



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION

July 29, 2016

Ms. Roberta Zwier  
Transcontinental Gas Pipe Line Company, LLC  
2800 Post Oak Blvd., Level 6  
Houston, Texas 77056

Re: Technical Deficiency Letter – Erosion and Sediment Control General Permit (ESCGP)

Atlantic Sunrise Project

CPL North, CPL South and Associated Facilities

DEP File No. ESG03000150001

Cleveland, Franklin, Greenwood, Hemlock, Jackson, Montour, Mount Pleasant, Orange,

Rapho & Sugarloaf Townships, Columbia County

Conestoga, Drumore, East Donegal, Eden, Manor, Martic, Pequa, Rapho & West Hempfield

Townships and Mount Joy Borough, Lancaster County

Cold Springs, East Hanover, North Annville, North Lebanon, South Annville, South

Londonderry, Swatara & Union Townships, Lebanon County

Dallas, Fairmont, Harveys Lake, Jenkins, Lake, Lehman & Ross Townships, Luzerne County

Coal, East Cameron & Rapho Townships, Northumberland County

Eldred, Frailey, Hegins, Pine Grove, Porter & Tremont Townships, Schuylkill County

Lenox Township, Susquehanna County

Clinton, Eaton, Falls, Monroe, Nicholson, Northmoreland & Overfield Townships, Wyoming  
County

Dear Ms. Zwier:

The Department of Environmental Protection (DEP) and the following County Conservation Districts (CCDs), Columbia, Lancaster, Lebanon, Luzerne, Northumberland, Schuylkill, Susquehanna & Wyoming, 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. Transcontinental Gas Pipe Line Company, LLC 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.

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

1. Section C.17 is answered as 'N/A'. Why is this Section not applicable, as it appears that redoximorphic features were identified for the majority of the Test Pits at the River Road Regulator Station? Make all revisions necessary. 25 Pa. Code § 102.6(a)(1)
2. In Section D.1, identify A (the E&S Plan was designed per the recommendations or the E&S Manual) or B (the E&S Plan was designed to alternative BMPs and design standards). Select the correct sub-section. § 102.6(a)(1)
3. In Section F.1, identify A (the PCSM Plan is consistent with a DEP approved Act 167 Plan) or B (the PCSM Plan meets the standard design criteria in 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3)). Select the correct sub-section or identify which discharges are designed to which standard. § 102.6(a)(1)
4. Section F.6 references the E&S Plan and Section 2 (which is refers to the E&S Plans). This is not appropriate, as Section F.6 is for the thermal impact analysis for the PCSM Plans. The E&S Plan shall be separate from the PCSM Plan (and vice versa). Make all revisions necessary. §§ 102.4(b)(5)(xiv), 102.6(a)(1) & 102.8(d)
5. Provide a separate Section G for each point of discharge requiring an antidegradation analysis. § 102.6(a)(1)
6. Identify the activities beyond the CPL North and South (e.g. regulator stations, temporary access roads, permanent access roads, etc.) in Section 1.2.8. § 102.6(a)(1)
7. Ensure that Sections 1.2.9 & 1.2.10 are properly filled out based upon the type of plan that is required. For example, Section 1.2.10 is identified as the supplement to Section E (related to Site Restoration Plans). However, Section 1.2.10 has information and sites that are subject to a Post Construction Stormwater Management Plan (which would be Section F). The temporary access roads and the CPL North & South lines would be subject to a Site Restoration Plan, while the permanent access roads, stations, etc. would be subject to a Post Construction Stormwater Management Plan. Make all revisions necessary. § 102.6(a)(1)

### Erosion and Sediment Control Plans

#### **General E&S Technical Deficiencies related to all documents**

1. The Erosion and Sediment Control Plans identify a "LOD" and a "LOD 5' Buffer". If the 5-

- ft. buffer is intended to be disturbed, then identify it as such. All E&S BMPs are required to be inside the limit of earth disturbance. If the Disturbed Acreage Fee increases due to the inclusion of the 5-ft. buffer being disturbed, then the proper Fee will be required to be paid. Make all revisions necessary throughout all documents within the application. § 102.4(b)(5)(iii), 102.4(b)(5)(ix) & 102.6(b)(1)
2. The Trench Plug Installation detail provided in the Best Management Practices and Quantities Plan Sets is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)
  3. The E&S Plan Narratives identify that the E&S Plans and E&S BMPs are designed in accordance with the recommendations of the E&S Manual. However, there are numerous instances where the E&S Plans and E&S BMPs are not in accordance with the E&S Manual. If the E&S Plans and/or E&S BMPs' design are not within the recommendations of the E&S Manual, then revise the narrative and provide the appropriate information related to the alternative BMP and design standards. §§ 102.4(b)(5)(vi), 102.4(b)(5)(viii), 102.11(a)(1) & 102.11(b)
  4. The provided riparian buffer/riparian forest buffer waiver information appears to be for the project as a whole, and is too vague for the specific riparian buffer/riparian forest buffer waiver being requested for each specific location. Provide the required information for the specific locations of where the riparian buffer/riparian forest buffer waiver is being requested. The additional information should include, but not necessarily be limited to, stream impairments/TMDLs (the UNT to Trout Run has a TMDL for the overall watershed), length of time required for the disturbance, plans clearly identifying the areas for waivers, description of why the alignment is required to change, description of why additional workspace is required at the particular location. § 102.14(d)(2)
  5. The antidegradation analyses are not adequate, as they are too vague and do not contain sufficient information. Make the antidegradation analysis specific to the site for which the E&S Plan covers (i.e. each discharge along the pipeline, each temporary access road, each permanent access road, etc.). The analyses should evaluate and include nondischarge alternatives in the E&S Plans. If nondischarge alternatives do not exist for the project, then make the demonstration and include in the E&S Plans the antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.4(b)(6)
  6. 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. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi), 102.4(b)(5)(ix), 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.). §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi), 102.4(b)(5)(ix), 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. §§ 102.4(b)(4), 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 §§ 102.4(b)(4) & 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. § 102.8(f)(6)

## **Columbia County**

### Erosion and Sediment Control Plan Narrative – Proposed Central Penn North

1. Flume Crossing at 91.1 appears to be in an established drainage swale. Installation of a level spreader at the end of the flume may create more problems than a good energy dissipater shaped to discharge directly back into the swale. It is also questionable if the 27 foot level spreader can be installed at a level grade on the contour within the right of way. § 102.11(a)(1)

2. Clarification is needed related to the time that a particular section of trench will be open. Page 62 of the narrative seems to imply that a 25 -30 mile section of pipeline in Columbia County will be tested at the same time based on the volume of water required. If this is the case, how long will it be before between initial disturbance and final stabilization? § 102.4(b)(5)(vi)

Erosion and Sediment Control Plan Narrative – Proposed Central Penn South

1. The following technical deficiencies are associated with the Contractor Staging Areas CS-CSA-CO-4-002.1/002.2:
  - a. Page 1 of the Narrative identifies that the erosion and sediment control (E&S) best management practices (BMPs) are designed in accordance with the E&S Manual. However, there are numerous instances where the design is not within the recommendations of the E&S Manual. If the design is not within the recommendations of the E&S Manual the appropriate information should be provided related to the alternative BMP and design standards. §§ 102.4(b)(5)(vi), 102.4(b)(5)(viii), 102.11(a)(1) & 102.11(b)
  - b. The sediment basin does not provide the recommended minimum dewatering zone depth of 3 ft. (Page 159 of the E&S Manual). § 102.4(b)(5)(viii)
  - c. Based upon the calculations, the provided dewatering zone storage is 33,138 cf (47,226 cf at elevation 775.0 minus 14,088 cf at elevation 773.0). However, the recommended minimum dewater zone storage is 5,000 cf per acre of contributing drainage area, and the recommended minimum dewatering zone storage is 36,800 cf (7.46 ac. times 5,000 cf/ac.). § 102.4(b)(5)(viii)
  - d. The anti-seep collars are recommended to be below the phreatic line, it appears that anti-seep collar will be located above the phreatic line (based upon the spacing to the first collar). § 102.4(b)(5)(viii)
  - e. The rule of thumb may not be used to determine the number of holes in the riser of a basin located in a Special Protection watershed (see Page 174 of the E&S Manual). § 102.11(a)(1)
  - f. The principle outlet structure discharge capacity appears low. Please recheck the available head and provide revised calculations for the outlet barrel capacity if necessary. Adjust outlet protection accordingly. § 102.4(b)(5)(viii)

- g. It appears that E&S BMPs will be required for the site during final stabilization after replacement of the topsoil to address the concentrated flow paths of the original contours. § 102.4(b)(5)(vi)

Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative – Temporary and Permanent Access Roads

1. For existing access roads, it appears that ideal placement for the rock construction entrance (RCE) is at the intersection of the pipeline disturbed areas and the existing access roads. This would help keep the access roads mud free and reduce maintenance of them especially when the access use is with shared with landowners. For example, access road AR-CO-091 is an 1800 ft. long access road with the RCE shown at the intersection with the public road. This will allow mud to be scattered for 1800 feet from the pipeline work area until it is cleaned from the tires and force other landowners to drive through this. Provide discussion as to why the RCE is proposed at the existing access road and the existing public road. § 102.4(b)(5)(vi)

Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 30" Central Penn North

1. Show on the drawings the grading required for the HDD of the river and Rte. 80. In addition, the temporary access road will be subject to excessive traffic from these vehicles and should be constructed to withstand the extra traffic. §§ 102.4(b)(5) and 102.11(a)(1)
2. Modify the check dam detail (CDM) to show a 6 inch depression in the top of the rock in the center of the channel compared to the rock at the outside edges of the channel to assure stormwater will not flow around the rock at the edges. See Page 379 in the ESPC Manual. § 102.11(a)(1)
3. Provide the details to indicate the site specific BMPs and permanent streambank stabilization that will be used at each specific stream crossing. § 102.4(b)(5)(vii)
4. Provide a stabilized construction entrance at each place where the pipeline crosses a public road especially the sites that also act as access to contractor staging areas. § 102.11(a)(1)
5. The filter sock diversion detail (FD) drawing references a note #7 that is not included. § 102.4(b)(5)(ix)
6. The filter sock diversion detail (FD) should require proper staking and "keying in" of the upslope edge of the geotextile to prevent water from getting under the fabric. § 102.11(a)(1)

7. More information is needed related to the stability of hydrostatic test dewatering locations. The discharge points are on steep grades and do not appear to be near streams. §§ 102.4(b)(5)(ix) & 102.4(b)(5)(vi)

Best Management Practices and Quantities Plan Set – Proposed 30" Central Penn North

1. The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)

Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 42" Central Penn South

1. Contractor Spread Yard cs-cy/cy –CO-4-10
  - a. Sediment Basin
    - i. Three foot of dewatering depth has not been provided for basin 1 as per manual item 6 Page 159. § 102.11(a)(1)
    - ii. Sediment basin 1 does not appear to provide the required dewatering volume between the clean out elevation and the top of the riser. § 102.11(a)(1)
    - iii. Dewatering calculations are required because the discharge holes for the riser are not evenly spaced between the clean out elevation and the top of the riser. § 102.11(a)(1)
    - iv. Clarify on the drawing if both principle outlet risers will be perforated and also specify this in the dewatering calculations. § 102.4(b)(5)(ix)
    - v. It is recommended that a soils engineer be on site during pond construction due to drainage areas involved and the soils in the area. The Lawrenceville soil in this area has a history of being very silty and susceptible to piping. § 102.11(a)(1)
    - vi. Verify a minimum 2:1 flow length from filter sock diversion discharge to the outlets. § 102.11(a)(1)
    - vii. The principle outlet structure discharge capacity appears low. Please recheck the available head and provide revised calculations for the outlet barrel capacity if necessary. Adjust outlet protection accordingly. § 102.4(b)(5)(viii)

- viii. Notes on figure 9.3 for the pond outlet pipe indicate that the maximum velocity for R-4 riprap has been exceeded. The rock size must be increased or the discharge velocity reduced. § 102.11(a)(1)
  - ix. The discharges from the pond outlet structures should be conveyed by a lined channel directly to the road culvert. Installing energy dissipaters this close to the road culvert is not practical. § 102.11(a)(1)
  - b. The calculations for swale A require an 18 feet wide grassed channel for the flow area. The drawings do not provide adequate room for this. An alternative design with a narrow channel should be provided or the edge of the stone gravel area moved to provide adequate room for the channel. § 102.4(b)(5)(ix)
  - c. Compost filter sock or other BMP is required between socks #4 and #5 to control the runoff from the dike in this area. The BMP should be placed so that it will not impede the discharge from the pipes. § 102.4(b)(5)(ix)
  - d. This site currently contains several diversion terraces constructed to control erosion when cropped. Identify on the plans the location of these terraces and that these terraces will be replaced when the site is restored. § 102.4(b)(5)(i)
  - e. The plan should address the disposal of the stone base placed on staging areas and access roads to assure the material ends up on approved sites or recycled. § 102.11(a)(1)
2. Contractor Staging Area CSA—CO-4-001,002: DEP will need to address the adequacy of this plan for thermal protection of the HQ water. The installation of the diversion berm attempts to temporarily collect the first flush only to allow it to mix with the later flows and discharge into the stream even for the two year storm event. The plan also calls for installation of a 250 ft. section of diversion sock to trap the runoff and assumes that the overflow will be constant along the entire length of the sock. Installing sock with a level top elevation for this distance is not realistic. The applicant has not justified why this staging area must be placed as close as 30 feet of an HQ stream and associated wetlands. § 102.11(a)(1)
3. Contractor Staging Area CSA-CO-4-003: The plans for this staging area show a RCE at the south west corner of the staging area implying access from AR-CO-095.4. The plans for the access road state that it will not be used during construction. Please clarify. § 102.11(a)(1)
4. Contractor Staging Area CSA-CO-4-004: Restoration of the site after removal of gravel should address stabilization of drainage swales in the disturbed areas. § 102.4(b)(5)(ix)



Best Management Practices and Quantities Plan Set – Proposed 42" Central Penn South

1. The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)

Erosion and Sediment Control and Layout Plans Drawings – Access Roads

1. Temp Access Road 094.1.1
  - a. Access road crosses over diversion swales at stations 2+00 and 6+50. The plans should address how this water in diversions will be diverted around the work area. § 102.4(b)(5)(ix)
  - b. The rock construction entrance should be located near station 1+00 to make sure the access road remains mud free which will assist in protecting the adjacent stream. § 102.4(b)(5)
  - c. Since this road is the access to the HDD site, it may be subject to considerable traffic. Consideration should be given to moving it outside of the floodway to provide a better buffer and allow more room to treat runoff from the road.
2. Temp Access Road 094.1
  - a. Show how the level spreader below timber crossing can be constructed on the contour within the LOD. In addition, the flow concentrates immediately below the crossing making the level spreader's value questionable. § 102.4(b)(5)(ix)
  - b. Consideration should be given to discharging the upslope filter sock diversions at the timber crossing directly onto the timber mats rather than rock outlets. § 102.4(b)(5)(ix)
  - c. The channel slope does not reflect the slope near the outlet. Recheck the channel calculations using the slope near the outlet. § 102.4(b)(5)(ix)
3. Temp Access Road 095
  - a. Consideration should be given to discharging the upslope filter sock diversions at the timber crossing directly onto the timber mats rather than rock outlets. § 102.4(b)(5)(ix)

- b. A four foot cut is proposed near stat 10+00. Where will this material be stockpiled in the LOD? § 102.4(b)(5)(ix)
4. Perm. Access Road 095.4
  - a. The plans for this access road state that it will not be used during construction but the plans for the staging area CS-CSA-CO-4-003 shows it being used during construction. Please clarify and provide adequate stabilization if it is used during construction. § 102.4(b)(5)(vi)
  - b. What permanent changes and site improvements will be required for the rectifier and cathodic equipment workspace that this access is to serve after construction? § 102.4(b)(5)(iii)

Soil Erosion and Sediment Control Plan Drawings – Compressor Station 610

1. More information is needed on the timing and construction details for the main line installation across the end of the area compared to the grading for the compressor station. What BMPs will be used for the pipeline installation? The main line drawings refer to the compressor station for BMPs in the area. § 102.4(b)(5)(vi)
2. Additional controls are needed to treat the runoff from the eastern side of the access road before it is discharged in culvert 4. § 102.4(b)(5)(vi)
3. Temporary filter sock diversion #3 appears to concentrate flow and discharge it upslope of the neighbor's house and driveway. What impact will this additional flow have? § 102.4(b)(5)(viii)
4. Construction Sequence
  - a. Item #3 – Identify the areas to be protected under this item. Make sure to include infiltration areas and minimum compaction areas. § 102.4(b)(5)(vii)
  - b. Item 10 – Don't install FSD #1 and FSD#2 until the basin is completed to minimize the clean water diverted to the work area. § 102.4(b)(5)(vii)
  - c. Item 10 – Provide a stable discharge area for the basin outlet until Swale 1 is installed and stabilized. § 102.4(b)(5)(vii)

5. Channels and culverts

- a. Swale #3 appears to have slopes near the outlet greater than assumed in the calculations. Channel bed slopes may not be averaged (see Item 3 on Page 129 of the E&S Manual). Verify capacity and stability on the maximum slope. § 102.4(b)(5)(viii)
- b. Please verify the slope of culvert #5. The calculations for the pipe and outlet protection do not appear to agree with the drawings. § 102.4(b)(5)(viii)
- c. Provide calculations for the pipe discharge velocity at the head of ditch 6B. § 102.4(b)(5)(viii)
- d. Culvert 5 outlets at elevation 963 but the end of the energy dissipater is shown at elevation 960. The energy dissipater should be installed with near zero grade between the pipe invert and the terminal end. Please correct and show how the grades will be blended. § 102.4(b)(5)(viii)
- e. Provide calculations showing that the concentrated discharges from the culverts feeding onto the infiltration berm areas in the post construction condition will not erode the newly placed soil amendments in the infiltration area. § 102.4(b)(5)(viii)

6. Sediment Basin

- a. Provide calculations showing the 4:1 flow length has been met for the inflow from culvert #2. § 102.4(b)(5)(viii)
- b. Sheet 10 shows the temporary riser extension to have a lower elevation than the permanent riser. Please explain. § 102.4(b)(5)(viii)

7. Compost Filter Sock

- a. Filter sock barriers must be designed for the worst case conditions. Show how socks #3 and #4 will be adequate during the initial earthmoving to install the basin. § 102.4(b)(5)(viii)

8. Infiltration Berm

- a. The plans imply that the infiltration berm upslope of infiltration basin #1 will discharge by overtopping the 490 foot long berm at a uniform depth of less than one inch. How is

it possible to construct and maintain such tolerances permanently on the newly constructed berm? § 102.4(b)(5)(viii)

- b. If the infiltration berm is constructed as designed, it should be protected with a TRM lining at a minimum. § 102.4(b)(5)(vi)
- c. Clarify the top of the settling volume (WSE) for the basin. Several different elevations are shown in various locations of the drawings and calculations. § 102.4(b)(5)(viii)
- d. More details are needed for the conversion of the sediment basin into the stormwater basin. How will the permanent riser holes from the skimmer outlet be sealed? Where will the materials removed from the basin and the infiltration areas be placed? § 102.4(b)(5)(viii)

#### Soil Erosion and Sediment Control Plan Drawings – West Diamond Regulator Station

##### 1. Construction Sequence

- a. The entire temporary access road should be installed and stabilized before any disturbance occurs on the remainder of the site. § 102.4(b)(4)(i)
2. More details are needed on the conversion of the sediment trap to the stormwater basin.
- a. All earthmoving associated with it should be done before the conversion of the trap riser. § 102.4(b)(5)(vii)
  - b. Where will the material from the excavation of the additional area be placed and what BMPs will be used? § 102.4(b)(5)(vi)
  - c. It is recommended that consideration be given to utilizing the permanent riser with a restriction over the 4 inch orifice for the sediment basin rather than requiring the complete replacement of the riser during conversion of the trap to the stormwater basin. See standard construction detail #8-8 in the E&S manual. § 102.11(a)(1)

#### **Lancaster County**

#### Erosion and Sediment Control Plan Narrative – Proposed Central Penn South

- 1. Section 1.15 should be written specifically for the 42" CPL South portion of the project in Lancaster County. Make all revisions necessary. If a riparian buffer or riparian forest buffer waiver is required for any associated facilities that are covered under a separate E&S and/or

PCSM Plan, then include the information required for those facilities should be included in their separate Plans. § 102.14(d)(2)

2. Revise the first paragraph on Page 40 to properly identify the requirements for riparian buffers and riparian forest buffers. A riparian buffer is required when the project site is located in an exceptional value or high quality watershed attaining its designated use (per 25 Pa. Code § 102.14(a)(1)). A riparian forest buffer is required when the project site is located in an Exceptional Value or High Quality watershed where there are waters failing to attain one or more designated uses (per 25 Pa. Code § 102.14(a)(2)).
3. Identify why the request for waivers included an evaluation of Class A Wild Trout Streams and Wild Trout Streams. § 102.14(d)(2)
4. The provided riparian buffer/riparian forest buffer waiver information appears to be for the project as a whole, and is too vague for the specific riparian buffer/riparian forest buffer waiver being requested. Provide the required information for the specific locations of where the riparian buffer/riparian forest buffer waiver is being requested. The additional information should include, but not necessarily be limited to, stream impairments/TMDLs (the UNT to Trout Run has a TMDL for the overall watershed), length of time required for the disturbance, plans clearly identifying the areas for waivers, why the alignment is required to change, why additional workspace is required at the particular location. § 102.14(d)(2)
5. Provide more information related to Table 1.15-2. An example is what the temporary versus permanent impacts are. § 102.14(d)(2)
6. Drawing No. 24-1600-70-28-A/LL113\_9 Sheet 4 of 34 identifies a Waterbody WB-T24-001 at approx. 57+00. Provide more information related to this waterbody; identify if this feature is a surface water, pond, stormwater management feature, etc. If it is a pond, then riparian buffer/riparian forest buffer will apply, and a waiver will need to be requested. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.4(b)(5)(v), 102.8(f)(5) & 102.14(d)(2)
7. As stated in the Restoration Section of the Narrative, permanent waterbars will be maintained except for cultivated areas, wetlands and lawns. Identify the temporary waterbars separately from the permanent waterbars on the plan drawings. §§ 102.4(b)(5)(iii), 102.4(b)(5)(ix), 102.8(f)(3) & 102.8(f)(9)
8. Provide in greater detail when the temporary waterbars can be removed. Clarify if waterbars in the areas of cropland, pasture, and residential land uses will be maintained until temporary/permanent stabilization is achieved. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vii), 102.4(b)(5)(ix), 102.8(f)(3), 102.8(f)(7) & 102.8(f)(9)

9. Clearly identify if tree removal will/will not occur within the entire physical boundary of the limits of disturbance and clearly identify if some trees/vegetation be protected within the pipeline ROW. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vii), 102.4(b)(5)(ix), 102.8(f)(3), 102.8(f)(7) & 102.8(f)(9)
10. How is the plan addressing 25 Pa. Code § 102.4(a)(4)(ii) during site restoration for those areas within the pipeline ROW that will be returned to agricultural plowing and tilling activities. §§ 102.4(a)(4)(ii) & 102.8(n)
11. Upon completion of the project, the stone that was used to temporarily stabilize the contractor staging areas, access roads, etc., will be removed and the site restored to preconstruction conditions. Clearly identify and provide the measures for disposal of the stone following site restoration. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vii), 102.8(f)(3) & 102.8(f)(7)

Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative – Temporary and Permanent Access Roads

1. Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)
2. Are the mainline valve sites included in the E&S Plans for the permanent access roads? If so, that should be clarified and discussed in the narratives. § 102.4(b)(5)(iii)
3. Identify in the narrative whether the receiving surface water is impaired or has a TMDL. For the specific sites (temporary and permanent access roads), ensure that proper and adequate discussion is provided related to the E&S design and the impairment and/or TMDL. § 102.4(b)(5)(v)
4. Identify in the table on Page 5 the receiving surface water, the Designated and Existing Uses and if the receiving surface water is impaired or has a TMDL. The table identifies LA-026.4 as a temporary and then as a permanent access road; clarify why this one location is identified twice. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(v)
5. The information related to vacuum sweeping on Page 14 is not sufficient. Identify when/why the vacuum sweeping will be utilized. The large clumps of dirt that accumulate on the road surface will need to be hand cleared before vacuum sweeping. The maintenance trigger for the dirt roads of 6-in. ruts is too excessive. Revise the maintenance trigger for rolling of dirt roads to a more acceptable level. § 102.4(b)(5)(vi)

