PITT-11-16-035

December 2, 2016

Project Number 112IC05958

Mr. Nathan R. Crawford, P.E.
Permits Section Chief
Department of Environmental Protection
Waterways and Wetlands – Southcentral Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110

Re: Pennsylvania Pipeline Project Permit No. ESG 0300015002
Construction Spreads 3, 4, & 5
Technical Deficiency Response

Dear Mr. Crawford:

On behalf of our client, Sunoco Pipeline, L.P. (SPLP), Tetra Tech, Inc. provides the following responses to the Pennsylvania Department of Environmental Protection (DEP) Technical Deficiency Response letter dated September 6, 2016 regarding the above-referenced ESCGP-2 Permit Application. The supporting attachments represent a revision of the ESCGP-2 Application in response to the comments received and also incorporates revisions that have been made to the project design since the original submission.

For ease of your review, each DEP item is set forth bolded verbatim below, followed by an italicized narrative response.

Comments and Responses to September 6, 2016 Technical Deficiency Response

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General Common Technical Deficiencies		
1.	**DEP**	**The application will need a comprehensive Preparedness Prevention Contingency (PPC) and private well plan. Regarding these plans 25 Pa Code §102.5W:**
	a.	**The application includes separate documents covering PPC activities. Due to the scope of this project, you must consolidate these plans into one stand-alone document that can be used in the field. This plan must also be consistent in your Joint Permit Applications submitted for this project.**

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	SPLP Response:	*The Preparedness, Prevention, and Contingency Plan (PPC Plan) has been updated to be applicable project-wide. The PPC Plan is designed to address spill prevention in general. Potential impacts to surface waters and public and private water supplies in particular have been analyzed and addressed within two supplemental plans to the PPC Plan: a Water Supply Assessment, Prevention, Preparedness, and Contingency Plan (Water Supply Plan); and an Inadvertent Return Assessment, Prevention, Preparedness, and Contingency Plan (IR Plan). The Water Supply Plan provides for the assessment of the existing public and private water supplies in or along the project, as well as identifies prevention and preparedness measures to be implemented to protect those supplies. The IR Plan outlines the preconstruction activities implemented to ensure sound geological features are included in the HDD profile, the measures to prevent impact, and the plan to be implemented if an impact were to occur. In addition, a Void Mitigation Plan for Karst Terrain and Underground Mining (Karst Plan) is provided as part of the E&S Plan and assesses the potential impacts and avoidance and mitigation measures during open-cut and drilling procedures. The purpose of these plans is to protect surface and groundwater resources project-wide.*
	b.	**In a letter dated June 24, 2016, regarding the northeastern bulrush, the U.S. Fish and Wildlife Service stated, "As a means to minimize impacts should an IR occur, you provided an HDD Inadvertent Release Contingency Plan. In addition to the instructions in this Plan, please add the USFWS phone number as an agency to be contacted should an IR occur, and inform the HDD contractor about the sensitive nature of the drill at this location." Revise your Contingency Plan to incorporate this information.**
	SPLP Response:	*A comprehensive and complete contact list (including USFWS phone number) has been added to the IR Plan provided in Tab 8. The HDD contractor will be informed of sensitive areas through the Environmental Inspection training program, which is discussed within the IR Plan.*
	c.	**While you provided a narrative discussing how impacts to private water supplies will be investigated and addressed, a formal plan has not been provided. As such, revise your PPC plan to include the following:**
		i. Measures the applicant will take to investigate for the presence of private water supplies in areas where HDD crossings are proposed. **ii. Procedures that will be followed to investigate and resolve impacts to private water supplies should they occur as a result of the proposed activities. This procedure should discuss how private water supply owners will be alerted in the event of an inadvertent return.** **iii. The application states, "SPLP plans to use the FERC standards in accepting and investigating landowner complaints of spring and well water supply impairment." Provide a copy of these FERC standards and incorporate the FERC standards into your PPC Plan.**

