



September 6, 2016

Mr. Matthew Gordon  
Sunoco Logistics, L.P.  
535 Fritztown Road  
Sinking Spring, PA 19608

Re: Technical Deficiency Letter – Erosion and Sediment Control General Permit (ESCGP)  
Pennsylvania Pipeline Project (aka Mariner East II)  
South-central Regional Office Submission  
Construction Spreads 3, 4, & 5  
DEP File No. ESG03000150002  
Brecknock, Caernarvon, Cumru, Robeson, South Heidelberg & Spring Townships and New  
Morgan Borough, Berks County  
Allegheny, Blair, Frankstown, Juniata & Woodbury Townships, Blair County  
Lower Allen, Lower Frankford, Lower Mifflin, Middlesex, Monroe, North Middleton, Silver  
Spring, Upper Allen & Upper Frankford Townships, Cumberland County  
Conewago, Derry, Londonderry & Lower Swatara Townships and Highspire & Middletown  
Boroughs, Dauphin County  
Penn, Shirley, Tell & Union Townships, Huntingdon County  
Lack Township, Juniata County  
Clay & West Cocalico Township, Lancaster County  
Heidelberg, South Annville, South Lebanon, South Londonderry & West Cornwall  
Townships and Cornwall Borough, Lebanon County  
Jackson & Toboyne Townships, Perry County  
Fairview Township, York County

Dear Mr. Gordon:

The Department of Environmental Protection (DEP) and the following County Conservation Districts in the South-central Region; Berks, Blair, Cumberland, Dauphin, Huntingdon, Juniata, Lancaster, Lebanon, Perry & York, have reviewed the above referenced NOI and have identified the following technical deficiencies. The Pennsylvania Erosion and Sediment Pollution Control Program Manual (E&S Manual) and the Pennsylvania Stormwater Best Management Practices Manual (PCSM Manual) include information that will aid you in responding to some of the deficiencies listed below. The deficiencies are based on applicable laws and regulations, and the guidance sets forth the DEP's established means of satisfying the applicable regulatory and statutory requirements.

The technical deficiencies have been assembled from the County Conservation Districts and DEP staff. General technical deficiencies are identified that appear to be a reoccurring technical deficiency throughout the plan narratives and drawings. Specific examples of the general deficiencies are provided for reference; however, all of the specific instances may not have been

identified. Sunoco Logistics, L.P. and their consultant team should review the entire project submittal to ensure any and all specific technical deficiencies and general technical deficiencies are addressed from a comprehensive/entire permit application standpoint.

**General Common Technical Deficiencies**

1. The application will need a comprehensive Preparedness Prevention Contingency (PPC) and private well plan. Regarding these plans 25 Pa Code § 102.5(f):
  - a. The application includes separate documents covering PPC activities. Due to the scope of this project, you must consolidate these plans into one stand-alone document that can be used in the field. This plan must also be consistent in your Joint Permit Applications submitted for this project.
  - b. In a letter dated June 24, 2016, regarding the northeastern bulrush, the U.S. Fish and Wildlife Service stated, "As a means to minimize impacts should an IR occur, you provided an HDD Inadvertent Release Contingency Plan. In addition to the instructions in this Plan, please add the USFWS phone number as an agency to be contacted should an IR occur, and inform the HDD contractor about the sensitive nature of the drill at this location." Revise your Contingency Plan to incorporate this information.
  - c. While you provided a narrative discussing how impacts to private water supplies will be investigated and addressed, a formal plan has not been provided. As such, revise your PPC plan to include the following:
    - i. Measures the applicant will take to investigate for the presence of private water supplies in areas where HDD crossings are proposed.
    - ii. Procedures that will be followed to investigate and resolve impacts to private water supplies should they occur as a result of the proposed activities. This procedure should discuss how private water supply owners will be alerted in the event of an inadvertent return.
    - iii. The application states, "SPLP plans to use the FERC standards in accepting and investigating landowner complaints of spring and well water supply impairment." Provide a copy of these FERC standards and incorporate the FERC standards into your PPC Plan.

- d. The Mariner East 1 pipeline had several inadvertent returns during the construction process. Provide a list of areas where Mariner East 1 had issues with inadvertent returns to the surface when conducting HDD crossings, and discuss how you have taken these historic issues into account in your design of the proposed project.
  - e. The Plan should address management of excess drilling mud/liquids that may be encountered at the individual bore pits.
2. Regarding your agency coordination:
- a. Provide PNDI clearances from the PA Game Commission and US Fish and Wildlife Service. 25 Pa Code § 102.6(a)(2)
  - b. Provide proof that you have received clearance for your project from PHMC. Section 508 Pennsylvania History Code
3. The project description provided in the Cultural Resource Notice states that the second pipeline is to be installed within 5 years of the first pipeline. The project description provided in the application, however, does not discuss this timeframe. 25 Pa Code § 102.6
- a. Revise the application to discuss if the pipelines will be installed at the same time, or on different schedules.
  - b. The application states that the second pipeline will be 16 inches in diameter, while other applications related to this project state that the second pipeline could be up to 20 inches in diameter. Which is correct?
  - c. If the pipelines are proposed to be installed at separate times, revise the application to clearly indicate this, and to identify the permanent and temporary impacts from the second pipeline installation. Please be advised that if issued the permit may expire before construction is completed on any second line.
4. Your application identifies “travel lanes” at numerous resource crossings, however, details on these crossings have not been provided. Please provide details on these travel lanes that includes but is not limited to; cross sectional view, length of time in service, potential impacts, etc. Please note that the application did not detail any impacts, permanent or temporary, or E&S Controls for these travel lanes even though they may constitute disturbance and are shown to cross resources. As such your application may need to be revised. 25 Pa Code § 102.6

5. We have compared the Plans submitted with this application and the Plans submitted with the five Joint Permit Applications regarding consistency between the site plans and Erosion and Sediment Control Plans you have provided. Inconsistencies were noted as follows: 25 Pa Code § 102.6
  - a. Describe the difference between the “Permanent Easement” and “Permanent Right-of-Way” areas that are identified on your plans. This description should discuss maintenance activities that will be performed on these areas following construction of the pipeline, and measures that will be taken to ensure that future maintenance activities do not detrimentally impact aquatic resources (i.e. cutting PSS wetlands after restoration).
  - b. Provide a description of the “Travel Lane” that is shown on your project plans. This description should include:
    - i. The purpose of these features.
    - ii. Whether these features will be temporary or permanent.
    - iii. The crossing methods (i.e. mats, pads) that will be used to cross resources.
  - c. The plan views provided do not show a permanent right-of-way proposed over areas where HDD installation is proposed. Describe any clearing or maintenance activities that are proposed to occur over areas where your pipeline installation will utilize HDD/bore methods to install the line.
  - d. The E&S Plan sheets show the proposed gas line being located on top of an existing gas line. Discuss how this will be achieved and not prevent access to the existing line.
  - e. It is recommended that changes to either the JPA or the E&S application be reflected in the other application. Failure to ensure consistency between the two applications will delay any permit decision for this project.
6. In order to ensure adherence to Threatened and Endangered species restrictions/avoidance measures that are part of any PNDI clearances, the Plans and drawings need to clearly identify these locations and provide construction notes and seasonal restrictions. Both the plans for this application (ESG0300015001) and the plans for the Joint Permit Applications will need to be revised to include this information. 25 Pa Code § 102.6(a)(2)
7. The time of concentration line(s) do not appear to follow the contouring on the PCSM plan drawings. The time of concentration lines should be drawn perpendicular to the respective existing and proposed contours. Please justify or amend the plan drawings and calculations

accordingly. 25 Pa Code §§ 102.8(f)(8), 102.8(f)(9), 102.8(g)(3) & 102.8(g)(4)

8. The time of concentration line lengths on the drawings do not appear to match up with the time of concentrations calculations. Please verify and amend accordingly. 25 Pa Code §§ 102.8(f)(8), 102.8(f)(9), 102.8(g)(3) & 102.8(g)(4)
9. It is difficult to follow how the additional time of concentration is calculated at the bottom of DEP Worksheet 5 (found in Spread 6 Volume IV). This calculation should show every step (i.e. detailed computations) of the calculation for the additional time of concentration for each modeled storm event (for 2, 10, 50, and 100-year storms). 25 Pa Code §§ 102.8(f)(8), 102.8(f)(9), 102.8(g)(3) & 102.8(g)(4)
10. For DEP Worksheets 1-5 and the ESCGP-2 application, please amend the following [DEP Application and Worksheets] for all above-ground structures (i.e. valve locations and compressor stations): 25 Pa Code § 102.6
  - a. Please include all causes of impairment for each respective receiving watercourse
  - b. Please verify the receiving watercourse for each valve site's point of interest
  - c. Please verify the approval status of the Act 167 Plan for the watershed of each valve site. Please provide verification that the site addresses the Act 167 Plan requirements
  - d. Please verify the Chapter 93 classification for each respective receiving watercourse
  - e. Please verify the 2-year/24-hour runoff volume to each berm based on the berm's drainage area
  - f. Please verify the total structure volume provided on DEP Worksheet 5. This should be the lowest value between the drainage area runoff volume, the storage volume of the berm, and the infiltrated volume within 72 hours after the 2-year/24-hour storm event.
  - g. Please verify the recommended infiltration rate for each valve site with the calculations and the infiltration test data
11. In order to be able to utilize PCSM Standard Worksheet #10, 90% of the disturbed area has to be controlled/managed by a PCSM BMP (refer to Flow Chart D in Chapter 8 of the PCSM Manual). Provide the demonstration that 90% of the disturbed area at each site (individually) is controlled/managed by a PCSM BMP (e.g. it appears that less than 90% of the disturbed area is being controlled/managed by a PCSM BMP at the Juniata River West Block Valve site). If less than 90% of the disturbed area is being controlled/managed by a PCSM BMP,

then water quality management can be shown through PCSM Standard Worksheets # 12 & 13 (for TSS, TP & NO<sub>3</sub>). Make all revisions necessary. 25 Pa Code §§ 102.8(f)(6), 102.8(f)(8), 102.8(g)(2), 102.8(g)(4) & 102.11(a)(2)

12. Provide the calculations for each Time of Concentration Adjustment. Ensure that these calculations identify the storage volume utilized and how that storage volume was calculated. The storage volume used in these calculations is the storage volume utilized for the storm event, not the total possible storage of the BMP. Make all revisions necessary.
13. Provide discussion as to why HDD or conventional boring was not utilized to cross all special protection surface waters, as boring could be considered an ABACT E&S BMP (refer to Page 290 of the E&S Manual). For example, it appears that boring could be accomplished at Station 6900+00 (Sheet ES-3.67 for Blair County) for the crossing of Clover Creek (HQ-CWF). 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(6) & 102.11(a)(1)
14. Provide discussion on what E&S BMPs will be utilized at the HDD and conventional boring locations for the drilling mud. Ensure that these BMPs are properly shown on the plan view drawings. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

### **General Technical Deficiencies**

#### **Notice of Intent (NOI) for Coverage under the Erosion and Sediment Control General Permit (ESCGP-2)**

1. Section E.1: Provide a better identification of which areas of the project were designed to meet which design standards (i.e. which areas were designed to the standards in an approved Act 167 Plan and which areas were designed to the standards of 25 Pa Code §§ 102.8(g)(2) & 102.8(g)(3)). 25 Pa Code § 102.6(a)(1)
2. Section E.5: It appears that there are numerous areas along the pipeline which propose to discharge stormwater to off-site areas other than a surface water. Ensure that this is properly identified throughout the application and all required information is provided. Refer to the attached DEP's *Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet* (DEP Document No. 3150-FS-DEP4124). 25 Pa Code §§ 102.4(c), 102.6(1) & 102.8(f)(15)
3. Section F.1: Provide a better identification of which areas of the project were designed to meet which design standards (i.e. which areas were designed to the standards in an approved Act 167 Plan and which areas were designed to the standards of 25 Pa Code §§ 102.8(g)(2) & 102.8(g)(3)).

If an area is covered by an approved and current (approved by DEP on or after January 2005) Act 167 Plan, the Post Construction Stormwater Management Plan shall be consistent with any approved and current Act 167 Plan. To demonstrate consistency with an approved and current Act 167 Plan, the applicant may select one of the following options (per Erosion and Sediment Control General Permit for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities Condition 18.b):

- Submit a letter provided by the municipal or county planning engineer that verifies plan constancy.
- Submit an Act 167 Plan consistency verification report, which is prepared and sealed by a licensed professional.