6. Page 15 identifies that erosion control blankets will be installed on slopes greater than 3:1. However, the E&S Manual (Page 273) recommends that erosion control blankets be installed on all slopes 3:1 and greater. The identification on Page 15 is not consistent with the identification that the E&S BMPs are designed in accordance with E&S Manual (first sentence of the fifth paragraph on Page 4). Make all revisions necessary. §§ 102.4(b)(5)(vi), 102.11(a)(1) & 102.11(b)
7. The generalized BMP Installation Sequence Narrative in Section 1.7 is not sufficient. Each temporary and permanent access road is different, as a site/location specific construction sequence is required. §§ 102.4(b)(5)(vii) & 102.8(f)(7)
8. Section 1.12 on Page 26 identifies that there may be potential for acid producing rock. Identify if there is or is not the potential for naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities and after earth disturbance activities are completed and PCSM BMPs are operational. What investigation has been done to determine if there is potential for acidic runoff from the site (beyond the Soil Survey)? If acid producing rock is present at the site, then provide the BMPs to minimize the potential for pollution. An adequate predevelopment site characterization and assessment of soil and geology shall be performed and supplied. Tailor this discussion for each specific site (temporary and permanent access roads). § 102.4(b)(5)(xii)  
  
Clarify the statement on Page 27 "...the quantity of acidic soils found along the proposed CPL South route may be sufficiently high such that their potential for pollution should be mitigated." If the quantity is sufficiently, how is that mitigated? What investigation has been performed to determine that the amount potential for pollution is mitigated? § 102.4(b)(5)(xii)
9. Section 1.13 does not include a thermal impact analysis for the earth disturbance activity (for the E&S Plan). Provide this thermal impact analysis. The thermal impact analysis shall be provided for each specific site. § 102.4(b)(5)(xiii)
10. Section 1.15 shall be revised to be specific for any requested riparian buffer/riparian forest buffer waivers associated with the temporary and permanent access roads. There is no regulatory requirement to provide a riparian buffer/riparian forest buffer for perennial or intermittent rivers, streams, or creeks, or lakes, ponds, or reservoirs with a Designated Use other than Exceptional Value and High Quality; therefore, a waiver of buffers for these areas is not required. Revise the narrative accordingly. § 102.14(d)(2)
11. Section 1.16 is not an adequate antidegradation analysis. The antidegradation analysis shall be specific to the site for which the E&S Plan covers (i.e. each temporary and/or permanent

- access road). The analysis shall evaluate and include nondischarge alternatives in the E&S Plan. If nondischarge alternatives do not exist for the project, then that demonstration shall be made and the E&S Plan shall include antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.4(b)(6)
12. The plan drawings provided in Appendix A and B are not current with the latest set of revised full-size plan drawings (e.g. Appendix A Drawing No. 24-1600-70-28-A/LL113\_9 has a latest revision date of 12/02/2015; while the full-size Drawing No. 24-1600-70-28-A/LL113\_9 has a latest revision date of 02/04/2016). DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings in Appendix A and B), to avoid confusion and potential inconsistencies. § 102.4(b)(5)(ix)
13. The following technical deficiencies are associated with Appendix I:
- a. Provide calculations demonstrating that the proposed lever spreader's discharge will be stable without the need for permanent turf reinforcement matting. § 102.4(b)(5)(viii)
14. The following technical deficiencies are associated with Appendix N:
- a. It appears that the receiving surface water for permanent access road AR-LA-018.3 is an unnamed tributary to West Branch Little Conestoga Creek. It appears that the receiving surface water of the unnamed tributary to West Branch Little Conestoga Creek has a Designated Use of Trout Stocking (TSF). Properly identify the receiving surface water and the Designated and Existing Uses. § 102.4(b)(5)(v)
15. The following technical deficiencies are associated with Appendix O:
- a. The narrative identifies the Watershed as Strickler Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Strickler Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
  - b. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing gravel road (approx. 775 ft.). However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets Prospect Road, and the plan drawings identify the limit of disturbance to be approx. 15-ft. beyond the edge of the existing gravel road and there is no discussion about mats being placed over the existing gravel road. Clarify these discrepancies between the narrative and the narrative and plan drawings. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)



- c. With the rock construction entrance provided at Prospect Road, there is a high probability that sedimentation will occur on the existing gravel road. Identify how this sedimentation be handled during and after earth disturbance activities. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
- d. The following technical deficiencies are associated with Appendix O.4:
  - i. The naming convention utilized on E&S Worksheet #11 does not match the naming convention on the plan drawings. Provide a consistent naming convention. §§ 102.4(b)(5)(viii) & 102.4(b)(5)(ix)
  - ii. The riprap apron sizing calculations identify the dimensions are based upon equivalent pipe sizes. Provide more discussion related to this, including how the equivalent pipe size was determined for each apron. § 102.4(b)(5)(viii)
  - iii. The E&S Manual recommends a nominal placement thickness of 18-in. for R-4 riprap (Page 135); however, the calculations and plan drawings identify an apron thickness of 12-in. Revise the design to be consistent with the recommendations of the E&S Manual or the appropriate information shall be provided related to the alternative BMP and design standards. §§ 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)
  - iv. The gradations provided for R-3 and R-4 riprap in the calculations and plan drawings are not consistent with the gradation on Page 135 of the E&S Manual or with the gradation in Section 850 of PennDOT's Publication 408. If riprap is to be sized per the E&S Manual recommendations, then the proper gradation shall be utilized. §§ 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.4(c) & 102.11(a)(1)
  - v. Include the proposed conditions on the drainage area map. §§ 102.4(b)(5)(viii) & 102.4(b)(5)(ix)
- 16. The calculation of slope length for Sock 5 in Appendix P appears to be greater than the 180 foot design length. Verify the sock calculations are accurate. § 102.4(b)(5)(viii)
- 17. For temporary access road AS-LA-023.1 (Appendix Q), the discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for this road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets Meadow Road. Clarify these discrepancies between the narrative and the narrative and plan drawings. The narrative identifies the Watershed as Strickler Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Strickler Run. Clearly and consistently identify the receiving surface water. §§ 102.4(b)(5)(v) & 102.4(b)(5)(v)

18. For temporary access road AS-LA-023.2 (Appendix R), the narrative identifies the Watershed as Shawnee Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Shawnee Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
19. The following technical deficiencies are associated with Appendix S:
  - a. The narrative identifies the Watershed as Chiques Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as a tributary to Chiques Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
20. The narrative in Appendix T identifies AR-LA-026.4 as a temporary access road. However, the table from Page 5 of the main narrative and the location map in Appendix T identify the access road as permanent. Clarify this discrepancy and make all revisions necessary. § 102.4(b)(5)(iii)
21. The location map in Appendix T identifies AR-LA-027.5, which appears to be an access road (based upon the naming convention). However, there does not appear to be anything proposed for the area identified on the location map. Clarify this discrepancy. § 102.4(b)(5)(iii)
22. For temporary access road AS-LA-027.1 (Appendix U), the narrative identifies the Watershed as Chickies Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Chickies Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
23. For temporary access road AS-LA-028.1 (Appendix V), the narrative identifies the Watershed as Black Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as Back Run. Based upon the information in the Joint Permit application, the receiving surface water would be an UNT to Back Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
24. The following technical deficiencies are associated with Appendix W:
  - a. The narrative identifies the Watershed as Chickies Creek; however, PCSM Standard Worksheet #1 (in Appendix W.7) identifies the receiving surface water as an UNT to Chickies Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)

- b. The riprap apron sizing calculations identify the dimensions are based upon minimum sizing criteria from chart. Provide more discussion related to this, including how the equivalent pipe size was determined for each apron. § 102.4(b)(5)(viii)
25. For temporary access road AS-LA-030 (Appendix X), the discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for this road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets Harvest Road. Clarify these discrepancies between the narrative and the narrative and plan drawings. The narrative identifies the Watershed as Little Chickens Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as Shells Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
26. For temporary access road AS-LE-033.1 (Appendix Y), the discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for this road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets Harvest Road. Clarify these discrepancies between the narrative and the narrative and plan drawings. The narrative identifies the Watershed as Little Chickies Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Shells Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)

Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 42" Central Penn South

1. The plan drawings indicate an area of disturbance at hydrostatic test water withdrawal areas LA-163 (0.95 acres) and LA-164 (0.52 acres). Clearly identify on the plan drawings these areas of disturbance and provide adequate E&S BMPS. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
2. Identify the possible hydrostatic test dewatering locations on the plan drawings. If the locations are not known at this time, it is suggested that the site parameters, such as slope, degree of ground cover, proximity to receiving water course for an acceptable discharge location would be provided as part of the E&S Plan. §§ 102.4(b)(5)(vi), 102.4(b)(5)(vii) & 102.4(b)(5)(ix)
3. The construction of the access roads for Section A, C, etc. will generate excess soil which will need to be stockpiled until the end of the project when the access roads are restored. Provide soil stockpile locations on the plan drawings, along with adequate E&S BMPs. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

4. Clarify whether the temporary access road restoration procedures will include the replacement of trees in areas where tree removal occurred/will occur. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
5. Provide adequate E&S BMPs the Permanent Access Road AR-LA-020 to protect Waterway WW-T25-2001. Revise the plan drawings accordingly. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
6. Provide a detailed E&S plan and Site Restoration plan for Contractor Staging Area LA-1-006.3, which is indicated on the Sheet 1 for AR-LA-023.2 on the Access Roads Plan Set. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
7. Please confirm that the long-term operation and maintenance requirements that pertain to the pipeline ROW also pertain the permanent access roads. § 102.8(m)
8. Provide an alternative detail to the Clean Water Diversion Swale that is contained in the BMP and Quantities Plan Set for use to convey water across the trench when the pipeline trench is open. § 102.4(b)(5)(ix)
9. It appears that wetland W-T10-001 receives runoff from the Project Site; however, this wetland cannot be located on the receiving surface water table in Appendix D of the E&S Plan Narrative. Ensure that all receiving surface waters are properly identified. Wetland W-T10-001 is located in the floodplain of a stream which is tributary to a wild trout stream, resulting in this wetland being an Exceptional Value wetland. Make all revisions necessary throughout all permit application documents. §§ 102.4(b)(5)(v), 102.4(b)(6), 102.8(f)(5), 102.8(h) & 105.17(1)(iii)
10. Sheet 5 of 34 identifies the stream and associated floodway for WW-RS-001. However, the floodway is shown as a closed line. This representation of the floodway is not accurate, as the stream does not start and stop in that location. Properly identify the floodways for all streams. § 102.4(b)(5)(ix)
11. In the Erosion and Sediment Control Narrative it is stated that rock construction entrances will be installed at all locations where the pipeline ROW intersects public roadways. Please provide appropriate notes on the plan drawings to confirm the installation of the rock construction entrance at the intersection of each pipeline ROW and public roadway. § 102.4(b)(5)(ix)
12. The following technical deficiencies are associated with the staging areas:
  - a. The location of the stabilized rock construction entrance with wash rack is not illustrated on the drawings for CSA-CS-CSA-LA-1-002 Contractor Staging Area 2, CSA-CS-CSA-

LA-1-003 Contractor Staging Area 3, CSA-CS-CSA-LA-1-006 Contractor Staging Area 6, CSA-CS-CSA-LA-1-007 Contractor Staging Area 7. Clarify if access is being made by way of the pipeline ROW. § 102.4(b)(5)(ix)

- b. Provide a topsoil stockpile location on the drawings for CSA-CS-CSA-LA-1-003. Discuss grading and stripping of topsoil in the construction sequence or verify that topsoil will not be removed prior to the placement of stone. §§ 102.4(b)(5)(vi), 102.4(b)(5)(vii) & 102.4(b)(5)(ix)
- c. Discuss the timing of removal of the contractor staging areas in relation to the timing of the stabilization of the pipeline right-of-way. § 102.4(b)(5)(vii)

Best Management Practices and Quantities Plan Set – Proposed 42" Central Penn South

1. Clarify the purpose of this plan set. Is this plan set to serve as the E&S BMPs for the proposed 42" Central Penn Line South E&S Plans or to serve as the E&S BMPs for the temporary and permanent access roads? If separate E&S Plans are provided for the 42" CPL South and for the temporary and permanent access roads; then each of those plans shall be full and complete (including all necessary details, notes, maintenance, etc.). § 102.4(b)(5)
2. This set contains multiple options for stream bank stabilization. Identify in Table 3A: Waterbodies Crossed by CPLS Pipeline in Lancaster County, the specific method of stream bank stabilization/restoration to be performed each crossing location. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi), 102.4(b)(5)(vii), 102.4(b)(5)(ix) & 102.4(b)(5)(xiv)
3. Pumped water filter bags (PWB) are proposed as the principal method of removing sediment from pumped water. The Cofferdam Stream Crossing Detail (Sheet 1 of 13 states that an equivalent dewatering device may be used in lieu of the PWB. Provide additional information related to the approved equal on the plan drawings. The Trench Dewatering Detail (Sheet 9 of 13) indicates that secondary containment must be used when the PWB is positioned within 100 feet of wetland or waterbody; provide more information related to what this secondary containment is. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
4. The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)

Erosion and Sediment Control and Layout Plans Drawings – Access Roads

1. Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)
2. Drawing No. 24-1600-70-28-A/LL113\_9 Sheet 2 of 4, identifies an access road named AR-LA-018; however, there is no additional information provided related to this location (it is not identified in the table on Page 5 of the narrative). The plan drawing identifies AR-LA-029.2; however, it appears that this should be labeled “AR-LA-029.3”. Clarify these discrepancies and make all revisions necessary. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(ix)
3. The Notes provided on Drawing No. 24-1600-70-28-A/LL113\_9-AR-LA-002 Sheet 3 of 3 should be specific for that particular location. Make all revisions necessary to correct this deficiency throughout the application documents. § 102.4(b)(5)(ix)
4. Drawing No. 24-1600-70-28-A/LL113\_9-AR-LA-010.2 Sheet 1 of 3 identifies grading required for the centerline of the access road; however, the proposed grading is not shown in the plan view. Show on the plan view for each location the proposed grading for the temporary and permanent access roads. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.(b)(5)(iii) & 102.4(b)(5)(ix)

Soil Erosion and Sediment Control Plan Drawings – River Road Regulator Station

1. The following technical deficiencies are associated with Sheet 6 of 9: § 102.4(b)(5)(ix)
  - a. The following technical deficiencies are associated with the Level Spreader Detail:
    - i. Provide discussion as to why there is no geotextile fabric provided along the bottom and side of the R-3 riprap. § 102.4(c)
    - ii. The detail has a dimension identified as ‘Extend to Frost Line’. Identify in the detail the required dimension for the site. § 102.4(b)(5)(xiv)
  - b. It appears that the pipe’s thickness is not accounted for in the sizing of the anti-seep collar. Based upon the design the anti-seep collar should have a 7-in. projection; the anti-seep collar width should be 30 inches (7-in. projection + 2-in. pipe thickness + 12-in. diameter + 2-in. pipe thickness + 7-in. projection). Make all revisions necessary.

2. Provide the calculations for sizing of the anti-seep collar in Appendix A of the narrative. § 102.4(b)(5)(viii)
3. A Temporary Plywood Riser Detail is provided on Sheet 8. However, it is not clear where the temporary plywood riser will be used, as the sediment trap calls for a temporary metal riser as the primary outlet. A temporary plywood riser is not an approved inlet protection alternative. Identify how the temporary plywood riser will be used. The note reference in the detail to refer to Standard Construction Detail #7-10 for more information is not sufficient. Provide all information necessary for the construction/installation and maintenance of the temporary plywood riser. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)
4. Identify the size of the proposed compost filter socks by providing a Sediment Barrier Table on Sheet 4 of the E&S plan drawings. § 102.4(b)(5)(ix).
5. Provide a detail for the proposed gravel pad area. § 102.4(b)(5)(ix)
6. Provide Seed Mixes #3 and #4, which are referenced to be used in the bioretention basin, have not been provided on the E&S or PCSM Plans drawings. §§ 102.4(b)(5)(ix) & 102.8(f)(9)

### **Lebanon County**

#### Erosion and Sediment Control Plan Narrative – Proposed Central Penn South

1. The Erosion Control Blanket sub-section in Section 1.6 on Page 28 identifies the blankets to be applied on slopes greater than 33%. However, the E&S Manual (Page 273) recommends that erosion control blankets be installed on all slopes 3:1 and greater. The identification on Page 28 is not consistent with the identification that the E&S BMPs are designed in accordance with E&S Manual (first sentence of the third paragraph on Page 1). Make all revisions necessary. §§ 102.4(b)(5)(vi), 102.11(a)(1) & 102.11(b)

#### Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative – Temporary and Permanent Access Roads

1. Provide a separate PCSM Plan the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)

2. Are the mainline valve sites included in the E&S and PCSM Plans for the permanent access roads? If so, that should be clarified and discussed in the narratives, § 102.4(b)(5)(iii)
3. Identify in the narrative whether the receiving surface water is impaired or has a TMDL. For the specific sites (temporary and permanent access roads), ensure that proper and adequate discussion is provided related to the E&S design and the impairment and/or TMDL. § 102.4(b)(5)(v)
4. The table on Page 6 should identify the receiving surface water, the Designated and Existing Uses and if the receiving surface water is impaired or has a TMDL. The table identifies LE-057.1 with italicized text; is there any significance to this? The table identifies LE-041 and LE-059; however, these roads are not included in the Appendices or on the plan drawings. Clarify this discrepancy. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(v)
5. Identify what is meant by the terminology "infiltration losses" in the last sentence of the second paragraph of Section 1.3 on Page 10. § 102.4(c)
6. The information related to vacuum sweeping on Page 15 is not sufficient. Identify when/why the vacuum sweeping will be utilized. The large clumps of dirt that accumulate on the road surface should be hand cleared before vacuum sweeping. The maintenance trigger for the dirt roads of 6-in. ruts is too excessive. Revise the maintenance trigger for rolling of dirt roads to a more acceptable level. § 102.4(b)(5)(vi)
7. Page 16 identifies that erosion control blankets will be installed on slopes greater than 3:1. However, the E&S Manual (Page 273) recommends that erosion control blankets be installed on all slopes 3:1 and greater. The identification on Page 16 is not consistent the identification that the E&S BMPs are designed in accordance with E&S Manual (first sentence of the fifth paragraph on Page 4). Make all revisions necessary. §§ 102.4(b)(5)(vi), 102.11(a)(1) & 102.11(b)
8. The generalized BMP Installation Sequence Narrative in Section 1.7 is not sufficient. Each temporary and permanent access road is different, as a site/location specific construction sequence is required. §§ 102.4(b)(5)(vii) & 102.8(f)(7)
9. Section 1.12 on Page 27 identifies that there may be potential for acid producing rock. Identify if there is or is not the potential for naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities and after earth disturbance activities are completed and PCSM BMPs are operational. What investigation has been done to determine if there is potential for acidic runoff from the site (beyond the Soil Survey)? If acid producing rock is present at the site, then provide BMPs to



minimize the potential for pollution. Perform and supply an adequate predevelopment site characterization and assessment of soil and geology. Tailor this discussion for each specific site (temporary and permanent access roads). § 102.4(b)(5)(xii)

Clarify the statement on Page 28 "...the quantity of acidic soils found along the proposed CPL South route may be sufficiently high such that their potential for pollution should be mitigated." If the quantity is sufficiently, how is that mitigated? What investigation has been performed to determine that the amount potential for pollution is mitigated? § 102.4(b)(5)(xii)

10. The Erosion Control Blanket sub-section in Section 1.6 on Page 16 identifies the blankets to be applied on slopes greater than 3:1. However, the E&S Manual (Page 273) recommends that erosion control blankets be installed on all slopes 3:1 and greater. The identification on Page 16 is not consistent with the identification that the E&S BMPs are designed in accordance with E&S Manual (first sentence of the fifth paragraph on Page 4). Make all revisions necessary. §§ 102.4(b)(5)(vi), 102.11(a)(1) & 102.11(b)
11. Section 1.13 does not include a thermal impact analysis for the earth disturbance activity (for the E&S Plan). Provide this thermal impact analysis. Provide the thermal impact analysis for each specific site. §§ 102.4(b)(5)(xiii) & 102.8(f)(13)
12. Revise Section 1.15 to be specific for any requested riparian buffer/riparian forest buffer waivers associated with the temporary and permanent access roads. There is no regulatory requirement to provide a riparian buffer/riparian forest buffer for perennial or intermittent rivers, streams, or creeks, or lakes, ponds, or reservoirs with a Designated Use other than Exceptional Value and High Quality; therefore, a waiver of buffers for these areas is not required. Revise the narrative accordingly. § 102.14(d)(2)
13. Section 1.16 is not an adequate antidegradation analysis. Make the antidegradation analysis specific to the site for which the E&S Plan covers (i.e. each temporary and/or permanent access road). The analysis should evaluate and include nondischarge alternatives in the E&S Plan. If nondischarge alternatives do not exist for the project, then make that demonstration and include in the E&S Plan antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.4(b)(6)
14. The plan drawings provided in Appendix A and B are not current with the latest set of revised full-size plan drawings (e.g. Appendix A Drawing No. 24-1600-70-28-A/LL113\_9 has a latest revision date of 12/02/2015; while the full-size Drawing No. 24-1600-70-28-A/LL113\_9 has a latest revision date of 02/04/2016). DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings in Appendix A and B), to avoid confusion and potential inconsistencies. § 102.4(b)(5)(ix)

15. For temporary access road AS-LE-033.1 (Appendix E), the narrative identifies the Watershed as Little Chickies Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Shells Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
16. The following technical deficiencies are associated with Appendix F:
  - a. The narrative identifies the Watershed as Gingrich Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Gingrich Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
17. The following technical deficiencies are associated with Appendix G:
  - a. The riprap apron sizing calculations (in Appendix G.5) identify the dimensions are based upon minimum sizing criteria from chart. Provide more discussion related to this, including how the equivalent pipe size was determined for each apron. § 102.4(b)(5)(viii)
18. For temporary access road AS-LE-038 (Appendix H), the narrative identifies the Watershed as Quittapahilla Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Quittapahilla Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
19. The following technical deficiencies are associated with Appendix L:
  - a. The narrative identifies the Watershed as Quittapahilla Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Quittapahilla Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
  - b. Completely fill out E&S Worksheet #11. § 102.4(b)(5)(viii)
20. The following technical deficiencies are associated with Appendix L:
  - a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
  - b. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing gravel road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets the public road. Clarify this discrepancy. § 102.4(b)(5)(iii)

21. For temporary access road AS-LE-047 (Appendix N), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
22. For temporary access road AS-LE-049 (Appendix O), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
23. For temporary access road AS-LE-050 (Appendix P), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Qureg Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
24. The following technical deficiencies are associated with Appendix Q:
  - a. The narrative identifies the Watershed as Forge Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Forge Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
  - b. It appears that based upon the grading around the MLV Pad shown on the plan drawings that concentrated flow will result. Provide stability calculations for this area of concentrated flow. Provide calculations which demonstrate that the flow depth does not result in drainage area contributing to the MLV Pad BMP. § 102.4(b)(5)(viii)
25. The following technical deficiencies are associated with Appendix R:
  - a. The narrative identifies the Watershed as Forge Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Forge Creek. Clearly and consistently identify the receiving surface water. It appears that Forge Creek and an UNT to Forge Creek are the receiving surface waters for this site/location. § 102.4(b)(5)(v)
  - b. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing gravel road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets the public road. Clarify this discrepancy. § 102.4(b)(5)(iii)

- c. The Location Map does not properly identify Forge Creek (it is identified as an UNT to Forge Creek). Properly identify the receiving surface waters. § 102.4(b)(5)(v)

26. The following technical deficiencies are associated with Appendix S:

- a. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing gravel road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets the public road. Clarify this discrepancy. § 102.4(b)(5)(iii)

27. The following technical deficiencies are associated with Appendices T & U:

- a. The narrative identifies the Watershed as Trout Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Trout Run. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
- b. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing gravel road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets the public road. Clarify this discrepancy. § 102.4(b)(5)(iii)

28. The following technical deficiencies are associated with Appendix V:

- a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
- b. The discussion identifies that there are no anticipated impacts or E&S BMPs proposed or anticipated for the area of the portion of the access road that will utilize the existing gravel road. However, the narrative discussion then identifies that a rock construction entrance and driveway apron will be utilized where the existing gravel drive meets the public road. Clarify this discrepancy. § 102.4(b)(5)(iii)

29. The following technical deficiencies are associated with Appendix W:

- a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)

- b. The narrative identifies that additional E&S BMPs may not be necessary if the access road is installed and stabilized within a timely manner during dry weather. Identify this in the construction sequence. If the installation and stabilization of this access drive is not written as such in the construction sequence, then additional E&S BMPs will be required. §§ 102.4(b)(5)(iii), 102.4(b)(5)(vi) & 102.4(b)(5)(vii)
  - c. The riprap apron sizing calculations identify the dimensions are based upon minimum sizing criteria. Provide more discussion related to this, including how the equivalent pipe size was determined for each apron. § 102.4(b)(5)(viii)
  - d. The E&S Manual recommends a nominal placement thickness of 18-in. for R-4 riprap (Page 135); however, the calculations and plan drawings identify an apron thickness of 12-in. Revise the design to be consistent with the recommendations of the E&S Manual or provide the appropriate information related to the alternative BMP and design standards. §§ 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)
  - e. The gradation provided for R-4 riprap in the calculations and plan drawings are not consistent with the gradation on Page 135 of the E&S Manual or with the gradation in Section 850 of PennDOT's Publication 408. If riprap is to be sized per the E&S Manual recommendations, then utilize the proper gradation. §§ 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.4(c) & 102.11(a)(1)
30. The following technical deficiencies are associated with Appendix X:
- a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
  - b. The narrative identifies that the area the proposed level spreader is discharging to, has not been field investigated/identified. This is not sufficient. Base the design upon field/actual conditions. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(viii)
31. The following technical deficiencies are associated with Appendix Y:
- a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)