	SPLP Response:	*The measures SPLP will take to investigate for the presence of private water supplies in areas where HDD crossings are proposed are described within the Water Supply Plan. Those measures include review of data from Pennsylvania Department of Conservation and Natural Resources Pennsylvania Groundwater Information System, landowner consultations, and field verification of all private drinking water wells within 150 feet of HDD activity.* *The Water Supply Plan and IR Plan also include the procedures that will be followed to investigate and resolve impacts to private water supplies should they occur as a result of the proposed activities. These include owner/manager notification, the supply of clean drinking water, and water quality re-sampling. The Water Supply Plan and the IR Plan are provided in Tab 8.* *The PPC Plan has been revised to remove the reference to FERC standards.*
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	d.	**The Mariner East 1 pipeline had several inadvertent returns during the construction process. Provide a list of areas where Mariner East 1 had issues with inadvertent returns to the surface when conducting FWD crossings, and discuss how you have taken these historic issues into account in your design of the proposed project.**
	SPLP Response:	*Refer to the HDD Inadvertent Return Risk Assessment, Attachment 8.C.*
	e.	**The Plan should address management of excess drilling mud/liquids that may be encountered at the individual bore pits.**
	SPLP Response:	*The PPC Plan and the IR Plan were updated to include standard operating procedures pertaining to conventional bore drilling. These plans are provided in Tab 8. The typical detail in the E&S plan notes and details for HDD's addresses drilling muds and liquids.*
2.	**DEP**	**Regarding your agency coordination:**
	a.	**Provide PNDI clearances from the PA Game Commission and US Fish and Wildlife Service. 25 Pa Code §102.6(a)(2)**
	SPLP Response:	*The PNDI Clearances from the PA Game Commission and the US Fish and Wildlife Service have been provided and can be found under Tab 6 of the ESCGP-2 Permit Application.*
	b.	**Provide proof that you have received clearance for your project from PHMC. Section 508 Pennsylvania History Code**

	SPLP Response:	*25 Pa. Code, Chapter 102 does not require DEP to consider potential impacts to historic resources as part of its review of a general permit for earth disturbance activity. Similarly, while the section of the Pennsylvania History Code referenced by DEP requires DEP to cooperate with the PHMC, it does not require SPLP to provide clearance or approval from the PHMC as part of a Chapter 102 permit application. Furthermore, as noted in a letter from Alexandra C. Chiaruttini, Esq., DEP's Chief Counsel concerning the SPLP Pennsylvania Pipeline Project, "the [Pennsylvania] History Code does not authorize our agency or any Commonwealth agency to stop the processing of permits solely due to possible or actual presence of archaeological or historic resources, unless the agency's enabling legislation contains specific statutory authorization for such action. DEP does not have such authorization here." A copy of the February 1, 2016, letter from Ms. Chiaruttini is provided in Attachment 6. See also Pennsylvania History Code §508(a)(4). Accordingly, SPLP requests that DEP continue its review of SPLP's applications.* *SPLP will continue to work with the PHMC to ensure that impacts to cultural resources are avoided where possible. In addition, SPLP has included with its Chapter 102 application a Cultural Resources Unanticipated Discovery Plan to be implemented during construction that outlines the protocols SPLP and its contractors and subcontractors will follow if archaeologic or historic resources are unexpectedly encountered, including notification to DEP and PHMC and cessation of earth disturbance.*
3.	**DEP**	**The project description provided in the Cultural Resource Notice states that the second pipeline is to be installed within 5 years of the first pipeline. The project description provided in the application, however, does not discuss this timeframe. 25 Pa Code §102.6**
	a.	**Revise the application to discuss if the pipelines will be installed at the same time, or on different schedules.**
	SPLP Response:	*Both pipelines will be installed within the same limit of disturbance so there would be no additional, temporary disturbance resulting from a second separate installation. For safety purposes, the installation would be staggered by what is estimated to be no more than 60 days. At some HDDs with longer drills, however, the time period between installation of the two pipelines may exceed 60 days. Any temporary stabilization required would be implemented in accordance with the Project's E&S Plans.*
	b.	**The application states that the second pipeline will be 16 inches in diameter, while other applications related to this project state that the second pipeline could be up to 20 inches in diameter. Which is correct?**
	SPLP Response:	*In previous submissions and coordination documents, the diameter of the second pipeline had not yet been determined by engineering, but SPLP understood the maximum possible size would be 20 inches in diameter. SPLP has completed the initial engineering details for the necessary capacities of the second line and has determined that the second pipe will be 16 inches in diameter. The application has been revised to reference a 16-inch pipeline.*
	c.	**If the pipelines are proposed to be installed at separate times, revise the application to clearly indicate this, and to identify the permanent and temporary impacts from the second pipeline installation. Please be advised that if issued the permit may expire before construction is completed on any second line.**