Make all revisions necessary. 25 Pa Code § 102.6(a)(1)

4. Section F.3: Ensure that all areas which are required to have a PCSM Plan are properly identified, so that they match with the PCSM Plans. An example provided is the Section identified as UNT to Aughwick Creek; is this the Mount Union Valves site? Make all revisions necessary. 25 Pa Code § 102.6(1)
5. Section F.3 Sherman Creek (POI-1) & UNT to Aughwick Creek: Provide the stormwater discharge rate for the 2-year/24-hour storm event. 25 Pa Code § 102.6(1)
6. Section F.3 UNT to Aughwick Creek: The increase in impervious area is identified as 0.632 ac.; however, PCSM Standard Worksheet #4 for the Mount Union Valves site identifies an increase in impervious area of 0.623 ac. Clarify this discrepancy. 25 Pa Code § 102.6(1)
7. Section F.5: It appears that there are numerous areas which propose to discharge stormwater to off-site areas other than a surface water. Ensure that this is properly identified throughout the application and all required information is provided. Refer to the attached DEP's *Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet* (DEP Document No. 3150-FS-DEP4124). 25 Pa Code §§ 102.4(c), 102.6(1) & 102.8(f)(15)
8. Section G: Provide a separate Anti-Degradation Analysis for each discharge to a special protection surface water/watershed. 25 Pa Code § 102.6(1)
9. Section H: It is identified that "Notices of Violations attached in formal application." Clarify the meaning of this statement. The NOI is the formal application for coverage under the

ESCGP-2. Provide the identified information related to Sunoco Pipeline, L.P.'s compliance history. 25 Pa Code § 102.6(1)

10. Attachment 3 Water/Watershed Table: Verify that Hay Creek has a Designated Use of Exceptional Value (EV) and an Existing Use of High Quality (HQ) Cold Water Fishes (CWF). It appears that there are sections of Hay Creek which have different Designated Uses and some sections which have an Existing Use. Properly identify the Designated and Existing Uses of all receiving surface waters, including multiple identifications if the same stream has different Uses throughout. Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(v), 102.6(1) & 102.8(f)(5)

11. Attachment 6 Riparian Buffer Waiver Request:

- a. The first sentence on Page 3 is not accurate. Not all areas covered by Chapter 105 are exempted from the riparian/riparian forest buffer regulations; an example where the riparian/riparian forest buffer regulations apply would be where the pipeline/earth disturbance activity is located parallel to the stream and within the floodway. Make all revisions necessary to appropriately identify the areas that require a waiver of the riparian/riparian forest buffer regulations. 25 Pa Code § 102.14(d)
- b. If a waiver is being requested for a riparian forest buffer, then provide a waiver of the riparian forest buffer composition. Identify all areas for a waiver of the riparian forest buffer composition. 25 Pa Code § 102.14(b)(1)
- c. The provided Alternatives Analysis is not sufficient. Provide an Alternative Analysis for each area where the riparian/riparian forest buffer waiver is being requested. 25 Pa Code §§ 102.14(d)(2) & 102.14(d)(3)
- d. Identify the specific manual which is referred to as "PADEP manual" on Page 11 in the Demonstration of Minimizing Impacts section. 25 Pa Code §§ 102.14(d)(2) & 102.14(d)(3)
- e. Table 2 identifies streams which are currently identified as impaired in the 2014 Pennsylvania Integrated Water Quality Monitoring and Assessment Report. Please note that some streams are currently tentatively impaired and may be identified as impaired in the 2016 Pennsylvania Integrated Water Quality Monitoring and Assessment Report. If 2016 Pennsylvania Integrated Water Quality Monitoring and Assessment Report is finalized before permit coverage is authorized for the project, then revise the application accordingly. 25 Pa Code § 102.14(a)(2)



- f. The Riparian Buffer Site Plans are not sufficient. Clearly identify riparian/riparian forest buffer areas to be waived on the plans and identify the top of bank of the stream. Provide these plans at a more legible scale; a scale of 1" = 400' is not sufficient for the riparian/riparian forest buffer waivers. 25 Pa Code §§ 102.14(d)(2) & 102.14(d)(3)

PNDI Coordination/Clearance

1. Identify where on the plans the avoidance and clearance measures are identified for the threatened and endangered species. Provide the avoidance and clearance measures clearly shown and identified on all applicable plans, including notes and locations. 25 Pa Code §§ 102.4(b)(5)(ix), 102.6(a)(2) & 102.8(f)(9)
2. Provide clearance for all threatened and endangered species from all resource agencies. 25 Pa Code § 102.6(a)(2)

Erosion & Sediment Control (E&S) Plan - General Technical Deficiencies

1. The E&S Plan shall be separate from the PCSM Plan. In certain instances the E&S Plan and Site Restoration Plan can be combined; however, this combination has to be clearly identified. Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(xiv), 102.8(d) & 102.8(n)
2. Provide the demonstration that the E&S Plan was prepared by a person trained and experienced in E&S control methods and techniques applicable to the size and scope of the project being designed. DEP recommends utilizing Standard E&S Worksheet #22 from the E&S Manual. 25 Pa Code §§ 102.4(b)(4) & 102.11(a)(1)
3. It appears that some of the symbols being used on the plan sheets are the same or too similar to easily distinguish (e.g. LOD and 100 year floodplain, silt sock and silt fence, property line and right of way, etc.). Revise the plan drawings so that the line types are more distinguishable. 25 Pa Code § 102.4(b)(5)(ix)
4. There are numerous instances where symbols are overlapping each other, making it hard to see some of the symbols. Revise the plan drawings so that the symbols are not overlapping. 25 Pa Code § 102.4(b)(5)(ix)
5. Provide the soil type identifications and boundaries on the E&S Plan drawings. Ensure that the soil limitation resolutions are provided. 25 Pa Code §§ 102.4(b)(5)(ii), 102.4(b)(5)(ix) & 102.4(c)

6. Provide additional clarification as to how the project will be accessed throughout the duration of earth disturbance activities (will new temporary access roads be required and removed, will existing access roads require upgrades, how will the mainline be accessed, etc.). Provide all proposed temporary and permanent access roads. Ensure that all earth disturbance activities are included within the limit of disturbance and permit boundary. Ensure that proper BMPs are provided. Clearly identify what is meant by the plan note of "existing road to be used for access no proposed permanent improvements" (i.e. are temporary improvements proposed and if so, what are they). 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
7. Verify the reference to the Detail Number and Sheet Shown On for details. There are instances where these do not match from one location to another in a County's plan set. 25 Pa Code § 102.4(b)(5)(ix)
8. Identify the ESCGP-2 Permit Boundary. 25 Pa Code § 102.4(b)(5)(ix)
9. Ensure that all streams, floodways and floodplains have been fully identified in the plan drawings (e.g. Sheet ES-4.02 York County, S-H67). 25 Pa Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
10. Ensure that adequate notes are provided related to the HDD sites. Refer to Pages 284 & 285 of the E&S Manual for guidance on proper notes related to the HDD and those work sites; identify where this information can be found within the E&S Plan. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix) & 102.11(a)(1)
11. There are numerous areas throughout the project where a wetland/portion of a wetland is identified as within the limit of disturbance but that the E&S BMPs are not shown at the edge of the limit of disturbance (e.g. WL-BB111 at Station 5764+50 on Sheet ES-3.01 for Blair County). Clarify the proposed disturbance of these wetlands (i.e. are these wetlands to be disturbed or not). Provide a detail for the installation of the orange construction fence. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
12. For the stream and wetland crossings, provide specific site details as to how each crossing will be accomplished. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi), 102.4(b)(5)(vii) & 102.4(b)(5)(ix)
13. The following technical deficiencies are associated with the construction sequence: 25 Pa Code § 102.4(b)(5)(vii)
  - a. Provide information for the clearing and grubbing, grading and pipeline trench excavation.

- b. Provide measures for how to relieve the compaction for the areas to be restored (e.g. the pullback areas, access routes, pipeline backfill, etc.).
- c. Provide for the restoration of the riparian forest buffer shown on the plan drawings.
- d. Provide for the field marking of the wetlands.
- e. Ensure that a construction sequence is provided for all block valve sites, permanent access roads and temporary access roads. In these construction sequences provide for the installation/construction of the PCSM BMPs.
- f. Provide for the maintenance of the waterbars during the periods of time where the pipe trench is open.
- g. Stage 1 identifies that “Appropriately sized silt fence is an approved alternative in areas that are not special protection watersheds.” Identify how the proper sizing will be determined, as no sizing information was provided in the E&S Plan narrative and/or drawings. Provide the sizing calculations and design, if silt fence is to be an approved alternative. Provide a note that identifies the appropriate county conservation district and DEP have to approve any deviation to the authorized plans. 25 Pa Code § 102.4(b)(5)(viii)
- h. Identify the location of the Access Road Summary Table referenced in Stage 3.
- i. Provide for the waterbars and approved interceptor dykes in Stage 5 to be installed at the end of each work day and not “as needed based on installation rate and weather conditions.”
- j. Verify that the reference to the Sheet location for the compost filter sock sizing and spacing chart is correct for all Counties in Stage 6.
- k. Stage 7 identifies to strip topsoil where required. Clearly identify which areas will have the topsoil stripped and stockpiled separately (segregated topsoil).
- l. It appears that Stages 5 & 7 are out of sequence. Clarify this discrepancy.
- m. Stage 8 identifies to “minimize total area of disturbance”; clearly provide how the contractor is to minimize the total area of disturbance.
- n. Provide topsoil to be placed over all disturbed areas in Stage 9.

- o. It appears that Stages 9 & 10 are out of sequence. Clarify this discrepancy.
  - p. Verify that the reference to the Sheet location for the trench plug detail is correct for all Counties in Stage 10.
  - q. Verify that the reference to the Sheet location for the waterbar detail is correct for all Counties in Stage 11.
  - r. Revise Stage 14 to be "uniform 70% perennial vegetative cover".
14. Revise Standard Erosion and Sediment Control Plan Note 26 such that upon temporary cessation of an earth disturbance activity or any stage or phase of an activity where cessation of earth disturbance activities in non-special protection watersheds will exceed 4 days, the site shall be immediately seeded, mulched, or otherwise protected from accelerated erosion and sedimentation pending future earth disturbance activities and in special protection watersheds temporary stabilization shall be immediate. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(6) & 102.22(b)(1)
15. Clearly identify the length of time required to excavate the trench, install the pipe, backfill the trench and begin stabilization of the disturbed areas. Page 283 of the E&S Manual identifies this length of time as not to exceed 30 calendar days for most installations, and that long time periods may be approved on a case-by-case basis. Clearly identify any areas that may exceed 30 calendar days and provide sufficient justification for the extended time period. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(6), 102.11(a)(1) & 102.11(b)
16. Revise Standard Erosion and Sediment Control Plan Note 25 to identify slopes of 3:1 or greater and all areas, regardless of slope, within 100 ft. of a special protection surface water to be blanketed with erosion control matting (per the recommendations on Page 273 of the E&S Manual). Ensure consistency between Standard Erosion and Sediment Control Plan Note 25 & 35 and Construction Sequence Stage 12. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(6) & 102.11(a)(1)
17. Identify if pumped water filter bags will be used during boring activities. If so, provide the location of the bags on the plan sheets. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
18. Pumped water filter bags alone are not rated as an antidegradation best available combination of technologies (ABACT) BMP. Surrounding the pump water filter bag with a compost sock ring or by using the pumped water filter bag in conjunction with a sumped pit will elevate the pump water filter bag to an ABACT rating (per Page 53 of the E&S Manual). Clearly identify on the plan drawings or clearly in the detail (ensuring that proper additional details

are provided) the measures to ensure that pumped water filter bags for discharges to special protection surface waters will achieve an ABACT rating. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.4(b)(6) & 102.11(a)(1)

19. Ensure that all county references are correct (e.g. Notes for Site Restoration Note 2 on Sheet ES-0.02 for Lebanon County references Lancaster County, Sheet ES-0.06 for Lebanon County references Washington County Limit of Disturbance, etc.). 25 Pa Code § 102.4(b)(5)(ix)
20. Provide the waterbars on the plan drawings at the stream and wetland crossings, as identified in the Timber Mat Crossing Detail. 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
21. The waterbars shown on the Timber Mat Crossing Detail are not shown on the plan view and are not identified to discharge to sediment control BMPs. Clarify these discrepancies. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
22. Provide a detail for the J-hooks at the end of a waterbar. Provide the demonstration that the designed J-hooks will function adequately and appropriately to manage the erosion and sedimentation from the runoff. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(viii), 102.4(b)(5)(ix) & 102.4(c)
23. Identify/distinguish which waterbars are temporary versus permanent on the plan drawing. 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
24. Provide for surface roughening, as recommended on Page 260 of the E&S Manual. If surface roughening is not proposed, then provide the alternative BMP and design standard demonstration. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.4(b)(6), 102.11(a)(1) & 102.11(b)
25. Identify the type of erosion control blanket/matting to be used and for which conditions. Provide the staple pattern details for the erosion control blanket installations. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
26. Note 3 on the plan view drawings identifies that "BMP installation to be adjusted as needed..."; however, it is not clear who is to be determining the adjustment(s). Properly identify who will make the determination of adjusting the BMPs. A deviation from the authorized plans may be necessary; however, the appropriate county conservation district and DEP have to approve any deviation to the authorized plans. Make all revisions necessary to clearly identify this requirement. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