- b. The narrative identifies that access road as temporary; however, the overall table on Page 6 of the main narrative identifies the access road as permanent. Clarify this discrepancy. § 102.4(b)(5)(iii)
- 32. For temporary access road AS-LE-059.1 (Appendix Z), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
- 33. The following technical deficiencies are associated with Appendix AA:
  - a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.4(b)(5)(v)
  - b. The narrative identifies that the area the proposed level spreader is discharging to, has not been field investigated/identified. This is not sufficient. Base the design upon field/actual conditions. §§ 102.4(b)(5)(iii) & 102.4(b)(5)(viii)
  - c. The gradation provided for R-3 riprap in the calculations and plan drawings are not consistent with the gradation on Page 135 of the E&S Manual or with the gradation in Section 850 of PennDOT's Publication 408. If riprap is to be sized per the E&S Manual recommendations, then utilize the proper gradation. §§ 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.4(c) & 102.11(a)(1)

Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 42" Central Penn South

- 1. Throughout the submission, the Erosion Control Legend shows a symbol for a Flume Channel Crossing. The corresponding detail, design calculations, or reference to installation/removal in the construction sequence could not be located in the E&S Plan. Provide all required information or clearly indicate where information is located, and describe the flume channel crossing within the construction sequence. §§ 102.4(b)(5)(vi), 102.4(b)(5)(vii), 102.4(b)(5)(viii), 102.4(b)(5)(ix), 102.4(c) & 102.11(b)
- 2. Staging area: Cleanout Stakes are proposed within several basins and traps. Identify the corresponding cleanout elevations at each proposed cleanout stake location. § 102.4(b)(5)(ix)

Best Management Practices and Quantities Plan Set – Proposed 42" Central Penn South

1. Clarify the purpose of this plan set. Is this plan set to serve as the E&S BMPs for the proposed 42" Central Penn Line South E&S Plans or to serve as the E&S BMPs for the temporary and permanent access roads? If separate E&S Plans are provided for the 42" CPL South and for the temporary and permanent access roads; then make each of those plans full and complete (including all necessary details, notes, maintenance, etc.). § 102.4(b)(5)
2. The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)

Erosion and Sediment Control and Layout Plans Drawings – Access Roads

1. Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)
2. Make the Notes provided on Drawing No. 24-1600-70-28-A/LL113\_9-AR-LE-033.1 Sheet 6 of 7 specific for that particular location. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.4(b)(5)(ix) & 102.8(f)(9)
3. Show the proposed grading for the temporary and permanent access roads on the plan view for each location. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.(b)(5)(iii), 102.4(b)(5)(ix), 102.8(f)(3) & 102.8(f)(9)
4. Identify and show the test pit locations on all applicable PCSM Plan drawings. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.(b)(5)(iii), 102.4(b)(5)(ix), 102.8(f)(3), 102.8(f)(9) & 102.8(g)(1)
5. Identify where the site/location specific notes and details for the PCSM Plan are to be found. Provide the regulatory required information for all PCSM BMPs claimed for the specific site/location. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9) & 102.8(f)(10)
6. Drawing Number 24-1600-70-28-A/LL 113\_9 Sheet 3 of 27 shows a leader with a label stating, "Stream WW-T43-4001", pointing to what appears to be a 12" sediment barrier. Make all revisions necessary. §§ 102.4(b)(5)(ix) & 102.8(f)(9)





7. The Erosion Control Legend throughout the submission shows the same symbol for 12" sediment barrier, 18" sediment barrier, 24" sediment barrier, and 32" sediment barrier. Some diameters of compost sock are called out with leaders on the plan and some are not. Clearly identify the size of the compost socks on the plans. Make all revisions necessary § 102.4(b)(5)(ix)
8. It is unclear if trees removed during construction of access roads will be replaced during restoration. Clarify/identify whether the temporary access road restoration procedures will include the replacement of trees in areas where tree removal occurred/will occur. §§ 102.4(b)(5)(vi) & 102.4(b)(5)(ix)

#### **Luzerne County**

##### Erosion and Sediment Control Plan Narrative – Proposed Central Penn North

1. Provide calculations that show proposed structural level spreaders reduce the discharge velocity in the receiving flow path to a non-erosive level. You may use the guidance in Item 15 on Page 161 and Appendix G of E&S Manual. Estimating cover type is not acceptable. § 102.11(a)(1)
2. Drainage areas to earthen level spreaders is limited to 1 acre or less. Please revise. (Appendix G of E&S Manual). § 102.11(a)(1)
3. The Manning's n value used for vegetated channels does not conform to Table 6.3. § 102.11(a)(1)
4. Provide calculations to show the anticipated outlet velocity for each proposed outfall. § 102.11(a)(1)
5. A minimum flow length to width ratio of 4L:1W should be provided for all traps located in special protection watersheds (HQ or EV). § 102.11(a)(1)

##### Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative – Temporary and Permanent Access Roads

1. Please provide a copy of the work map used to delineate the watersheds tributary to the proposed level spreaders. These watersheds should be the maximum tributary to the facility as described on Page 123 of the E&S Manual. § 102.11(a)(1)

2. Provide calculations that show proposed structural level spreaders reduce the discharge velocity in the receiving flow path to a non-erosive level. You may use the guidance in Item 15 on Page 161 and Appendix G of E&S Manual. Estimating cover type is not acceptable. § 102.11(a)(1)
3. Temporary lining design information has not been provided for compost sock diversions. § 102.11(a)(1)

Erosion and Sediment Control Plan Narrative – North Diamond Regulator Station

1. Since earth disturbance is proposed within or along Waters of the Commonwealth and/or within the 100 year floodway, in addition to 2 discharges to the stream, the Conservation District requests that a photocopy(s) of any and all required DEP and/or Army Corp of Engineers permits (or) photocopies of all completed permit applications be submitted with the revised plans. § 102.11(a)(1)
2. The E&S plan shows silt socks installed outside of floodplain protection area. Please explain. § 102.11(a)(1)
3. The Manning's n value used for channel 2 grass lining does not conform to Table 6.3. § 102.11(a)(1)

Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 30" Central Penn North

1. Please provide match lines for adjoining maps (Page 397 of the E&S Manual). (contractor staging area § 102.11(a)(1)
2. Please provide proposed contours for all proposed earthmoving (including diversion swales, flume channel crossings and filter sock diversions) that meet the standards in Item 3 on Page 2 and on Page 398 in the E&S Manual. § 102.11(a)(1)
3. Show all proposed improvements (e.g. level spreaders and rip rap aprons) on the plan map(s) (Page 398 in the E&S Manual). § 102.11(a)(1)
4. Rip rap aprons at sediment trap A should be extended to the toe of embankment and extended a sufficient length in both directions to prevent scour. § 102.11(a)(1)

5. Show the proposed limits of construction on the plan maps. All proposed earthmoving (including E&S BMPs and structural PCSM BMPs) must be within the limits of construction (Item 3 on Page 2 and Page 398 in the E&S Manual). It appears the limit dead ends on the plans for contractor staging area 3 and 3.1. § 102.11(a)(1)
6. The plan map(s) show sediment trap A and Basin 1 discharging to an area that is not identified as a surface water. If this is a non-surface water discharge, provide a discharge analysis that meets the standards of (Item 4 on Page 2, Item 15 on Page 161) of the E&S Manual. § 102.11(a)(1)
7. Please provide a copy of the work map used to delineate the watersheds tributary to the proposed contractor yard channels, basins, and traps. These watersheds should be the maximum tributary to the facility as described on Page 123 of the E&S Manual. § 102.11(a)(1)
8. Describe the procedure to be used while conducting earthwork within streams and wetlands. This guidance should meet the standards provided on Pages 42 through 48 of the E&S Manual. It is recommended that you use a mini sequence located near the detail and refer to this mini sequence in the overall sequence. § 102.11(a)(1)
9. All BMP maintenance notes should be removed from the construction sequence. § 102.11(a)(1)
10. Perimeter BMPs have not been provided for existing road culvert at proposed Phase 1 Contractor Yard Spread. § 102.11(a)(1)
11. The plan drawings (not just the E&S narrative) should include a complete schedule of installation and removal of erosion control BMPs as they relate to the various phases of earthmoving activities. § 102.11(a)(1)
12. Provide a typical detail for the proposed flume channel crossing. (Item 9, Page 5 of the E&S Manual) § 102.11(a)(1)
13. Complete the table for Standard Construction Detail 9-1 and 9-3. § 102.11(a)(1)
14. Describe how the discharge(s) from contractor yard sock diversions B and A will be safely conveyed to a surface water (see Item 4 on Page 3 of E&S Manual). § 102.11(a)(1)
15. The plan map(s) show(s) compost sock(s) crossing contours at contractor yard 1, sock 5 through 9. Sediment barriers should be installed at existing level grade (E&S Manual, Pages

61 and 75) Please make all necessary corrections. It is recommended that Figure 4.1 be placed upon a detail sheet for clarity. § 102.11(a)(1)

16. The plan map(s) show compost sock diversion A and B at Yard 2 located in concentrated flow in two locations. Revise the location(s) to avoid concentrated flow (E&S Manual, Page 62 and 67). § 102.11(a)(1)

Best Management Practices and Quantities Plan Set – Proposed 30" Central Penn North

1. The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)

Erosion and Sediment Control and Layout Plans Drawings – Access Roads

1. Indicate the type and extent of vegetative cover on the E&S plan map(s) (Page 357 of the E&S Manual). § 102.11(a)(1)
2. Areas of existing culverts are illegible or not shown on the E&S plan. Please provide. § 102.11(a)(1)
3. All existing improvements (e.g. road side swale sheet 1683 3 AR LU 019) should be shown on the E&S plan map(s) (Pages 357 & 398 of the E&S Manual). § 102.11(a)(1)
4. All proposed earthmoving (including E&S BMPs and structural PCSM BMPs) must be within the limits of construction (Item 3 on Page 2 and Page 398 in the E&S Manual). It appears a portion of silt sock on sheet 1683 3 AR LU 014 is outside the limits of construction. § 102.11(a)(1)
5. Soil slopes not provided on the E&S plans. § 102.11(a)(1)
6. The plan map(s) show outfall aprons discharging to an area that is not identified as a surface water. If this discharge was intended to discharge to earthen level spreaders, please explain how this discharge will be safely conveyed to the spreader without causing erosion. If this is a non-surface water discharge, provide a discharge analysis that meets the standards of (Item 4 on Page 2, Item 15 on Page 161) of the E&S Manual. § 102.11(a)(1)
7. Identify the perennial and intermittent stream names on the E&S plan as described on Page 398 of the E&S Manual. § 102.11(a)(1)

8. Perimeter BMPs have not been provided for areas downslope of fill for road off of Tripp Road (Sheet 1683 3 AR LU 007.1), east of Wetland W-T07-17001, sheet 1683 3 AR LU 014 and downslope of access road grading sheet 1683 3 AR LU 019. § 102.11(a)(1)
9. The construction sequence calls for level spreaders on Sheet 1683 3 AR LU 008, however there does not appear to be a proposed concentrated flow, i.e. channel or pipe to these areas. Proposed rip rap aprons are positioned in the opposite direction as the spreaders. Please explain. § 102.11(a)(1)
10. Step 1 of the sequence should specify notifications. § 102.11(a)(1)
11. It appears Step 7 should be conducted within Step 3. Please revise. § 102.11(a)(1)
12. The sequence calls for the leveling of side cuts, which are not shown on the E&S plans. § 102.11(a)(1)
13. The sequence calls for the installation of vegetated channels, water quality swales and check dams, which are not shown on the E&S plan map(s). Please make all necessary corrections (see Chapter 2 in the E&S Manual). § 102.11(a)(1)
14. Please specify what erosion controls are to be installed within Step 9. § 102.11(a)(1)
15. As soon as slopes, channels, ditches, and other disturbed areas reach final grade, they must be stabilized (top of Page 260 in the E&S Manual, Steps 8 and 9) This should be clearly stated in the sequence. § 102.11(a)(1)
16. Stockpile locations are not shown on E&S plan. § 102.11(a)(1)
17. Describe the conditions of stabilization that will be achieved prior to removal/conversion of temporary E&S BMPs Step 22). For vegetated areas, the standard in the middle of Page 10 of the E&S Manual should be used. § 102.11(a)(1)
18. The sequence should specify what temporary erosion controls are to be removed. § 102.11(a)(1)
19. The plan map(s) show(s) compost sock(s) crossing contours on sheet 1683 3 AR LU 011, 012, 014 and 019. Sediment barriers should be installed at existing level grade (E&S Manual, Pages 61 and 75). Please make all necessary corrections. It is recommended that Figure 4.1 be placed upon a detail sheet for clarity. § 102.11(a)(1)

20. Show the proposed broad-based dips on the plan map(s) (Item 9, Page 5 of the E&S Manual). § 102.11(a)(1)
21. Proposed rock construction entrance does not appear to be installed at edge of existing public roadway, on sheet 1683 3 AR LU 014 and 1683 3 AR LU 020. Please revise. § 102.11(a)(1)
22. The plan does not show silt socks installed with both ends extended at least 8 feet up slope at 45 degrees to the main sock alignment (Figure 4.1). § 102.11(a)(1)
23. The plan calls for the installation of silt fence along existing road side swale, sheet 1683 3 AR LU 019, which is not shown on the plan map(s) or legend. Please make all necessary corrections. § 102.11(a)(1)
24. The plan drawings (not just the E&S narrative) should include a complete schedule of installation and removal of erosion control BMPs as they relate to the various phases of earthmoving activities. § 102.11(a)(1)
25. The compost sock detail on the plan drawing(s) does not specify the type of mesh to be used. Please make all necessary changes. § 102.11(a)(1)
26. Provide a seed mixture for temporary stabilization (Page 263 of the E&S Manual). Tables 11.3, 11.4, and 11.5 are recommended for selecting seed mixtures. § 102.11(a)(1)
27. Provide specifications for topsoil replacement (Page 263 of the E&S Manual). Table 11.1 should be added to the detail sheet(s). § 102.11(a)(1)
28. The compost sock diversion detail does not provide the specifications for the infill growing media. In addition, Standard Construction Detail Number(s) 6-1 is recommended to show channel installation specifications. § 102.11(a)(1)
29. Provide a construction detail for the proposed earthen level spreader (Item 9, Page 5 of the E&S Manual) on the E&S plan. Standard Construction Detail #9-5 is recommended for this purpose. § 102.11(a)(1)
30. It appears that the proposed driveway apron is an alternate BMP. Alternate BMPs that are not listed in this manual but that provide the same (or greater) level of protection may also be used to attain the regulatory standard. It is incumbent on the person proposing the use of alternative BMPs to demonstrate their effectiveness with appropriate test results or other documentation. Please contact DEP for review of this BMP. § 102.11(a)(1)

31. Complete the table for Standard Construction Detail 9-1 and 9-2. § 102.11(a)(1)

Soil Erosion and Sediment Control Plan Drawings – North Diamond Regulator Station

1. Indicate the type and extent of vegetative cover on the E&S plan map(s) (Page 357 of the E&S Manual). § 102.11(a)(1)
2. Identify the perennial and intermittent stream names on the E&S plan as described on Page 398 of the E&S Manual. § 102.11(a)(1)
3. Describe how the access roads for construction will be stabilized (Page 9 in the E&S Manual). Note: Access roads should be designed according to Chapter 3 of the manual. § 102.11(a)(1)
4. Describe how rain garden and channels will be protected from sedimentation until construction is completed and the site stabilized (see bottom of Pages 10 and 262 in the E&S Manual). § 102.11(a)(1)
5. Perimeter BMPs have not been provided for downslope of stockpiles. § 102.11(a)(1)
6. Step 1 of the sequence should specify notifications. § 102.11(a)(1)
7. The sequence does not specify what erosion controls are to be removed in Step 31. § 102.11(a)(1)
8. As soon as slopes, channels, ditches, and other disturbed areas reach final grade, they must be stabilized (top of Page 260 in the E&S Manual). (steps 8 and 9) This should be clearly stated in the sequence. § 102.11(a)(1).
9. It does not appear that rip rap apron construction is feasible at channel 1B as per dimensions specified. Please revise and check all aprons. § 102.11(a)(1)
10. The compost sock detail on the plan drawing(s) does not specify the type of mesh to be used. Please make all necessary changes. § 102.11(a)(1)
11. Provide a seed mixture for temporary stabilization (Page 263 of the E&S Manual). Tables 11.3, 11.4, and 11.5 are recommended for selecting seed mixtures. § 102.11(a)(1)

**Northumberland County**

**Erosion and Sediment Control Plan Narrative -- Proposed Central Penn South**

1. The Legend does not include both water bar directional symbols. Please revise. 102.4(b)(5)(ix)
2. Silt Barrier Symbols on plans do not match those found in the Legend and are difficult to read. Please revise. 102.4(b)(5)(vi)
3. The following BMPs are listed in the Summary but are not shown in the Legend: CDM – Check Dam, DWY- Driveway Apron, CS-Cleanout stake, TRV Trash Rack & Anti-Vortex Device, CST-Compost Sock Sediment Trap, WD-Water Deflector. Please correct this omission. § 102.4(b)(5)(vi)
4. The following BMPs are shown in the Legend but are not listed in the Summary or on Detail Sheets: WWC, SBW, ED, SP, WI.1, & WI.2. Please verify and correct this deficiency. § 102.4(b)(5)(vi)
5. Pipeline BMP Installation Sequence does not include the “Local Conservation District” with the agencies to be notified. Please correct this omission. § 102.4(b)(5)(vii)
6. Access Road BMP Installation Sequence does not include the “Local Conservation District” with the agencies to be notified. Please verify and correct this deficiency. § 102.4(b)(5)(vii)
7. Not all standard notes are identical to the Standard Notes given in PA DEP’s BMP Manual. Either remove note that says Williams Standard Detail Matches PADEP Standard Detail or change wording to replace “Matches” with “is based on” or “is compatible with”, etc. § 102.4(b)(5)(ix)
8. Sheet 1 of 13 Cofferdam Detail Note 2 references Trench Breakers. This feature is identified as Trench Plugs elsewhere in the plans. Please verify and correct for consistency. § 102.4(b)(5)(ix)
9. Not all details include required dimensions with leader lines and relevant notes. Please ensure that all details give complete information. § 102.4(b)(5)(ix)
10. Sheet 5 of 13 Stone & Concrete Inlet Protection –M references Standard Construction Detail # 4-16. The correct Detail is #4-20. Please verify and correct. § 102.4(b)(5)(ix)



11. Wet Intermediate Water Body Crossing Detail on Sheet 5 of 13 & Wet Minor Water Body Crossing Detail on Sheet 6 of 13 should be removed from the plans. Streams >10' but less than 100' wide & most streams 10' wide or less in Northumberland County, Pennsylvania will have sufficient flow to require pump around techniques. These details are not acceptable in Northumberland County. Please clarify & justify their use or comply with this comment. § 102.4(b)(5)(ix)
12. Sheet 6 of 13 shows notes in the Rip Rap Apron at pipe outlets with Flared End Section. Please move these notes for clarity. § 102.4(b)(5)(ix)
13. The chart shown on Rip Rap Stream Bank Stabilization Detail 2 of 2 on Sheet 7 of 13 does not match the standards set forth in Table 6.6 found on Page 135 of DEP's Erosion and Sediment Pollution Control Manual. Please verify and correct as necessary. § 102.4(b)(5)(ix)
14. The Trench Dewatering Detail found on Sheet 9 of 13 does not include all necessary information. Please add the following note to this detail: "Pump Filter Bag shall be placed on a well vegetated area away from construction so that filtered water is not returned to the trench." § 102.4(b)(5)(ix)
15. Where is a Trash Rack and Anti-Vortex Device used in Northumberland Co.? If these are not used in Northumberland County the relevant details should be removed from the plans. § 102.4(b)(5)(ix)
16. Top Soil Segregation Details TS.1, TS.2, and TS.3 note 6 as shown on Sheet 10 of 13 is too general. Please show all Sediment Barriers on the plans and change the above referenced note to read as follows: "Install Sediment Barriers as shown on plan." § 102.4(b)(5)(ix)
17. On Sheet 10 of 13, the reference to (PADEP) in Note #1 on the Temporary Stream Crossing Multiple Pipes Detail should be replaced with "Chapter 105.162." Please correct this reference. § 102.4(b)(5)(ix)
18. On Sheet 10 of 13, the reference to (RCE) in Note #2 should be changed to "Standard Construction Detail # 3-12." Please correct this reference. § 102.4(b)(5)(ix)
19. On Sheet 11 of 13, the Vegetated Channel Detail should include the data chart found in PA DEP BMP Manual Standard Construction Detail # 6-1. Please correct this omission. Include data for all vegetated swales which are part of the project. § 102.4(b)(5)(ix)

20. On Sheet 12 of 13 the Bored Water Body Crossing Detail does not include the minimum distance from top of stream bank to bore pit and receiving pit. Please correct this omission. § 102.4(b)(5)(ix)
21. On Sheet 12 of 13 the Bored Water Body Crossing Detail does not show sediment barriers between the stream and the bore pit and receiving pit. Please correct this omission. § 102.4(b)(5)(ix)
22. On Sheet 12 of 13 the Wetland Installation Procedure Details WCC.1, WCC.2 & WCC.3 do not show Geotextile under spoil and topsoil piles. Please correct this omission. § 102.4(b)(5)(ix)
23. On Sheet 12 of 13 the "Inundated Wetland" Installation Procedure Detail WCC.3 the note numbers are not aligned with the appropriate notes. Please correct this error. § 102.4(b)(5)(ix)
24. On Sheet 13 of 13 the Wood Chip Filter Berm Detail states that "This Williams Standard Detail Matches PADEP Standard Construction Detail # 4-12". Note #6 on the drawing is not found in Standard Detail # 4-12. Please either remove the note that says the Williams Standard Detail Matches PADEP Standard Construction Detail # 4-12 or change it to say it is based on Detail # 4-12 and denote Note #6 as an additional note. § 102.4(b)(5)(ix)
25. Sheet M.O.-0194, the 12" dia. Compost filter sock listed in the Sediment Barrier summary on Sheet 2 of 2 in the Best Management practices and Quantities Plan Set at Station 60+64 – 62+07 is not shown on plan sheet 1 of 9. Please verify and correct. §§ 102.4(b)(5)(vi) & 102.8(f)(2)
26. The following Sediment Barriers appear to be listed at the wrong station when compared with the plan drawings: MP-83 12" Dia. Station 4405+35, MP-88 24" Dia. Station 4754+50-4761+00, MP-83 24" Dia. Station 4405+35, MP-88 24" Dia. Station 4761+25-4763+50, MP-88 24" Dia. Station 47+65.00-4769+00. Please verify and correct as necessary. §§ 102.4(b)(5)(vi) & 102.8(f)(2)
27. Shamokin Creek Stream Crossing WW-RS-1001 is shown in Table 3 Sheet 1 of 2 at MP-86. The same Stream crossing is identified on Sheet 3 of 9 at Station 10+35 as WW-T04-1001. Please review and correct as needed. § 102.4(b)(5)(v)
28. South Branch of Roaring Creek Stream Crossing WWW-T47-11002 is shown on sheet 9 of 9 at MP-91.8 (Station 4845+00 but is not shown in the summary tables. Please correct this omission. § 102.4(b)(5)(v)

