot be accounted for within this area. [25 Pa Code §102.8(f)(8)]**

Infiltration within the pad is not proposed. This reference has been removed from the application.

- 102. Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration bed area) and the maximum total loading ratio of 8:1 for the Carverton Tie-In infiltration bed. [25 Pa Code §102.8(f)(8)]**

A maximum impervious loading ratio of 5:1 (impervious area to infiltration bed area), and the maximum loading ratio of 8:1 (total area to infiltration area) for the infiltration berm has been achieved.

- 103. The infiltration berm calculations show the volume to be infiltrated for the infiltration berms and the infiltration basin is not consistent with the volume to be infiltrated shown in the PCSM Spreadsheet Volume Management. Please revise accordingly for consistency. [25 Pa Code § 102.8(f)(8)]**

The PCSM spreadsheet has been updated to be consistent with the HydroCAD analysis.

- 104. The proposed PCSM BMP infiltration berm is being used for volume mitigation at the ML V-515LD86 site. The PCSM Spreadsheet, Volume Management, shows that the infiltration berm has evapotranspiration being proposed for volume mitigation. An infiltration berm is not utilized for evapotranspiration. Please revise the calculations to exclude the evapotranspiration volume management. [25 Pa Code §102.8(f)(8)]**

Evapotranspiration credits have been removed from the PCSM Spreadsheet.

- 105. Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration bed area) and the maximum loading ratio of 8: 1 for ML V-505LD86 infiltration berms. [25 Pa Code § 102.8(f)(8)]**

A maximum loading rate of 5:1 (impervious area to infiltration bed area) for the infiltration berm has been achieved. However, it was not feasible to achieve an 8:1 ratio of total area to infiltration area without significantly increasing the area disturbed for BMP construction. Much of this drainage area is upgradient undisturbed wooded area. Following review of the Stormwater BMP Manual and conversations with MCCD, it was determined that it would be counterproductive to increase the area of disturbance simply to meet this ratio.

- 106. Compressor Station 200 is located in an area that has several surface depressions located near the project site, the maximum impervious loading ratio of 3:1 (impervious area to infiltration bed area) is recommended for the infiltration berm, which is being proposed as the only infiltrating PCSM BMP. Should the loading ratio not be met, please include additional PCSM BMPs within the project area to accommodate the volume mitigation requirement. [25 Pa Code §102.8(f)(8)]**

A vegetated filter strip has been added to meet the 3:1 loading ratio. Utilizing the vegetated filter strip in combination with the infiltration berm, the loading ratio is less than 3:1.

- 107. The proposed PCSM BMP infiltration berm being used for volume mitigation at the Compressor Station 200 site. The PCSM Spreadsheet, Volume Management, shows that the infiltration berm has evapotranspiration being proposed for volume mitigation. An infiltration berm is not utilized for evapotranspiration. Please revise the calculations to exclude the evapotranspiration volume management. [25 Pa Code §102.8(f)(8)]**

Plantings have been proposed to promote evapotranspiration within the infiltration berm and vegetated filter strip. Therefore, revisions to the calculations to exclude evapotranspiration credits are unnecessary.

- 108. The proposed PCSM BMP infiltration berm is being used for volume mitigation at the Compressor Station 515 site. The PCSM Spreadsheet, Volume Management, shows that the infiltration berm has evapotranspiration being proposed for volume mitigation. An infiltration berm is not utilized for evapotranspiration. Please revise the calculations to exclude the evapotranspiration volume management. [25 Pa Code §102.8(f)(8)]**

The PCSM spreadsheet has been revised to reflect that evapotranspiration is no longer being proposed for volume mitigation, nor will an infiltration berm be utilized for this purpose.

- 109. The PCSM Spreadsheet Volume Management shows that the proposed PCSM BMP infiltration berm for the Compressor Station 515 will infiltrate approximately 24,117 cubic feet of stormwater; however, the routing calculations show that the 2-year/24-hour storm event will produce approximately 19,129 cubic feet of stormwater. A PCSM BMP cannot infiltrate more stormwater than is being directed towards the PCSM BMP. Please revise the calculations accordingly. [25 Pa Code §102.8(f)(8)]**

The PCSM spreadsheet has been updated to correctly report the volume routed to the BMP.

- 110. Please provide photographs of the drainage path downstream of the cross pipes on Sugar Hollow Road which receive discharges from the project, indicating whether the path from the culverts to Sugar Hollow Creek is currently stable. [25 Pa Code § 102.8(f)(8)]**

Photos of this area have been provided in the Offsite Discharge Report.