27. Provide discussion related to the timing of the sequence of construction, including how runoff will be properly managed from when the trench backfill is complete to the installation of the waterbars and permanent stabilization. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(vii)
28. The Right-Of-Way Detail (e.g. Sheet ES-0.08 for Blair County) shows compost filter sock running parallel with edge of the right-of-way; which is inconsistent with the plan drawings. Provide a note with this detail that compost filter sock should be installed parallel with existing contours and as shown on the plan drawings. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
29. Provide additional information in the Right-Of-Way Detail, which identifies the approx. depth of existing topsoil and the amount of topsoil to be placed at the surface during the trench backfill operations. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
30. The Bank Restoration Detail (e.g. Sheet ES-0.10 for Blair County) shows the use of erosion control blanket and native plantings. Identify the type of erosion control blanket and the native plantings to be used. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
31. Provide a note on the E&S Plan that identifies no soil amendments (lime, fertilizer, etc.) are to be used in wetland areas (refer to Page 265 of the E&S Manual). 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix) & 102.11(a)(1)
32. Identify/label the compost filter socks in the plan view drawings, so that the sizing can be verified with Standard E&S Worksheet #11. On all plan view drawings, ensure that all sediment barriers (compost filter socks, silt fences, etc.) are shown with the ends turned upslope at 45 degrees to the main barrier alignment for a distance sufficient to elevate the bottom of the barrier ends to the elevation of the top of the barrier at the lowest point. 25 Pa Code § 102.4(b)(5)(ix)
33. Spot checks at several locations found that a number of maximum slope lengths appear to have been exceeded for the proposed compost filter socks (e.g. Socks #7, 8, 24, 27, 29, 32, and 49 for Lancaster County). Ensure that the compost filter socks are sized according to the maximum slope length above the sock, not just the disturbed area above the sock, as identified in the E&S Manual. If the recommended maximum slope length from the E&S Manual is exceeded, then a demonstration of alternative BMP and design standard must be provided. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)

34. The compost standards identified in Table 4.2 in Attachment 4 of the E&S Plan narrative are not correct. Per the Corrections For Erosion And Sediment Pollution Control Program Manual TGN 363-2134-008 Mach 2012, the following are the correct compost standards:
- Organic Matter Content: 25% - 100% (dry weight basis)
  - Organic Portion: Fibrous and elongate
  - pH: 5.5 - 8.5
  - Moisture Content: 30% - 60%
  - Particle Size: 30% - 50% pass through 3/8" sieve
  - Soluble Salt Concentration: 5.0 dS/m (mmhos/cm) Maximum.
- Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix) & 102.11(a)(1)
35. Provide Table 4.1 (from Page 63 of the E&S Manual) and the corrected Table 4.2 (from the E&S Manual and Corrections For Erosion And Sediment Pollution Control Program Manual TGN 363-2134-008 Mach 2012) on the plan drawing sheet with the Compost Filter Sock detail. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
36. Provide each HDD location's staging areas, including contours (if grading is to be accomplished), stockpile locations (if necessary), etc. Provide a demonstration that perimeter controls are sufficient for these large areas and that other E&S BMPs, such as sediment basins, sediment traps, etc., will not be required to properly manage the runoff. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
37. Provide discussion on what E&S BMPs will be utilized at the HDD and conventional boring locations for the drilling mud. Ensure that these BMPs are properly shown on the plan view drawings. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
38. The Standard Construction Detail #13-4 in Attachment 4 of the E&S Plan narrative and the Trench Plug Installation detail (e.g. Sheet ES-0.10 for Blair County) are not correct. The Standard Construction Detail #13-4 from the E&S Manual was revised per the Corrections For Erosion And Sediment Pollution Control Program Manual TGN 363-2134-008 Mach 2012, to identify the trench plugs extending to the trench bottom (as opposed to the bottom of the pipe). If an alternative BMP and design standard will be used for trench plugs, then that demonstration shall be provided. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)
39. Ensure the entire length of a surface water (and any adjacent features) is shown within the Permit Boundary. It appears that only sections of streams are shown that start/stop in the middle of the right-of-way. If the streams are shown correctly, then provide a narrative discussion identifying these features. 25 Pa Code § 102.4(b)(5)(v) & 102.4(b)(5)(ix)

40. Provide discussion as to why HDD or conventional boring was not utilized to cross all special protection surface waters, as boring could be considered an ABACT E&S BMP (refer to Page 290 of the E&S Manual). It appears that boring could be accomplished at Station 6900+00 (Sheet ES-3.67 for Blair County) for the crossing of Clover Creek (HQ-CWF). 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(6) & 102.11(a)(1)
41. Provide additional information related to the geotextile (e.g. type, strength, etc.) identified to be used under the timber mats in the Timber Mat Detail (e.g. Sheet ES-0.09 for Blair County) 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
42. It appears that the temporary seeding information is not consistent between the narrative and the plan drawings. Clarify this discrepancy. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
43. The existing riparian forest buffers do not appear to be shown correctly. For example, the existing riparian forest buffer identified for Stream S-196 on Sheet ES-3.03 for Blair County is shown to be approx. 100 ft. wide. Riparian forest buffers are 150 ft. in width. Identify the full riparian forest buffer. Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(ix) & 102.4(b)(5)(xv)
44. If any soil stockpiles are needed due to the installation of the rock construction entrances, then provide/identify those stockpiles on the plan view drawings. Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
45. Compost sock sediment traps are shown to be utilized (e.g. approx. Station 7662+00 on Sheet ES-3.39 for Huntingdon County); however, the sizing calculations could not be located in the E&S Plan narrative. Provide the sizing calculations for all compost sock sediment traps. 25 Pa Code §§ 102.4(b)(5)(viii) & 102.4(b)(5)(ix)
46. Provide the proposed grading for all proposed features (including the infiltration berms for the valve sites, stations, etc.). 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
47. The following technical deficiencies are related to the restoration activities during the earth disturbance activities:
  - a. Provide more identification in the narratives and on the plan drawings related to topsoil segregation. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
  - b. Provide more identification in the narratives and on the plan drawings related to loosening of compacted soils prior to topsoil placement and stabilization (at the temporary access roads, topsoil stockpiles, access routes along the mainline, etc.). 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)



- c. Provide a discussion of measures that will be taken to avoid and minimize compaction to the maximum extent practicable and where compaction occurs, what measures will be taken to ensure adequate infiltration and successful vegetation of the right of way. 25 Pa Code §§ 102.4(b)(4) & 102.22
  - d. Describe how your planning and design requirements satisfy 25 Pa Code § 102.4(b)(4) and are minimizing the extent and duration of the construction and the minimizing any increase in stormwater runoff. Identify how these measures are satisfied when the ROW is in close proximity or is crossings surface waters or wetlands.
48. Clarify if the dual pipelines will be constructed within the same trench or if two trenches will be excavated. If the dual pipelines will be installed within the same trench, then provide the trench plugs for each pipeline at the same location/Station (not at different locations/Stations; e.g. Station 13289+50 on Sheet ES-1.05 for Berks County and Station 13314+50 on Sheet ES-1.06 for Berks County). Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
49. Ensure that all earth disturbances are properly identified and included within the limit of disturbance and the Permit Boundary. Describe the installation/construction for the test water source piping, the construction of the test water source pump pad, installation of culvert to cross railroad tracks, etc. (e.g. Sheets ES-4.03 & 4.04 for Dauphin County). If earth disturbance is proposed, then provide the appropriate E&S BMPs and all necessary plan information. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi), 102.4(b)(5)(vii), 102.4(b)(5)(ix) & 102.4(b)(5)(x)
50. Provide specific E&S BMPs for each stream and wetland crossing. It is recommended that a blow-up of each specific stream and wetland crossing be provided, which clearly illustrates all E&S BMPs. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
51. If trench plugs will be utilized at the boring locations, then the trench plugs shall be shown on Bore Crossing in the Typical Stream Crossing detail (e.g. Sheet ES-0.09 for Blair County). Provide a typical wetland crossing detail, which is similar to the Typical Stream Crossing detail (e.g. Sheet ES-0.09 for Blair County). 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
52. Ensure that all ATWS locations are properly identified and that the E&S Plan includes the duration of proposed activities, the expected layout, E&S BMPs, and size or quantity of materials or structures proposed. 25 Pa. Code § 102.4(b)(5)(ix)

53. The site plan sheets from the Chapter 105 permit applications and E&S Plan sheets identify the floodway which appear to be measured from the centerline of the stream as opposed to the top of bank for the 50-foot assumed floodway boundary. Provide floodway boundaries on all plan drawings that adhere to the definitions in Chapter 105 by providing the FEMA mapped floodway boundary, in areas absent a FEMA mapped floodway, the floodway boundary measured 50 feet landward from the top of bank, or in areas absent a FEMA mapped floodway a floodway boundary with evidence provided that the assumed 50 feet floodway is not accurate. 25 Pa. Code §§ 102.4(b)(5)(ix) & 105.1
54. The Typical Wetland Crossing detail on the E&S Plan indicates soil will be stockpiled in the wetland along the trench. Revise the detail to include a means of separating the stockpiled soil from the wetlands, such as geo-fabric and matting, to ensure full removal of the stockpiled soil and minimize impacts. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
55. The typical wetland crossing details shown on the E&S Plans indicates Trench Breakers are to be installed in the trench in the wetlands; however it is not clear what Trench Breakers are or if Trench Plugs are what is meant. Revise this detail to identify if Trench Plugs are meant by this term or provide a detail for trench breakers. In addition, if trench plugs are proposed to maintain wetland hydrology, revise the detail to include trench plugs within the wetland for long wetland crossings and specify the distance increments. Furthermore, the E&S Plan drawings depict trench plugs which are inconsistent with the detail. Revise the site plans to be consistent with the detail. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
56. The Typical Wetland Crossing detail on the E&S Plan states that the detail does not apply to active cultivated or rotated cropland. Revise the detail to apply to all wetland crossings or provide a separate detail for wetland crossings in active cropland. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
57. The Mitigation Plan (from the Chapter 105 permit application) states that the excavated stream banks will be reseeded; however, the E&S Plan's detail for bank restoration does not indicate this. Revise the Bank Restoration Detail to be consistent and include the native seeding mixture to be utilized. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
58. The E&S Plan details for temporary stream crossings and plan drawings state timber mats or temporary equipment bridge may be utilized but only depicts a timber mat bridge. Provide details for the proposed temporary equipment bridge(s) which depict the size, shape, and span of the structure. Provide separate details depicting the timber mat and other bridge structure crossing's cross sections. In addition, revise the E&S Plan and/or other plan drawings to identify the method of each temporary stream crossing proposed at each location. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

59. Revise the E&S Plan to include all avoidance and minimization measures for identified species of concern associated with water obstructions and encroachments from the Pennsylvania Game Commission, Pennsylvania Fish and Boat Commission, Pennsylvania Department of Conservation and Natural Resources, and the U.S. Fish and Wildlife Service. Ensure any seed mixtures, matting, or other specified items are included in the plans and/or E&S plans. In addition, revise the Environmental Assessment to discuss the avoidance and minimization measures and clearances received. 25 Pa. Code §§ 102.6(a)(2) & 102.4(b)(5)(ix)
60. Section 2.2.2.1 of the Mitigation Plan (from the Chapter 105 permit application) identifies that wetlands will be reseeded with a native wetland seed mixture; however, the mixture is not specified nor is it proposed on the plans. Revise the application to identify the seed mixture to be used and revise the E&S Plans to indicate its use for wetland restoration in the Typical Wetland Restoration detail. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
61. Trench plugs are proposed to be located at wetland/upland interfaces. Additional trench plugs may be necessary along the length of the crossing due to the length and/or slope to maintain hydrology throughout the wetland. Review and revise the application and plans accordingly. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
62. Temporary road stream crossing details utilizing culverts are provided on E&S Plans ES-0.09 and ES-0.11 (e.g. from Blair County); however, the E&S Plans and impact plans (from the Chapter 105 permit application) do not identify that any of these crossings are to be used. Revise the E&S Plans to remove these proposed crossing methods if not proposed to be utilized, or identify where the proposed crossing methods will be utilized. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

E&S Plan – Berks County Technical Deficiencies

1. Exceptional Value (EV) wetlands include wetlands that are located in or along the floodplain of a reach of a wild trout stream or waters listed as exceptional value under Chapter 93 (relating to water quality) and the floodplain of streams tributary thereto. It appears that the following wetlands are EV: Wetlands WL-B22, B24, B26, B27, B29, B33, B34, B38, B41, B42, B43, B44, B45, B46, B49, C1, C3, C5, C6, C7, C8, C12, C13, C14, BB133, W48, AM2, H14, H18, H19 H21, H22, 301 & Q80. Clearly identify the receiving surface waters, including EV wetlands. Provide an antidegradation analysis for all discharges to special protection surface waters, including the use of ABACT BMPs. Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(v), 102.4(b)(5)(ix), 102.4(b) & 105.17(1)(iii)
2. Revise Note 2 on Sheet ES-0.02 to properly identify that this portion of the project takes place in Berks County, not Lancaster County. 25 Pa Code § 102.4(b)(5)(ix)

3. Compost filter socks shown on Sheet ES-1.15 along the proposed access drive for the Montello Block Valve Station are not shown parallel to existing contour. As with other sediment barriers, compost filter socks should be placed parallel to contour with both ends of the sock extended upslope at a 45 degree angle to the rest of the sock to prevent end-around flows (refer to Page 62 of the E&S Manual). Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(ix) & 102.11(a)(1)
4. It appears that the fill slopes at the Montello Block Valve Site (along access drive; Sheet ES-1.15)) and cut and fill slopes at the Wyomissing Block Valve Site (around pad area; Sheet ES-1.35) are steeper than 3:1. Clarify why these areas are not shown to receive erosion control blanketing (as other areas on the plan drawings clearly identify where erosion control blanketing is required). Show the extent of all erosion control blanketing on the plan drawings. 25 Pa Code § 102.4(b)(5)(ix)
5. ATWS on Sheet 1 of Tab 7A in the floodplain and floodway of Stream S-B16 (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
6. ATWS on Sheet 31 of Tab 7A in the floodway of Stream S-H21 (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
7. ATWS on Sheet 17 of Tab 7A in the floodway of Stream S-B31 (from the Chapter 105 permit application) are designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
8. ATWS on Sheet 35 of Tab 7A in the floodway of Streams S-Q90 and S-Q89 (from the Chapter 105 permit application) are designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