29. The following soil types are shown in Table 5, on the Soil Maps & Soil Report but are not shown in Soil Types and Limitations Chart included on Sheet 1 of 4 Access Roads: HuF, LdF, MkC, WkE, SmB, Du, MkB, CaC, CaD, Ug, Hv, WeC, WeD & LnB. Please correct this omission. § 102.4(b)(5)(xii)
30. Page 24 in the Pipeline BMP Installation Sequence Narrative & Sheet 2 of 3 General Notes do not make clear when the trench is to be dug and the pipe is to be placed in the trench. Please clarify and correct. § 102.4(b)(5)(ii)
31. The Pipeline BMP Installation Sequence on Sheet 2 of 3 General Notes & the General Pipeline Construction Sequence on Page 54 or the E&S Narrative Section 6 should be consistent with each other. Please correct any inconsistencies which may occur between these 2 documents. § 102.4(b)(5)(vii)
32. Section 7.4.1 of the Environmental Construction Plan states that "the Environmental Inspector will determine when sediment barriers can be removed." The Environmental Inspector does not represent any regulatory agency and therefore should coordinate with the local conservation district before removing any BMPs or determining that any disturbed area has reached an acceptable level of final stabilization. These decisions are the responsibility of the conservation district. Please revise this note to reflect that the Environmental Inspector will invite the local conservation district to inspect the site and give their approval of before any BMPs are removed. § 102.4(b)(5)(vii)
33. Wetland Crossing W-T44-11001 is shown on Sheet 6 of 9 at Station 4690+00. This crossing is not shown in the summary tables. Please correct this omission. § 102.4(b)(5)(v)
34. South Branch of Roaring Creek Stream Crossing WWW-T45-1101 is shown on Sheet 8 of 9 at MP-91 but is not shown in the summary tables. Please correct this omission. § 102.4(b)(5)(v)
35. South Branch of Roaring Creek Stream Crossing WWW-T47-11001 is shown on sheet 9 of 9 at MP-91.8 (Station 4844+00) and is shown in summary tables as WWW-RS-11001. Please verify and correct as necessary. § 102.4(b)(5)(v)
36. Wetland Crossing W-T44-11001 is shown on Sheet 6 of 9 at Station 4690+00. This crossing is not shown in the summary tables. Please correct this omission. § 102.4(b)(5)(v)
37. South Branch of Roaring Creek Stream Crossing WWW-T45-1101 is shown on Sheet 8 of 9 at MP-91 but is not shown in the summary tables. Please correct this omission. § 102.4(b)(5)(v)

38. South Branch of Roaring Creek Stream Crossing WWW-T47-11001 is shown on sheet 9 of 9 at MP-91.8 (Station 4844+00) and is shown in summary tables as WWW-RS-11001. Please verify and correct as necessary. § 102.4(b)(5)(v)

39. Place Rock Construction entrances at all access points to existing roadways. § 102.4(b)(5)

Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative – Temporary and Permanent Access Roads

1. Access Road #075

- a. On Sheet 13 of 23 Construction equipment mats are indicated to traverse an existing culvert at Station 33+70±. The culvert is not shown on Sheets 4, 13 or 19 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)
  - i. On Sheet 14 of 27 Timber mats are indicated to traverse an existing culvert at Station 1+75±. The culvert is not shown on Sheets 1, 14 or 21 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)
  - ii. On Sheet 15 of 27 Timber mats are indicated to traverse an existing culvert at Station 22+65±. The culvert is not shown on Sheets 3, 15 or 22 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)
  - iii. On Sheet 17 of 27 Timber mats are indicated to traverse an existing culvert at Station 67+90±. The culvert is not shown on Sheets 7, 17 or 24 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)
  - iv. On Sheet 18 of 27 Timber mats are indicated to traverse an existing culvert at Station 100+60±. The culvert is not shown on Sheets 10, 18 or 25 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)
- b. There are no BMPs shown on access roads. Is it anticipated there will be no improvements required on any of these roads? Will none of them need widening at any point to allow trucks and equipment to navigate tight corners? Some of the access roads are quite steep. It is reasonable to assume passage of heavy equipment over these roads in all kinds of weather will have an adverse effect on them. Has any consideration been given to the need for water bars or other diversions to relieve run-off quantity and velocity. It is recommended that further thought be given to the initial and continued stability of the access roads and typical details be added to the plans to give guidance to the contractor if the need arises. § 102.4(b)

## 2. Access Road #076

- a. On Sheet 13 of 23 Construction equipment mats are indicated to traverse an existing culvert at Station 33+70±. The culvert is not shown on Sheets 4, 13 or 19 of 27. Please show all existing culverts on all Access Roads (Plan & Profile). § 102.8(f)(9)
3. The access road narrative in the Erosion and Sedimentation and Post construction storm water management/site restoration plan narrative, plan sheets, Soil erosion and sedimentation control plan/site restoration plan and Access Road Plans do not correspond with each other. It appears that access roads are missing and shown in different locations. Correct with re-submission. § 102.8(f)(9)
4. Access Road Plans and Narrative do not match in accordance with the number of access roadways provided in the application. Provide complete drawings and narrative for all access roads. § 102.8(f)(6)
  - a. How is the forested cover of the restored access road ROW restored to its pre-construction conditions? Several locations depict removal of forested vegetation for "area of minimum disturbance or reduced grading" within the ROW. § 102.8(f)(6)

Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 42" Central Penn South

1. Section C., Item 8 Other Pollutants: No is checked, this should be changed to yes. The majority of the soils along the route of the proposed pipeline are listed as acidic soils. Acid Bearing Rock is anticipated to be encountered throughout the route. There is a potential for Acid Mine Drainage to be encountered & released at various points along the pipeline route. Please justify or correct this entry. § 102.8(f)(12)

Best Management Practices and Quantities Plan Set – Proposed 42" Central Penn South

1. The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)
2. The acid producing soil and bedrock control plan note found in the Best Management Practices and Quantities Plan Set, Note "4" should limit the number of days for cover of any stockpiles or berms to 7 days. § 102.8(f)(12)

3. It does not appear the PCSM drawings reflect the PCSM BMP's proposed in the calculations. § 102.8(f)(8)
4. The access road PCSM plans depict areas to be restored containing the entire ROW. This requires restoration of a large cut/fill since the existing roadway is 10 ft. wide and the ROW is 50 ft. wide. What is the need for such a large access roadway area and how is this area restored to pre-construction conditions. § 102.8(f)(10)
5. Many of the temporary roadways have excessive slopes greater than 10%. How will the temporary access roads be restored as to not concentrate flows and increase the potential for accelerated erosion due to increased run volume and rate? What permanent BMP's will be in place and maintained. § 102.8(f)(4)
6. Storm water narrative for AR-NO-082 states that there are no improvements for the 4,400 linear foot roadway. Access Roadway Site Restoration Plans shows a 50 foot wide limit of disturbance and restoration of the same roadway. Explain the need for the proposed 5 acres of disturbance in the plans vs. no improvements in the narrative. § 102.8(f)(7)
7. PAR-NO-79 narrative states that stone check dams are to be installed in the vegetated water quality swale. The plan drawings do not depict the check dams installed. Additionally, detail how stone check dams will function as a storm water BMP and remove storage volume as stated in the Narrative. The detail in the Best management practices and Quantities plans show what appears to be an earthen check dam reinforced by R-3 Riprap but does not state what the core will be constructed of. Correct and detail what the core will be constructed of in re-submission. §§ 102.8(f)(6) & 102.8(f)(8)
8. Roadway Typical Section "C" found in the Erosion and Sediment Control and Layout plans for access roads shows a varying roadway width. What is the maximum roadway width? § 102.8(f)(6)

### **Schuylkill County**

#### Erosion and Sediment Control Plan Narrative – Proposed Central Penn South

1. Filter Sock Diversion and Diversion Swale Design (comments apply to the pipeline and to staging area calculations):
  - a. The value of the roughness coefficient (n) used in Manning's equation should be varied according to type of liner (permanent grass) and flow depth (see the bottom of Page 129 in the E&S Manual). Make all necessary corrections. § 102.11(a)(1)

- b. A spot check of channel linings (permanent grass) found that the anticipated shear stress exceeds the maximum permissible in Table 6.2 in the E&S Manual for one or more channels. Please make all necessary corrections. § 102.11(a)(1)
2. Outlet Protection:
  - a. Please provide the information requested by Standard E&S Worksheet #20 for all proposed rip rap aprons in the narrative and on the applicable details. § 102.11(a)(1)
3. Manufacturers' specifications have not been provided for the proposed W3000 erosion control matting. § 102.11(a)(1)
4. As soon as slopes, channels, ditches, and other disturbed areas reach final grade, they must be stabilized (top of Page 260 in the E&S Manual). (steps 8 and 9) This should be clearly stated in the sequence. § 102.11(a)(1)
5. Provide a seed mixture for temporary stabilization (Page 263 of the E&S Manual). Tables 11.3, 11.4, and 11.5 are recommended for selecting seed mixtures. § 102.11(a)(1)
6. Provide specifications for topsoil replacement (Page 263 of the E&S Manual). Table 11.1 should be added to the detail sheets. § 102.11(a)(1)
7. Contractor Yard CS-CY-SC-3-07
  - a. Riprap Apron Calculations: Assumptions have been made for the D0 and 3D0 for the riprap apron design. Please clarify what the assumptions have been based on. § 102.11(a)(1)
  - b. Please provide the information requested by Standard E&S Worksheets #15 & 16 for all proposed sediment basins. (The rule of thumb may be used to determine the number of holes in the riser of a basin located in a non-special protection watershed.) § 102.11(a)(1)
  - c. A spot check of sediment basins found one or more where the dewatering time specified in Item 9 on Page 160 of the E&S Manual is not provided. Please make the necessary changes. § 102.11(a)(1)
  - d. A spot check of the tables in Standard Construction Detail Number #7-6 and #7-7 found them to be inconsistent with the supporting calculations. Make all necessary corrections. (i.e. sediment basin #1 riser diameter/Figure 8, sediment basin #2 clean out elevation vs. lowest row of holes and ETE/WTE of basin #1). § 102.11(a)(1)

- e. A spot check of the rip rap apron summary table found the pipe diameters for the sediment basin 1 and 2 barrels to be inconsistent with supporting calculations. Make all necessary corrections. § 102.11(a)(1)
- f. Please verify the bottom elevation of the sediment basins are not located below the seasonal high water table, adjacent wetlands, or perennial stream channels. § 102.11(a)(1)
- g. Sediment Basin #2: Baffle calculations have not been provided. § 102.11(a)(1)

Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative – Temporary and Permanent Access Roads

- 1. Please provide a copy of the work map used to delineate the watersheds tributary to the earthen level spreaders. These watersheds should be the maximum tributary to the facility as described on Page 123 of the E&S Manual. § 102.11(a)(1).
- 2. Provide calculations for the proposed earthen level spreaders to demonstrate that the structure will reduce the discharge velocity in the receiving flow path to a non-erosive level. You may use the guidance in Item 15 on Page 161 and Appendix G of E&S Manual. § 102.11(a)(1)
- 3. A spot check of swale calculations revealed that calculations provided for the proposed Water Quality Swale at TAR # AR-SC-063 in Worksheet #21 are not consistent with provided 10-year storm routing calculations for the swale for capacity and drainage area. Please review all swale calculations and make necessary corrections. § 102.11(a)(1)
- 4. A spot check of swale calculations revealed that the Manning's "n" coefficient provided for the permanent vegetated condition for proposed trapezoidal swales does not, in all cases, match the Manning's "n" values appropriate for the listed liners in Table 6.2 on Page 131 in the DEP E&S Manual. Please review all swale calculations and make necessary corrections. § 102.11(a)(1)
- 5. Please specify how the temporary access roads will be restored after construction have been completed. § 102.4(b)(5)(vii)

Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 42" Central Penn South

- 1. Please provide a location map that conforms to the standards on Page 397 of the E&S Manual. On the overall location map, (24-1600-70-28-A/LL113\_9, the county labels are wrong for Schuylkill and Northumberland Counties (Berks County). § 102.11(a)(1)



2. General erosion & sediment control note #30: Please delete this note. Per Standard Plan Note #9, the local conservation district must be notified when unforeseen circumstances occur on the project site. Any changes to the E&S plan need to be proposed to the SCD and red-lined by both the conservation district and the permit holder. § 102.11(a)(1)
3. Show all proposed outfall locations and outlet protection on the plan maps (Item 9, Page 5 of the E&S Manual). § 102.11(a)(1)
4. Please provide all proposed BMPs (i.e. level spreaders, outlets, rock construction entrances) on the plan maps as stated on Page 398 of the E&S Manual. § 102.11(a)(1)
5. The E&S Detail Group Legend appears to provide a suite of options at the locations proposed on the plan maps. For example in a "typical" watershed at "R", the rock construction entrance would be a BMP proposed to minimize erosion and sedimentation; however, the trenched road crossing and bored road/railroad crossing would be the options for crossing the road. BMPs should be specific to each location a BMP is proposed on the plan maps. § 102.11(a)(1)
6. Filter Sock:
  - a. Show all proposed compost sock locations on the plan maps (Item 9, Page 5 of the E&S Manual). § 102.11(a)(1) It appears that the compost sock line type may be located under other line types and it is also difficult to determine if the compost sock is located on both sides of the pipeline in some areas. § 102.11(a)(1)
  - b. The plan maps show compost socks crossing contours. Sediment barriers should be installed at existing level grade (E&S Manual, Pages 61 and 75). Please make all necessary corrections. § 102.11(a)(1)
  - c. The compost sock is shown parallel to the existing roads; however, the pipeline will cross the socks in these locations. Please clarify how the sock will be maintained in those locations. § 102.11(a)(1)
  - d. Sufficient surrounding area should be shown on the plan maps to identify receiving watercourses. Where these features are beyond the coverage of the plan maps, they may be identified on the location maps (Page 398 of the E&S Manual). § 102.11(a)(1)
7. Filter Sock Diversion Calculations and Detail:
  - a. Sufficient surrounding area should be shown on the plan maps to identify receiving watercourses. Where these features are beyond the coverage of the plan maps, they may

- be identified on the location maps (Page 398 of the E&S Manual). § 102.11(a)(1)
- b. Please verify that the filter socks used for the design of the filter sock diversions is a 24" sock as shown in the construction detail. § 102.11(a)(1)
  - c. The maximum effective height of a 24" sock is documented as 19" per the manufacturer's recommendations; therefore, the total depth of a filter sock diversion should also be 19". § 102.11(a)(1)
  - d. The Filter Sock Diversion (FD) detail should indicate that the "infill material be modified to reduce permeability and promote vegetative growth" per the DEP "Products and Technologies Proposed for Use as E&S BMPs Since the Manual was Published in March 2012" list. Please indicate the growing media and infill specifications on the construction detail. § 102.11(a)(1)
  - e. In the Filter Sock Diversion (FD) detail it appears the maximum slope is 5:1; however, the calculations (worksheet #11) indicate the slope may exceed 5:1. Please revise as needed. § 102.11(a)(1)
  - f. The Filter Sock Diversion (FD) detail should indicate that the erosion control matting should be extended to the height of the freeboard (total depth). § 102.11(a)(1)
  - g. Reference to Note #7 has been provided in the Filter Sock Diversion (FD) detail as indicated for the erosion control matting; however, no Note #7 has been provided. § 102.11(a)(1)
  - h. It appears the matting on the side slopes will extend uphill past the limit of disturbance and permit boundary. Please verify and revise if needed. § 102.11(a)(1)
  - i. Please indicate in the construction sequence whether and/or when this BMP will be temporary or permanent. Please indicate if filter socks will be removed and if the diversion swales will be graded out. § 102.11(a)(1)
8. Waterbars:
- a. The plans (notices to contractor #3) indicate that waterbars in agricultural/farm fields are temporary; however, the waterbar detail also indicates that all waterbars shown on the plans are intended to be permanent BMPs. Please clarify. § 102.11(a)(1)
  - b. Please clarify if the waterbar sump placement special protection watershed (WB.2) and compost filter sock and sump at waterbar discharge (WB.3) are the same. Only one detail

should be provided for special protection watersheds. § 102.11(a)(1)

- c. The compost filter sock and sump at waterbar discharge (WB.3) requires calculations to determine if the filter sock is adequate to filter the proposed flow (varies with right of way width). § 102.11(a)(1)

9. Miscellaneous Plan comments:

- a. 3425+00: Per the existing plans, it appears a BMP should be located at this station. § 102.11(a)(1)
- b. 3535+00: Please clarify if a stream crossing is located at approximately this station. § 102.11(a)(1)
- c. 3610+00: WW-T18-7007B is not currently shown in the profile. § 102.11(a)(1)
- d. 3880+00: WW-T95-8001 has not been provided on Table 2. § 102.11(a)(1)
- e. 4020+00: The filter sock diameter is inconsistent between Standard Worksheet #1 and the plan maps. Please revise. § 102.11(a)(1)
- f. 4260+00: Per the existing plan maps, it appears a BMP should be located at this station. § 102.11(a)(1)
- g. MM-0198 14+00: WW-T43-8001 and WW-T43-8002 are not provided on Table 2. § 102.11(a)(1)
- h. Show the locations of the proposed pumped water filter bags on the plan maps (Item 9, Page 5 of the E&S Manual). § 102.11(a)(1)
- i. Some of the proposed stream crossings include a dam & pump. Due to the length of time the trench could remain open, an alternate stream crossing method should be considered. § 102.11(a)(1)
- j. The Dam and Pump Stream Crossing (DPX) does not show the additional pump and filter bag to dewater the work areas. The ridge top construction (RTC) detail does not detail where E&S BMPs should be installed. § 102.11(a)(1)
- k. Construction Sequence:
  - i. Please integrate the BMP Installation and Removal Notes into the Pipeline BMP

Installation Sequence. § 102.11(a)(1)

- ii. Please define "perimeter control". Perimeter controls such as compost sock may be difficult to install before clearing and grubbing of larger sections. § 102.11(a)(1)
- iii. A time frame should be provided for construction from initial disturbance to seeding and mulching at any station along the right-of-way. Also, an allowable length of disturbance should be specified in the E&S plan (Page 283 of the E&S Manual). § 102.11(a)(1)
- iv. BMP Installation Note #7: This note is not a Standard Note from the E&S Manual. Please revise. § 102.11(a)(1)
- l. The specified temporary fertilizer application rate in the BMP Installation and Removal Note #22 is not consistent with Table 11.2. § 102.11(a)(1) \* Please see the attached DEP Correction Sheet for amendments to Table 11.2. § 102.11(a)(1)
- m. A consistent definition of permanent stabilization should be used throughout the E&S plan notes. § 102.11(a)(1)
- n. The check dam detail (CDM) should be modified to show a 6 inch depression in the top of the rock in the center of the channel compared to the rock at the outside edges of the channel to assure stormwater will not flow around the rock at the edges. See Page 379 in the ESPC Manual. § 102.11(a)(1)
- o. Provide an alternative detail to the Clean Water Diversion Swale that is contained in the BMP and Quantities Plan Set for use to convey water across the trench when the pipeline trench is open. § 102.4(b)(5)(ix)
- p. Pumped water filter bags (PWB) are proposed as the principal method of removing sediment from open trenches. The Cofferdam Stream Crossing Detail (CD) (Sheet 1 of 13) in the Best Management Practices and Quantities Plan Set states that an equivalent dewatering device may be used in lieu of the PWB. Please indicate on the plan drawing that the equivalent dewatering device structure must meet the approval of the PADEP.
- q. The Trench Dewatering Detail (TD) (Sheet 9 of 13) indicates that secondary containment must be used when the PWB is positioned within 100 feet of wetland or waterbody. Provide more information on acceptable secondary containment. § 102.4(b)(5)(ix)
- r. The Trench Dewatering (TD) Detail found on Sheet 9 of 13 does not include all necessary information. Please add the following note to this detail: " Pump Filter Bag

shall be placed on a well vegetated area away from construction so that filtered water is not returned to the trench. § 102.4(b)(5)(ix)

- s. The following BMPs are listed in the Summary but are not shown in the Legend: CDM – Check Dam, DWY- Driveway Apron, CS-Cleanout stake, TRV Trash Rack & Anti-Vortex Device, CST-Compost Sock Sediment Trap, WD-Water Deflector. Please correct this omission. 102.4(b)(5)(vi)
- t. The following BMPs are shown in the Legend but are not listed in the Summary or on Detail Sheets: WWC, SBW, ED, SP, WI.1, & WI.2. Please verify and correct this deficiency. § 102.4(b)(5)(vi)
- u. Sheet 5 of 13 Stone & Concrete Inlet Protection –M (IPF) references Standard Construction Detail # 4-16. The correct Detail is #4-20. Please verify and correct. § 102.4(b)(5)(ix)
- v. On Sheet 12 of 13 the Bored Water Body Crossing (WBX.1) detail does not include the minimum distance from top of stream bank to bore pit and receiving pit. Please correct this omission. § 102.4(b)(5)(ix)
- w. On Sheet 12 of 13 the Bored Water Body Crossing (WBX.1) detail does not show sediment barriers between the stream and the bore pit and receiving pit. Please correct this omission. § 102.4(b)(5)(ix)

#### 10. General

- a. The plan maps show sediment basins and sediment traps discharging to areas that are not identified as surface waters. If this is a non-surface water discharge, provide a discharge analysis that meets the standards of Item 4 on Page 2 and Item 15 on Page 161 of the E&S Manual. § 102.11(a)(1)
- b. All off-site waste and borrow areas must have an E&S plan approved by the local conservation district or the Department fully implemented prior to being activated. Please clarify where the crusher stone and geo-textile fabric will be taken after the contractor staging areas are no longer needed and restored to the existing condition. § 102.11(a)(1).

#### 11. Contractor Yard CS-CY-SC-3-07

- a. Riprap Apron Calculations: Assumptions have been made for the D0 and 3D0 for the riprap apron design. Please clarify what the assumptions have been based on. § 102.11(a)(1)

- b. Show all proposed compost sock locations on the plan maps (Item 9, Page 5 of the E&S Manual). The location of all compost sock barriers could not be located. § 102.11(a)(1)
- c. The notes in bold font in Standard Construction Detail Number #7-7 should be added to the detail sheet. (i.e. missing last standard note from Page 184 of the E&S Manual). § 102.11(a)(1)
- d. The construction detail for the proposed concrete cradle does not meet the standards shown in Standard Construction Detail Number #7-17. Make all necessary corrections. § 102.11(a)(1)
- e. Provide construction details for the dewatering system for the sediment basins and traps on a detail sheet (Item 9, Page 5 of the E&S Manual). Standard Construction Detail Number #7-18 is recommended for this purpose. § 102.11(a)(1)
- f. The diversion swales that discharge to the proposed sediment basins and traps should extend down the slope of the basins/traps and the aprons provided on the flat basin bottom. § 102.11(a)(1)

12. Contractor Yard CS-CY-SC-3-11

- a. Show all proposed compost sock locations on the plan maps (Item 9, Page 5 of the E&S Manual). The location of compost sock barriers #3, #5 and #23 could not be located. § 102.11(a)(1)

13. Contractor Yard CS-CY-SC-3-014.1

- a. Please provide a location map that conforms to the standards on Page 397 of the E&S Manual. Please provide a parcel # or address along Suedberg Road. § 102.11(a)(1)
- b. Please provide a copy of the work map used to delineate the watersheds tributary to the proposed diversion swale and compost sock trap. These watersheds should be the maximum tributary to the facility as described on Page 123 of the E&S Manual. § 102.11(a)(1)
- c. Please provide a step in the construction sequence for the compost sock sediment trap. § 102.11(a)(1)
- d. Riprap Apron Calculations: Assumptions have been made for the D0 and 3D0 for the riprap apron design. Please clarify what the assumptions have been based on. §

102.11(a)(1)

14. Contractor yard CS-CY-SC-3-015

- a. A spot check of the sediment barrier table found the sock diameters to be inconsistent with supporting calculations (standard worksheet #1). Make all necessary corrections. § 102.11(a)(1)

15. Contractor yard CS-CY-SC-3-016

- a. It appears that a stabilized construction entrance is needed off SR 25 (East Main Street). See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. Please make all necessary corrections and add the entrance to the construction sequence. § 102.11(a)(1)

16. Contractor yard CS-CY-SC-3-017

- a. It appears that a stabilized construction entrance is needed off of Valley Road and/or the private driveway adjacent to the staging area. See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. Please make all necessary corrections and add the entrance to the construction sequence. § 102.11(a)(1)
- b. Wetlands are completely wrapped in compost sock. Please clarify how the sock will be maintained in those locations. § 102.11(a)(1)
- c. As per general erosion and sediment control note #6, please show the minimum setback of 50 feet from the edge of the wetland. § 102.11(a)(1)

Best Management Practices and Quantities Plan Set – Proposed 42" Central Penn South

1. The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)

Erosion and Sediment Control and Layout Plans Drawings – Access Roads

1. Temporary Access Road (TAR) AR-SC-064 is identified on the plan drawing sheet as being located in Tremont Township. This temporary access road is actually located in Pine Grove Township. Please revise. § 102.11(a)(1)