- 111. The PCSM Spreadsheet is based on an increase in impervious surfaces of 0.517 acres (0.617-0.1). The Rate Control analysis (Post w/o BMP's vs Pre) indicates an increase in the impervious surface of 0.577 acres. These numbers should be the same. Please revise the Rate and/or PCSM Spreadsheet calculations for a consistent increase in the impervious surface on the project. [25 Pa Code §102.8(f)(8)]**

The PCSM Worksheet and design calculations have been revised accordingly.

- 112. The surface area for Infiltration Basin #1 in the PCSM Spreadsheet should be the corresponding value at the first outlet from the basin (Riser discharge at 926.5). In addition, the infiltration period should be 8 hours (24" divided by 3"/hr). Please revise. [25 Pa Code § 102.8(f)(8)]**

The infiltration area and infiltration period have been adjusted accordingly.

- 113. The storage values for Infiltration Berm #1 are based upon a berm length of 182 feet. The infiltration berm on the drawing scales approximately 80' (along the contour) to create the ponding area. Please explain this discrepancy and/or revise the storage value (and surface area) for this facility on the PCSM Spreadsheet and the Rate control analysis. [25 Pa Code § 102.8(f)(8)]**

The infiltration berm has been redesigned in response to this technical deficiency letter. The revised berm layout shown on the drawing corresponds to the sizing proposed in the PCSM Spreadsheet and the rate control analysis.

- 114. The surface area for Infiltration Berm #2 (977 SF) appears to be significantly larger than the surface area provided for this facility on the plans (estimated at 1 70 SF). In addition, the infiltration berm needs to be extended uphill on the north end of the berm (into the gravel roadway) to capture and contain the runoff to the top of the berm elevation of 915.6. This does not appear feasible since the berm will encroach into the relocated driveway. Please revise the berm and/or PCSM spreadsheet to reflect the area/storage value of the facility. A similar revision to the storage volume is required for the Rate control analysis. [25 Pa Code § 102.8(f)(8)]**

Infiltration Berm #2 has been removed from the design and replaced by subsurface infiltration beds #1 and #2. The PCSM drawings and calculations have been updated accordingly to reflect this change.

- 115. For Drainage Area DA-1, the Predevelopment runoff is based on a time of concentration (Tc) of 17.3 minutes. In the Post Development condition, runoff from Subarea DA-1 Undetained is based on a Tc of 21.3 minutes. The post-development Tc should not exceed to predevelopment Tc value unless there is a significant change to the watershed area or drainage patterns. Please revise the runoff from this subarea using a Tc equal to or less than the predevelopment Tc value. [25 Pa Code § 102.8(f)(8)]**

The time of concentrations have been revised accordingly.

- 116. As noted above, the surface area and corresponding storage volumes for Berms #1 and #2 do not match the values obtained from the drawings. Please update the Rate control analysis or drawings to reflect the area and volume values of the infiltration berms. [25 Pa Code § 102.8(f)(8)]**

The BMPs have been redesigned in response to this technical deficiency letter. Updated rate control calculations, PCSM Spreadsheet, and drawings are included with this response.

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- 117. Please provide consistent discharge point(s) labeling between all E&S and PCSM plan drawings, the ESCP permit application Section 1-1.1 Supporting Information, PCSM Module 2, and any other supporting information/application materials. [25 Pa Code § 102.8(b)(1), § 102.4(c), § 102.8(f)(5)]**

The points of interest have been adjusted on the E&S and PCSM Plans accordingly. The permit application has been updated for consistency.

- 118. Please review the Application Instructions (i.e. page 14) regarding the definition of discharge point, and carefully review the proposed design to see if additional discharge points should be added and/or existing discharge points should be relocated where concentrated flow leaves a project site. There are several cross pipes identified on the plan drawings that should be analyzed. Please make all necessary updates to the application materials. [25 Pa Code §102.8(b)(1), §102.4(c), §102.8(f)(15)]**

The plan drawings have been updated to include an additional Point of Interest (POI) has at the intersection of the RCE to the existing access road. The POI associated with discharges from the proposed pad and infiltration area has been moved to correspond to the location where an existing drainage swale exits the LOD. Please refer to the Offsite Discharge Analysis for additional information.

- 119. Please extend the flow path in the off-site discharge analysis to extend to the confluence with a surface water. In addition, identify the soil types, erodibility factors, and vegetative cover of the flow path. [25 Pa Code §102.8(b)(1), §102.4(c), §102.8(f)(15)]**

The flow path in the off-site discharge analysis has been revised to show the confluence with a downstream surface water.