9. The Impact Plan drawings and Table 3 of Tab 11 (from the Chapter 105 permit application) identify the corresponding E&S Plan sheets incorrectly. Revise the plan drawings and table to be accurate. 25 Pa. Code § 102.4(b)(5)(ix)
10. The E&S Plan drawings do not depict the proposed temporary timber mats crossing the wetlands; they only depict them up to the wetland boundary. Revise the E&S Plan drawings to depict the temporary matting crossing the wetland. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
11. The Auger Bore Drawing, PA-BR-0060.0000-RD (from the Chapter 105 permit application), depicts the auger bore pits in different locations than the E&S Plan drawing ES-1.21. In addition, the Auger Bore plan depicts temporary workspace in stream S-C33 and wetland C13 which are not depicted on the E&S Plan. Revise the application to contain consistent and accurate plans. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
12. Wetland BB42 is not identified on the impact table or site plans to be impacted; however, E&S Plan drawing ES-1.74 depicts proposed impacts to this wetland. Revise this E&S Plan drawing to be accurate and consistent with the remainder of the application. 25 Pa. Code § 102.4(b)(5)(ix)
13. Provide a site specific plan drawing and cross section drawing for stream S-B31 which depicts at a minimum: the stream banks, bore pit locations, travel lanes, proposed pipelines, depth of the proposed pipelines beneath the stream, and stream bed. In addition, E&S Plan drawing ES-1.30 depicts the proposed bore pit within the stream which is inconsistent with the site plan drawings (from the Chapter permit application). Revise the E&S Plan to be consistent with the site plan drawing. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
14. The plan site plan drawing (from the Chapter 105 permit application) indicates that stream S-BB34 will utilize an existing bridge. However, the E&S Plan drawing ES-1.33 depicts placing timber matting over the bridge. If a temporary structure is proposed over the existing bridge, provide site specific plans and a cross section depicting the proposed temporary structure. If only the existing bridge is proposed to be utilized, revise the E&S Plan drawing accordingly, and revise the impact table to accurately depict that no temporary impacts are proposed to the stream. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
15. The Auger Bore drawing PPP-BR-0132.0000-RD (from the Chapter 105 permit application) depicts the auger bore pit west of wetland B31. However, the E&S Plan drawing ES-1.44 and the site specific plan drawing B29-B31-C-101 (from the Chapter 105 permit application)

depict it located within wetland B31. Revise the E&S Plan drawing to accurately depict the auger bore pit west of this wetland and be consistent with the impact table and other plan drawings. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

16. The E&S Plan drawing ES-1.51 depicts the proposed auger bore pit within stream S-C107; however, the impact table and other plan drawings (from the Chapter 105 permit application) depict this pit east of this stream. Revise the E&S Plan to accurately identify the location of the auger bore pit east of the stream to avoid and minimize impacts. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
17. Provide profiles for the temporary crossings identified in the E&S Plan that depict at a minimum the existing conditions and the proposed conditions, and provide information regarding the length of time that all temporary crossings will be in place. Some of the plans appear to use unnatural stream contours upon restoration. Identify the aggregate and the typical timber mat crossing being used. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

#### E&S Plan - Beckersville Pump Station Technical Deficiencies

1. The construction sequence proposes the installation of Detention Basin 2 prior to permanent stabilization of all upslope drainage areas. However, it appears as though it may be necessary to design Basin 2 as a sediment control facility during construction. Provide discussion demonstrating that a large sediment control facility is not required at this location. Provide instructions for conversion to a PCSM Detention Basin once all upslope drainage areas have been permanently stabilized. Refer to Chapters 7 and 8 of the E&S Manual for design criteria and construction details for applicable sediment control facilities. Provide all calculations, DEP recommends utilizing Standard E&S Worksheets from Appendix B of the E&S Manual. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(vii), 102.4(b)(5)(viii), 102.4(b)(5)(ix) & 102.11(a)(1)
2. Provide calculations for the emergency spillway for the proposed Infiltration Berm. Identify appropriate protective spillway lining on plan drawings and detail sheets. Refer to Pages 192-199 of the E&S Manual for guidance. § 102.4(b)(viii), §102.4(b)(5)(ix) & §102.11(a)(1)
3. Provide calculations for the energy dissipater (R-4 riprap) proposed at the emergency spillway of Basin 2. Refer to Chapter 9 of the E&S Manual for guidance. 25 Pa Code §§ 102.4(b)(5)(viii) & 102.11(a)(1)
4. Plan drawings indicate the grading of a channel parallel to the access drive, terminating at proposed HW-1. Label the channel on plan drawings and provide all applicable construction details. Provide all applicable calculations (channel bed slopes may not be averaged (see Item 3 on Page 129 of the E&S Manual), DEP recommends utilizing Standard E&S Worksheet

#11 in Appendix B of the E&S Manual. 25 Pa Code §§ 102.4(b)(5)(viii), 102.4(b)(5)(ix) & 102.11(a)(1)

E&S Plan – Blair County Technical Deficiencies

1. A UNT to Dry Run (S-KP2) is identified on Sheet ES-3.17; provide the associated floodway with this stream. Also, identify what the heavy solid line represents shown across the existing access road near S-KP2. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v) & 102.4(b)(5)(ix)
2. Provide a clarification for the disturbance (clearing, grubbing & restoration, etc.) proposed for the right-of-way for the area of the horizontal directional drill from Station 6127+50 to 6147+00 on Sheets ES-3.22 & 3.23. 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
3. Ensure that all bore pits are identified on the plan drawings (e.g. Stations 6479+00 & 6481+50 on Sheet ES-3.42). Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(viii) & 102.4(b)(5)(ix)
4. The E&S Plan and Impact/Subtraction plan (from the Chapter 105 permit application) depict the Blair/Cambria county boundary west of wetland L70 while the Impact and Aquatic Resource Delineation plans (from the Chapter 105 permit application) depict the county boundary within wetland L70. The E&S Plan drawings identify that a temporary impact to wetland Q51 will occur in Blair County. However, all other plan sheets depict this wetland to be in Cambria County. Revise and clarify the plan drawings, impact tables, impact calculations, etc. to accurately reflect the county boundary and the impacts to wetlands L70 and Q51 within Blair County. In addition, it is recommended that the Cambria County application be evaluated and revised for consistency as necessary. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
5. The E&S Plan and Impact plan drawings (from the Chapter 105 permit application) depict additional wetlands north of Stream S-L94 which are not depicted on the Aquatic Resource Delineation plan drawings (from the Chapter 105 permit application). Revise the aquatic resource delineation to delineate and provide data sheets for this wetland. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
6. Revise E&S Plan drawing ES-3.21 to accurately depict the wetland M-49 boundary, consistent with the delineation and other plan drawings (from the Chapter 105 permit application). 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
7. Wetland W-L59 is identified on the impact plan drawings and impact table from the Chapter 105 permit application) as having a temporary crossing impact with temporary matting.

However, the E&S Plan sheet ES-3.34 does not depict impacts to this wetland. Revise the application documents to be consistent and avoid and minimize impacts to the extent practicable. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)

8. The E&S Plan drawing ES-3.34 labels streams S-L80 and S-L79 differently than the rest of the application and it does not identify how any of these streams will be crossed. It is unclear if an existing culvert may or may not be present. Revise the application to identify these streams accurately and consistently and identify the stream crossing method. Alternatively, if an existing culvert or obstruction is to be utilized, revise the application to clearly identify this. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
9. Wetlands W-BB107 & W-BB108 are proposed to be temporarily impacted with timber matting; however, the E&S Plan sheet ES-3.42 does not depict temporary matting to be used. Revise the E&S Plan drawing to depict the temporary matting for the proposed temporary impacts. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
10. For wetland BB124, the impact plan sheet 28 (from the Chapter 105 permit application) is inconsistent with the E&S Plan drawing ES-3.44 and the site specific drawing (from the Chapter 105 permit application). Make all revisions necessary to accurately delineate the ATWS for the pipe pull back area and to depict the proposed temporary workspace in the wetland along the proposed ROW. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
11. For wetland BB124, the E&S Plan sheet ES-3.44 is not consistent with the site specific drawing (from the Chapter 105 permit application) for this area. The timber mat placement along the ROW is inconsistent and the timber mat placement in the ATWS for the pipe pull back area is inconsistent. Revise the E&S Plan to be accurate and consistent with the extent and nature of the proposed permanent and temporary impacts. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
12. Revise the application to clarify how trench plugs are to be installed along the bore path for stream S-L75 as depicted on E&S Plan ES-3.46. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
13. The site specific plan drawing (from the Chapter 105 permit application), S-L72-S-BB96-C-101, is not consistent with the proposed impacts on the E&S Plan drawings ES-3.46 & ES-3.47. Revise the E&S Plan drawings to be consistent and accurate in depicting the proposed impacts. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
14. Revise E&S plan sheet ES-3.51 to identify the floodway boundary of stream S-M31. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)



15. Plan sheet 34 (from the Chapter 105 permit application) depicts stream S-M38 as being crossed by HDD and open cut in the floodway. Table 3 (from the Chapter 105 permit application) and E&S Plan drawing ES-3.53 depict the floodway being entirely crossed by HDD. Revise the applications to be consistent and accurate. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
16. The E&S Plan drawings ES-3.74 through ES-3.76 indicate no improvements are proposed to the road for the resource crossings. However, the impact plan drawings and impact tables (from the Chapter 105 permit application) indicate temporary crossings and bridges are proposed. Revise the application accordingly to be accurate. If temporary crossings are proposed, revise the E&S Plan drawings to depict the impacts. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
17. The proposed temporary access road depicted on plan sheets 34 through 39 (from the Chapter 105 permit application) deviates from the visible gravel road on the aerial photography, and appears to differ than the path on the E&S Plan drawings. Revise the application materials to be consistent and accurate. 25 Pa. Code § 102.4(b)(5)(ix)
18. The site specific Bore Plan (from the Chapter 105 permit application) for wetland M35 depicts temporary workspaces inside the wetland. However, the site plan drawing (from the Chapter 105 permit application) and E&S Plan drawing do not depict any workspaces in the wetland. Make all revisions necessary for consistency and depict the proposed bore pits, trench plugs, and other proposed work. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
19. The ATWS area in the floodways of Streams S-L75 and S-L76 on Sheets 29 and 30 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
20. The ATWS area in the floodway of Stream S-M32 Sheet 33 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

#### E&S Plan – Cumberland County Technical Deficiencies

1. Provide additional discussion related to how the runoff will be properly managed from Station 9154+00 to 9173+00 (Sheets ES-4.01 and ES-4.02). The slope of the 1900 If run is

- 38%, and the disturbance is approximately 4.5 acres. Identify how runoff will be properly controlled during the initial clearing, grubbing and grading stages. The plan is proposing water bars and silt socks to be installed across the slope at regular intervals. Identify how the runoff will reach the silt socks with the trenches open. Identify how the water bars will be maintained while the pipe is being prepared for installation. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix) & 102.4(b)(5)(x)
2. ATWS in the floodplain and floodway of Stream S-I69 on Sheet 21 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, the spoil location in conjunction with E&S controls is not provided. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
  3. Upland ATWS on Sheet 23 of Tab 7A (from the Chapter 105 permit application) does not have associated E&S measures. Ensure that the E&S Plan demonstrates proper measures to minimize accelerated erosion to protect surface waters. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
  4. ATWS on Sheet 27 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize accelerated erosion to protect surface waters. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
  5. The plans (from the Chapter 105 permit application) indicate that Streams S-J43, S-K4, S-K2, S-K1, S-I75, S-I76, S-I65, S-I59, S-J13, S-H70, S-BB40, and S-H69 flow in and along and under the ROW and proposed pipelines and not across and immediately through them. The plan provided for S-K4 in Tab 7D (from the Chapter 105 permit application) do not adequately depict the existing or proposed conditions upon stream restoration or excavation limits. The E&S Plan does not provide sufficient detail on the stream limits, banks, excavation limits, etc. Provide site-specific plans, cross sections, and profiles that adequately depict the existing and proposed conditions, stream bed, stream banks, limits of excavation, and methods for the stream restorations. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
  6. The ATWS area in the floodways of Streams S-M21 and S-BB98 on Sheet 23 of Tab 7A (from the Chapter 105 permit application) are designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