	SPLP Response:	*The Project Description throughout the Application has been updated to reflect the timing of the installation of the 20-inch and the 16-inch pipeline. In general, the 20-inch pipeline would be installed first, followed by the 16-inch line. For a conventional lay, the pipelines would be installed within the same disturbance to the maximum extent practicable. For safety purposes, the installation would be staggered by what is estimated to be no more than 60 days. At some HDDs with longer drills, however, the time period between installation of the two pipelines may exceed 60 days. Any temporary stabilization required would be implemented in accordance with project's E&S Plans.*
4.	**DEP**	**Your application identifies "travel lanes" at numerous resource crossings, however, details on these crossings have not been provided. Please provide details on these travel lanes that includes but is not limited to; cross sectional view, length of time in service, potential impacts, etc. Please note that the application did not detail any impacts, permanent or temporary, or E&S Controls for these travel lanes even though they may constitute disturbance and are shown to cross resources. As such your application may need to be revised. 25 Pa Code §102.6**
	SPLP Response:	*A section on "Travel Lanes" has been added to Section 3.4 of the E&S Narrative, and the E&S Plan Sheets have been revised to call out all "Travel Lane" areas, including which are "travel only" and which are "travel and clearing only". For "Travel Lane" areas that involve resources crossings, an equipment bridge/working platform crossing will be installed per the typical details provided in the E&S Plan Sheets. These equipment bridges/working platforms have also been added, where required on the main E&S Plan Sheets.* *Cross-sectional views of these resource crossings have not been developed because travel is anticipated to occur on existing grade with no grading required. The intent of clearing a "travel and clearing only" "Travel Lane" would be to provide adequate clearance for equipment to access the work area and protect the resources crossed within that travel lane.* *Use of these "Travel Lanes" will be intermittent throughout the whole life of the project with a brief period of increased use during HDD activities and other construction activities in the immediate area. Impacts for "Travel Lanes" designated as "travel only" will be temporary, while impacts for "Travel Lanes" designated as "travel and clearing only" areas will have permanent impact associated with tree and brush removal.*
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5.	**DEP**	**We have compared the Plans submitted with this application and the Plans submitted with the five Joint Permit Applications regarding consistency between the site plans and Erosion and Sediment Control Plans you have provided. Inconsistencies were noted as follows: 25 Pa Code §102.6**
	a.	**Describe the difference between the "Permanent Easement" and "Permanent Right-of-Way" areas that are identified on your plans. This description should discuss maintenance activities that will be performed on these areas following construction of the pipeline, and measures that will be taken to ensure that future maintenance activities do not detrimentally impact aquatic resources (i.e. cutting PSS wetlands after restoration).**