2. The type and extent of existing land cover provided on the plan drawings is incomplete. The existing surface of existing roads, locations of proposed roads, etc. has not been clearly shown. (Page 357 of the E&S Manual). § 102.11(a)(1)
3. Sufficient surrounding area should be shown on the plan drawings to identify tributary drainage areas, receiving watercourses, and actual locations of proposed access roads in relation to public roads. The location map has too large a scale to locate points of access, while the pipeline drawings do not include the total extent of access roads. § 102.11(a)(1)
4. Please provide proposed final contours for all proposed earthmoving. § 102.11(a)(1)
5. A wide corridor is included within a Limit of Disturbance, and the general proposed road profiles show excavation and widening of existing roads; however, widening of existing roads is not shown. Please clarify the following on the plan drawings, to be consistent with the information provided in the E&S narrative for each TAR:
  - a. Indicate what the maximum temporary access road width is required for construction traffic. § 102.11(a)(1)
  - b. Specify the proposed width of the new temporary access roads. § 102.11(a)(1)
  - c. Specify the proposed widening of existing access roads. § 102.11(a)(1)
6. The construction sequence for access roads indicates that topsoil will be stripped from access road areas and stockpiled within the right-of-way; however, no topsoil stockpiles were found on the E&S plan drawings. § 102.11(a)(1)
7. The Limit of Disturbance line cuts through existing ponds along Buechler Road along access road # AR-SC-063. § 102.11(a)(1)
8. Proposed access road # AR-SC-074 and associated drainage structures are shown within the floodway. Please provide a copy of all required permitting for obstruction and encroachment within the floodway. § 102.11(a)(1)
9. Specify, on the plan drawings, how the access roads for construction will be stabilized (Page 9 in the E&S Manual). Note: Access roads should be designed according to Chapter 3 of the manual. § 102.11(a)(1)
10. Describe how Water Quality Swales will be protected from sedimentation until construction is completed and the site stabilized (see bottom of Pages 10 and 262 in the E&S Manual). § 102.11(a)(1)



11. Stabilized construction entrances are needed where unstabilized roads or existing (gravel) roads disturbed by construction traffic meet public roads. Please show all rock construction entrances on the plan drawings. See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. § 102.11(a)(1)
12. The construction detail provided for the proposed channels is a detail for a grass-lined conveyance; however, stormwater volume credit is taken for vegetated water quality filter swales. Please refer to the DEP stormwater manual for construction specifications for the Water Quality swales, and provide appropriate details. § 102.11(a)(1)
13. The plan map(s) show(s) compost sock(s) crossing contours at various locations. Sediment barriers should be installed at existing level grade (E&S Manual, Pages 61 and 75). § 102.11(a)(1) Please make all necessary corrections. It is recommended that Figure 4.1 be placed upon a detail sheet for clarity. § 102.11(a)(1)
14. The plan map(s) show(s) compost sock(s) located in concentrated flow in various locations. Revise the location(s) to avoid concentrated flow (E&S Manual, Page 62 and 67). § 102.11(a)(1)
15. The construction detail provided for proposed earthen level spreaders is incomplete and does not specify dimensions for each proposed spreader. § 102.11(a)(1)
16. Broad based dips could not be found on the proposed access roads in the plan drawings. Please specify what BMPs will be used to manage erosive runoff on access roads during construction and after construction. § 102.11(a)(1)
17. Erosion control matting installation should be shown on the plan drawings on all locations of disturbed areas with slopes of 3:1 and steeper. § 102.11(a)(1)
18. Timber mats are shown at low points in access roads to convey/maintain drainage of clean upslope water on a road with construction traffic. Please specify what BMPs will be used to clean upslope water clean or provide an alternate means of convey clean water through a construction area. § 102.11(a)(1)
19. Specify on the plan drawings which BMPs will be used on existing gravel roads, many of which have steep slopes and will be heavily used by large construction traffic, to minimize the potential for accelerated erosion and sedimentation during the project. The E&S plans indicated that many of these existing roads will receive no improvements to handle the construction traffic. § 102.11(a)(1)

20. Specify on the plan drawings which BMPs will be installed on existing gravel and newly constructed roads in order to minimize the potential for accelerated erosion and maintain road integrity after construction and stabilization of the project. § 102.11(a)(1)
21. Provide details and specifications for the proposed Site Restoration and Areas of Minimum Disturbance/Reduced Grading on the plan drawing(s). The plan drawings show that the areas specified as "Areas of Minimum Disturbance/Reduced Grading" are within the limits of disturbance and in access roads. § 102.11(a)(2)

### **Susquehanna County**

#### Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 30" Central Penn North

1. It appears that a stabilized construction entrance is needed at (*T-501, T-510, T-383, SR-2041, T-503, SR-2023, SR-2043 and SR-2020*). See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. § 102.11(a)(1)
2. Show one proposed limit of construction on the plan maps. All proposed earthmoving (including E&S BMPs and structural PCSM BMPs) must be within the limits of construction. Remove any reference to "LOD 5' Buffer" to avoid confusion (Item 3 on Page 2 and Page 398 in the E&S Manual). § 102.11(a)(1)
3. Please provide a soils delineation line on the plan drawings to show the locations of the soils on the plan map that meets the standards of Page 397 of the E&S Manual. Soil is not linear and will not be properly shown by the legend at the bottom of the plan sheets. § 102.11(a)(1)
4. Reference plan sheet 24-1601-70-28-A/1683\_3- CSA-CN-CSA-SU-1-008. All upslope water has not been diverted around the project area; some of the compost filter sock will not be designed properly for the length of slope draining to it. Filter Diversion outlets directly to compost filter sock located on the Eastern side of the site. Please revise. § 102.11(a)(1)

#### Best Management Practices and Quantities Plan Set – Proposed 30" Central Penn North

1. The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)

Erosion and Sediment Control and Layout Plans Drawings – Access Roads

1. Reference plan sheet 24-1601-70-28-A/1683\_3-AR-SU-041. The plan map(s) show(s) compost sock(s) located in concentrated flow (outlet of Culvert – 32 LF (12" CMP)). Revise the location(s) to avoid concentrated flow (E&S Manual, Page 62 and 67). § 102.11(a)(1)
2. Reference plan sheet 24-1601-70-28-A/1683\_3-AR-SU-046. It appears that the stabilized construction entrance may be better located where the access road meets the main roadway. See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. § 102.11(a)(1)

Soil Erosion and Sediment Control Plan Drawings – Zick Meter Station

1. Reference Plan sheet (30-3680)MF-1A-11. Soil delineation lines are not shown in the legend. Please revise. The plan map(s) show(s) compost sock(s) crossing contours at (CFS# 3,4,5,6,9 & 10). Sediment barriers should be installed at existing level grade (E&S Manual, Pages 61 and 75). Please make all necessary corrections. It is recommended that Figure 4.1 be placed upon a detail sheet for clarity. For clarity, please move the sequence of construction from sheet 10 to sheet 8 to avoid confusion. § 102.11(a)(1)

**Wyoming County**

Erosion and Sediment Control Plan Narrative – Proposed Central Penn North

1. The scale of the plan maps should be large enough to clearly depict the topographic features of the site. Please revise all sheets to conform to the standards in Appendix D (Pages 397 and 398) of the E&S Manual. § 102.11(a)(1)

Soil Erosion and Sediment Control Plan / Site Restoration Plan Drawings – Proposed 30" Central Penn North

1. Please provide a mapping symbols legend, north arrow, graphic scale that conforms to the standards on Page 397 of the E&S Manual. § 102.11(a)(1)
2. Indicate the type and extent of vegetative cover on all plan maps (Page 357 of the E&S Manual). § 102.11(a)(1)
3. The plan maps show compost socks crossing contours on all plan maps. Sediment barriers should be installed at existing level grade (E&S Manual, Pages 61 and 75). § 102.11(a)(1) Please make all necessary corrections. It is recommended that Figure 4.1 be placed upon a

detail sheet for clarity. § 102.11(a)(1)

4. The plan maps show compost socks located in concentrated flow on pipeline maps 1, 2, 4, 5, 6, 9 and 10 and access road plans WY-36. Revise the locations to avoid concentrated flow (E&S Manual, Page 62 and 67). § 102.11(a)(1)
5. The provided table for the silt sock sizes does not match the drawings. The table needs to be updated to reflect the sizes on the plans. § 102.11(a)(1)
6. The rock filters should not be placed in the channel during construction. § 102.11(a)(1)  
Please make all necessary changes. § 102.11(a)(1)
7. The silt socks are shown being placed directly through a wetland especially at the LOD. Please provide information as to why the silt socks are needed within a wetland. § 102.11(a)(1)
8. Each wetland crossing should have the individual BMPs that will be used at that crossing specified. § 102.11(a)(1)
9. Access to the contractors work site on Page 7 of the pipeline in Wyoming County does not show any proposed changes. This appears to be where the line will be drilled under the Susquehanna and will be a major work area. Show all proposed improvements (e.g. roads, buildings, utilities) on the plan maps (Page 398 in the E&S Manual). § 102.11(a)(1)
10. There are no details provided for the staging areas on Page 14 of the pipeline plans for Wyoming County. Show all proposed improvements (e.g. roads, buildings, utilities) on the plan maps (Page 398 in the E&S Manual). § 102.11(a)(1)
11. There is a stockpile location in the Eaton Township contractor's yard that is completely surrounded by silt sock with no access to the stockpile. Please show how this area will be accessed. § 102.11(a)(1)
12. There is no rock construction entrance (RCE) located at the contractor's staging area at the Eaton Township yard location. Please provide a stabilized construction entrance at this contractor's staging area yard. See Pages 13 through 17 in the E&S Manual for guidance regarding stabilized construction entrances. § 102.11(a)(1)
13. The contractor staging area that is located in Clinton Township near the Compressor station does not show any proposed contour lines or any improvements. The plan does call for 6 inches of stone to be placed over the site and used as is. The site is on a slope that would not be suitable for as is. Please show any or all improvements. § 102.11(a)(1)

14. Contractor staging area that is located in Clinton Township and near the compressor station has been modified by Penn DOT and is in use as a staging area for their use. The plan maps that are provided do not show the conditions as they exist on site or will exist when the pipeline used the area. Please provide the existing and proposed conditions, including any grading, proposed BMPs, etc. § 102.11(a)(1)

Best Management Practices and Quantities Plan Set – Proposed 30" Central Penn North

1. The Trench Plug Installation detail is not the most current version of the detail from the E&S Manual. Provide a detail that is in conformance with the current set of standard details from the E&S Manual or provide the required information related to the alternative BMP and design standard. §§ 102.4(b)(5)(vi), 102.4(b)(5)(ix), 102.11(a)(1) & 102.11(b)

Erosion and Sediment Control and Layout Plans Drawings – Access Roads

1. The plan maps show compost socks located in series on the access road plan maps, WY-30, 31, 36, and 36.1. Compost socks cannot be placed in series for erosion and sediment pollution control. Please relocate the socks to avoid being in series. § 102.11(a)(1)

Soil Erosion and Sediment Control Plan Drawings – Compressor Station 605

1. Provide the location of the cleanout stake that will be located in the sediment basin near the compressor station in Clinton Township, Wyoming County. § 102.11(a)(1)
2. There are stockpile locations at the Clinton Township compressor station location that will be inaccessible once the channels are placed on site. Please explain how these areas will be accessed after the channels are constructed, or move to places that will have better access. § 102.11(a)(1)

E&S Alternative BMP & Design Standard

1. Flume (Clean Water) Crossing:
  - a. Please indicate in the construction sequence whether this BMP will be temporary or permanent. § 102.4(c)
  - b. Clarify the Right of Way Slopes in the provided detail. Currently, less than a 20% slope could include 10% and 2%. It appears a range should be provided. § 102.4(c)
  - c. A symbol should be provided in the legend and the BMP located on the plan maps. The

- symbol should also indicate which of the 6 options will be used in each location. § 102.4(c)
- d. The plan view is not consistent with the profile (the berm should terminate at the beginning of the rip rap apron and the rip rap apron should be the same width as the level spreader). Please revise. § 102.4(c)
  - e. In general, the flume (clean water) crossings do not discharge to a watercourse, channel, surface water, etc. Please explain what will prevent a channel from being formed/eroded below the flumes and describe how the discharges from the channels/flumes will be safely conveyed to a surface water (see Item 4 on Page 3 of E&S Manual). § 102.4(c)
  - f. The detail indicates that scour stop transmission mats can be installed in lieu of the proposed riprap aprons. Please remove these Transition Mats as they do not dissipate energy and therefore would not be a substitute for riprap. § 102.4(c)
  - g. Clean Water Crossing Detail on Drawing Number ASR-BMP, Sheet 2 of 13 states "12" high stone level spreader (R-4)". The level spreader "berm" should not allow flow through the berm and should be constructed of compacted earth, concrete or impermeable materials. § 102.4 (c)
  - h. Provide peak flow calculations for flume channel(s). See Chapter 5 in E&S Manual for guidance on runoff calculations. Standard E&S Worksheets #9 and #10 are recommended for the Rational Equation. An acceptable alternative is the use of the standard multipliers at the top of Standard E&S Worksheet #11. § 102.4(c)
  - i. The detail for the clean water flume should show the flaring out of the rip rap apron to match the width of the level spreader. For example, the flume at 90.1 must transition from a 12 foot channel to a 27 foot level spreader. § 102.4(c)
  - j. The plan should verify the total drainage area to clean water flumes. It appears that in some cases (i.e. crossing 97.03) additional water not collected by the upslope diversion channel will reach the flume. § 102.4(c)
2. Waterbar end treatment (non HQ/EV Watersheds): This BMP requires a sediment storage area similar to the Waterbar end treatment in HQ/EV Watersheds. § 102.4(c)
3. Waterbar end treatment (HQ/EV Watersheds): The calculations provided were based on an 18" compost filter sock using a height of 18". Please revise and use the actual filter height of 14.5". § 102.4(c)

## Post Construction Stormwater Management Plans

### **General PCSM Technical Deficiencies related to all documents**

1. It appears that the mainline valve pad sites will serve as a PCSM BMP. These pad sites appear to be located in areas that will be backfilled as part of the mainline construction. Clearly identify the location of the mainline valve pad sites, in relation to the all other earth disturbance activities. Protocol 2.2.a of Appendix C of the PCSM Manual recommends against infiltrating in areas of compacted fill. Provide the demonstration that these PCSM BMPs will properly manage the runoff for the function intended. 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. §§ 102.8(f)(15), 102.8(g)(1), 102.8(g)(2), 102.8(g)(3), 102.11(a)(2) & 102.11(b)
2. 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. §§ 102.8(f)(8), 102.8(f)(15), 102.8(g)(2), 102.8(g)(3), 102.8(g)(4), 102.11(a)(2) & 102.11(b)
3. Protocol 2.1.c of 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. §§ 91.51(a), 102.8(f)(6), 102.8(f)(15), 102.11(a)(2) & 102.11(b)
4. The narratives identify that a significant number of site specific infiltration testing and soil probes have not been performed, but that prior to construction infiltration testing will be completed. This is not an adequate predevelopment site characterization and assessment of soil and geology. Perform an adequate predevelopment site characterization and assessment of soil and geology. § 102.8(g)(1)
5. The calculations provided in the narratives are difficult to follow and verify. Ensure that all

calculated values are clearly identified, including any formulas used to calculate said values. §§ 102.8(f)(8) & 102.8(g)(4)

6. The provided riparian buffer/riparian forest buffer waiver information appears to be for the project as a whole, and is too vague for the specific riparian buffer/riparian forest buffer waiver being requested for each specific location. Provide the required information for the specific locations of where the riparian buffer/riparian forest buffer waiver is being requested. The additional information should include, but not be limited to, stream impairments/TMDLs (the UNT to Trout Run has a TMDL for the overall watershed), length of time required for the disturbance, plans clearly identifying the areas for waivers, why the alignment is required to change, why additional workspace is required at the particular location. § 102.14(d)(2)
7. The antidegradation analyses are not adequate, as they are too vague and do not contain sufficient information. Make the antidegradation analysis specific to the site for which the PCSM Plan covers (i.e. each discharge along the pipeline, each permanent access road, etc.). This analyses should evaluate and include nondischarge alternatives in the PCSM Plans. If nondischarge alternatives do not exist for the project, then make that demonstration and include in the PCSM Plans antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.8(h)
8. The thermal impact analyses appear to be related to the entire project, mainly the proposed transmission line. Provide an identification of potential thermal impacts from post construction stormwater to surface waters of this Commonwealth including BMPs to avoid, minimize or mitigate potential pollution from thermal impacts. Provide a thermal impact analysis for each specific location (i.e. each regulator station, each compressor station, each permanent access road, etc.). § 102.8(f)(13)
9. Ensure that all necessary and regulatory required details and notes are provided for the PCSM BMPs. §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f)(12) & 102.8(g)(5)
10. The restoration plans do not show what portions of the right-of-way, alternate temporary work space and temporary work space will be restored. Please provide accordingly. § 102.8(f)(9)
11. Please show the proposed pipeline on the Erosion and Sediment Control Plans and the Restoration Plans. § 102.8(f)(9)
12. Please be advised that swales with a slope of 6 percent are not acceptable as a water quality BMP. Vegetated swales with slopes greater than 3 percent and less than 6 percent are acceptable as a water quality BMP if check dams are provided and designed according to the



Pennsylvania Stormwater Best Management Practices Manual, November 2006, Chapter 6, vegetated swales. Please check that all vegetated swales being utilized as a water quality or volume control post construction stormwater management BMP are within this requirement. § 102.8(f)(8)

13. An assumed infiltration rate cannot be used to determine if the infiltration swale is adequately designed to infiltrate the stormwater volume increase from existing to proposed conditions. Please provide a test pit/field log information and infiltration testing for each proposed infiltration BMP. § 102.8(f)(8)
14. It appears that volume control BMPS have not been proposed for the proposed access road AR-SU-046. Please provide calculations to determine if any volume control BMPs are required. Should volume control BMPS be necessary, please provide all calculations, plans, details, notes, etc. for construction of the proposed BMP. § 102.8(f)(6), § 102.8(f)(8), § 102.8(f)(9)
15. Credit may not be taken for multiple BMPs that are located within one another. Each BMP have certain criteria and even though these design criteria may overlap, that actual BMPs may not overlap. Each BMP must remain separate. The BMPs may be used in series or parallel of one another but credit may not be taken for BMPs that appear to be within one another. Please review all BMPs and revise all documentation as applicable. § 102.8(f)(8), § 102.8(f)(9)
16. It is not clear what the infiltration berms will be infiltrating. It does not appear that the infiltration calculations have been provided to show what volume will be infiltrated for each BMP. Please provide the calculations for each proposed BMP. § 102.8(f)(8)
17. Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration berm. § 102.8(f)(8)
18. 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. §§ 102.4(b)(4), 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.
19. Describe how your planning and design requirements satisfy 25 Pa. Code §§ 102.4(b)(4) & 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.

20. 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. § 102.8(f)(6)

### **Columbia County**

#### Post Construction Stormwater Management Plan Narrative – Compressor Station 610

1. The soil testing indicates that the limiting zone is above the bottom of the basin and therefore does not provide the required 2 foot buffer. § 102.8(F)(2)
2. Soil testing indicated high water level in the tests near the storm basin expansion. How will water be handled if present. § 102.8(F)(2)
3. Infiltration testing was not conducted at the depth in the soil profile equal to the deepest cuts for the pond bottom. § 102.8(F)(2)
4. Explain why the soil amendment area in the bottom of the basin is less than the surface area at elevation 1200 assumed in the pond routings. § 102.8(F)(2)
5. Provide supporting calculations for worksheet #5 infiltration volumes. § 102.11(a)(2)
6. Provide worksheets from chapter 8 of the stormwater manual to verify that all the requirements to be eligible for the items checked on worksheets #3, #10, and #11 have been met. § 102.8(F)(8)

#### Post Construction Stormwater Management Narrative – West Diamond Regulator Station

#### Post Construction Stormwater Management Plan Drawings – Compressor Station 610

1. Explain how the amount of woodland in the developed condition (worksheet #4 – Green Creek) has Explain how the amount of woodland in the developed condition (worksheet #4 – Green Creek) has increased significantly without any woodland plantings. § 102.8(F)(8)
2. Provide supporting calculations for worksheet #5 infiltration volumes. § 102.8(F)(8)
3. If the infiltration berms in the POI C are to be included in the volume reduction calculations, provide calculations showing the amount of drainage area flowing to the berms and that this

area can generate sufficient runoff volume (worksheet 4 procedure) equal to the credit. § 102.8(F)(8)

4. Provide worksheets from chapter 8 of the stormwater manual to verify that all the requirements to be eligible for the items checked on worksheets #3, #10, and #11 have been met. § 102.8(F)(8)

Post Construction Stormwater Management Drawings – West Diamond Regulator Station

1. The soil testing indicates that the limiting zone is above the bottom of the basin and therefore does not provide the required 2 foot buffer. § 102.8(F)(2)
2. Soil testing indicated high water level in the tests near the storm basin expansion. How will water be handled if present. § 102.8(F)(2)
3. Infiltration testing was not conducted at the depth in the soil profile equal to the deepest cuts for the pond bottom. § 102.8(F)(2)
4. Explain why the soil amendment area in the bottom of the basin is less than the surface area at elevation 1200 assumed in the pond routings. § 102.8(F)(2)
5. Provide supporting calculations for worksheet #5 infiltration volumes. § 102.11(a)(2)
6. Provide worksheets from chapter 8 of the stormwater manual to verify that all the requirements to be eligible for the items checked on worksheets #3, #10, and #11 have been met. § 102.8(F)(8).
7. Indicate on the drawing the final cover to be used on the regulator pad area. § 102.8(F)(9)

**Lancaster County**

Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative – Temporary and Permanent Access Roads

1. Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)
2. Are the mainline valve sites included in the E&S and PCSM Plans for the permanent access roads? If so, that should be clarified and discussed in the narratives. § 102.8(f)(3)

3. Identify in the narrative whether the receiving surface water is impaired or has a TMDL. For the specific sites (temporary and permanent access roads), ensure that proper and adequate discussion is provided related to the E&S and PCSM design and the impairment and/or TMDL. § 102.8(f)(5)
4. Identify in the table on Page 5 the receiving surface water, the Designated and Existing Uses and if the receiving surface water is impaired or has a TMDL. The table identifies LA-026.4 as a temporary and then as a permanent access road; clarify why this one location is identified twice. § 102.8(f)(3) & 102.8(f)(5)
5. Identify what is meant by the terminology "infiltration losses" in the last sentence of the second paragraph on Page 9. § 102.8(f)(15)
6. 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 (e.g. the first sentence of the second paragraph on Page 13). §§ 102.8(g)(2) & 102.8(g)(3)
7. The third paragraph on Page 13 is very confusing related to the Act 167 Plans. Clearly identify to what criteria the PCSM Plan was designed to. On November 7, 2013, DEP approved the Blueprints: An Integrated Water Resources Plan for Lancaster County (Acts 247 and 167) for all of Lancaster County. Make all revisions necessary. §§ 102.8(g)(2) & 102.8(g)(3)
8. The generalized BMP Installation Sequence Narrative in Section 1.7 is not sufficient. Each temporary and permanent access road is different, as a site/location specific construction sequence is required. § 102.8(f)(7)
9. Provide an adequate long-term operation and maintenance schedule in Section 1.10 for all PCSM BMPs. § 102.8(f)(10)
10. Section 1.11 does not identify, address or ensure that proper measures for recycling or disposal of materials associated with or from the PCSM BMPs are in accordance with Department laws, regulations and requirement. Make all revisions necessary. § 102.8(f)(11)
11. Section 1.12 on Page 26 identifies that there may be potential for acid producing rock. Identify if there is or is not the potential for naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities and after earth disturbance activities are completed and PCSM BMPs are operational. What investigation has been done to determine if there is potential for acidic runoff from the site (beyond the Soil Survey)? If acid producing rock is present at the site, then provide BMPs to

minimize the potential for pollution. Perform and supply an adequate predevelopment site characterization and assessment of soil and geology. Tailor this discussion for each specific site (temporary and permanent access roads). §§ 102.8(f)(12) & 102.8(g)(1)

Clarify the statement on Page 27 "...the quantity of acidic soils found along the proposed CPL South route may be sufficiently high such that their potential for pollution should be mitigated." If the quantity is sufficiently, how is that mitigated? What investigation has been performed to determine that the amount potential for pollution is mitigated? §§ 102.8(f)(12) & 102.8(g)(1)

12. Section 1.13 does not include a thermal impact analysis for the earth disturbance activity (for the E&S Plan). Provide this thermal impact analysis. Provide the thermal impact analysis for each specific site. § 102.8(f)(13)
13. Revise Section 1.15 to be specific for any requested riparian buffer/riparian forest buffer waivers associated with the temporary and permanent access roads. There is no regulatory requirement to provide a riparian buffer/riparian forest buffer for perennial or intermittent rivers, streams, or creeks, or lakes, ponds, or reservoirs with a Designated Use other than Exceptional Value and High Quality; therefore, a waiver of buffers for these areas is not required. Revise the narrative accordingly. § 102.14(d)(2)

What purpose does the discussion related to Act 167 Plan have related to the riparian buffer/riparian forest buffer waivers? § 102.8(f)(15)