7. The impact plans (from the Chapter 105 permit application) and E&S Plan drawings do not depict what impacts are proposed to Pond-J4. The E&S Plan sheet ES-4.04 depicts that timber mats end prior to the pond, and that the pond may need to be partially impacted by temporary a temporary crossing(s). Revise the plans to clearly depict the proposed impacts. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
8. E&S Plan drawing ES-4.51 does not depict any water obstructions or encroachments in the stream S-I85 in this temporary ROW. Ensure that all activities are properly identified on the E&S Plan. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v) & 102.4(b)(5)(ix)
9. The site plans indicate that wetland W177 and stream S-BB120 (from the Chapter 105 permit application) will be open cut to install the pipelines and not installed by HDD. However, the E&S Plan sheets ES-3.21 and ES-3.22 indicate the stream and wetland have the pipelines installed by HDD. In addition site specific HDD plans are provided for this area. Revise the application to be accurate and consistent in what the proposed impacts. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
10. Revise all plan drawings to include the FEMA floodplain boundary in the area of E&S Plan sheet ES-4.27 and wetland BB151. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
11. The wetland delineation for wetland BB151 (from the Chapter 105 permit application) appears that it may be inconsistent with the wetland delineation for Sunoco's Mariner East I 8-inch integrity repair project. Revise the wetland delineation to compare and explain any inconsistencies. In addition, identify any access roads which were installed in wetlands for this repair project. The E&S Plan drawing E&S-4.27 indicates that there are no proposed improvements to the existing road; therefore, clarify if road improvements made under the Mariner East I 8-inch Integrity Repair project are remaining in place. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
12. The E&S Plan sheet ES-4.27 states that no improvements are proposed to the existing access road which crosses wetland BB151; however, the site plan drawings and impact table (from the Chapter 105 permit application) indicate temporary matting will be utilized. Revise the application to be accurate and consistent. 25 Pa. Code § 102.4(b)(5)(ix)
13. Revise the site plan E&S Plan drawing ES-4.33 to accurately depict the stream banks of stream S-I69. The Chapter 105 permit application states the stream has a bank-to-bank width of 10 feet and flows at the edge of wetland I41. Therefore, it appears additional temporary bridges will be necessary for construction. Revise the application accordingly to depict all proposed stream crossings. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

14. The ATWS is proposed in stream S-I59 on E&S Plan sheet ES-4.43; however, no temporary impacts are proposed on the site plan drawing, sheet 27 (from the Chapter 105 permit application), or the impact table (from the Chapter 105 permit application). Revise the E&S Plan drawing to be consistent and accurate. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
15. E&S Plan sheet ES-4.47 depicts the proposed pipelines in different locations than the trench plugs' locations. Revise the application plan drawings to be accurate and consistent. 25 Pa. Code § 102.4(b)(5)(ix)
16. E&S Plan sheet ES-4.54 does not depict any temporary timber mat crossings of wetland K41. It is unclear if all of this wetland within the proposed ROW will be excavated, or if some of it will also be crossed using timber mats. Revise the application plan drawings for this wetland to depict the proposed water obstructions and encroachments. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
17. Revise E&S Plan drawing ES-4.6 to depict the stream banks of stream S-BB83 and depict the proposed temporary crossing of this stream and wetland KP2. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
18. E&S Plan sheet ES-4.91 does not depict any temporary timber mat crossings of wetland BB44. It is unclear if all of this wetland within the proposed ROW will be excavated, or if some of it will also be crossed using timber mats. Revise the application plan drawings for this wetland to depict the proposed water obstructions and encroachments. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
19. Provide profiles for the temporary crossings identified in the E&S Plan that depict at a minimum the existing conditions and the proposed conditions. Identify the aggregate and the typical timber mat crossings being used. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

#### E&S Plan – Dauphin County Technical Deficiencies

1. There are several instances on Sheet ES-4.17 where the compost filter sock is show not parallel to the contour and where it is shown across an area of concentrated flow. Revise the placement of the compost filter sock as necessary. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

E&S Plan - Middletown Station Technical Deficiencies

1. Provide an appropriate and adequate sequence of construction for this specific site; including from initial earth disturbance, through the placement of PCSM BMPs to final/permanent stabilization. 25 Pa Code § 102.4.(b)(5)(vii)
2. Three sections of the 24-in compost filter sock along the northwest limit of disturbance appear to have maximum slope lengths that exceed the proposed compost filter socks size. Ensure that the compost filter socks are sized according to the maximum slope length above the sock, not just the disturbed area above the sock, as identified in the E&S Manual. If the recommended maximum slope length from the E&S Manual is exceeded, then a demonstration of alternative BMP and design standard shall be provided. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)
3. The following technical deficiencies are associated with the proposed Channels:
  - a. Diversion Channels #1, 2, 3 & 4 are identified as trapezoidal on Standard E&S Worksheet #11; however, the plan drawings identify these channels as v-shaped. Clarify this discrepancy. 25 Pa Code §§ 102.4(b)(5)(viii) & 102.4.(b)(5)(ix)
  - b. Channels #5, 8 & 9 are identified and designed as v-shaped with an erosion control matting; however, Page 128 of the E&S Manual recommends against v-shaped channels with matting, due to the tendency for gaps to be left under the lining at the bottom of the channel. Revise the shape of these channels or provide the alternative BMP and design standard demonstration. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)
  - c. Provide the design calculations for Channels #5, 6, 7, 8, 9 & 10 in the temporary condition. 25 Pa Code § 102.4.(b)(5)(viii)
  - d. Provide a detail for Channels #5, 6, 7, 8, 9 & 10. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4.(b)(5)(ix)
  - e. Provide the manufacturer's lining installation detail for the North American Green C125. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4.(b)(5)(ix)
4. The following technical deficiencies are associated with the outlet protection:
  - a. Provide the design calculations for all riprap aprons. 25 Pa Code § 102.4.(b)(5)(viii)

- b. The provided riprap apron detail on Sheet CONSTDET 11 is not the Standard Construction Detail #9-1 from the E&S Manual. Rename the detail as it is not Standard Construction Detail or provide the Standard Construction Detail #9-1 from the E&S Manual. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix) & 102.11(a)(1)
5. Provide a detail for the waterbar. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

E&S Plan – Huntingdon County Technical Deficiencies

1. Clarify the disturbance proposed for the existing driveway/road off of Hollow Road at approx. Station 7197+00 on Sheet ES-3.11. If this is an existing road to be used for access with no proposed permanent improvements, then identify the existing road as such (as provided on Sheet ES-3.27 at Station 7463+00). 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
2. Identify why the LOD is expanded to the south at approx. Station 7337+00 to 7340+00 (on Sheet ES-3.20). 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
3. Near Station 7563+00 (on Sheet ES-3.33) a 24" silt sock is shown outside the LOD and installed across concentrated flow at WL-JH2 & S-L45a. Clarify this silt sock shown outside of the LOD. If this is not a drafting error, then revise the LOD accordingly and provide a demonstration showing that the silt sock is an appropriate BMP to be used in a concentrated flow condition and across a stream. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)
4. A rock construction entrance is shown on Sheet ES-3.56 for the temporary access road at approx. Station 7944+50. The rock construction entrance appears to be located on a drainage divide between a special protection watershed and a non-special protection watershed. Because vehicular traffic could exit off of the temporary access road and drive west on Nebo Road (into the special protection watershed), provide a rock construction entrance that achieves an ABACT rating. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix) & 102.4(b)(6)
5. Provide an identification of the construction method to be utilized for each roadway crossing. Clarify the crossing method proposed for Croghan Pike (Station 7992+00 on Sheet ES-3.59); as the plans appear to show bore pits but there is no "Area to be Bored" designation and the roadway is identified to be disturbed. Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
6. On Sheet ES-3.61 there doesn't appear to be sufficient room within the LOD for the rock construction entrance (on the west side of Cummings Road at Station 8032+00) and appropriate vehicular movement to access/utilize the rock construction entrance (i.e. the end

of the rock construction entrance is the LOD). Provide the demonstration that there is sufficient room for vehicular movement to access/utilize the rock construction entrance. Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi), 102.4(b)(5)(ix) & 102.4(c)

7. Sheet ES-3.72 shows two rock construction entrances at approx. Station 8206+00. Identify the need for these rock construction entrances, as there is no existing roadway or access road shown at this location. Clarify this discrepancy. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
8. On Sheet ES-3.76 it appears that the trench plugs are shown not aligned with the mainline pipeline (between Stations 8280+00 and 8284+00). Clarify this discrepancy. 25 Pa Code § 102.4(b)(5)(ix)
9. The following technical deficiencies are associated with Sheet ES-3.79:
  - a. The proposed contour information is difficult to identify for the Shade Valley/Highway 35 Block Valve Site (e.g. it is difficult to discern if the proposed contours tie into the existing contours, it is difficult to identify the contour elevation, etc.). Provide better clarity for this location. 25 Pa Code §§ 102.4(b)(5)(i), 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
  - b. It appears that the length of pipeline to be bored does not extend to the identified bore pits on the east side of Route 35. Clarify this discrepancy. 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
10. On Sheet ES-3.81 a rock construction entrance is shown at the end of the timber mat at Station 8371+00; clarify the need for a rock construction entrance at this location. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
11. The following technical deficiencies are associated with Sheet ES-3.82: 25 Pa Code § 102.4(b)(5)(ix)
  - a. It appears that a rock construction entrance would be needed at on the west side of Foltz Hollow Road (Station 8373+50 on Sheet ES-3.82); clarify why a rock construction entrance is not needed at this location. 25 Pa Code § 102.4(b)(5)(vi)
  - b. Identify the name and Chapter 93 Designated and Existing Uses for Stream S-K88 (i.e. "UNT to..."). 25 Pa Code § 102.4(b)(5)(v)
  - c. It appears that the flow direction arrow for Stream S-K87 is shown backwards. Clarify this discrepancy.

12. The ATWS area in the floodway of Stream S-L30 on Sheet 36 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
13. The ATWS area in the floodway of Stream S-L45a on Sheet 21 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
14. The ATWS area in the floodway of Stream S-M3 on Sheet 43 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
15. The ATWS area in the floodway of Stream S-Y22 on Sheet 3 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
16. The ATWS area in the floodway of Stream S-Y23 on Sheet 4 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
17. The ATWS area in the floodplain of Stream S-Y1 on Sheet 6 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
18. The ATWS areas in the floodways of Streams S-M21 and S-BB98 on Sheet 23 of Tab 7A (from the Chapter 105 permit application) are designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that



the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

19. The site Specific Drawing S-Y3-C -101 (from the Chapter 105 permit application) is inconsistent with E&S Plan sheet ES-3.10 and the HDD plan drawings (from the Chapter 105 permit application) and proposes different locations of the bore face, stream impacts, and E&S BMPs. Revise the E&S Plan drawing to be consistent and accurate. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
20. The March 2016 Wetland Delineation Addendum (from the Chapter 105 permit application) delineates wetland Y7's Palustrine Forested (PFO) and Palustrine Emergent (PEM) boundaries differently than the July 2015 Aquatic Resources Report (from the Chapter 105 permit application). The impact plan drawings (from the Chapter 105 permit application) utilize the more recent delineation; however, the E&S Plans ES-3.11 and ES-3.12 and the HDD plan drawings (from the Chapter 105 permit application) utilize the July 2015 delineation. Revise the E&S Plan drawings to depict the wetland accurately utilizing the March 2016 Wetland Delineation Addendum delineation. 25 Pa Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
21. The E&S Plan drawing E&S-3.21 depicts a temporary stream crossing of stream S-Y6 at approximately pipe station 7200+50 which does not cross the stream but rather depicts the edge of the matting overtop of the stream channel. This is inconsistent with the standard detail. Revise the plans to cross the stream as close to perpendicular as practicable and if the crossing remains as proposed, provide plans depicting how the crossing will be accomplished in this fashion. 25 Pa Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
22. The delineated boundaries on LK-2 (from the Chapter 105 permit application) are inconsistent with the open water visible on the aerial imagery on the plan drawings and on the contours on the plan drawings and the E&S Plan drawings ES-3.22 and ES-3.23. Revise the delineation boundaries for LK-2 to be accurate and consistent on the plan drawings. 25 Pa Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
23. The impact table identifies that stream S-L45A will have a temporary impact; however, the site plan (from the Chapter 105 permit application ) and E&S Plan do not depict temporary impacts to this stream. Revise and clarify the application to be consistent and accurate. 25 Pa Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
24. It appears that stream S-L30 continues and crosses the proposed access road identified on plan sheets 36 and 37 (from the Chapter 105 permit application) and E&S Plan sheet ES-3.60. No stream has been identified in the Aquatic Resource Report (from the Chapter 105