- 120. On the Erosion and Sediment Control (E&S) and the PCSM Plan drawings, identify all properties and property owners that will or may receive off-site stormwater discharges from the project site until discharges reach surface waters. [25 Pa Code §102.8(b)(1), §102.4(c), §102.8(f)(15)]**

Property Parcel ID numbers have been added to the Erosion and Sediment Control (E&S) and the PCSM Plan drawings. A separate, confidential submittal may be made identifying property owners upon request.

- 121. Please expand the Off-Site Discharge Analysis to analyze during construction discharges. The applicant must evaluate the effect construction and post-construction stormwater discharges may have on accelerated erosion to downslope or adjacent properties. Please provide an analysis that demonstrates that the proposed volume and peak rate of stormwater discharging to the flow path during construction will avoid, minimize, or mitigate accelerated erosion or sedimentation for storm events up to and including the 10-year/24-hour storm. The calculations should be consistent with the Erosion and Sediment Pollution Control Program Manual. [25 Pa Code §102.8(b)(1), §102.4(c), §102.8(f)(15)]**

The Offsite Discharge Report has been expanded to analyze the discharges during construction. There is a minor increase in peak rate between the pre and during construction 10 year/24 hour storm, from 3.40 fps to 3.47 fps, which will be mitigated by the use of compost filter sock. The compost filter sock will retain/slow the flow of water as it leaves the construction area before entering the existing vegetated swale.

- 122. Please provide calculations to show that there will not be accelerated erosion along the flow path to surface waters from the proposed BMP. This should consider, at a minimum, the width of flow, velocity, downslope land cover, and erodibility of the soils. [25 Pa Code § 102.8(b)(1), § 102.4(c), § 102.8(f)(15)]**

In the E&S and PCSM Narrative, site calculations are provided that show the Pre- and Post-Construction runoff flow rates and volume. These calculations show a reduction in the post-construction discharge rates and volumes. Calculations provided demonstrate a reduction of flow to the existing drainage swale at POI #1. Since this drainage swale will receive less flow, accelerated erosion downstream and offsite is not anticipated. There are no changes proposed to the drainage area of POI #2; therefore, there should be no net change in offsite discharge that would result in an increased erosion potential.

- 123. After expanding the Off-Site Discharge Analysis per the comments in this letter, please confirm if the applicant has the right to discharge and if the discharge follows existing flow**

paths. If so, please add a note stating such to the PCSM Plan and Offsite Discharge Analysis. [25 Pa Code §102.8(b)(1), §102.4(c), §102.8(f)(15)]

Discharge from the BMP will drain to an existing onsite drainage swale. The drainage swale discharges offsite through an existing culvert pipe to an existing channel. The use of the stormwater BMPs will reduce the peak volume and rate of stormwater discharge conveyed to the drainage swale. Therefore, there will be a net decrease to the stormwater flow discharged offsite. The discharge from the BMP will be to property owned by the applicant prior to reaching a surface water. A note has been added to the PCSM Plan and Offsite Discharge Analysis confirming the applicant has the right to discharge and the discharge follows existing flow paths.

- 124. Please add a note that any erosion caused by discharges from BMPs within the site will be repaired and stabilized. [25 Pa Code §102.1 l(a)(2)]**

This note has been added to the Long Term Operation and Maintenance section of the PCSM Plan

- 125. Please verify that all conclusions and recommendations from the geotechnical engineering letter report have been appropriately incorporated into the site design and application materials (i.e. Sections 3.0-6, 4.0-1.1, 5.0). Also, please include these notes on the E&S Plan and provide a reference to them on the Construction Sequence. [25 Pa Code §102.1 l(a)(1), §102.1 l(a)(2)]**

The conclusions and recommendations from the Geotechnical Engineer have been added to the E&S and PCSM Plan Infiltration Berm detail and a reference has been added in the Construction Sequence.

- 126. It appears that a desktop literature review has been provided in the geotechnical report. Please confirm that a thorough geotechnical investigation has been performed, including but not limited to suggested methodologies presented in Chapter 7 of the PA SW BMP Manual or other relevant literature (i.e. site reconnaissance including a thorough field examination for applicable features, drilling of boreholes, determination of groundwater elevations, geophysical surveys). Please consult with the geotechnical engineer and provide all necessary changes. [25 Pa Code §102.1 l(a)(2)]**

A thorough geotechnical investigation had previously been performed including but not limited to suggested methodologies presented in Chapter 7 of the PA SW BMP Manual or other relevant literature, at the existing compressor station. Investigations for this Project included test drilling, test pits boreholes advanced manually with shovels and augers, and manually advanced push probes. The geotechnical information and field investigations have been added to the Geohazard Assessment completed by Civil & Environmental Consultants, Inc.