14. Section 1.16 is not an adequate antidegradation analysis. Make the antidegradation analysis specific to the site for which the PCSM Plan covers (i.e. each temporary and/or permanent access road). The analysis should evaluate and include nondischarge alternatives in the PCSM Plan. If nondischarge alternatives do not exist for the project, then make that demonstration and include in the PCSM Plan antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.8(h)
15. The plan drawings provided in Appendix A and B are not current with the latest set of revised full-size plan drawings (e.g. Appendix A Drawing No. 24-1600-70-28-A/LL113\_9 has a latest revision date of 12/02/2015; while the full-size Drawing No. 24-1600-70-28-A/LL113\_9 has a latest revision date of 02/04/2016). DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings in Appendix A and B), to avoid confusion and potential inconsistencies. § 102.8(f)(9)
16. The plan preparer qualifications in Appendix D are qualifications for E&S Plans. Provide documentation that the person who prepared the PCSM Plan is a person trained and experienced in PCSM design methods and techniques applicable to the size and scope of the

project being designed. § 102.8(e)

17. The following technical deficiencies are associated with Appendix I:

- a. 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. §§ 102.8(g)(2) & 102.8(g)(3)
- b. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management.
- c. Permanent access road AR-LA-010.2 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f)(15)
- d. The proposed impervious loading ratio for the MLV Pad is identified as 1:1; however, based upon the MLV Site AR-LA-10.2 Infiltration Volume calculations, it appears that the infiltration area is smaller than the pad site. Clarify this discrepancy. § 102.8(f)(8)
- e. The provided alternative BMP and design standard demonstration is not sufficient. Provide sufficient information to demonstrate that the proposed loading ratios will achieve the same regulatory standard as the recommended loading ratios of the PCSM Manual. § 102.11(b)
- f. The following technical deficiencies are associated with Appendix I.3:
  - i. Provide contour information with the drainage area map, including contour labels. §§ 102.8(f)(8) & 102.8(f)(9)
  - ii. The drainage area map identifies a drainage area of 22.38 acres; however, only 0.728 acres is analyzed in the hydrographs. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)
  - iii. If there is a road side ditch/swale along Pequea Creek Road, then revise the Time of

Concentration (Tc) calculations to include a channel flow segment. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)

- iv. The entire drainage area was analyzed as meadow condition; however, the drainage area map clearly identifies a wooded area. Why was the wooded area not included in the predevelopment analysis? §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)
  - v. The hydrograph calculations utilize a 2-year/24-hour rainfall depth of 3.16 inches; however, the Tc calculations utilize a 2-year/24-hour rainfall depth of 3.12 inches. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)
  - vi. The utilized rainfall data for the storm events does not match the rainfall data provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- g. The following technical deficiencies are associated with Appendix I.4:
- i. Provide more legible contour information with the drainage area map, including contour labels. §§ 102.8(f)(8) & 102.8(f)(9)
  - ii. The naming conventions identified on the drainage area map do not match the naming conventions for the hydrographs. Provide a consistent naming convention. § 102.8(f)(8)
  - iii. How was the storage for the MLV Pad calculated for the hydrograph routing calculations? The total volume identified does not appear to match any of the other volumes identified for this facility. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- h. The following technical deficiencies are associated with Appendix I.6:
- i. How was the Subreach Volume calculated? Provide the equation that is utilized. § 102.8(f)(8)
  - ii. Provide discussion as to how/why the Reduce Qi was determined and utilized. § 102.8(f)(8)
  - iii. The Field Qi is identified as 8.16 in./hr. However, that highest raw infiltration rate tested that was identified in Appendix I.8 is 1.625 in./hr. How was a Field Rate of 8.16 in./hr. determined? §§ 102.8(f)(8), 102.8(g)(1) & 102.8(g)(2)

- i. The following technical deficiencies are associated with Appendix I.7:
  - i. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1)
  - ii. PCSM Standard Worksheet #4 identifies a Managed Area of 1.29 acres; however, an area of only 0.728 acres is analyzed. Clarify this discrepancy. §§ 102.8(f)(8) & 102.8(g)(2)
  - iii. Utilize the latest version of the PCSM Standard Worksheets #5. How was the volume to be permanently reduced of 2,415 cf calculated for the MLV Pad? §§ 102.8(f)(8), 102.8(f)(15) & 102.8(g)(2)
  - iv. PCSM Standard Worksheet #10: If the proposed vegetated swale is designed to be utilized with a water quality function (in addition to volume reduction), then design the PCSM BMP in accordance with the recommendations of the PCSM Manual (1-3% longitudinal slope) or provide the appropriate information related to the alternative BMP and design standards. Ensure that all required plan information related to the minimize soil compaction and re-vegetated/re-forest disturbed areas is provided on the PCSM Plan drawings (e.g. seeding mix, long-term operation and maintenance schedule, construction sequence, etc.). §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f)(10), 102.8(g)(2), 102.11(a)(2) & 102.11(b)
  - v. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet #11 is to only be provided if the volume reduction cannot be met. § 102.8(f)(15)
- j. The following technical deficiencies are associated with Appendix I.8:
  - i. Is the 'Proposed Elevation' identified on the AR-LA-010.2 Infiltration Testing Locations map the infiltration elevation for the proposed PCSM BMPs? §§ 102.8(f)(8) & 102.8(f)(9)
  - ii. The Soil Profile Logs identify a seasonal high water table. Identify was observed for that lead to the identification of a seasonal high water table. § 102.8(g)(1)
  - iii. It appears that a portion of the last column in the Soil Profile Logs is cut-off. Ensure that the entire log is provided. § 102.8(g)(1)
  - iv. The Table of Contents for Appendix I.8 includes 'MLV Pad Dewatering Calculations'; however, these calculations could not be located. Provide these



calculations. § 102.8(f)(8)

- v. The MLV Site AR-LA-010.2 Infiltration Volume calculations are extremely hard to follow. Provide more information so that the calculations can be followed. Ensure that consistent terms are utilized (e.g. 'Water Surface Area' versus 'Storage Area (from Civil 3d)'). § 102.8(f)(8)

18. The following technical deficiencies are associated with Appendix N:

- a. The narrative identifies that the dewatering time for the MLV Pad is 13 days, which exceeds the recommended dewatering time of 72 hours from Chapter 3 of the PCSM Manual. It appears that the alternative BMP and design standard discussion is solely related to mosquito control. While the recommended dewatering time does include concerns for mosquito control, there are other concerns that have to be considered (e.g. storage volume available for the next storm event, water quality due to standing water, etc.). Provide an adequate alternate BMP and design standard demonstration. §§ 102.8(f)(6), 102.11(a)(2) & 102.11(b)
- b. 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. §§ 102.8(g)(2) & 102.8(g)(3)
- c. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management.
- d. It appears that the receiving surface water for permanent access road AR-LA-018.3 is an unnamed tributary to West Branch Little Conestoga Creek. It appears that the receiving surface water of the unnamed tributary to West Branch Little Conestoga Creek has a Designated Use of Trout Stocking (TSF). Properly identify the receiving surface water and the Designated and Existing Uses. § 102.8(f)(5)
- e. Permanent access road AR-LA-018.3 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f)(15)

- f. The proposed impervious loading ratio for the MLV Pad is identified as 3.6:1; however, the total loading ratio is identified as 1.2:1. How can the impervious loading ratio be higher than the total loading ratio? Ensure that the loading calculations are correct. § 102.8(f)(8)
- g. The following technical deficiencies are associated with Appendix N.3:
  - i. Provide contour information with the drainage area map, including contour labels. Identify the Time of Concentration (Tc) flow path on the drainage area map. §§ 102.8(f)(8) & 102.8(f)(9)
  - ii. The predevelopment drainage area analyzes approx. 1,394 sf of disconnected roofs; however, the drainage area delineation does not appear to encompass any roof areas. Clarify this discrepancy and make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)
  - iii. The utilized rainfall data for the storm events does not match the rainfall data provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- h. The following technical deficiencies are associated with Appendix N.4:
  - i. Provide contour information with the drainage area map, including contour labels. Identify the Time of Concentration (Tc) flow path on the drainage area map. Include the proposed conditions on the drainage area map. §§ 102.8(f)(8) & 102.8(f)(9)
  - ii. How was the storage for the MLV Pad calculated for the hydrograph routing calculations? The plan drawings identify the stone pad to be 90-ft. x 52-ft., which results in 4,680 sf. The narrative discussion of the pad identifies a depth of stone of 36-in.; however, it appears that the volume calculations only accounted for 30-in. (which is what is identified on Drawing No. 24-1600-70-28-A/LL113\_9-AR-LA-018.3). Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- i. The following technical deficiencies are associated with Appendix N.5:
  - i. PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Witmers Run. This is not consistent with the previous identification of the receiving surface water. Clearly and consistently identify the receiving surface

water. §§ 102.8(f)(5) & 102.8(g)(1)

- ii. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1)
  - iii. Utilize the latest version of the PCSM Standard Worksheets #5. §§ 102.8(f)(8), 102.8(f)(15) & 102.8(g)(2)
  - iv. PCSM Standard Worksheet #10: Ensure that all required plan information related to the minimize soil compaction and re-vegetated/re-forest disturbed areas is provided on the PCSM Plan drawings (e.g. seeding mix, long-term operation and maintenance schedule, construction sequence, etc.). §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f)(10) & 102.8(g)(2)
  - v. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet #11 is to only be provided if the volume reduction cannot be met. § 102.8(f)(15)
- j. The following technical deficiencies are associated with Appendix N.6:
- i. Is the 'Proposed Elevation' identified on the AR-LA-018.3 Infiltration Testing Locations map the infiltration elevation for the proposed PCSM BMPs? §§ 102.8(f)(8) & 102.8(f)(9)
  - ii. The Soil Profile Logs identify a seasonal high water table. Identify was observed for that lead to the identification of a seasonal high water table. § 102.8(g)(1)
  - iii. It appears that a portion of the last column in the Soil Profile Logs is cut-off. Ensure that the entire log is provided. § 102.8(g)(1)
  - iv. Provide specific dewatering calculations for the MLV Pad, including the identification of what Safety Factor was utilized. § 102.8(f)(8)

19. The following technical deficiencies are associated with Appendix O:

- a. The narrative identifies the Watershed as Strickler Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Strickler Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
- b. There appears to be no discussion or stormwater management analysis for the permanent access road AR-LA-020. Provide the all necessary information related to the post

construction stormwater management for this permanent access road. § 102.8

20. There appears to be no discussion or stormwater management analysis for the permanent access road AR-LA-021 in Appendix P. Provide the all necessary information related to the post construction stormwater management for this permanent access road. § 102.8
21. For temporary access road AS-LA-023.1 (Appendix Q), the narrative identifies the Watershed as Strickler Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Strickler Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
22. For temporary access road AS-LA-023.2 (Appendix R), the narrative identifies the Watershed as Shawnee Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Shawnee Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
23. The following technical deficiencies are associated with Appendix S:
  - a. The narrative identifies the Watershed as Chiques Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as a tributary to Chiques Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
  - b. 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. §§ 102.8(g)(2) & 102.8(g)(3)
  - c. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management.
  - d. Permanent access road AR-LA-026.2.1 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f)(15)
  - e. The proposed total loading ratio for the MLV Pad is identified as 1:1; however, based

upon the drawings it appears that there is vegetated area tributary to the MLV Pad. Identify the contributory drainage area to the MLV Pad. §§ 102.8(f)(8) & 102.8(f)(9)

- f. The following technical deficiencies are associated with Appendix S.3:
- i. The naming conventions identified on the drainage area map do not match the naming conventions for the hydrographs. Provide a consistent naming convention. § 102.8(f)(8)
  - ii. If there is a road side ditch/swale along Marietta Avenue, then revise the Time of Concentration ( $T_c$ ) calculations to include a channel flow segment. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)
  - iii. The utilized rainfall data for the storm events does not match the rainfall data provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- g. The following technical deficiencies are associated with Appendix S.4:
- i. How was the storage for the MLV Pad calculated for the hydrograph routing calculations? The total volume identified does not appear to match any of the other volumes identified for this facility. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
  - ii. The hydrographs appears to utilize a PCSM BMP for runoff control (identified by 'WQS'), and it appears that the BMP is a vegetated swale with check dams. However, this BMP was not discussed in the narrative. Clearly identify what type of PCSM BMP 'WQS' is and provide the appropriate narrative discussion. §§ 102.8(f)(6), 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
  - iii. Identify how the volume storage for the WQS was calculated for the hydrograph routing calculations. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- h. The following technical deficiencies are associated with Appendix S.6:
- i. How was the Subreach Volume calculated? Provide the equation that is utilized. § 102.8(f)(8)
  - ii. Provide discussion as to how/why the Reduce  $Q_i$  was determined and utilized. § 102.8(f)(8)

- iii. Identify how the Field Qi is identified as 0.5 in./hr., as a predevelopment site characterization and assessment of soil and geology could not be located for this permanent access road. Identify how it was determined that infiltration is occurring at the site and that infiltration is appropriate. §§ 102.8(f)(8), 102.8(g)(1) & 102.8(g)(2)
  - i. The following technical deficiencies are associated with Appendix S.7:
    - i. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1)
    - ii. PCSM Standard Worksheet #4 identifies a Managed Area of 1.037 acres; however, an area of 4.879 acres is analyzed. Clarify this discrepancy. §§ 102.8(f)(8) & 102.8(g)(2)
    - iii. Utilize the latest version of the PCSM Standard Worksheets #5. How was the volume to be permanently reduced of 256 cf calculated for the MLV Pad? §§ 102.8(f)(8), 102.8(f)(15) & 102.8(g)(2)
    - iv. PCSM Standard Worksheet #10: If the proposed vegetated swale is designed to be utilized with a water quality function (in addition to volume reduction), then design the PCSM BMP in accordance with the recommendations of the PCSM Manual (1-3% longitudinal slope) or provide the appropriate information related to the alternative BMP and design standards. Ensure that all required plan information related to the minimize soil compaction and re-vegetated/re-forest disturbed areas is provided on the PCSM Plan drawings (e.g. seeding mix, long-term operation and maintenance schedule, construction sequence, etc.). §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f)(10), 102.8(g)(2), 102.11(a)(2) & 102.11(b)
    - v. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet #11 is to only be provided if the volume reduction cannot be met. § 102.8(f)(15)
  - j. Provide dewatering calculations for all of the PCSM BMPs. § 102.8(f)(8)
24. The narrative in Appendix T identifies AR-LA-026.4 as a temporary access road. However, the table from Page 5 of the main narrative and the location map in Appendix T identify the access road as permanent. Clarify this discrepancy and make all revisions necessary. If this is a permanent access road, then provide all necessary information related to the post construction stormwater management for this permanent access road. §§ 102.8 & 102.8(f)(3)

25. The location map in Appendix T identifies AR-LA-027.5, which appears to be an access road (based upon the naming convention). However, there does not appear to be anything proposed for the area identified on the location map. Clarify this discrepancy. § 102.8(f)(3)
26. For temporary access road AS-LA-027.1 (Appendix U), the narrative identifies the Watershed as Chickies Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Chickies Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
27. For temporary access road AS-LA-028.1 (Appendix V), the narrative identifies the Watershed as Black Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as Back Run. Based upon the information in the Joint Permit application, the receiving surface water would be an UNT to Back Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
28. The following technical deficiencies are associated with Appendix W:
  - a. The narrative identifies the Watershed as Chickies Creek; however, PCSM Standard Worksheet #1 (in Appendix W.7) identifies the receiving surface water as an UNT to Chickies Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
  - b. 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. §§ 102.8(g)(2) & 102.8(g)(3)
  - c. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management.
  - d. Permanent access road AR-LA-029.3 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f)(15)

- e. Identify how the proposed impervious loading ratio for the MLV Pad was calculated. It appears that the pad has a footprint of 2,500 SF (2,000 CF storage at elevation 514.5 multiplied by the void ratio of 40% results in 5,000 CF; then divided by 2-ft. depth results in a surface area of 2,500 SF). The impervious area to the pad is identified as 4,680 SF, which should result in an impervious loading ratio of 1.9:1 (while the total loading ratio should be 5.4:1). Clarify this discrepancy. § 102.8(f)(8)
- f. The provided alternative BMP and design standard demonstration is not sufficient. Provide sufficient information to demonstrate that the proposed loading ratios will achieve the same regulatory standard as the recommended loading ratios of the PCSM Manual. § 102.11(b)
- g. The following technical deficiencies are associated with Appendix W.3:
  - i. Provide contour information with the drainage area map, including contour labels. §§ 102.8(f)(8) & 102.8(f)(9)
  - ii. If there is a road side ditch/swale along Pequea Creek Road, then revise the Time of Concentration ( $T_c$ ) calculations to include a channel flow segment. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)
  - iii. The utilized rainfall data for the storm events does not match the rainfall data provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- h. The following technical deficiencies are associated with Appendix W.4:
  - i. Provide more legible contour information with the drainage area map, including contour labels. §§ 102.8(f)(8) & 102.8(f)(9)
  - ii. The naming conventions identified on the drainage area map do not match the naming conventions for the hydrographs. Provide a consistent naming convention. § 102.8(f)(8)
  - iii. How was the storage for the MLV Pad calculated for the hydrograph routing calculations? The total volume identified does not appear to match any of the other volumes identified for this facility. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- i. The following technical deficiencies are associated with Appendix W.6:



- i. How was the Subreach Volume calculated? Provide the equation that is utilized. § 102.8(f)(8)
  - ii. Provide discussion as to how/why the Reduce Qi was determined and utilized. § 102.8(f)(8)
  - iii. Identify how the Field Qi is identified as 1.0 in./hr., as a predevelopment site characterization and assessment of soil and geology could not be located for this permanent access road. Identify how it was determined that infiltration is occurring at the site and that infiltration is appropriate. §§ 102.8(f)(8), 102.8(g)(1) & 102.8(g)(2)
- j. The following technical deficiencies are associated with Appendix W.7:
- i. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1)
  - ii. PCSM Standard Worksheet #4 identifies a Managed Area of 1.29 acres; however, an area of only 0.728 acres is analyzed. Clarify this discrepancy. §§ 102.8(f)(8) & 102.8(g)(2)
  - iii. Utilize the latest version of the PCSM Standard Worksheets #5. How was the volume to be permanently reduced of 2,000 cf calculated for the MLV Pad (as the hydrograph routing calculations identify a used storage volume of 1,532 cf for the 2-year/24-hour storm event)? §§ 102.8(f)(8), 102.8(f)(15) & 102.8(g)(2)
  - iv. PCSM Standard Worksheet #10: If the proposed vegetated swale is designed to be utilized with a water quality function (in addition to volume reduction), then design the PCSM BMP in accordance with the recommendations of the PCSM Manual (1-3% longitudinal slope) or provide the appropriate information related to the alternative BMP and design standards. Ensure that all required plan information related to the minimize soil compaction and re-vegetated/re-forest disturbed areas is provided on the PCSM Plan drawings (e.g. seeding mix, long-term operation and maintenance schedule, construction sequence, etc.). §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f)(10), 102.8(g)(2), 102.11(a)(2) & 102.11(b)
  - v. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet #11 is to only be provided if the volume reduction cannot be met. § 102.8(f)(15)
- k. Provide dewatering calculations for all of the PCSM BMPs. § 102.8(f)(8)

29. For temporary access road AS-LA-030 (Appendix X), the narrative identifies the Watershed as Little Chickens Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as Shells Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
30. For temporary access road AS-LE-033.1 (Appendix Y), the narrative identifies the Watershed as Little Chickies Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Shells Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)

Post Construction Stormwater Management Plan Narrative – River Road Regulator Station

1. The first sentence of the third paragraph on Page 1 identifies that there is a proposed increase of 1.49 acres of gravel area. However, the calculations (e.g. PCSM Standard Worksheet #4) identify an increase of only 1.20 acres of gravel area. Clarify this discrepancy and make all revisions necessary to consistently identify the proposed increase in gravel area. §§ 102.8(f)(3), 102.8(f)(4), 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
2. The third sentence of the third paragraph on Page 1 identifies that the Post Construction Stormwater Management (PCSM) and Site Restoration (SR) best management practices (BMPs) are designed in accordance with the E&S Manual. This is not adequate, as the PCSM BMPs should be designed in accordance with PCSM Manual or an alternative BMP and design standard demonstration should be made. Revise the design or the PCSM/SR BMPs or provide the alternative demonstration. Make all revisions necessary. §§ 102.8(f), 102.11(a)(2) & 102.11(b)
3. The fourth sentence of the third paragraph on Page 1 identifies to what standard the practices were designed. However, design the PCSM Plan to meet all the regulatory requirements in 25 Pa. Code § 102.8(b). Ensure that the PCSM Plan clearly demonstrates how all Sub-Sections of 25 Pa. Code § 102.8(b) are being met.
4. The first sentence of the first paragraph on Page 8 uses the abbreviation of 'MLVs'; however, this abbreviation has not been identified. In the PCSM Plan identify what MLVs is an abbreviation for (e.g. "New full abbreviated term (MLVs) will be wholly..."). § 102.8(f)(3)
5. The last sentence of the last paragraph on Page 8 refers to "erosion control design"; however, this is the PCSM Plan. The E&S Plan should be separate from the PCSM Plan and vice-versa. Make all revisions necessary to separate the E&S Plan from the PCSM Plan. §§ 102.4(b)(5)(xiv) & 102.8(d)

6. Section 1.3 does not adequately identify the past land uses of the site. It is recommended to identify the historic land use of the site (5 to 50 years ago) and the existing land use of the site (0 to 5 years ago). § 102.8(f)(3)
7. The second sentence of the second paragraph of Section 1.4 on Page 9 identifies that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management.
8. 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 (e.g. the first sentence of the first paragraph of Section 1.4 on Page 9: "...50-, and 100-year/24-hour storm events..."). §§ 102.8(g)(2) & 102.8(g)(3)
9. The third sentence of the second paragraph of Section 1.4 on Page 9 identifies a "Water Quality Worksheet #4". Identify what Worksheet this is, as DEP does not have a worksheet titled Water Quality Worksheet #4. If this is referring to 'Worksheet 4. Change in Runoff Volume for 2-YR Storm Event', then it is recommend to identify it as 'PCSM Standard Worksheet #4'. § 102.8(f)(15)
10. The first sentence of the first paragraph on Page 10 identifies that "The Site is not located within a current PADEP approved Act 167 Stormwater Management Watershed Plan". However, on November 7, 2013, DEP approved the Blueprints: An Integrated Water Resources Plan for Lancaster County (Acts 247 and 167) for all of Lancaster County. Make all revisions to appropriately identify the site. § 102.8(f)(15)
11. The last sentence of Section 1.5 on Page 10 identifies that impairment are listed in a "PADEP Chapter 93 Integrated List". However, this is not correct. Stream impairments and TDMLs are identified in the '2014 Pennsylvania Integrated Water Quality Monitoring and Assessment Report'. Make all revisions necessary. § 102.8(f)(15)

Please note that the receiving surface water of Fishing Creek is tentatively impaired for agriculture – siltation and habitat modification – other habitat alterations. If the receiving surface water is identified as impaired in the 2016 Pennsylvania Integrated Water Quality Monitoring and Assessment Report before permit coverage is authorized for the project, then revise the application accordingly.