- permit application). Revise the application to identify this stream and if any water obstructions are proposed. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v) & 102.4(b)(5)(ix)
25. Provide profiles for the temporary crossings identified in the E&S Plan that depict at a minimum the existing conditions and the proposed conditions. Also, provide information regarding the length of time that all temporary crossings will be in place. Some of the plans appear to use unnatural stream contours upon restoration. Identify the aggregate and the typical timber mat crossing being used. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
  26. E&S Plan drawing ES-3.73 identify that stream S-K94, which is 20-feet wide, will be temporarily crossed with timber mats. Explain how timber mats will be utilized to construct a temporary bridge of this length. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
  27. The ATWS area on plan sheet 45 (from the Chapter 105 permit application) appears to include wetland K71. However, the plan is not of a sufficient scale to depict whether wetland K71 will be impacted or not, and E&S Plan sheet ES-3.74 does not contain all of the ATWS area on it. Revise the E&S plan to clearly depict this area in the floodway of stream S-K96 and that wetland K71 will not be impacted. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
  28. Stream S-L16 is depicted on E&S Plan sheet ES-3.78 as being crossed by a temporary timber mat at the same location as a proposed gas line. Explain how this will occur and provide additional plan sheets to show stages of construction if necessary. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
  29. E&S Plan drawing ES-3.84 does not depict any water obstructions or encroachments in stream S-K83 in this temporary ROW. Ensure that all activities are properly identified on the E&S Plan. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v) & 102.4(b)(5)(ix)
  30. Wetland M3 is identified on the impact table, and identified and depicted impact plan drawing sheet 43, as being open cut and stream S-M3 is identified as the floodway being bored (from the Chapter 105 permit application). However, the E&S Plan sheet ES-3.71 and bore plan drawing PPP-PA-HU-0102.000-RD (from the Chapter 105 permit application) depict that stream S-M3 and wetland M3 will be bored and the floodway of S-M3 will be bored and partially open cut for bore pits. Revise and clarify the E&S Plan to be accurate and consistent. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v) & 102.4(b)(5)(ix)
  31. The site impact plan sheet 23 (from the Chapter 105 permit application), E&S Plan sheet ES-3.37, site specific drawing S-BB7-C-101 (from the Chapter 105 permit application), and Bore drawing PPP-PA-HU-0047.012-RD (from the Chapter 105 permit application) all depict different proposed impacts, construction techniques, and BMPs. Revise the E&S Plan

to provide plan drawings which are all consistent, accurate, and depict the same proposed impact. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v) & 102.4(b)(5)(ix)

32. The E&S Plan drawing ES-3.37 depicts proposed temporary matting in wetland BB127 north of the proposed pipelines while the site specific plan (from the Chapter 105 permit application) depicts temporary matting south of the proposed pipelines. Revise and clarify the site plans to be accurate and consistent. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

#### E&S Plan – Mount Union Station Technical Deficiencies

1. The Note on the Cover Sheet refers to a Geotechnical Report which is being prepared separately from the E&S Plan and that the certifying engineer for the E&S Plan does not certify the geotechnical features. Identify how this note meets the regulatory requirements for the E&S Plan. Identify what information is contained in this additional geotechnical report and identify how this other report affects the design and planning of the E&S Plan. 25 Pa Code §§ 102.4(b)(5)(ii) & 102.4(b)(5)(xii)
2. The following technical deficiencies are associated with Sheet C-1:
  - a. Please provide a complete legend, as some of the symbols on the plan sheet C-2 are not included in the legend provided on plan sheet C-1. 25 Pa Code § 102.4(b)(5)(i)
  - b. Notes 1 & 6 make it appear that the existing site has not been field surveyed for existing conditions and existing contour/grades. Clarify if the existing conditions shown on the plan are field survey. If they are not, identify how the information shown meets the regulatory requirements. 25 Pa Code §§ 102.4(b)(5)(i), 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
  - c. The Soil Stockpile in the Legend identifies to reference Standard Erosion & Sediment Control Note 7 on Sheet ES-7; however, Sheet ES-7 is not provided nor part of the E&S Plan for the Mount Union Station. If a separate E&S Plan is provided for the Mount Union Station, then provide all required regulatory information in this Plan. Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5) & 102.4(b)(5)(xiv)
3. The following technical deficiencies are associated with Sheet C-2:
  - a. The type of cover at this location is not clear on the plan sheets. Please provide additional information as to the type of cover that is found here. 25 Pa Code § 102.4(b)(5)(i)
  - b. The information shown on the plan is confusing. It appears that the existing valve station is shown as proposed on this E&S Plan. If there is an existing station/site features,

identify those as existing (including existing contours/grades). 25 Pa Code §§ 102.4(b)(5)(i), 102.4(b)(5)(iii) & 102.4(b)(5)(ix)

- c. Identify the receiving surface waters and their Chapter 93 Designated and Existing Uses. 25 Pa Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
  - d. The outlet from the unidentified infiltration trench proposes to discharge concentrated stormwater directly at the compost filter sock. Compost filter socks are not intended to manage concentrated runoff; either revise the design or provide a demonstration showing that the silt sock is an appropriate BMP to be used in a concentrated flow condition and across a stream. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)
  - e. It appears that construction may be taking place outside the LOD, in particular the area north of the RCE. Clarify this discrepancy. 25 Pa Code § 102.4(b)(5)(ix)
  - f. The compost filter sock located along the SW edge of the LOD may need extended to better protect the existing wetland (CC27) during construction and prior to blanketing. Make all revisions necessary. 25 Pa Code § 102.4(b)(5)(ix)
  - g. Identify the location of the compost filter sock below the rock construction entrance (as identified in the Rock Construction Entrance detail on Sheet C-4). 25 Pa Code § 102.4(b)(5)(ix)
4. The following technical deficiencies are associated with Sheet C-3:
- a. Provide a note on the plan sheet regarding if soil/rock is to be removed from the site that the soil/rock must be taken to a location w/an E&S plan and BMPs in place. 25 Pa Code § 102.4(b)(5)(ix)
  - b. Provide a note on the plan sheets regarding clean fill, including the definition and reference to the correct DEP Document Number. 25 Pa Code § 102.4(b)(5)(ix)
  - c. Provide a complete and site specific construction sequence, the current sequence does not address when the launcher, receiver, knock-out tank, pipe supports, storm sewer system and infiltration trench are to be constructed. 25 Pa Code §§ 102.4(b)(5)(vii) & 102.4(b)(5)(ix)

5. The following technical deficiencies are associated with Sheet C-4:
  - a. If concrete will be needed on site, please provide on the plan sheets a concrete wash-out location, relevant detail and direction for disposal. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.4(b)(5)(x) & 102.4(b)(5)(xi)
6. Standard E&S Worksheet #1 does not include the 24" silt sock. The Worksheet also identifies the 12" silt sock as sock #1 and #2. Revise the E&S Plan Sheet C-2 to include a call-out for the location of sock #1 and #2 and revise the Worksheet to include the 24" silt sock. 25 Pa Code §§ 102.4(b)(5)(ix) & 102.4(b)(5)(viii)

#### E&S Plan – Juniata County Technical Deficiencies

1. The ATWS areas in the floodway of Stream S-K80 on Sheet 2 of Tab 7A (from the Chapter 105 permit application) are designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
2. The plans (from the Chapter 105 permit application) indicate that Streams S-L12, S-K70, S-K65, S-K62, S-K63, S-L8, S-L9, K58, S-K57, and S-K56 flow in and along and under the ROW and proposed pipelines and not across and immediately through them or start/end in the area of excavation for the pipes. The plans provided for S-K69 and S-K70 in Tab 7D (from the Chapter 105 permit application) do not adequately depict the existing or proposed conditions upon stream restoration or excavation limits. The E&S Plan does not provide sufficient detail on the stream limits, banks, excavation limits, etc. Provide site-specific plans, cross sections, and profiles that adequately depict the existing and proposed conditions, stream bed, stream banks, limits of excavation, and methods for the stream restorations. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
3. Wetland Q64 is depicted on the plan drawings and impact tables (from the Chapter 105 permit application) as being impacted; however, the E&S Plan drawing ES-3.06 appears to delineate wetland Q64 in a different location than the plan drawings and aquatic resource delineation (from the Chapter 105 permit application). Revise the E&S Plan to accurately depict the location and impacts to wetland Q64. 25 Pa. Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
4. E&S Plan sheet ES-3.06 depicts temporary matting which is different than the site specific plan drawing S-K69-S-K70-C-101 (from the Chapter 105 permit application). Revise the E&S Plan to be accurate and consistent. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

5. Table 3 identifies 93 feet of permanent impact to stream S-K58 in the ROW (from the Chapter 105 permit application); however, E&S Plan ES-3.08 depicts over 100ft of stream S-K58 is within the ROW. Make all revisions necessary to consistently and accurately identify the area of impact to this stream. 25 Pa. Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v) & 102.4(b)(5)(ix)

#### E&S Plan – Lancaster County Technical Deficiencies

1. Spot checks at several locations found that a number of maximum slope lengths have been exceeded for the proposed filter socks, including those at Socks #7, 8, 24, 27, 29, 32 & 49. Ensure that all filter socks are to be sized according to the maximum slope length above the sock, not just the disturbed area above the sock and to the recommended maximum slope lengths should conform to those provided in Figure 4.2 on Page 66 of the E&S Manual. 25 Pa Code §§ 102.4(b)(5)(viii) & 102.11(a)(1)
2. The ATWS area in the floodway of Stream S-B82 on Sheet 9 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
3. The ATWS area in the floodway of Stream S-B10 on Sheet 12 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
4. E&S Plan drawing ES-1.12 is inconsistent with the site plan drawings and the HDD plan drawings (from the Chapter 105 permit application), which only depict one continuous HDD for each pipeline. Revise the E&S Plan drawings to be consistent and accurate. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
5. The site specific drawing S-B83-C-101 (from the Chapter 105 permit application) depicts different temporary wetland and stream crossing impacts than the E&S Plan drawing ES-1.17. Revise the E&S Plan drawings to be consistent and accurately depict the proposed impacts. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
6. Provide profiles for the temporary crossings identified in the E&S Plan that depict at a minimum the existing conditions and the proposed conditions. Provide information regarding the length of time that all temporary crossings will be in place. Some of the plans

appear to use unnatural stream contours upon restoration. Identify the aggregate and the typical timber mat crossing being used. 25 Pa. Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

E&S Plan – Lebanon County Technical Deficiencies

1. Bore pits are shown at Station 11842+50 (on Sheet ES-1.02) and Station 11847+00 (on Sheet ES-1.03); however, there is no plan identification of an area to be bored. Clarify this discrepancy and make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
2. A temporary equipment bridge appears to be intersecting an existing road/driveway at Station 12012+00 on Sheet ES-1.14. Identify how the existing road/driveway will continue to function during use of the temporary equipment bridge. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
3. The E&S Plan sheets indicate that wetland J47 is within both Dauphin and Lebanon Counties. Clarify if all of the proposed impacts to this wetland are accounted for in the Dauphin County Application. Revise the impact plan drawing to depict the county boundary and accurately identify the impacts to the wetland in Lebanon County. In addition, it is recommended that the Dauphin County E&S Plan be evaluated and revised for consistency as necessary. 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
4. The impact plans and impact table (from the Chapter 105 permit application) indicate temporary impacts from a temporary bridge are proposed to stream S-A49. However, the E&S Plan does not depict any proposed temporary impacts. Revise the E&S Plan to depict any proposed temporary impacts to stream S-A49 and clarify what permanent impacts are proposed beyond the HDD installed pipelines. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
5. The plans (from the Chapter 105 permit application) indicate that Streams S-B77, S-A2, S-A3, S-A5, S-A10, and S-H7 flow in and along and under the ROW and proposed pipelines and not across and immediately through them. The E&S Plan does not provide sufficient detail on the stream limits, banks, and excavation limits etc. Provide site-specific plans, cross sections, and profiles that adequately depict the existing and proposed conditions, stream bed, stream banks, limits of excavation, and methods for the stream restorations. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
6. The HDD plan drawing PA-LE-0055.0000-RD (from the Chapter 105 permit application) indicates that the HDD Entry/Exit point will be located within wetland A13. However, the site impact plan drawings (from the Chapter 105 permit application) and the E&S Plan drawing depict that this entry exit point will not be located within this wetland. Revise and

clarify the E&S Plan drawings to be consistent and accurately reflect the proposed impacts. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

7. The stream banks of S-A25 are not depicted on the E&S Plan drawing ES-1.50. Based on the width of the stream, it appears that this stream may be partially located within the permanent ROW on the southern portion of the proposed ROW. Revise the E&S Plan drawing to depict the proposed stream banks and any proposed impacts to the stream from the meander of the stream re-entering the proposed ROW. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
8. The Site Plan drawing and impact table (from the Chapter 105 permit application) state that the stream crossing S-A27 will be a dry crossing; however, the site plan drawing, sheet 30 (from the Chapter 105 permit application), and E&S Plan drawing ES-1.53 depict that the stream will have temporary timber mat bridge crossing and that the pipelines will be bored underneath the stream. Revise the E&S Plan to be consistent and accurate to what is proposed, and include a site specific/auger bore drawing for this crossing. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
9. The ATWS area in the floodplain and floodway of Stream S-A24 on Sheet 26 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
10. E&S Plan drawing ES-1.32 identifies that stream S-A17, which is 25-feet wide, will be temporarily crossed with timber mats. Explain how timber mats will be utilized to construct a temporary bridge of this length. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

#### E&S Plan – Perry County Technical Deficiencies

1. E&S Plan drawing ES-3.09 and C-2 of the Doylesburg Station E&S Plan do not identify the temporary impacts indicated on Sheet 6 of Tab 7A (from the Chapter 105 permit application). Ensure that the E&S Plans properly identify all of the proposed activities. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
2. The plans (from the Chapter 105 permit application) indicate that Streams S-K51, S-K52, S-Q64, S-Q67, S-J63, S-J62, a portion of S-J70, and S-J69 flow in and along and under the ROW and proposed pipelines and not across and immediately through them or start/end in the area of excavation for the pipes. The plan (from the Chapter 105 permit application) provided for S-Q67 in Tab 7D does not adequately depict the existing or proposed conditions upon stream restoration or excavation limits. The E&S Plans does not provide sufficient



detail on the stream limits, banks, excavation limits, etc. Provide site-specific plans, cross sections, and profiles that adequately depict the existing and proposed conditions, stream bed, stream banks, limits of excavation, and methods for the stream restorations. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