	SPLP Response:	*"Permanent Easement" refers to the legal document that gives rise to a right of way. The "Permanent Easement" is legally protected from encroachment by the landowner. The "Permanent Easement" designation on the plans has no relevance to the maintenance activities that will occur.* *"Permanent Right-of-Way" is the term used in the plans to designate the area where future maintenance activities will occur. The maintenance activity in the Permanent Right-of-Way will vary depending on the type of Right-of-Way (e.g., Permanent Right-of-Way, ROW-Travel LOD, ROW-Travel, Station-LOD, or Block Valve Setting-LOD). These designations are described in the Project Description in Attachment 9 of the Chapter 105 Application and the Permanent ROW is shown on the E&S Plan Drawings. The Minimization, Avoidance, and Mitigation Procedures, provided in Attachment 11, Enclosure E, Part 4 of the Chapter 105 Application discusses maintenance activities that will be performed in the Permanent Right-of-Way areas following construction of the pipeline as well as measures that will be taken to ensure that future maintenance activities do not detrimentally impact aquatic resources. For example, the plan indicates that "No Mowing" signs will be placed in PSS areas that will be restored within the Permanent Right-of Way. These areas will also be inspected for continued presence of signage as part of SPLP's maintenance activities.*
	b.	**Provide a description of the "Travel Lane" that is shown on your project plans. This description should include:** **i. The purpose of these features.** **ii. Whether these features will be temporary or permanent.** **iii. The crossing methods (i.e. mats, pads) that will be used to cross resources.**
	SPLP Response:	*"Travel Lanes" are portions of the project LOD that will be used for travel between HDD workspaces. Some of these lanes will require mechanical clearing of trees and brush to improve travel conditions and/or line-of-sight for HDD activities. No other construction activities will occur in these areas. A section on "Travel Lanes" has been added to Section 3.4 of the E&S Narrative, and the E&S Plan Sheets have been revised to call out "Travel Lane" areas, including those which are "travel only" (no mechanical clearing required) and those which are "travel and clearing only" (mechanical clearing required).* *Use of these "Travel Lanes" will be intermittent throughout the duration of the project with a brief period of increased use during HDD activities and other construction activities in the immediate area. Impacts for "Travel Lanes" designated as "travel only" will be temporary, while impacts for "Travel Lanes" designated as "travel and clearing only" areas will have permanent impact associated with tree and brush removal.* *The LOD for "Travel Lanes" designated as "travel and clearing only" do not cross wetlands and most floodplains and floodways. For any portions of the "Travel Lanes" that are crossing resources, an equipment bridge/working platform crossing will be installed consistent with the descriptions provided in the E&S Plan Sheets. These equipment bridges/working platforms have also been added, where required on the main E&S Plan Sheets.*
	c.	**The plan views provided do not show a permanent right-of-way proposed over areas where HDD installation is proposed. Describe any clearing or maintenance activities that are proposed to occur over areas where your pipeline installation will utilize HDD/bore methods to install the line.**

	SPLP Response:	*Vegetation clearing, grubbing, or removal within the permanent ROW is not anticipated to occur as part of the pipelines construction to be installed via an HDD or bore except in the areas within the LOD, which is depicted in the plan drawings. However, in instances where the LOD extends into wetlands, floodplains, and floodways, no maintenance clearing, cutting, removal, or other alteration will occur. Instead, alternative methods of inspections (e.g., foot patrol) will be employed to maintain the pipeline ROW in wetlands, floodplains, and floodways.*
	d.	**The E&S Plan sheets show the proposed gas line being located on top of an existing gas line. Discuss how this will be achieved and not prevent access to the existing line.**
	SPLP Response:	*There are locations where the Project lines (16" and 20") share the ROW with another Sunoco 8" line, and in some cases, the Project line will cross the Sunoco 8" line. The new lines are still expected to be installed underneath the existing line. If for some reason, the Project lines must cross over top of the Sunoco 8" line while still maintaining the minimum necessary cover, SPLP will be able to stop flow through any line, as necessary, to facilitate safe access to their crossed line.*
	e.	**It is recommended that changes to either the JPA or the E&S application be reflected in the other application. Failure to ensure consistency between the two applications will delay any permit decision for this project.**
	SPLP Response:	*SPLP has undertaken efforts to ensure that all changes to either the JPA or the ESCGP-2 Applications are consistent between the two applications*
6.	**DEP**	**In order to ensure adherence to Threatened and Endangered species restrictions/avoidance measures that are part of any PNDI clearances, the Plans and drawings need to clearly identify these locations and provide construction notes and seasonal restrictions. Both the plans for this application (ESG0300015001) and the plans for the Joint Permit Applications will need to be revised to include this information. 25 Pa Code §102.6(a)(2)**
	SPLP Response:	*A "Rare, Threatened, and Endangered Species Restrictions and Avoidance Measures" table and site specific restrictions have been added to the plans and the drawings*
7.	**DEP**	**The time of concentration line(s) do not appear to follow the contouring on the PCSM plan drawings. The time of concentration lines should be drawn perpendicular to the respective existing and proposed contours. Please justify or amend the plan drawings and calculations accordingly. 25 Pa Code §102.8(f)(8), §102.8(f)(9), §102.8(g)(3) & §102.8(g)(4)**
	SPLP Response:	*The time of concentration lines have been amended to be shown perpendicular to the respective existing and proposed contours and are reflected on the PCSM plan drawings.*
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8.	**DEP**	**The time of concentration line lengths on the drawings do not appear to match up with the time of concentrations calculations. Please verify and amend accordingly. 25 Pa Code §102.8(f)(8), §102.8(f)(9), §102.8(g)(3) & §102.8(g)(4)**