12. Page 11 identifies an Infiltration Bed as a PCSM BMP; however, in the discussion of said

BMP, it is described as a subsurface detention facility. Ensure that each PCSM BMP is described and identified consistently throughout the application. §§ 102.8(f)(3) & 102.8(f)(6)

13. Page 11 identifies separate PCSM BMPs of Bioretention Basin, Minimize Soil Compaction in Disturbed Areas and Soil Amendment and Restoration. Based upon the PCSM Plan drawings for the River Road Regulator Station, the same area is utilized for all of these PCSM BMPs. Minimizing soil compaction and soil amendments are inherent to bioretention basins; therefore, separate post construction stormwater management credit cannot be taken for minimize soil compaction and soil amendments that occur as part of the bioretention basin. Make all revisions necessary to the calculations, PCSM Plan and NOI. §§ 102.8(f)(3), 102.8(f)(6), 102.8(f)(8), 102.8(f)(9), 102.8(g)(2) & 102.8(g)(4)
14. Revise step No. 2 in the sequence to identify all parties that are required attend the Preconstruction Meeting. The Permittee(s), co-permittees, operators, and licensed professionals or designees responsible for the earth disturbance activity, including implementation of E&S and PCSM Plans and critical stages of implementation of the approved PCSM Plan, are required to attend the preconstruction meeting. Make all revisions necessary (including within the E&S Plans and all other documents in the ESCGP-2 application). §§ 102.4(b)(5)(vii), 102.5(e) & 102.8(f)(7)
15. The following technical deficiencies are associated with the long-term operation and maintenance schedule identified in Section 1.10: § 102.8(f)(10)
  - a. It appears that the first sentence of the Monitoring section, which identifies inspections on an annual basis, conflicts with the inspections schedule identified for the BMPs in the Maintenance section. Provide a clear and appropriate inspection schedule for any and all PCSM BMPs.
  - b. The provided long-term operation and maintenance schedule for the PCSM BMPs is not sufficient. Provide a long-term operation and maintenance schedule which provides for inspection of the PCSM BMPs, including the repair, replacement, or other routine maintenance of the PCSM BMPs to ensure proper function and operation. If an item is identified for inspection; 1) identify the inspection schedule/times, 2) identify the 'trigger' for repair, replacement and other routine maintenance and 3) identify the repair, replacement and other routing maintenance. For BMPs which are required to dewater (e.g. infiltration BMP), include an inspection to ensure that the BMP is properly dewatered, and identify the designed dewatering time in the long-term operation and maintenance schedule (not the recommended maximum dewatering time of 72 hours from the PCSM Manual). The PCSM Manual recommends collecting grass clippings and disposing of them in a local compost facility for vegetated swales which will be used as a PCSM BMP; the long-term operation and maintenance should include this or provide the

alternative demonstration. Make all revisions necessary. §§ 102.11(a)(2) & 102.11(b)

- c. The long-term operation and maintenance schedule should provide for completion of a written report documenting each inspection and all BMP repair and maintenance activities and how access to the PCSM BMPs will be provided.
  - d. Revise No. 10 of Section 1.10 on Page 17 to include the regulatory requirements for long-term operation and maintenance.
16. Section 1.11 does not identify, address or ensure that proper measures for recycling or disposal of materials associated with or from the PCSM BMPs are in accordance with Department laws, regulations and requirement. Make all revisions necessary. § 102.8(f)(11)
17. The first two sentences of Section 1.12 on Page 21 contradict each other. The first sentence says "There are not naturally occurring geologic formations that may have the potential to cause pollution...", but the next sentence identifies that "...acid runoff producing soils may exist...". Identify if there is or is not the potential for naturally occurring geologic formations or soil conditions that may have the potential to cause pollution after earth disturbance activities are completed and PCSM BMPs are operational. What investigation has been done to determine if there is potential for acidic runoff from the site (beyond the Soil Survey)? Perform and supply an adequate predevelopment site characterization and assessment of soil and geology. §§ 102.8(f)(12) & 102.8(g)(1)

If the potential to cause pollution is at the site, due to naturally occurring geologic formations or soil conditions, develop a management plan, which is part of the PCSM Plan, which avoids or minimizes potential pollution and its impacts. § 102.8(f)(12)

18. Section 1.13 on Page 22 appears to be a thermal impact analysis related to the entire project, mainly the proposed transmission line. Provide an identification of potential thermal impacts from post construction stormwater to surface waters of this Commonwealth including BMPs to avoid, minimize or mitigate potential pollution from thermal impacts. Make the thermal impact analysis specific for the River Road Regulator Station in the PCSM Plan for said regulator station. § 102.8(f)(13)
19. Section 1.15 is not an adequate antidegradation analysis. Make the antidegradation analysis specific to the site for which the PCSM Plan covers (i.e. River Road Regulator Station). Make sure the analysis evaluates and includes nondischarge alternatives in the PCSM Plan. If nondischarge alternatives do not exist for the project, then make that demonstration and include in the PCSM Plan antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.8(h)

20. The following technical deficiencies are associated with information provided in Appendix A:

- a. It is not clear from the narrative discussion and from the calculations how the Rock Spring Expansion Project is factored into the post construction stormwater management calculations. Is it an existing facility, and therefore accounted for in the pre-development calculations? If so, then include any existing stormwater management facilities for the Rock Spring Expansion in the pre-development analysis. Provide more information as to how the Rock Spring Expansion Project is accounted for in the post construction stormwater management analysis for the Atlantic Sunrise Project – CPL North, CPL South and Associated Facilities (specifically the River Road Regulator Station). §§ 102.8(f)(3), 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- b. The drainage area 'DA to subsurface infiltration' utilized an assumed Time of Concentration (Tc) of 5 minutes. The drainage area size is 1.133 acres, which appears to be too large to utilize an assumed Tc. Provide Tc calculations for this drainage area or provide proper justification for utilizing an assumed Tc. ). §§ 102.8(f)(8), 102.8(f)(15), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- c. The channel design calculations utilize a side slope of 2:1; however, the vegetated swale reach routing utilized a side slope of 3:1. Clarify this discrepancy, and make all revisions necessary to consistently identify the design of the proposed vegetated swale. §§ 102.8(f)(8), 102.8(f)(15), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- d. Provide more information as to how the volume (term 'V') was calculated in the River Road Regulator Station Vegetated Swale Infiltration Volume calculations. §§ 102.8(f)(8), 102.8(g)(2), & 102.8(g)(4)
- e. Provide the calculations for sizing of the anti-seep collar. § 102.8(f)(8)
- f. Provide more information as to how the proposed level spreader was designed (e.g. what is the design criteria/how was the length of the level spreader calculated). §§ 102.8(f)(6) & 102.8(f)(8)
- g. Based upon the PCSM Plan drawings, it appears that a significant portion of the existing site is wooded. However, woodlands are not identified on PCSM Standard Worksheet #2. Clarify this discrepancy, and make all revisions necessary to provide an accurate predevelopment site characterization. § 102.8(g)(1)
- h. The following technical deficiencies are associated with PCSM Standard Worksheet #4:

- i. The cover type areas do not match the cover type areas in the Predevelopment hydrographs. Clarify this discrepancy, and make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
  - ii. It does not appear that 20% of the existing impervious area to be disturbed is considered in meadow good condition. Clarify if the regulatory required assumption has been made. Provide a clear identification as such, and make all revisions necessary. § 102.8(g)(2)(ii)
- i. The following technical deficiencies are associated with PCSM Standard Worksheet #5:
  - i. Utilize the latest version of the PCSM Standard Worksheets. § 102.8(f)(15)
  - ii. Provide the calculations to show how the proposed infiltration bed and bioretention basin will permanently reduce 3,271 cf and 1,319 cf, respectively, during the 2-year/24-hour storm event. §§ 102.8(f)(8), 102.8(g)(2) & 102.8(g)(4)
- j. Revise PCSM Standard Worksheet #10 based upon the previously identified technical deficiencies (i.e. minimize soil compaction and soil amendment/restoration). If the proposed vegetated swale is designed to be utilized with a water quality function (in addition to volume reduction), then design the PCSM BMP in accordance with the recommendations of the PCSM Manual (1-3% longitudinal slope) or provide the appropriate information related to the alternative BMP and design standards. §§ 102.8(f)(6), 102.8(g)(2), 102.11(a)(2) & 102.11(b)
- k. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet #11 is to only be provided if the volume reduction cannot be met. § 102.8(f)(15)
- l. The following technical deficiencies are associated with the predevelopment site characterization and assessment of soil and geology:
  - i. Redoximorphic (redox) features can be an indication of a regularly occurring seasonally high water table. The provided testing identifies redox features occurring starting at zero inches (for Test Pits 1, 2, 3, 3A & 8). However, infiltration is proposed within the identified redox features. Protocol 2.1.a of Appendix C of the PCSM Manual recommends a minimum separation of at least 2-feet above a regularly occurring seasonally high water table. Revise the design to be consistent with the recommendations of the PCSM Manual or provide the appropriate information related to the alternative BMP and design standards. §§ 91.51(a), 102.8(f)(6), 102.8(f)(15), 102.11(a)(2) & 102.11(b)

- ii. Identify what type of testing methodology was utilized for the infiltration testing. § 102.8(g)(1)
- iii. Identify and provide more information related to the 'bentonite soak'/'bentonite presoak'. §§ 102.8(f)(15) & 102.8(g)(1)
- m. The raw/tested infiltration rate is 40.5 in./hr. and the adjusted (with a Safety Factor of 3) infiltration rate is 13.5 in./hr. Protocol 2.1.c of Appendix C of the PCSM Manual recommends soils underlying infiltration devices to have infiltration rates between 0.1 and 10 in./hr. No discussion could be located related to the excessive infiltration rates. Revise the design to be consistent with the recommendations of the PCSM Manual or provide the appropriate information related to the alternative BMP and design standards. §§ 91.51(a), 102.8(f)(6), 102.8(f)(15), 102.11(a)(2) & 102.11(b)
- n. Why are the redox features not identified as a limiting zone for infiltration in the Infiltration Rate/Dewatering Time narrative? § 102.8(g)(1)
- o. The dewatering calculations could not be located in the Infiltration Rate/Dewatering Time narrative. Provide these calculations. § 102.8(f)(8)
- p. The Infiltration Rate/Dewatering Time narrative identifies that rock removal may be required to provide the recommended 2-ft. separation to bedrock (from Protocol 2.1.b in Appendix C of the PCSM Manual). What investigation has been done to ensure that the underlying bedrock has the ability to infiltrate the post construction stormwater? § 102.8(g)(1)
- q. The following technical deficiencies are associated with the Infiltration Loading Ratio calculations and narrative:
  - i. The provided narrative asserts that the bioretention basin, the underground infiltration bed and the vegetated swales are in a connected configuration. However, DEP does not agree with that statement. The bioretention basin has a 100-year/24-hour routed water surface elevation of 609.98, while the invert out of the outfall pipe for the underground infiltration bed is at 613.00. Because of the disconnection between the three BMPs, they will function independently of each other and as a result should be analyzed separately for loading ratios. Provide separate loading ratios for the underground infiltration bed, the bioretention basin and the vegetated swale check dams. § 102.8(f)(8)
  - ii. The provided alternative BMP and design standard demonstration is not sufficient.



Additional information is required to demonstrate how the infiltration bed and bioretention basin have been maximized. It appears that the word 'grated' is misspelled word in the last sentence of the fourth point of the Analysis. Provide sufficient information to demonstrate that the proposed loading ratios will achieve the same regulatory standard as the recommended loading ratios of the PCSM Manual. § 102.11(b)

21. The plan preparer qualifications in Appendix B are qualifications for E&S Plans. Provide documentation that the person who prepared the PCSM Plan is a person trained and experienced in PCSM design methods and techniques applicable to the size and scope of the project being designed. § 102.8(e)

Erosion and Sediment Control and Layout Plans Drawings – Access Roads

1. Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)
2. Drawing No. 24-1600-70-28-A/LL113\_9 Sheet 2 of 4, identifies an access road named AR-LA-018; however, there is no additional information provided related to this location (it is not identified in the table on Page 5 of the narrative). The plan drawing identifies AR-LA-029.2; however, it appears that this should be labeled "AR-LA-029.3". Clarify these discrepancies and make all revisions necessary. §§ 102.8(f)(3) & 102.8(f)(9)
3. Make the Notes provided on Drawing No. 24-1600-70-28-A/LL113\_9-AR-LA-002 Sheet 3 of 3 specific for that particular location. Make all revisions necessary to correct this deficiency throughout the application documents. § 102.8(f)(9)
4. Drawing No. 24-1600-70-28-A/LL113\_9-AR-LA-010.2 Sheet 1 of 3 identifies grading required for the centerline of the access road; however, the proposed grading is not shown in the plan view. Show the proposed grading for the temporary and permanent access roads on the plan view for each location. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.8(f)(3) & 102.8(f)(9)
5. Identify and show the test pit locations on Drawing No. 24-1600-70-28-A/LL113\_9-AR-LA-010.2 Sheet 3 of 3. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.8(f)(3), 102.8(f)(9) & 102.8(g)(1)
6. Identify where the site/location specific notes and details for the PCSM Plan are to be found. Provide the regulatory required information for all PCSM BMPs claimed for the specific

site/location. Make all revisions necessary to correct this deficiency throughout the application documents. §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9) & 102.8(f)(10)

Post Construction Stormwater Management Plan Drawings – River Road Regulator Station

1. The following technical deficiencies are associated with Sheet 3 of 7: § 102.8(f)(9)
  - a. It appears very steep cut slopes are proposed for the south and west sides of the regulator station. However, no information could be found in the PCSM Plan narrative which demonstrates that these steep slopes will remain stable in the post development condition. Provide a demonstration that the slopes will remain stable. § 102.8(f)(8)
  - b. The Test Pits are identified on the plan view; however, the level of detail provided is not sufficient to identify the different locations for Test Pit 2 versus 2A and Test Pit 3 versus 3A. Clearly identify where Test Pits 2A and 3A were performed.
  - c. A soil limitation of high water table was identified in the PCSM Plan narrative; however, there does not appear to be any investigation performed for the area of the largest proposed cut (approx. 11-ft.) at the south side of the regulator station. What investigation has been performed to ensure that groundwater is not encountered in this area? § 102.8(g)(1)
  - d. There does not appear to be any predevelopment site characterization and assessment of soil and geology for the vegetated swale check dams. How was this area investigated to ensure that infiltration is possible and appropriate? § 102.8(g)(1)
  - e. Clearly identify the proposed tree line on the plan.
2. The following technical deficiencies are associated with Sheet 4 of 7: § 102.8(f)(9)
  - b. It appears that end of the last sentence in the third paragraph of the PCSM Long Term Operations and Maintenance Requirements notes in the PCSM Standard Notes was cut off. § 102.8(f)(10)
  - c. The Recycling and Disposal of Materials notes do not address materials with or from the PCSM BMPs. Ensure that the proper regulatory citation is provided. § 102.8(f)(11)
  - d. The responsible party identified in the Responsible Party notes is different from the responsible party identified in the PCSM Standard Notes. Consistently identify the responsible party for the long-term operation and maintenance of the PCSM BMPs. § 102.8(f)(10)

- e. The provided long-term operation and maintenance schedule is not sufficient. Refer to the previous technical deficiency concerning the long-term operation and maintenance schedule. § 102.8(f)(10)
- f. The following technical deficiencies are associated with the Soil Amendment Notes:
  - i. Note No. 1 identifies that the contractor shall ensure that an infiltration rate of 2.0 in./hr. is achieved by the soil amendments. However, the design infiltrate utilized in the calculations is 2.5 in./hr. Utilizing the applied Safety Factor of 3, the soil amendments should achieve an infiltration rate of 7.5 in./hr. Make all revisions necessary. §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(15) & 102.8(g)(2)
  - ii. Make the testing of the soil amendments a critical stage of PCSM BMP implementation. Make the notes identify how the soils will be tested, how often the testing will be performed and how to correct the soil amendments should they not achieve the identified infiltration rate. §§ 102.8(f)(6), 102.8(f)(7) & 102.8(f)(15)
  - iii. Note No. 2 is too vague related to determining when the filter fabric barrier is to be placed. Identify, in more definitive terms, when the filter fabric barrier is to be placed. It appears that this determination would be a critical stage of construction and should be included as such. §§ 102.8(f)(6), 102.8(f)(7) & 102.8(f)(15)
  - iv. The soil mixture ratio appears to be too high in Note No. 3. The PCSM Manual recommends a maximum of 30% organic matter (compost) to 70% soil base (topsoil). Revise the design to be consistent with the recommendations of the PCSM Manual or provide the appropriate information related to the alternative BMP and design standards. §§ 102.8(f)(6), 102.11(a)(2) & 102.11(b)
  - v. It appears that the word "in-sity" is a typographical error. Clarify and revise as necessary.
  - vi. Note No. 7 appears to identify two different types of seed mixtures for the bioretention basin. Will two different seed types be provided? If not, identify in the PCSM Plan which type of seed mixture will be utilized. § 102.8(d)
- 3. There are numerous seed mixes provided on Sheet 5 of 7. Identify in the PCSM Plan only the design seed mixes for use on the site (the River Road Regulator Station), and clearly label/identify where the seed mix(es) will be applied. §§ 102.8(d) & 102.8(f)(9)
- 4. The following technical deficiencies are associated with Sheet 6 of 7: § 102.8(f)(9)

- a. The Thermal Impact Analysis does not match the Thermal Impacts discussion from the PCSM Plan Narrative. Provide consistency between the PCSM Plan drawings and narrative. DEP recommends only providing one thermal impact analysis (in the PCSM Plan narrative) to avoid confusion and potential for discrepancies. § 102.8(f)(11)
  - b. Critical Stages of Construction No. 3 identifies infiltration berms; however, it does not appear that infiltration berms are proposed for the River Road Regulator Station. Clarify this discrepancy. §§ 102.8(f)(6) & 102.8(f)(7)
  - c. A Stilling Basin Detail is provided. Provide the stilling basin sizing calculations in the PCSM Plan narrative. § 102.8(f)(8)
  - d. It appears that the pipe's thickness is not accounted for in the sizing of the anti-seep collar. Based upon the design the anti-seep collar should have a 7-in. projection; the anti-seep collar width should be 30 inches (7-in. projection + 2-in. pipe thickness + 12-in. diameter + 2-in. pipe thickness + 7-in. projection). Make all revision necessary.
  - e. The Basin Emergency Spillway With TRM Lining detail identifies a spillway width ('Ww') of 10-ft.; however, the routing calculations identify a width of 160-ft. Clarify this discrepancy and make all revisions necessary. §§ 102.8(f)(6) & 102.8(f)(8)
  - f. A Permanent Outlet Structure Trash Rack detail is provided. Clarify where the trash rack is to be installed.
5. The following technical deficiencies are associated with Sheet 7 of 7: § 102.8(f)(9)
- a. The following technical deficiencies are associated with the Level Spreader Detail: § 102.8(f)(6)
    - i. Provide discussion as to why there is no geotextile fabric provided along the bottom and side of the R-3 riprap. § 102.8(f)(15)
    - ii. The detail has a dimension identified as 'Extend to Frost Line'. Identify in the detail the required dimension for the site. § 102.8(d)
  - b. The following technical deficiencies are related to the Plan View Subsurface Infiltration Facility and the Subsurface Infiltration Facility Cross Section A-A: § 102.8(f)(6)
    - i. The details identify 6 runs of 12-in. perforated pipe at 100 LF and 3 runs of 24-in. perforated pipe at 144 LF; however, the calculations identify 5 runs of 12-in.

perforated pipe at 100 LF and 3 runs of 24-in. perforated pipe at 140 LF. Clarify this discrepancy and make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)

- ii. It appears that the underground facility will rely upon manufactured couplings to be constructed. Identify all of the required couplings, fitting, etc.
  - iii. What do the dashed lines in the Plan View Subsurface Infiltration Facility represent?
  - iv. Provide additional information related to the stone bed, so that the identified area can be verified as consistent with the calculations.
  - v. Better identify the proposed inverts for the perforated pipes in the Subsurface Infiltration Facility Cross Section A-A.
6. The construction sequence for the individual PCSM BMPs could not be located. Provide individual construction sequences for each PCSM BMP. § 102.8(f)(7)
7. The PCSM Plan proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f)(15)
8. The Infiltration Rate/Dewatering Time calculations and discussion in Appendix A of the PCSM Plan narrative identify that rock removal may be required to provide the recommended 2-ft. separation to bedrock (from Protocol 2.1.b in Appendix C of the PCSM Manual); however, this rock removal is not identified in the PCSM Plan drawings. Provide adequate plan information related to the rock removal; including, but not limited to, how to identify if rock removal is require, how to remove said rock, what material will be backfilled, how to back fill said material, etc. §§ 102.8(f)(6), 102.8(f)(9) & 102.8(f)(15)
9. A detail for a concrete cradle could not be located. The E&S Manual (on Page 160) recommends the use of concrete cradle for outlet barrels for permanent basins. Provide a demonstration that the proposed alternative of no concrete cradle is just as effective as a concrete cradle. §§ 102.8(f)(6), 102.8(f)(9), 102.8(g)(5), 102.11(a)(1) & 102.11(b)
10. It appears that infiltrated stormwater has the potential to seep into the bioretention basin from the underground infiltration facility. Provide phreatic calculations for the infiltrated stormwater in the underground infiltration facility. § 102.8(f)(8)

**Lebanon County**

**Erosion and Sediment Control Plan and Post Construction Stormwater Management/Site Restoration Plan Narrative – Temporary and Permanent Access Roads**

1. Provide a separate PCSM Plan for the permanent access roads from the E&S Plan for the permanent access roads. A combined plan, titled Erosion and Sediment Control /Site Restoration Plan, can be provided for the temporary access roads. §§ 102.4(b)(5)(xiv) & 102.8(d)
2. Are the mainline valve sites included in the E&S and PCSM Plans for the permanent access roads? If so, that should be clarified and discussed in the narratives. § 102.8(f)(3)
3. Identify in the narrative whether the receiving surface water is impaired or has a TMDL. For the specific sites (temporary and permanent access roads), ensure that proper and adequate discussion is provided related to the PCSM design and the impairment and/or TMDL. § 102.8(f)(5)
4. Identify in the table on Page 6 the receiving surface water, the Designated and Existing Uses and if the receiving surface water is impaired or has a TMDL. The table identifies LE-057.1 with italicized text; is there any significance to this? The table identifies LE-041 and LE-059; however, these roads are not included in the Appendices or on the plan drawings. Clarify this discrepancy. §§ 102.8(f)(3) & 102.8(f)(5)
5. Identify what is meant by the terminology “infiltration losses” in the last sentence of the second paragraph of Section 1.3 on Page 10. § 102.8(f)(15)
6. 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 (e.g. the first sentence of the second paragraph on Page 14). §§ 102.8(g)(2) & 102.8(g)(3)
7. The third paragraph on Page 14 is very confusing related to the Act 167 Plans. Clearly identify to what criteria the PCSM Plan was designed to. It appears that the project’s location is not within the area covered by the approved Act 167 Plan for a portion of Lebanon County. Make the narrative specific for the project and project site. Make all revisions necessary. §§ 102.8(g)(2) & 102.8(g)(3)
8. The generalized BMP Installation Sequence Narrative in Section 1.7 is not sufficient. Each temporary and permanent access road is different, as a site/location specific construction sequence is required. § 102.8(f)(7)

9. Provide an adequate long-term operation and maintenance schedule in Section 1.10 for all PCSM BMPs. § 102.8(f)(10)
10. Section 1.11 does not identify, address or ensure that proper measures for recycling or disposal of materials associated with or from the PCSM BMPs are in accordance with Department laws, regulations and requirement. Make all revisions necessary. § 102.8(f)(11)
11. Section 1.12 on Page 27 identifies that there may be potential for acid producing rock. Identify if there is or is not the potential for naturally occurring geologic formations or soil conditions that may have the potential to cause pollution during earth disturbance activities and after earth disturbance activities are completed and PCSM BMPs are operational. What investigation has been done to determine if there is potential for acidic runoff from the site (beyond the Soil Survey)? If acid producing rock is present at the site, then provide BMPs to minimize the potential for pollution. Perform and supply an adequate predevelopment site characterization and assessment of soil and geology. Tailor this discussion for each specific site (temporary and permanent access roads). §§ 102.8(f)(12) & 102.8(g)(1)

Clarify the statement on Page 28 "...the quantity of acidic soils found along the proposed CPL South route may be sufficiently high such that their potential for pollution should be mitigated." If the quantity is sufficiently, how is that mitigated? What investigation has been performed to determine that the amount potential for pollution is mitigated? §§ 102.8(f)(12) & 102.8(g)(1)

12. Section 1.13 does not include a thermal impact analysis for the earth disturbance activity (for the E&S Plan). Provide this thermal impact analysis. Provide the thermal impact analysis for each specific site. § 102.8(f)(13)
13. Revise Section 1.15 to be specific for any requested riparian buffer/riparian forest buffer waivers associated with the temporary and permanent access roads. There is no regulatory requirement to provide a riparian buffer/riparian forest buffer for perennial or intermittent rivers, streams, or creeks, or lakes, ponds, or reservoirs with a Designated Use other than Exceptional Value and High Quality; therefore, a waiver of buffers for these areas is not required. Revise the narrative accordingly. § 102.14(d)(2)

What purpose does the discussion related to Act 167 Plan have related to the riparian buffer/riparian forest buffer waivers? § 102.8(f)(15)

14. Section 1.16 is not an adequate antidegradation analysis. Make the antidegradation analysis specific to the site for which the PCSM Plan covers (i.e. each temporary and/or permanent access road). Evaluate and include in the analysis nondischarge alternatives in the PCSM Plan. If nondischarge alternatives do not exist for the project, then make that demonstration

and include in the PCSM Plan antidegradation best available combination of technologies (ABACT) BMPs. Make all revisions necessary. § 102.8(h)

15. The plan drawings provided in Appendix A and B are not current with the latest set of revised full-size plan drawings (e.g. Appendix A Drawing No. 24-1600-70-28-A/LL113\_9 has a latest revision date of 12/02/2015; while the full-size Drawing No. 24-1600-70-28-A/LL113\_9 has a latest revision date of 02/04/2016). DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings in Appendix A and B), to avoid confusion and potential inconsistencies. § 102.8(f)(9)
16. The plan preparer qualifications in Appendix D are qualifications for E&S Plans. Provide documentation that the person who prepared the PCSM Plan is a person trained and experienced in PCSM design methods and techniques applicable to the size and scope of the project being designed. § 102.8(e)
17. For temporary access road AS-LE-033.1 (Appendix E), the narrative identifies the Watershed as Little Chickies Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Shells Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
18. The following technical deficiencies are associated with Appendix F:
  - a. The narrative identifies the Watershed as Gingrich Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Gingrich Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
  - b. There appears to be no discussion or stormwater management analysis for the permanent access road AR-LA-021 in Appendix P. Provide the all necessary information related to the post construction stormwater management for this permanent access road. § 102.8
19. The following technical deficiencies are associated with Appendix G:
  - a. 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. §§ 102.8(g)(2) & 102.8(g)(3)
  - b. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to



appropriately identify the regulatory requirements for post construction stormwater management.