3. Stream S-J70 is delineated as being within the Temporary ROW on E&S Plan drawing ES-3.27 and outside of the Temporary ROW on plan sheet 17 (from the Chapter 105 permit application). Revise the E&S Plan to be accurate with the site plan (from the Chapter 105 permit application). 25 Pa Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
4. The E&S Plan drawing ES-3.03 does not have all of wetlands L1 and L2 delineated in the March 2016 Aquatic Resource Report Addendum (from the Chapter 105 permit application). In addition, this plan sheet does not depict stream S-Q70. Revise the E&S Plan drawings to accurately delineate the streams and wetlands. 25 Pa Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
5. The E&S Plan drawing ES-3.1 delineates streams S-K51 and S-K53 differently than the delineation report and site plan drawings (from the Chapter 105 permit application). Revise the E&S Plan to accurately delineate and depict these watercourses, their floodways, and the proposed impacts. 25 Pa Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
6. E&S Plan drawing ES-3.10 identifies that stream S-K53, which is 25-feet wide, will be temporarily crossed with timber mats. Explain how timber mats will be utilized to construct a temporary bridge of this length. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
7. E&S Plan sheet ES-3.17 identifies that a bore pit is partially located within wetland W-25e; however, the site specific bore plan PPP-PA-PE-0010.0000-AR (from the Chapter 105 permit application) depicts that all bore pits will be located outside of wetlands. Revise the E&S Plan to be consistent and accurate. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
8. The site specific plan drawing S-Q66-S-Q67-C-101 (from the Chapter 105 permit application) depicts different temporary crossings with timber matting than the E&S Plan sheet ES-3.17. Revise the E&S Plan to be consistent and accurate. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
9. E&S Plan sheet ES-3.22 does not accurately delineate wetland J-70 as delineated in the March 2016 Aquatic Resource Report Addendum (from the Chapter 105 permit application). Revise the E&S Plan drawings to accurately delineate this wetland. 25 Pa Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)

10. E&S Plan sheet ES-3.31 identifies that the proposed temporary timber mat stream crossing over stream S-J62 is in excess of 100-feet in length across the stream. Explain how timber mats will be utilized to construct a temporary bridge of this length. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
11. E&S Plan sheet ES-3.31 does not delineate stream S-J62 as it is delineated on the Aquatic Resource Report delineation or the site plan drawings (from the Chapter 105 permit application). Revise the E&S Plan to accurately delineate this stream and accurately depicts the stream banks. 25 Pa Code §§ 102.4(b)(5)(v) & 102.4(b)(5)(ix)
12. The ATWS areas in the floodway of Stream S-K80 on Sheet 2 of Tab 7A (from the Chapter 105 permit application) are designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. In addition, the western ATWS is located in the stream; however, the impact table (from the Chapter 105 permit application) does not identify any temporary impacts. Revise the E&S Plan as necessary. 25 Pa Code §§ 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
13. The site plan drawing on Sheet 20 of Tab 7A (from the Chapter 105 permit application) and E&S Plan drawing ES-3.32 appear to indicate that stream S-J64 is proposed to be crossed by the proposed pipelines where it currently flows underneath and/or alongside Meadow Road. Provide detailed plans, cross sections, and profiles for the construction of the proposed pipelines and temporary crossing which depict existing and proposed conditions. This includes plans and profiles for any culvert or bridge carrying stream S-J64 underneath Meadow Road. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(v), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

#### E&S Plan – Doylestown Pump Station Technical Deficiencies

1. The following technical deficiencies are associated with Sheet C-2: 25 Pa Code § 102.4(b)(5)(ix)
  - a. Verify that all of the Detail Indicators have correct references (e.g. rock filter & rock construction entrance).
  - b. Proposed grading is shown outside the limit of disturbance for the channel on the east side of the site. Ensure that all earth disturbances are shown within the limit of disturbance. Make all revisions necessary. 25 Pa Code § 102.4(b)(5)(iii)

- c. Clearly identify the existing features versus the proposed features. 25 Pa Code § 102.4(b)(5)(iii)
2. Provide a more specific sequence of construction, including site specific information and the specific BMPs that will be employed during each stage of construction. 25 Pa Code § 102.4(b)(5)(vii)
3. Remove “as needed” from Stage 2 of the sequence of construction for the installation of rock construction entrance. This location of this E&S BMP is provided on the plan drawings and it is to be utilized where equipment/traffic will exit the site. 25 Pa Code §§ 102.4(b)(5)(vii) & 102.4(b)(5)(xiv)
4. Remove the reference of silt fence and other BMP from Stage 5 of the sequence of construction. This site located in a special protection watershed (Sherman Creek; HQ-CWF); ABACT BMPs are to be provided and utilized. An alternative would be to provide the necessary information (details, notes, plan view, etc.) to upgrade the silt fence to an ABACT rating using additional E&S BMPs (refer to Page 75 of the E&S Manual). 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(vii), 102.4(b)(5)(ix), 102.4(b)(5)(x), 102.4(b)(6)(ii) & 102.11(a)(1)
5. The proposed rock filters provided in the Rock Filters detail on Sheet C-4 are not ABACT rated. In order to be raised to an ABACT rating, the rock filters are to be provided with a 6-in layer of compost on the upslope side (refer to Page 92 of the E&S Manual). Revise the rock filter detail so that the E&S BMP conforms to the ABACT rating for use in the special protection watershed. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.4(b)(6)(ii) & 102.11(a)(1)
6. The Rock Filters detail provided on Sheet C-4 references a Channel C. Identify Channel C on the plan view and if Channel C is proposed, provide a detail for Channel C. 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
7. Provide calculations, including the drainage area delineations, for each proposed channel, DEP recommends utilizing Standard E&S Worksheet #11 in Appendix B of the E&S Manual. 25 Pa Code §§ 102.4(b)(5)(viii) & 102.11(a)
8. Revise the county reference from Huntingdon to Perry in Section 2.0 on Page 2-1 of the E&S Plan Narrative. 25 Pa Code § 102.4(b)(5)(iii)

E&S Plan – York County Technical Deficiencies

1. Provide site specific instructions to address how the contractor will open trench, bypass the stream flow and restore the 80' wide stream crossing at S-H56. Identify how timber mats will be able to be used at this location, as the existing conditions were observed as an approximately 80' wide boulder strewn field consisting of diabase material. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(vii) & 102.4(b)(5)(ix)
2. The waterbars in several locations appear to outlet back onto the right-of-way (e.g. east of stream crossing S-H67, between Stations 10960+00 and 10967+00, between Station 11130+70 and stream crossing S-H59). Provide additional BMPs if the waterbars cannot be extended to discharge the runoff off the right-of-way. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
3. Provide discussion related to the use of compost filter sock at Stations 10980+70 & 10984+70, as it appears that concentrated flow will be directed to the compost filter sock. 25 Pa Code §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
4. Identify how access will be maintained for the existing driveways and roadways crossings (e.g. Stations 11011+25, 11086+60, 11107+15, 11111+75, 11119+75 & 11139+25). 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
5. The slope length to the 12" compost filter sock located along the on the east side of stream crossing S-H60, between Station 11147+00 and stream crossing S-H58 & in the area of stream crossing S-H58 exceed the maximum allowable slope length for the percent slope. Provide an appropriately size E&S BMP in these locations. 25 Pa Code §§ 102.4(b)(5)(vi), 102.4(b)(5)(viii) & 102.4(b)(5)(ix)
6. An existing linear clearing is shown to the south of the proposed pipeline starting at Station 11154+00 (on Sheet ES-4.19) and continuing along to the south of the proposed pipeline and then crosses the proposed pipeline at Station 11167+00 (on Sheet ES-4.20). Identify what this existing clearing is for (i.e. existing trail, existing above ground utility, existing below ground utility, etc.). 25 Pa Code §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
7. It appears that there is a portion of the disturbed area near the proposed bore pits at Station 11169+50 (on Sheet ES-4.20) that would not be managed by an E&S BMP, due to the close proximity of the bore pits to the existing stream. Clarify this discrepancy. 25 Pa Code §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

Site Restoration and PCSM Plan Narrative – Pennsylvania Pipeline Project – South Central Region: Spreads 3, 4, 5

1. Page 1 is confusing, as it is not clear what this narrative covers. Clearly identify if this narrative covers just the areas that require a PCSM Plan (block valve, stations, etc.) or if the narrative covers the site restoration of the mainline project (under site restoration) and the areas that require a PCSM Plan. 25 Pa Code § 102.8(f)(3)
2. Identify the source and cause of an impairment for any stream which is impaired and not just for the siltation impaired streams. Make all revisions necessary. 25 Pa Code § 102.8(f)(5)
3. Section 2.0 on Page 2 references “This site E&S and Site Restoration Plan...” This is the narrative for post construction. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(xiv) & 102.8(d)
4. Section 2.0 on Page 2 references 24 new block valve locations, 3 station valves, 1 substation and 3 additional block valves at existing facilities (for a total of 31 sites); however, Table 1 in Attachment 5 only lists 30 sites. Clarify this discrepancy. 25 Pa Code § 102.8(f)(3)
5. Section 2.0 on Page 2 is not clear if the 3 additional block valves at the existing facilities are included in the earth disturbance for the project. Clearly identify if these block valves are included or not; if not, include them in the ESCGP-2 Permit Boundary. Make all revisions necessary. 25 Pa Code §§ 102.5(c) & 102.8(f)(3)
6. Section 2.1 on Page 4 is not specific to the locations cover by this Plan. Ensure that Plan is related to portions for which is covered by this Plan and ESCGP-2 Permit (i.e. Monongahela River and Cambria County are outside of this Permit application). 25 Pa Code § 102.8(f)(3)
7. Section 2.3 on Page 5 provides for soil resolutions, but does not identify the site specific soils or their limitations. Provide the site specific soils, limitations and appropriate resolution for this soil limitation for the post construction condition and how the project was designed to address the limitation for the PCSM BMPs. 25 Pa Code §§ 102.8(f)(2), 102.8(f)(12) & 102.8(g)(5)
8. Section 2.3 on Page 5 identifies that the receiving surface waters can be seen on the maps and drawings in Attachments 1 & 2; however, the maps and drawings provided in Attachments 1 & 2 do not clearly identify the receiving surface waters. Clearly identify the receiving surface waters as indicated in the narrative. 25 Pa Code §§ 102.8(f)(5) & 102.8(f)(9)

9. Section 2.3 on Page 5 references to see the E&S Plan. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(xiv) & 102.8(d)
10. The following technical deficiencies are associated with the construction sequence in Section 3.1 starting on Page 7: 25 Pa Code § 102.8(f)(7)
  - a. It is identified that “It is not intended that the drawings and this report show detailed information on methods and materials.” This statement does not meet regulations. The E&S and PCSM Plans shall be final for construction, and the information, details and provide the methods and materials to properly construct and implement the Plans, including the BMPs, within the construction sequences associated with these Plans. 25 Pa Code §§ 102.4(b)(5)(xiv) & 102.8(d)
  - b. The narrative identifies that the contractor can deviate from the authorized E&S and PCSM Plans based upon field conditions. A deviation from the authorized plans may be necessary under certain limited circumstances; however, the appropriate county conservation district and DEP have to approve any deviation to the authorized plans. Make all revisions necessary to clearly identify this requirement.
  - c. Provide a schedule of inspections for critical stages of PCSM BMP installation with the construction sequence.
11. More information is required to properly identify what the “Adverse Sites” are or how to identify them in Permanent Seeding sections in Section 3.1 on Page 7 and Section 4.1 on Page 18. 25 Pa Code § 102.8(f)(6)
12. Footnote 7 on Pages 8 & 19 for the Permanent Seeding section tables references extreme southeastern and extreme southwester areas. If this is not applicable to the area covered by this ESCGP-2 Permit, then remove the reference. If this is applicable to the area covered by this ESCGP-2 Permit, then provide a more specific reference as to where it is acceptable. 25 Pa Code § 102.8(f)(6)
13. Section 3.2 on Page 11 and Section 4.2 on Page 22 are not sufficient as they do not provide for procedures which ensure that the proper measures for recycling or disposal of materials associated with or from the PCSM BMPs are in accordance with Department laws, regulations and requirements. 25 Pa Code § 102.8(f)(11)
14. Section 3.3 on Page 11 is not sufficient as there is no clear demonstration that the thermal impacts will be mitigated by the minimized clearing during construction and by permanent

stabilization as soon as practicable. This thermal impact analysis appears to be more for the E&S Plan than for the PCSM Plan. Provide an appropriate thermal impact analysis specific to the PCSM Plan for this location. 25 Pa Code § 102.8(f)(13)