	SPLP Response:	*The time of concentration line lengths on the drawings have been amended to match the time of concentration calculations.*
9.	**DEP**	**It is difficult to follow how the additional time of concentration is calculated at the bottom of DEP Worksheet 5 (found in Spread 6 Volume IV). This calculation should show every step (i.e. detailed computations) of the calculation for the additional time of concentration for each modeled storm event (for 2, 10, 50, and 100-year storms). 25 Pa Code §102.8(f)(8), §102.8(f)(9), §102.8(g)(3) & §102.8(g)(4)**
	SPLP Response:	*Detailed calculations for the Time of Concentration Adjustment method have been provided for each site within Attachment 4 calculations for each site. Additionally, the adjustment calculations have been revised to only utilize the storage volume for the storm event rather than the total possible storage of the BMP.*
10.	**DEP**	**For DEP Worksheets 1-5 and the ESCGP-2 application, please amend the following [DEP Application and Worksheets] for all above-ground structures (i.e. valve locations and compressor stations): 25 Pa Code §102.6**
	a.	**Please include all causes of impairment for each respective receiving watercourse**
	SPLP Response:	*The causes of impairment for each respective receiving watercourse have been added to Worksheet 1 provided in Attachment 4.*
	b.	**Please verify the receiving watercourse for each valve site's point of interest**
	SPLP Response:	*The receiving watercourse for each point of interest has been verified and revised, where necessary, on Worksheet 1 provided in Attachment 4.*
	c.	**Please verify the approval status of the Act 167 Plan for the watershed of each valve site. Please provide verification that the site addresses the Act 167 Plan requirements**
	SPLP Response:	*The approval status of the Act 167 Plan for the watershed at each valve site has been verified and revised on Worksheet 1, where necessary. Verification that the site addresses the Act 167 Plan requirements, when applicable, is detailed in the Act 167 Consistency Verification Reports located in Tab 5 of the ESCGP-2 Permit Application.*
	d.	**Please verify the Chapter 93 classification for each respective receiving watercourse**
	SPLP Response:	*The Chapter 93 designation of each respective receiving watercourse has been verified and revised, where necessary on Worksheet 1 in Attachment 4.*
	e.	**Please verify the 2-year/24-hour runoff volume to each berm based on the berm's drainage area**
	SPLP Response:	*The 2 year/ 24- hour runoff volume to each PCSM BMP is provided for the "Post Detained" hydrograph in the Hydrograph Summary Report provided with each set of PCSM rate calculations.*