- c. The narrative identifies that site specific infiltration testing and soil probes have not been performed, but that prior to construction infiltration testing will be completed. This is not an adequate predevelopment site characterization and assessment of soil and geology. If infiltration is proposed for the design, then perform an adequate predevelopment site characterization and assessment of soil and geology. § 102.8(g)(1)
- d. Permanent access road AR-LE-037.1 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f)(15)
- e. The proposed total loading ratio for the MLV Pad is identified as 1:1; however, based upon the plan drawings, it appears that the MLV Pad's drainage area includes area other than just the gravel pad. Clarify this discrepancy. Ensure that the loading ratio calculations are all correct and account for all tributary drainage area. If diversions will be used in post construction conditions, then clearly label these diversions on the plans. §§ 102.8(f)(8) & 102.8(f)(9)
- f. The following technical deficiencies are associated with Appendix G.3:
  - i. Provide contour information with the drainage area map, including contour labels. §§ 102.8(f)(8) & 102.8(f)(9)
  - ii. The drainage area map identifies a drainage area of 22.38 acres; however, only 0.728 acres is analyzed in the hydrographs. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)
  - iii. If there is a road side ditch/swale along Meadow Lane, then revise the Time of Concentration (Tc) calculations to include a channel flow segment. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)
  - iv. The hydrograph calculations utilize a 2-year/24-hour rainfall depth of 3.16 inches; however, the Tc calculations utilize a 2-year/24-hour rainfall depth of 3.12 inches. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)
  - v. The utilized rainfall data for the storm events does not match the rainfall data provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2),

## 102.8(g)(3) &amp; 102.8(g)(4)

- g. The following technical deficiencies are associated with Appendix G.4:
- i. Provide more legible contour information, including contour labels, and the proposed conditions on the drainage area map. §§ 102.8(f)(8) & 102.8(f)(9)
  - ii. How was the storage for the MLV Pad calculated for the hydrograph routing calculations? The total volume identified does not appear to match any of the other volumes identified for this facility. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- h. How was the Subreach Volume calculated in Appendix G.6? Provide the equation that is utilized. § 102.8(f)(8)
- i. The following technical deficiencies are associated with Appendix G.7:
- i. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1)
  - ii. PCSM Standard Worksheet #4 identifies a Managed Area of 1.1 acres; however, an area of 1.49 acres is analyzed. Clarify this discrepancy. §§ 102.8(f)(8) & 102.8(g)(2)
  - iii. Utilize the latest version of the PCSM Standard Worksheets #5. How was the volume to be permanently reduced of 593 cf calculated for the MLV Pad? §§ 102.8(f)(8), 102.8(f)(15) & 102.8(g)(2)
  - iv. PCSM Standard Worksheet #10: If the proposed vegetated swale is designed to be utilized with a water quality function (in addition to volume reduction), then design the PCSM BMP in accordance with the recommendations of the PCSM Manual (1-3% longitudinal slope) or provide the appropriate information related to the alternative BMP and design standards. Ensure that all required plan information related to the minimize soil compaction and re-vegetated/re-forest disturbed areas is provided on the PCSM Plan drawings (e.g. seeding mix, long-term operation and maintenance schedule, construction sequence, etc.). §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f)(10), 102.8(g)(2), 102.11(a)(2) & 102.11(b)
  - v. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet #11 is to only be provided if the volume reduction cannot be met. § 102.8(f)(15)

20. For temporary access road AS-LE-038 (Appendix H), the narrative identifies the Watershed as Quittapahilla Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Quittapahilla Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
21. The following technical deficiencies are associated with Appendix L:
  - a. The narrative identifies the Watershed as Quittapahilla Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Quittapahilla Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
22. The following technical deficiencies are associated with Appendix L:
  - a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
23. For temporary access road AS-LE-047 (Appendix N), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
24. For temporary access road AS-LE-049 (Appendix O), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
25. For temporary access road AS-LE-050 (Appendix P), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Qureg Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
26. The following technical deficiencies are associated with Appendix Q:
  - a. The narrative identifies the Watershed as Forge Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Forge Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
  - b. The narrative identifies that site specific infiltration testing and soil probes have not been performed, but that prior to construction infiltration testing will be completed. This is not

an adequate predevelopment site characterization and assessment of soil and geology. If infiltration is proposed for the design, then perform an adequate predevelopment site characterization and assessment of soil and geology. § 102.8(g)(1)

- c. 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. §§ 102.8(g)(2) & 102.8(g)(3)
- d. It is identified that the PCSM/SR BMPs were designed to the requirements of Control Guideline 1 (CG-1). CG-1 is a recommended post construction stormwater management from the PCSM Manual; however, the regulatory requirement to control post construction stormwater is 25 Pa. Code §§ 102.8(g)(2) & 102.8(g)(3) (in addition to other sub-sections of 25 Pa. Code § 102.8 and sections of 25 Pa. Code § 102). Make all revisions to appropriately identify the regulatory requirements for post construction stormwater management.
- e. Permanent access road AR-LE-050.1.1 proposes an offsite discharge to areas other than surface waters. Provide the information required as identified in the attached Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet (DEP Document No. 3150-FS-DEP4124) as part of the PCSM Plan. §§ 102.8(f)(9) & 102.8(f)(15)
- f. The following technical deficiencies are associated with Appendix Q.3:
  - i. The following technical deficiencies are associated with the drainage area map: §§ 102.8(f)(8) & 102.8(f)(9)
    - 1. Provide additional contour labels.
    - 2. The drainage area map identifies a Curve Number of 79; however, the calculations identify a Curve Number of 72. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(3) & 102.8(g)(4)
    - 3. The Time of Concentration identified on the plan view does not match the legend.
    - 4. Identify what the inner delineated drainage area represents.
    - 5. Identify what the dimensions are for.
  - ii. The utilized rainfall data for the storm events does not match the rainfall data

provided by NOAA Atlas 14. Clarify this discrepancy. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)

- g. The following technical deficiencies are associated with Appendix Q.4:
- i. Provide contour labels with the drainage area map. § 102.8(f)(9)
  - ii. How was the storage for the MLV Pad calculated for the hydrograph routing calculations? The total volume identified does not appear to match any of the other volumes identified for this facility. Make all revisions necessary. §§ 102.8(f)(8), 102.8(g)(2), 102.8(g)(3) & 102.8(g)(4)
- h. The following technical deficiencies are associated with Appendix Q.5:
- i. Complete PCSM Standard Worksheet #2, by identifying if there are or are not mapped existing natural sensitive resources. § 102.8(g)(1)
  - ii. PCSM Standard Worksheet #4 identifies a Managed Area of 0.92 acres; however, an area of only 0.65 acres is analyzed. Clarify this discrepancy. §§ 102.8(f)(8) & 102.8(g)(2)
  - iii. Utilize the latest version of the PCSM Standard Worksheets #5. How was the volume to be permanently reduced of 2,528 cf calculated for the MLV Pad? §§ 102.8(f)(8), 102.8(f)(15) & 102.8(g)(2)
  - iv. PCSM Standard Worksheet #10: Ensure that all required plan information related to the minimize soil compaction and re-vegetated/re-forest disturbed areas is provided on the PCSM Plan drawings (e.g. seeding mix, long-term operation and maintenance schedule, construction sequence, etc.). §§ 102.8(f)(6), 102.8(f)(7), 102.8(f)(9), 102.8(f)(10) & 102.8(g)(2)
  - v. Identify why PCSM Standard Worksheet #11 has been provided. PCSM Standard Worksheet #11 is to only be provided if the volume reduction cannot be met. § 102.8(f)(15)
- i. Provide dewatering calculations for all of the PCSM BMPs. § 102.8(f)(8)
- j. It appears that based upon the grading around the MLV Pad shown on the plan drawings that concentrated flow will result. Provide stability calculations for this area of concentrated flow. Provide calculations which demonstrate that the flow depth does not result in drainage area contributing to the MLV Pad BMP. § 102.8(f)(8)

27. The following technical deficiencies are associated with Appendix R:

- a. The narrative identifies the Watershed as Forge Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Forge Creek. Clearly and consistently identify the receiving surface water. It appears that Forge Creek and an UNT to Forge Creek are the receiving surface waters for this site/location. § 102.8(f)(5)
- b. The Location Map does not properly identify Forge Creek (it is identified as an UNT to Forge Creek). Properly identify the receiving surface waters. § 102.8(f)(5)

28. The following technical deficiencies are associated with Appendix S:

- a. There appears to be no discussion or stormwater management analysis for the permanent access road. Provide the all necessary information related to the post construction stormwater management for this permanent access road. § 102.8

29. The following technical deficiencies are associated with Appendices T & U:

- a. The narrative identifies the Watershed as Trout Run; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Trout Run. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)

30. The following technical deficiencies are associated with Appendix V:

- a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
- b. There appears to be no discussion or stormwater management analysis for the permanent access road. Provide the all necessary information related to the post construction stormwater management for this permanent access road. § 102.8

31. The following technical deficiencies are associated with Appendix W:

- a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)

32. The following technical deficiencies are associated with Appendix X:

- a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
33. The following technical deficiencies are associated with Appendix Y:
- c. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
  - d. The narrative identifies that access road as temporary; however, the overall table on Page 6 of the main narrative identifies the access road as permanent. Clarify this discrepancy. § 102.8(f)(3)
  - e. There appears to be no discussion or stormwater management analysis for the permanent access road. Provide the all necessary information related to the post construction stormwater management for this permanent access road. § 102.8
34. For temporary access road AS-LE-059.1 (Appendix Z), the narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)
35. The following technical deficiencies are associated with Appendix AA:
- a. The narrative identifies the Watershed as Swatara Creek; however, PCSM Standard Worksheet #1 identifies the receiving surface water as an UNT to Swatara Creek. Clearly and consistently identify the receiving surface water. § 102.8(f)(5)

**Luzerne County**

1. AR-LU-007.1:
- a. Please provide the operation and maintenance procedures for main line valve pad. § 102.8(f)(10)
  - b. Please provide information on what procedures will be taken should the soil become compacted during construction compacted during construction of the main line valve pad. § 102.8(f)(8)
  - c. Please provide the infiltration period (draw down time) for the proposed infiltration BMP. § 102.8(f)(8)

2. AR-LU-009.1 – Please provide all necessary calculations for the proposed volume and water quality BMPs. § 102.8(f)(8)
3. North Diamond Regulator Station:
  - a. Since it is designed to meet the Luzerne County Act 167 Stormwater Management Plan, please provide a consistency letter or the Luzerne County Act 167 Stormwater Management Plan for it to be reviewed accordingly. § 102.8(g)(2)
  - b. Credit may not be taken for multiple BMPs that are located within one another. Each BMP have certain criteria and even though these design criteria may overlap, that actual BMPs may not overlap. Each BMP must remain separate. The BMPs may be used in series or parallel of one another but credit may not be taken for BMPs that appear to be within one another. It appears this has occurred with the rain garden and the soil amendments BMPs. Please review these BMPs and revise all documentation as applicable. § 102.8(f)(6), § 102.8(f)(8), § 102.8(f)(9)
  - c. The calculations show that there will be an increase in volume from the existing to proposed conditions. Please provide an analysis as to why the total volume increase cannot be mitigated through the use of other volume control BMPs. § 102.8(f)(8)
  - d. Please provide the calculations for the proposed check dams. § 102.8(f)(8)
  - e. Please provide details for the proposed check dams. The details should include all elevations, dimensions, sizes, depths, slopes, materials, products, cross sections, notations for construction and any other applicable information necessary to construct this BMP. § 102.8(f)(9)
  - f. Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration BMP. § 102.8(f)(8)

**Susquehanna County**

1. TAR AR-SU-044 – Please show the proposed contours for the roadway on the Plans and Profile details. § 102.8(f)(9)
2. AR-SC-063:
  - a. Please be advised that swales with a slope of 6 percent are not acceptable as a water



quality BMP. Vegetated swales with slopes greater than 3 percent and less than 6 percent are acceptable as a water quality BMP if check dams are provided and designed according to the Pennsylvania Stormwater Best Management Practices Manual, November 2006, Chapter 6, vegetated swales. Please check that all vegetated swales being utilized as a water quality or volume control post construction stormwater management BMP are within this requirement. § 102.8(f)(8)

- b. Please provide the following notations on the PCSM plan: § 102.8(f)(9)
  - i. The protected area should be located, delineated and labeled on the PCSM plan.
  - ii. The protected area should not be subject to grading or movement of existing soils.
  - iii. The protected area should not allow existing native vegetation to be removed.
  - iv. Pruning or other required maintenance of vegetation is allowed in the protected area.
  - v. Additional planting of native vegetation in the protected area is allowed.
  - vi. The protected areas should be clearly delineated in the field and protected prior to construction activities taking place.
  - vii. Should the protected areas become compacted or disturbed during construction, soils amendment and restoration may be required.
- 3. There are two main line valve sites that are proposed for this project in Schuylkill County; however there are not any Plans or calculations provided for the sites. Please provide all necessary information regarding these sites. § 102.8(f)
- 4. AR-SC—73.5-The loading ratios for the proposed check dams exceed the maximum. Please provide information on how water quality will be maintained with the loading ratios being exceeded. § 102.8(f)(8)

#### **Wyoming County**

- 1. AR-WY-028:
  - a. Please provide the calculations for the swale and check dams. § 102.8(f)(8)
  - b. The proposed PCSM BMP "Stone Pad Void Storage" must have an operation and

maintenance procedures to ensure that the BMP will function properly over the life of the project. § 102.8(f)(10)

- c. Credit may not be taken for multiple BMPs that are located within one another. Each BMP have certain criteria and even though these design criteria may overlap, that actual BMPs may not overlap. Each BMP must remain separate. The BMPs may be used in series or parallel of one another but credit may not be taken for BMPs that appear to be within one another. Please review these BMPs and revise all documentation as applicable. § 102.8(f)(6), § 102.8(f)(8), § 102.8(f)(9)
- d. Please provide the infiltration period (draw down time) for the proposed infiltration BMP § 102.8(f)(8)

## 2. Compression Station 605

- a. Please provide a cross section for Basin 2. § 102.8(f)(9)
- b. Please provide the infiltration period (draw down time) for the proposed infiltration BMP § 102.8(f)(8)
- c. Please show the impoundment for all infiltration BMPs (Berms 1 and 2). § 102.8(f)(9)
- d. Please provide the anti-seep collar for the basin along with all applicable calculations in the PCSM report and details on the PCSM plans. § 102.8(f)(8), § 102.8(f)(9)
- e. Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration berm and the infiltration basins. § 102.8(f)(8)
- f. Separate worksheets must be submitted for each watershed within the project boundaries. 102.8(f)(4)
- g. Credit may not be taken for multiple BMPs that are located within one another. Each BMP have certain criteria and even though these design criteria may overlap, that actual BMPs may not overlap. Each BMP must remain separate. The BMPs may be used in series or parallel of one another but credit may not be taken for BMPs that appear to be within one another. This appears to be the case with the infiltration berms and infiltration basins. Please review these BMPs and revise all documentation as applicable. § 102.8(f)(6), § 102.8(f)(8), § 102.8(f)(9)

## 3. Meter Station in Wyoming County

- a. Please provide the maximum impervious loading ratio of 5:1 (impervious area to infiltration area) and a total loading ratio of 8:1 (total drainage area to infiltration area) for each infiltration BMP. § 102.8(f)(8)
- b. The 100-year water surface elevation is higher than the emergency spillway elevation for the proposed basin. Please be advised that there should be a minimum of 6 inches between the 100-year water surface elevation and the emergency spillway crest elevation. § 102.8(f)(8)
- c. Please show the proposed disconnection areas on the PCSM Plans. § 102.8(f)(9)

Pursuant to 25 Pa. Code § 102.6(c) of DEP's rules and regulations, you must submit a response fully addressing each of the significant technical deficiencies set forth above. Please note that this information must be received within sixty (60) calendar days from the date of this letter, on or before September 27, 2016 or DEP may consider the application to be withdrawn by the applicant.

You may request a time extension in writing before September 27, 2016 to respond to deficiencies beyond the sixty (60) calendar days. Requests for time extensions will be received by DEP and considered. You will be notified in writing of the decision either to grant or deny, including a specific due date to respond if the extension is granted. Time extensions should be in accordance with 25 Pa. Code § 102.6(c).

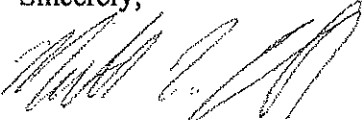
Please submit one (1) copy of the revised E&S/SR and PCSM Plan drawings & narratives to all of the County Conservation Districts, one (1) copy of the revised E&S/SR and PCSM Plan drawings & narratives to Mr. Mark Lonergan at DEP's Reading District Office at 1005 Cross Roads Boulevard, Reading, PA 19605 and the two (2) copies of the revised E&S/SR and PCSM Plan drawings & narratives to the DEP South-central Region at 909 Elmerton Avenue, Harrisburg, PA 17110-8200.

If you believe that any of the stated deficiencies are not significant, instead of submitting a response to that deficiency, you have the option of requesting that DEP to make a permit decision based on the information you have already provided regarding the subject matter of that deficiency. If you choose this option with regard to any deficiency, you should explain and justify how your current submission satisfies that deficiency. Please keep in mind that if you fail to respond, your application will be considered withdrawn.

Should you have any questions regarding the identified deficiencies, please contact me at the 717.705.4798, and refer to ESG0300015001, to discuss your concerns or to schedule a meeting.

The meeting must be scheduled within the 60 calendar days allotted for your reply, unless otherwise extended by DEP.

Sincerely,



Nathan R. Crawford, P.E.  
Permits Section Chief  
Waterways & Wetlands Program

Enclosure

cc: Mr. Alaric J. Busher, P.E., BL Companies  
Columbia County Conservation District  
Lancaster County Conservation District  
Lebanon County Conservation District  
Luzerne County Conservation District  
Northumberland County Conservation District  
Schuylkill County Conservation District  
Wyoming County Conservation District  
Cleveland, Franklin, Greenwood, Hemlock, Jackson, Montour, Mount Pleasant, Orange,  
Rapho & Sugarloaf Townships, Columbia County  
Conestoga, Drumore, East Donegal, Eden, Manor, Martic, Pequa, Rapho & West  
Hempfield Townships and Mount Joy Borough, Lancaster County  
Cold Springs, East Hanover, North Annville, North Lebanon, South Annville, South  
Londonderry, Swatara & Union Townships, Lebanon County  
Dallas, Fairmont, Harveys Lake, Jenkins, Lake, Lehman & Ross Townships, Luzerne  
County  
Coal, East Cameron & Rapho Townships, Northumberland County  
Eldred, Frailey, Hegins, Pine Grove, Porter & Tremont Townships, Schuylkill County  
Lenox Township, Susquehanna County  
Clinton, Eaton, Falls, Monroe, Nicholson, Northmoreland & Overfield Townships,  
Wyoming County

bcc: Mark Lonergan, DEP RDO (pdf)  
Nate Crawford (pdf)  
Ed Muzic (pdf)  
S. Williamson (pdf)  
D. Garg, DEP NCRO (pdf)  
J. Kuncelman, DEP NCRO (pdf)  
J. Buczynski, DEP NERO (pdf)  
B. Patel, DEP NERO (pdf)  
K. White, DEP NERO (pdf)  
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**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL  
PROTECTION

## **OFF-SITE DISCHARGES OF STORMWATER TO AREAS THAT ARE NOT SURFACE WATERS**

Both construction and post construction stormwater runoff is to be managed through project layout design and best management practices (BMPs) to replicate the stormwater volume, rate and quality of predevelopment conditions. Some sites, after consideration of possible project design and BMP options, do not have direct access to surface waters to discharge stormwater runoff. Applicants for National Pollutant Discharge Elimination System (NPDES) Permits for stormwater discharges associated with construction activities may propose off-site discharges of stormwater to areas that are not surface waters. In these cases, the applicant must have the legal authority to discharge stormwater onto off-site areas. The applicant must also provide documentation that the discharge will not cause accelerated erosion or stormwater damage on the adjacent properties. This documentation is required with the permit application showing that the applicant has avoided, minimized or mitigated accelerated erosion and stormwater impacts.

### **Off-Site Discharge Analysis for Developers**

Persons proposing to discharge must have the authority to discharge through either a common law easement or an express easement. For sites that discharge to existing swales, ditches or similar structures where the new activities will not result in a change in volume or rate of stormwater runoff, the existing common law easement can be relied upon. In cases where an existing swale, ditch or similar structure is not present, an express easement will be necessary when there will be a change in volume or rate of stormwater. If an express easement is necessary, the following information should be obtained by the project applicant:

1. Obtain the names and addresses of all property owners directly receiving stormwater from the project that is not discharged to a surface water;
2. Evaluate stormwater flows (frequency and amount) onto these properties prior to the construction of the project;
3. Evaluate the nature and scope of all changes to the natural drainage characteristics for all stormwater discharged during construction and after construction is completed;
4. Evaluate the volume, rate and frequency of pre-construction, construction and post construction stormwater discharges from the project. Also evaluate the means of flow onto the adjoining properties.

This information should then be utilized by the applicant to obtain the necessary express easements to lawfully discharge the stormwater to off-site areas. If there will be an increase in stormwater to off-site areas and no express easement is obtained, the activity could be found to be a trespass which would nullify permit coverage and could subject the permittee to liability for damages in any private action pursued by adjacent landowners.

### **Demonstrating that no Accelerated Erosion or Damage from Stormwater will Occur**

No matter what type of authorization for easements the applicant obtains for off-site discharges of stormwater, the applicant must also document that the construction and post construction stormwater discharge to areas other than surface waters will not cause accelerated erosion or damage to down slope or adjacent properties. Applicants should use guidance from the *Erosion and Sediment Pollution Control Program Manual* (363-2134-008) and the *Pennsylvania Stormwater Best Management Practices Manual* (363-0300-002) when developing the following information with their NPDES permit applications:

- On the plan drawings, identify all properties and property owners that may directly receive off-site stormwater discharges from the project site.
- On the plan drawings, identify the flow path from discharge point to the confluence with a surface water of Pennsylvania. In addition, identify the soil types, erodibility factors and vegetative cover of the flow path.
- Provide documentation that the proposed volume and rate of stormwater discharging to the flow path will not cause accelerated erosion or sedimentation and/or is consistent with the *Erosion and Sediment Pollution Control Program Manual* (363-2134-008) and the *Pennsylvania Stormwater Best Management Practices Manual* (363-0300-002).
- In the written narrative portion of the plans, provide an analysis that demonstrates how the applicant has avoided, minimized or mitigated stormwater discharges to prevent accelerated erosion or damage to the down slope or adjacent properties.

For more information, visit [www.dep.state.pa.us](http://www.dep.state.pa.us), keyword: NPDES Construction and Erosion Control, or contact your local DEP Waterways and Wetlands program at one of the following regional offices:

#### WATERWAYS AND WETLANDS PROGRAM

**Northwest Regional Office**  
230 Chestnut St.  
Meadville, PA 16335-3481  
814-332-6984

*Butler, Clarion, Crawford,  
Elk, Erie, Forest, Jefferson,  
Lawrence, McKean,  
Mercer, Venango and  
Warren*

**Southwest Regional Office**  
400 Waterfront Dr.  
Pittsburgh, PA 15222-4745  
412-442-4315

*Allegheny, Armstrong,  
Beaver, Cambria, Fayette,  
Greene, Indiana, Somerset,  
Washington and  
Westmoreland*

**North-central Regional Office**  
208 W. Third St., Suite 101  
Williamsport, PA 17701-6448  
570-327-0529

*Bradford, Cameron,  
Centre, Clearfield, Clinton,  
Columbia, Lycoming,  
Montour, Northumberland,  
Potter, Snyder, Sullivan,  
Tioga and Union*

**South-central Regional Office**  
909 Elmerton Ave.  
Harrisburg, PA 17110-8200  
717-705-4802

*Adams, Bedford, Berks, Blair,  
Cumberland, Dauphin,  
Franklin, Fulton, Huntingdon,  
Juniata, Lancaster, Lebanon,  
Mifflin, Perry and York*

**Northeast Regional Office**  
2 Public Square  
Wilkes-Barre, PA 18701-1915  
570-826-2511

*Carbon, Lackawanna,  
Lehigh, Luzerne, Monroe,  
Northampton, Pike,  
Schuylkill, Susquehanna,  
Wayne and Wyoming*

**Southeast Regional Office**  
2 East Main St.  
Norristown, PA 19401-4915  
484-250-5970

*Bucks, Chester, Delaware,  
Montgomery and Philadelphia*

DEP Central Office  
Bureau of Waterways Engineering and Wetlands  
Division of NPDES Construction and Erosion Control  
P.O. Box 8460  
Harrisburg, PA 17105-8460  
717-787-3411  
Fax 717-772-0409