- 127. Please provide a statement from Geotechnical Engineer on letterhead within the PCSM Narrative regarding the site's suitability for infiltration and add a note to the PCSM Plan to refer to this statement. [25 Pa Code §102.1 l(a)(2)]**

Attachment 7 of the PCSM Narrative includes a letter from CEC regarding the site's suitability for infiltration. A note has been added to the BMP Description Narrative on the PCSM Plan Drawings.

- 128. Please update the PCSM Spreadsheet and all supporting calculations to include all disturbed areas, 3.16 acres per page I Section 1 of the PCSM Narrative. Based on this comment, an additional review will be conducted when the application is resubmitted to ensure that the proposed project meets the stormwater volume, rate, and water quality requirements and all post construction stormwater management requirements of 102.8.**

The PCSM Spreadsheet has been modified accordingly, and the analysis has been evaluated to confirm that the proposed project meets the stormwater volume, rate, and water quality requirements.

- 129. The maximum loading ratio of 3:1 for impervious area to infiltration area in Karst areas has been exceeded for the proposed infiltration BMP. (Protocol 2 in Appendix C of the Stormwater BMP Manual). 25 Pa Code §102.11(a)(2). Please make all necessary corrections.**

A vegetated filter strip has been added upgradient to the Infiltration Berm on Sheet 3 of the PCSM Plans. With the added vegetated filter strip, the ratio is lower than 3:1.

- 130. Please uncheck Box 3 on pages 3 & 5 of PCSM Module 2 as Boxes 2 is selected. [25 Pa Code § 102.8(g)(2), § 102.8(g) (3), § 102.8(f)(8)]**

These boxes have been unchecked as requested.

- 131. Please note that if Box 4 on Module 2 under Stormwater Analysis - Runoff Volume is checked regarding the inclusion of the PCSM Spreadsheet - Volume Worksheet, then boxes 5-9 do not need to be completed. This will prevent duplicate information from potentially being inconsistent. Please verify that all information is consistent, or do not complete boxes 5-9 for those sheets. § 102.8(g)(2)**

The information in Boxes 5 through 9 has been removed. This information is included in PCSM Spreadsheet.

- 132. Please update the PCSM Spreadsheet to demonstrate that 20% of the existing impervious is assumed meadow per 25 Pa Code 102.8(g)(2)(ii).**

The spreadsheet has been updated accordingly

- 133. Please provide supporting calculations for the Volume Routed to the BMP in the structural BMP volume credit table in the volume tab of the PCSM spreadsheet that meet the guidance in the PCSM spreadsheet instructions. [25 Pa Code §102.8(f)(15)]**

Volumes routed to the BMPs is located in the HydroCAD analysis submitted for the BMP. These volumes (0.026 ac-ft for strip & 0.084 ac-ft for berm) are listed in the Summary for Subcatchment 5S for the filter strip and Summary for Pond 7P for the infiltration berm)

- 134. Per the PCSM Spreadsheet Instructions, "a vegetated PCSM BMP is a permanent BMP where vegetation is a dominant or significant component within the storage area. Vegetation must include species other than grasses. Grasses may be used, but may not be the only species planted because other species with deeper penetrating root systems are needed to achieve the infiltration and ET credits calculated by the spreadsheet." Please check No for Vegetated in the structural BMP volume credit table in the volume tab of the PCSM spreadsheet per the seeding recommendations. Alternatively, please update the proposed vegetation in the BMP to include deeper-rooted plantings. [25 Pa Code § 102.8(f)(15)]**

Additional plantings have been proposed for the infiltration berm and vegetated filter strip. Therefore, evapotranspiration credits have been included with this design.

- 135. The media depth in the structural BMP volume credit table in the volume tab of the PCSM spreadsheet is inconsistent with the plan drawings, please revise. [25 Pa Code § 102.8(f)(15)]**

The media depth in the PCSM Spreadsheet has been updated to be consistent with the plan drawings.

- 136. The infiltration area in the structural BMP volume credit table in the volume tab of the PCSM spreadsheet is inconsistent with pdf page 83 of the PCSM Narrative, please revise. [25 Pa Code §102.8(f)(15)]**

The infiltration area has been updated to be consistent throughout.