15. Section 3.4 on Page 11 and Section 4.4 on Page 29 provide information related to the riparian buffer/riparian forest buffer waiver request. Identify if this information is in addition to the information provided with the NOI. Provide all riparian/riparian forest buffer waiver request information in one place together. 25 Pa Code §§ 102.14(d)(2) & 102.14(d)(3)
16. Section 3.5 on Page 13 appears to have information related to the E&S Plan and activities during construction are included in this narrative. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. 25 Pa Code §§ 102.4(b)(5)(xiv), 102.8(d) & 102.8(f)(10)
17. If the information provided in Section 3.9 is not a sufficient antidegradation analysis. The narrative identifies that non-discharge alternatives were evaluated; however, there is no discussion related to show what was evaluated. It appears that the discussion is focus on the E&S Plan and during the earth disturbance activities; provide an antidegradation analysis for the PCSM Plan. Provide an antidegradation analysis for each point of discharge that requires one. 25 Pa Code §§ 102.8(d), 102.8(f)(6) & 102.8(h)
18. The narrative discussion in Section 3.7 on Page 14 is not clear as to what is being discussed; site restoration or post construction. If the activities are site restoration and meet 25 Pa Code § 102.8(n), then a stormwater analysis is not required. If the activities are site restoration and the Site Restoration Plan was planned and designed to 25 Pa Code § 102.8(n), then clearly identify that as such along with which areas are included in the Site Restoration Plan. 25 Pa Code § 102.8
19. The following technical deficiencies are related to the restoration activities during the earth disturbance activities (as part of the E&S Plans) and post construction (as part of the Site Restoration Plans):
  - a. A Site Restoration Plan narrative shall be provided for the mainline pipeline construction. This narrative can be part of the E&S Plan narrative for the mainlines, and it is required to be in conformance with 25 Pa. Code § 102.8(n). §§ 102.8(b), 102.8(c), 102.8(e), 102.8(f), 102.8(h), 102.8(i), 102.8(l) & 102.8(m)
  - b. Provide more identification in the narratives and on the plan drawings related to topsoil segregation. 25 Pa Code §§ 102.8(f)(3), 102.8(f)(6) & 102.8(f)(9)

- c. Provide more identification in the narratives and on the plan drawings related to loosening of compacted soils prior to topsoil placement and stabilization (at the temporary access roads, topsoil stockpiles, access routes along the mainline, etc.). 25 Pa Code §§ 102.8(f)(3), 102.8(f)(6) & 102.8(f)(9)
  - d. Provide a discussion of measures that will be taken to avoid and minimize compaction to the maximum extent practicable and where compaction occurs, what measures will be taken to ensure adequate infiltration and successful vegetation of the right of way. §§ 102.8(b) & 102.22. The Department recommends you evaluate Section 6.7 (Restoration BMPs) of the PCSM Manual. Ensure notes are included on the drawings and in the documents that will be provided to the construction contractors.
  - e. Describe how your planning and design requirements satisfy 25 Pa Code § 102.8(b) and are minimizing the extent and duration of the construction and the minimizing any increase in stormwater runoff. Identify how these measures are satisfied when the ROW is in close proximity or is crossings surface waters or wetlands.
  - f. Provide an antidegradation analysis addressing the requirements of 25 Pa Code § 102.8(h) for the portions of the project that drain to HQ or EV surface waters. Ensure that areas where there may be concentrated stormwater runoff that there are adequate BMPs to control the volume, rate and water quality from the site. 25 Pa Code § 102.8(f)(6)
20. It appears that additional information is necessary for Section 4.0 on Page 16. Provide additional information related to all areas covered by the PCSM Plan. 25 Pa Code § 102.8(f)(6)
21. The following technical deficiencies are associated with the construction sequence in Section 4.1 starting on Page 16: 25 Pa Code § 102.8(f)(7)
- a. It is identified that “It is not intended that the drawings and this report show detailed information on methods and materials.” This statement does not meet regulations. The E&S and PCSM Plans shall be final for construction, and the information, details and provide methods and materials to properly construct and implement the Plans, including the BMPs, within the construction sequences associated with these Plans. 25 Pa Code §§ 102.4(b)(5)(xiv) & 102.8(d)
  - b. The narrative identifies that the contractor can deviate from the authorized E&S and PCSM Plans based upon field conditions. A deviation from the authorized plans may be necessary in certain limited circumstances; however, the appropriate county conservation



district and DEP have to approve any deviation to the authorized plans. Make all revisions necessary to clearly identify this requirement.

- c. Provide a schedule of inspections for critical stages of PCSM BMP installation.
  - d. More information is required related to how to properly excavate/construct the individual PCSM BMPs. Step 2 for the Infiltration Berm is not sufficient, as it is not directive enough for the contractor to ensure that the infiltration area will not be compacted. Step 2 for the Infiltration Trench, provide measures for how the area will be protected. Provide additional information identifying how the areas will be constructed/excavated to ensure that compaction does not occur.
  - e. The following technical deficiencies are related to the steps for the Infiltration Trench:
    - i. Step 3: If it is not possible to install the trench in later phases of site construction, identify how the trench will be protected from sedimentation and damage.
    - ii. Step 4: This step appears to be out of order, as the E&S BMPs should be installed prior to construction of the infiltration trench. Clarify why this step is not earlier.
    - iii. Steps 8 & 9: Identify what "lightly compacting" means.
22. The following technical deficiencies are associated with Section 4.3 on Page 22: 25 Pa Code § 102.8(f)(13)
- a. The table only provides for 23 site locations. Clarify this number of site locations versus the previously provided number of site locations.
  - b. The narrative discussions reference multiple BMPs at each site; however, Section 4.6 on Page 32 references a singular BMP for each site. Clarify this discrepancy, and clearly identify how many BMPs are proposed for each site location.
23. The following technical deficiencies are associated with Section 4.5 starting on Page 30: 25 Pa Code § 102.8(f)(10)
- a. It appears that information related to the E&S Plan and activities during construction are included in this narrative. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. 25 Pa Code §§ 102.4(b)(5)(xiv) & 102.8(d)

- b. Provide a demonstration that inspecting the infiltration only 4 times per year is sufficient to ensure proper function and operation.
  - c. No information is provided related to inspecting the infiltration BMPs to ensure that they are dewatering. Ensure that appropriate repair, replacement and other routine maintenance is provided.
  - d. Ensure that appropriate long-term operation and maintenance schedules are provided for all PCSM BMPs (including any and all PCSM BMPs utilized on PCSM Standard Worksheet #10).
24. The following technical deficiencies are related to Section 4.6 starting on Page 32: 25 Pa Code §§ 102.8(f)(15) & 102.8(h)
- a. The narrative identifies that the project site was designed to minimize the amount of impervious area; however, there is no discussion related to show how this was achieved or evaluated.
  - b. It does not appear that non-discharge alternatives were evaluated. Clearly provide the discussion related to the evaluation of non-discharge alternatives.
  - c. Identify what “resultant stormwater” is.
  - d. Clearly identify how the site will be promptly restored/stabilized.
  - e. Provide the demonstration as to how cuts and fills were minimized.
  - f. Provide additional information to support the claim that pre-construction drainage patterns will be maintained.
25. The following technical deficiencies are associated with Section 4.7 starting on Page 36: 25 Pa Code § 102.8(g)
- a. Provide the drainage area maps with the PCSM Plan, not as part of the E&S Plan. 25 Pa Code §§ 102.4(b)(5)(xiv) & 102.8(d)
  - b. In the seventh sentence of the second paragraph, clarify if the reference to “stormwater runoff” is just for volume.

- c. Provide a narrative discussion as to how water quality is being managed. 25 Pa Code § 102.8(g)(2)
  - d. The regulatory requirement is to manage post construction stormwater for storm events of a 24-hour duration. Make all revisions to appropriately identify the storm events. 25 Pa Code §§ 102.8(g)(2) & 102.8(g)(3)
  - e. Identify to what standards the PCSM Plan was designed and planned to (i.e. Act 167 Plan, 25 Pa Code §§ 102.8(g)(2) & 102.8(g)(3), or an alternative design standard per 25 Pa Code §§ 102.8(g)(2)(iv) & 102.8(g)(3)(iii)).
  - f. The following technical deficiencies are associated with the Loading Ratio Analysis: 25 Pa Code §§ 102.8(f)(6), 102.8(f)(8), 102.8(f)(15), 102.11(a)(2) & 102.11(b)
    - i. Identify how it was determined that the failure of a BMP is defined as when the BMP does not dewater within 72 hours. The failure of a PCSM BMP would occur if the BMP is not operating and functioning as designed. Make all revisions necessary.
    - ii. The provided information is not sufficient to demonstrate that the proposed alternative BMP and design standard will achieve the same regulatory standard as the recommendations of the PCSM Manual. Provide this clear demonstration.
    - iii. Identify what the proposed loading ratios are for each PCSM BMP.
    - iv. The loading ratios are provided to ensure that the BMP is properly designed; which is more than just failure of the BMP. Make all revisions necessary.
    - v. There are several sites located in karst geology (e.g. Middlesex Road location), and Protocol 2.2.e in Appendix C of the PCSM Manual recommends an impervious loading ratio of 3:1 for infiltration BMPs in karst areas. However, the provided analysis does not appear to account for or include discussions for those sites in karst areas. Make all revisions necessary.
26. Section 5.0 on Page 54 references the *Pennsylvania Stormwater Best Management Practices Manual Draft, Pennsylvania Department of Environmental Protection, Bureau of Watershed Management, October, 2009*. This referenced manual is not the current PCSM Manual. The current PCSM Manual is dated December 30, 2006 with DEP Document No. 363-0300-002. Identify the DEP Document Number for the referenced manual. If the PCSM Plan and BMPs were not designed to the current version of the PCSM Manual, then all designs shall

be considered an alternative BMP and design standard. Provide all required information and make all revisions necessary. 25 Pa Code §§ 102.11(a)(2) & 102.11(b)

27. Verify that the Receiving Waters Table clearly identifies the receiving surface waters and their Designated and Existing Uses. Hay Creek is identified with a Designated Use of Exceptional Value (EV) and with an Existing Use of High Quality (HQ) Cold Water Fishes (CWF); however, there is no section of Hay Creek with these Uses together. If the project discharges to the same surface water but in different segments with different Uses; then identify each segment and its Uses. Make all revisions necessary. 25 Pa Code §§ 102.4(b)(5)(v), 102.6(1) & 102.8(f)(5)
28. Protocol 2.1.c in Appendix C of the PCSM Manual recommends soils underlying infiltration devices to have infiltration rates between 0.1 and 10 in./hr. Protocol 2.1.c also recommends that soils with rates in excess of 6.0 in./hr. may require an additional soil buffer (such as an organic layer over the bed bottom) if the Cation Exchange Capacity is less than 5 and pollutant loading is expected to be significant. If the tested/raw infiltration rates are outside the recommendations of the PCSM Manual, then submit additional information which demonstrates that the proposed alternative BMP and design standard will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §§ 91.51(a), 102.8(f)(6), 102.8(f)(15), 102.11(a)(2) & 102.11(b)
29. Provide a narrative discussion related to the planning and design of the PCSM BMPs for site located in karst areas. 25 Pa Code §§ 102.8(f)(2), 102.8(f)(6), 102.8(f)(12), 102.8(f)(15) & 102.8(g)(5)
30. Provide the dewatering calculations for all PCSM BMPs. 25 Pa Code § 102.8(f)(8)
31. The following technical deficiencies are associated with Attachment 3: 25 Pa Code § 102.8(f)(6)
  - a. Details for E&S BMPs are provided. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. 25 Pa Code §§ 102.4(b)(5)(xiv) & 102.8(d)
  - b. The Berm Detail is not consistent with the Infiltration Berm Detail provided in the PCSM Plan drawings. Clarify this discrepancy. 25 Pa Code § 102.8(f)(9)
  - c. Identify why a portion of Chapter 6 of the PCSM Manual is provided related to an infiltration trench.

32. The following technical deficiencies are associated with Attachment 4: 25 Pa Code §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- a. It is not clear how the rainfall depths were determined. Clearly identify how the utilized rainfall depths were determined for each location (i.e. regulator station, compressor station, permanent access road, etc.). Chapter 8 (Page 6) of the PCSM Manual recommends utilizing the rainfall data from the NOAA Atlas 14. If the recommendations of the PCSM Manual are not followed, then provide a demonstration which identifies how the alternative BMP and design standard will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §§ 102.8(f)(15), 102.11(a)(2) & 102.11(b)
  - b. Identify the breakdown for the Curve Numbers (CN) used in the hydrograph analyses.
  - c. Ensure that the Major River Basins (e.g. Susquehanna, Ohio, Schuylkill, etc.) are properly identified in PCSM Standard Worksheet #1.
  - d. Identify the existing sensitive natural resource identified in PCSM Standard Worksheet #2. 25 Pa Code § 102.8(g)(1)
  - e. PCSM Standard Worksheet #4 uses gravel as a ground cover. However, the type of gravel that will be utilized for the pad and drives is not clearly identified in the PCSM Plan drawings. Properly identify what type of gravel will be used. If PennDOT #2A will be utilized provide discussion as to why it wasn't analyzed as an impervious area (as PennDOT #2A acts like an impervious surface due its fines and its ability to be compacted).
  - f. Provide the latest version of the PCSM Standard Worksheet #5. Identify/provide calculations as to how the volume to be permanently reduced was calculated.
  - g. Provide the calculations for each Time of Concentration Adjustment. Ensure that these calculations identify the storage volume utilized and how that storage volume was calculated. The storage volume used in these calculations is the storage volume utilized for the storm event, not the total possible storage of the BMP. Make all revisions necessary.
  - h. PCSM Standard Worksheet #10 identifies PCSM BMPs to be utilized; however, there is little to no information related to these PCSM BMPs provided throughout the PCSM Plan narrative and drawings. Provide the regulatory required information for each PCSM BMP utilized in the design (e.g. narrative discussion, long-term operation and