- 137. Please justify the Infiltration Period for the PCSM BMPs in the PCSM Spreadsheet. Per the Spreadsheet Instructions, the actual computed dewatering time should be entered here. Please provide dewatering calculations. [25 Pa Code §102.8(f)(15)]**

The infiltration time has been adjusted accordingly.

- 138. Please provide a separate Module 3 for each receiving surface water per the application instructions. Attachment 1.1-1 as referenced does not appear to include this information. [25 Pa Code 102.8(h)]**

A separate Module 3 has been prepared for each HQ and EV watershed.

- 139. It appears that there could be an increase in stormwater volume, rate, and quality for storm events up to and including the 2-year/24-hour storm during earth disturbance activities. If so, please uncheck the first box on Module 3 and complete the last portion stating "If a Non-Discharge Alternative will not be utilized, explain the rationale for non-selection,**

including why none of the alternatives are considered environmentally sound and cost effective." [25 Pa Code 102.8(h)]

The first box on Module 3 has been unchecked and rational for non-selection is discussed in Module 3.

- 140. Please ensure that all BMPs selected (non-discharge and ABACT) exist within the watershed to each receiving surface water. [25 Pa Code 102.8(h)]**

All BMPs selected are ABACT and exist within the watershed to each receiving surface water..

- 141. Please confirm that adequate efforts have been made to ensure no significant changes to pre-construction hydrology that would affect the wetlands. [25 Pa Code 102.4(b)(8)]**

Transco has made substantial efforts to ensure no significant changes to pre-construction hydrology that would affect the wetlands. One small isolated wetland (W-T10-001A-1) is located downslope of the proposed Limits of Disturbance. The wetland has a slight depression in the landscape which allows water to collect. The upslope drainage area to this feature will not be changed by the installation of PCSM features; therefore no significant changes to the hydrology of the wetland should occur. The PCSM narrative has been updated to include this analysis.

PCSM Plan

- 142. It appears that there are discrepancies between the NOI and the Erosion and Sediment Control and Site Restoration Plans with respect to the stream classifications. Please revise the Plans or the NOI to reflect the designated and/or the existing use classifications for each stream to show consistency. [25 Pa Code §102.8(f)(9)]**

The discrepancies between the NOI and the Erosion and Sediment Control and Site Restoration Plans have been updated to reflect the current existing and/or designated use for each stream.

- 143. Please show the infiltration area surface on the PCSM Plans for each proposed PCSM BMP. [25 Pa Code §102.8(f)(9)]**

The area proposed for infiltration has been added to the PCSM Plan drawings.

- 144. The ML V-515RA20 Site Plan, Sheet 64 of 91, of the Erosion and Sediment Control and Site Restoration Plans show a dry extended detention basin being utilized as a PCSM BMP, however, the ML V-515RA20 Post Construction Stormwater Management Plans show an infiltration berm as the PCSM BMP. Please revise accordingly to accurately reflect which PCM BMP will be used for volume control mitigation. [25 Pa Code §102.8(f)(9)]**

The plan drawings have been revised to remove references to the Dry Extended Detention Basin.

- 145. The Dry Extended Detention Basin that is proposed to be a PCSM BMP for volume control at the mainline valve site MLV515RA20 is located within the floodway of a tributary to Mill Creek. Please analyze if that dry extended detention basin can be moved or reconfigured**

so that the basin will not be within the floodway of the tributary to Mill Creek (S76-T2). [25 Pa Code §102.8(f)(9)]

The PCSM BMP at MLV515RA20 is now proposed as an infiltration berm. The infiltration berm has been sited within the assumed 50' floodway, as this area is located downgradient of the proposed valve setting. The BMP is placed here due to the topography considerations while keeping the BMP as close to the valve setting as possible to limit overall Project impact. S76-T2 is an isolated, ephemeral channel, with less than a 100 acre drainage area. The location of the impact within the assumed 50' floodway is beyond the location where S76-T2 goes subsurface and is up-slope topographically from S76-T2. Siting of the BMP within this assumed 50' floodway will have no impact on flood flows from this resource. Additionally, the siting of this BMP within the assumed 50' floodway resource, which qualifies for a 25 Pa. Code §105.12(2), was presented at a pre-application meeting on January 6, 2021 in which PADEP did not indicate concerns with the siting of the PCSM BMP.

- 146. The following comments are in reference to the proposed PCSM BMP soil amendment for the Carverton Tie-In [25 Pa Code §102.8(f)(9)]:**
- a. Please provide a notation that the soil amendment should not take place within the drip line of trees or tree line.**
 - b. Please provide a notation that the soil amendment should not take place over utility installations within 30 inches of the surface.**
 - c. Please provide a notation that the soil amendment should not take place where trenching/drainage lines are installed.**
 - d. Please provide the notation that the soil amendment should not take place where compaction of the soils by design is required.**
 - e. Please provide the methodology for the soil amendment. The methodology and procedure that is specific at your site and should be performed using a sole-shank ripper, not a disk or plows.**
 - f. Please provide that the methodology (ripping, subsoiling, tilling, scarification, etc.) should only be performed when the soil conditions are dry.**

These notations have been added to the soil amendment detail included with the PCSM Drawing set.

- 147. It appears that several infiltration basins have been designed above the maximum height of an infiltration berm which is typically 2 feet unless it is being used to divert flow, create meandering, or lengthen flow pathways. This height has been exceeded and it is apparent that the fore mentioned reasons do not apply to the proposed berms. Please revise accordingly. [25 Pa Code §102.8(f)(9)]**

Infiltration berms proposed throughout the project have been modified to meet an interior berm height no greater than 2 feet.

- 148. Please make the following changes to the plans related to MLV505LD86 [25 Pa Code §102.8(f)(9)]:**

- a. Please add a callout below Culverts # 1 and #4 on the Drawing 4 to install an earth berm in the swales below the culvert in order to eliminate the runoff in the upstream swales from bypassing the culverts.**

Drawing 4 has been revised. A soil berm has been called out at Culvert 4 to prevent stormwater from bypassing the culverts. A depression has been graded in at Culvert 1 to convey water into the pipe.

- b. Please specify the installation of the slope blankets (SC150BN, Pattern D) on the infiltration berm detail. The blankets should extend beyond the toe of the infiltration berm.**

Erosion Control Matting has been added to the infiltration berm detail and notes on sheet 7 of the PCSM Plans. In addition, the Erosion Control Matting has been called out on Sheet 34B of the Effort Loop E&S drawings.

- c. Sugar Hollow Creek to the east of the MLV505LD86 site may be within 150' of the work associated with the site. Please show the 150' buffer line on the drawings in order to determine if there are riparian buffer impacts associated with this site.**

The buffer line has been added to the drawings. Since the original submission of the permit, the existing use of Sugar Hollow Creek changed from CWF to HQ-CWF with the designated use staying as CWF. Trees are proposed to be cleared along Sugar Hollow Road; which is within the 150 buffer. Transco will apply for the waiver for earth disturbance needed to improve the sight distance as a public health or safety issue in accordance with §102.14(d)(2)(i). Installation of the driveway and storm pipe work would be considered an allowable activity in accordance with 102.14(f)(2)(i) if these activities are located within the buffer. Section 1-7 - Riparian Buffer Waiver Request has been revised to include this updated information.

- d. The BMP Installation Sequence for the Infiltration Berms should include the requirement to limit the construction equipment to the berm footprint. In addition, please add the installation of the slope blankets to the sequence.**

Note 5.d of the BMP Installation Sequence has been expanded to state that construction equipment will be limited to the area of berm construction. Language has been added in Note 6.h regarding installation of the slope blankets.

- e. The BMP Installation Sequence for the Infiltration Basin should include the requirement to perform infiltration testing on the subgrade soils in the bottom of the basin. Infiltration test results shall be submitted to MCCD.**

Infiltration testing has been specified in the BMP Installation Sequence for the Infiltration Basin.

- f. The PCSM Critical Stage notes should include the preparation of a written report and photographs documenting the critical stage inspection. Reports and photographs should be provided to MCCD upon request.**

This note has been added to the PCSM Critical Stage NOT's.

- g. The Infiltration Basin detail proposes a valve on the underdrain beneath the basin bottom. Per recent DEP guidance, the underdrain should be removed or the valve should be replaced with a permanent plug. If a permanent plug is utilized, please add a note that MCCD shall be notified prior to the removal of the plug for maintenance of the basin. The plug shall be reinstalled upon completion of maintenance activities.**

The valve has been removed from the detail.

- h. Please specify the berm top width on the Infiltration Berm detail.**

The berm width has been added to the detail.

- i. The spillway elevation on the Spillway detail should be revised to elevation 927.00 to match the stormwater calculations.**

The elevation has been corrected on the emergency spillway detail.

- 149. Please carefully review the O&M plan for the project and ensure they are applicable. For example, PCSM Sheet 4 mentions channels but does not discuss trench drains or level spreaders. Please also use consistent nomenclature through the PCSM plan (i.e. pond drain). [25 Pa Code §102.8(m), §102.8(f)(10)]**

The O&M Plan has been revised to only address the site-specific BMPs. Consistent nomenclature is now used through the PCSM plan.

- 150. There appears to be additional O&M information on PCSM Sheet 5, please relocate to Sheet 4 or provide a clear reference. [25 Pa Code §102.8(m), §102.8(f)(10)]**

The O&M notes on Sheet 5 have been removed. These notes are incorporated into Sheet 4.

- 151. As certain mulches can sometimes increase nutrient loads to a BMP, CCCD recommends limiting the frequency of added mulch to surface BMPs after initial establishment in the long-term O&M requirements. Deeper rooted vegetation is recommended to cover the surface of the BMP as much as possible to aid in ET and to prevent erosion. [25 Pa Code §102.8(m), §102.8(f)(10)]**

Mulch will only be installed during initial BMP construction.

- 152. Please add a recommended minimum and maximum mowing frequency to the proposed infiltration berm O&M plan. [25 Pa Code §102.8(m), §102.8(f)(10)]**

A mowing frequency has been added to the O&M Plan.

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- 153. Please verify that E&S Module 1 item #3 regarding characteristics of the site are accurate for at least the past 50 years. [25 Pa Code §102.8(f)(3)]**

The facility has been used as a compressor station since 1950 and this use will continue. The language regarding the existing and proposed use has been revised in the E&S and PCSM Narrative.

- 154. In areas underlain by carbonate geology, it is recommended to provide a minimum of 4 feet of separation (depth) between proposed infiltration bed bottoms and either the seasonal high-water table (SHWT) and/or bedrock. Please consult with the project's geotechnical engineer and address 25 Pa Code §102.8(f)(12).**

The geotechnical engineer (CEC, Inc.) assigned to the project has reviewed the BMP design information. Multiple sources of information were provided, including on-site geotechnical work, desktop surveys and field checks which show that there is a 4' separation between the bottom of the proposed BMP and bedrock. In addition, a 2' separation exists between the bottom of the proposed BMP and the SHWT. Based on a letter provided by Civil & Environmental Consultants, Inc. (CEC) dated February 22, 2022, it is unlikely that the proposed BMP will contribute to sinkhole development, and it is CEC's opinion that the site is suitable for the proposed method of infiltration. The CEC letter is included in Attachment 7 of the PCSM Plan.

- 155. Please complete the Infiltration Information section (page 4) of PCSM Module 2. Added note referencing Attachment 3 may be relocated below check box stating that Soil/Geologic test results are attached, but the infiltration information must still be completed for each infiltration BMP per the Application Instructions. [25 Pa Code § 102.8(f)(9)]**

The infiltration information has been added to Module 2

- 156. CCCD recommends additional plantings of deeper-rooted grasses or woody shrubs and trees for infiltration or bioretention BMPs with poor to moderate underlying infiltrate rates. CCCD recommends seeding with a combination of temporary and permanent stabilization (i.e. per the recommended seed mixes) and also includes plugs or containers within the infiltration area (trees and deep-rooted plants should be avoided in compacted fill berm areas and above pipe bedding). If additional plantings are proposed, please make sure to update the long-term O&M as necessary as well. [25 Pa Code §102.8(f)(9)]**

Additional plantings have been proposed for the infiltration berm and vegetated filter strip. Language has been added to the Long-Term O&M Schedule to discuss these areas.

- 157. Please update the infiltration berm cross-sections to be consistent with the plan views (i.e. proposed grades show a level area). [25 Pa Code § 102.8(f)(9)]**

The cross-section has been updated accordingly. Please note that cross-section B-B is located across gradient, and therefore is flat by design.

- 158. Please provide more detail in the details for the proposed level spreader, and demonstrate it meets the guidance in both the PA SW BMP Manual and the E&S Manual. The plan view shows a stone hatch, which is inconsistent with the details in PCSM Sheet 5. [25 Pa Code § 102.8(f)(9)]**

Additional information has been provided in the level spreader detail, and the level spreader has been graded in on the Plan Sheet. The level spreader has been analyzed and shows that flow overtopping the level spreader is non-erosive per the HydroCAD analysis.

- 159. CCCD recommends additional pre-treatment in infiltration BMPs that are directly downslope of gravel surfaces as they can be more prone to clogging/failure. It is recommended to identify the area between the infiltration surface and the gravel pad as a water quality BMP (i.e. vegetated filter strip) or to create a small forebay/collection area**

just upslope of the infiltration surface area that can be cleaned out more regularly. Please make all necessary changes, including changes to the long-term BMP to ensure the success of the planned BMPs. [25 Pa Code §102.S(m), §102.8(f)(10)]

A vegetated filter strip has been added to the facility to improve water quality treatment of the planned BMPs.

- 160. The Sequence of PCSM BMP Installation on PCSM Sheet 4 references a u-drain in the proposed drainage berm; please clarify if an underdrain is proposed and make all necessary updates to the application materials to consistently show this information. [25 Pa Code § 102.8(f)(9)]**

The "U"-Drain listed was in reference to the trench drain to be installed to drain water to the proposed BMP. The wording of PCSM Sheet 4 has been revised for clarity.

- 161. Infiltration BMPs should be sited on uncompacted soils. Please add this requirement to the PCSM details (Protocol #2 in the Stormwater BMP manual). [25 Pa Code §102.1 l(a)(2)]**

A note has been added to the PCSM infiltration berm detail stating that the BMP should be sited on uncompacted soils. Decompaction (as necessary) is discussed in the Sequence of PCSM BMP Construction.

Additional Technical Deficiencies

- 162. If drilling fluid is going to be utilized during the removal/replacement of the 42-inch sacrificial pipe with the 30-inch carrier pipe under the Susquehanna River measures should be put in place to monitor fluid for the risk of an inadvertent return. Additionally, please provide details on any plans to fill the annular void space remaining as a result of the pipe replacement. [25 Pa Code § 102.5(1)]**

Transco has updated Section 1.2 and 1.3 of the Direct Pipe ® Monitoring, Inadvertent Return Response, and Contingency Plan to describe the plans for grouting the annular void space. Section 6.0 of the Plan has been updated to outline the fluid monitoring that will occur during operations.

- 163. In addition to the deficiencies noted above DEP recommends the following:**

- a. All recommendations presented within the Geological Hazard Assessment and Mitigation Plan should be followed. Primarily, a Geotech engineer should be onsite during construction in the areas where geohazard mitigation measures are recommended and where geohazards were identified. [25 Pa Code § 102.5(1)]**

Transco will implement the measures outlined in the Geohazard Assessment and will incorporate Civil and Environmental Consultants, Inc.'s recommendation to have field conditions observed by a field representative under the direction of a professional geotechnical engineer when construction is occurring in areas of potential geohazards.

- b. Secondary containment should be installed around all stationary hydraulic equipment at the Trenchless Technology crossings. [25 Pa Code §102.5(1)]**

The Construction Spill Plan in Section 1-10 of the application has been updated to include this requirement (Section 3.2).

- c. **For water supplies located within 450-feet of the trenchless centerline alignments: It is recommended that notifications and requests for permission to sample and test water supplies take place before starting site preparation work, including vegetation clearing. DEP recommends sampling for the following: Field Chemistry: Temperature, Conductivity, pH, Oxidation Reduction Potential, Total Dissolved Solids, Dissolved Oxygen, Turbidity. Microbiological: Total Coliform, E. Coli, Fecal Coliform. Inorganic: Nitrate, Alkalinity, Chloride, Hardness, Bromide, Sulfate, Total Dissolved Solids, Total Suspended Solids. Trace Metals: Barium, Calcium, Iron, Magnesium, Manganese, Potassium, Sodium, Strontium, Arsenic, Zinc, Aluminum, Lithium, Selenium. Organics: Methane, Ethane, Propane, Total Petroleum Hydrocarbons. [25 Pa Code § 102.5(1)]**

Transco will request permission to sample and test water supplies within 450' of trenchless crossing alignments, utilizing drilling fluid under pressure, ahead of construction activities at those locations.

- d. **The Department recommends geo-tech borings to be installed whenever trenchless technology is utilized to cross a resource (i.e. Trout Brook in Luzerne County). [25 Pa Code §102.5(1)]**

The Geohazard Assessment, located in attachment B of the application, has been updated and now includes soil boring information for trenchless crossings of resources.

It is our hope that the information as provided will allow you to complete your review in accordance with your regulations and issue the requested Permit. If you require any additional information that will facilitate your review, please do not hesitate to contact Karen Olson at (713) 215-4232 or at Karen.Olson@williams.com, or Josh Henry at (412) 787-4277 or at Josh.Henry@williams.com.

Sincerely,



Joseph Dean
Manager, Environmental Health and Safety