	f.	**Please verify the total structure volume provided on DEP Worksheet 5. This should be the lowest value between the drainage area runoff volume, the storage volume of the berm, and the infiltrated volume within 72 hours after the 2-year/24-hour storm event.**
	SPLP Response:	*The total structural volume provided on DEP Worksheet 5 has been revised so that it is the lowest value amongst (i) the drainage area runoff volume, (ii) the storage volume of the berm and (iii) the infiltrated volume within 72 hours after the 2-year/24-hour storm event.*
	g.	**Please verify the recommended infiltration rate for each valve site with the calculations and the infiltration test data**
	SPLP Response:	*The recommended infiltration rates for each valve site have been revised based on new field data and relocating PCSM BMPs. The recommended infiltration rates are summarized in Attachment 5 of the Site Restoration and Post-Construction Stormwater Management Plan.*
11.	**DEP**	**In order to be able to utilize PCSM Standard Worksheet #10, 90% of the disturbed area has to be controlled/managed by a PCSM BMP (refer to Flow Chart D in Chapter 8 of the PCSM Manual). Provide the demonstration that 90% of the disturbed area at each site (individually) is controlled/managed by a PCSM BMP (e.g. it appears that less than 90% of the disturbed area is being controlled/managed by a PCSM BMP at the Juniata River West Block Valve site). If less than 90% of the disturbed area is being controlled/managed by a PCSM BMP, then water quality management can be shown through PCSM Standard Worksheets # 12 & 13 (for TSS, TP & NO_3). Make all revisions necessary. 25 Pa Code §102.8(f)(6), §102.8(f)(8), §102.8(g)(2), §102.8(g)(4) & §102.11(a)(2)**
	SPLP Response:	*A write-up has been generated to accompany the PCSM calculation for each block valve sites. The write-up provides evidence that 90% of the disturbed area is now controlled and managed by a PCSM BMP at each of the sites. As a result, Worksheets 12 and 13 are not needed.*
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12.	**DEP**	**Provide the calculations for each Time of Concentration Adjustment. Ensure that these calculations identify the storage volume utilized and how that storage volume was calculated. The storage volume used in these calculations is the storage volume utilized for the storm event, not the total possible storage of the BMP. Make all revisions necessary.**
	SPLP Response:	*Detailed calculations for the Time of Concentration Adjustment method have been provided for each site. Additionally, the adjustment calculations have been revised to only utilize the storage volume for the storm event rather than the total possible storage of the BMP. The calculation is provided in Attachment 4.*
13.	**DEP**	**Provide discussion as to why HDD or conventional boring was not utilized to cross all special protection surface waters, as boring could be considered an ABACT E&S BMP (refer to Page 290 of the E&S Manual). For example, it appears that boring could be accomplished at Station 6900+00 (Sheet ES-3.67 for Blair County) for the crossing of Clover Creek (HQ-CWF). 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(6) & §102.11(a)(1)**

	SPLP Response:	*The Alternatives Analysis included within the Chapter 105 applications demonstrate that the proposed pipeline route has been designed to maximize the use of existing utility corridors, and minimize the number and linear footage of crossings of all surface waters, including those classified as High Quality (HQ) or Exceptional Value (EV). The Trenchless Construction Feasibility Analysis sets forth an analysis of the possible implementation of trenchless construction methods at certain stream or wetland crossing, and indicates the use of trenchless crossing installation methods where feasible. For those surface water crossings crossed by the open cut installation method, the E&S Plan identifies and incorporates ABACT E&S best management practices (BMPs).*
14.	**DEP**	**Provide discussion on what E&S BMPs will be utilized at the HDD and conventional boring locations for the drilling mud. Ensure that these BMPs are properly shown on the plan view drawings. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Drilling mud will be stored in tanks or pits at the HDD and conventional boring locations and therefore the management of drilling mud is not expected to have any impact on erosion or sedimentation. E&S BMPs for stormwater are shown on the E&S plans and the typical detail for HDDs.*
General Technical Deficiencies		
<u>Notice of Intent (N0I) for Coverage under the Erosion and Sediment Control General Permit (ESCGP-2)</u>		
1.	**DEP**	**Section E.1: Provide a better identification of which areas of the project were designed to meet which design standards (i.e. which areas were designed to the standards in an approved Act 167 Plan and which areas were designed to the standards of 25 Pa Code. §102.8(g)(2) & §102.8(g)(3)). 25 Pa Code §102.6(a)(1)**
	SPLP Response:	*The Act 167 verification reports, Act 167 tracking tables, and Site Restoration narrative have been updated to verify consistency with Act 167 or defined where the designs meet the standards of 25 Pa Code §§ 102.8(g)(2) and 102.8(g)(3)). The PCSM design calculations in Attachment 4 also summarize the design criteria utilized for the proposed aboveground facilities.*
2.	**DEP**	**Section E.5: It appears that there are numerous areas along the pipeline which propose to discharge stormwater to off-site areas other than a surface water. Ensure that this is properly identified throughout the application and all required information is provided. Refer to the attached DEP's *Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet* (DEP Document No. 3150-FS-DEP4124). 25 Pa Code §102.4(c), §102.6(l) & §102.8(f)(15)**
	SPLP Response:	*Section E.5 has been corrected in the NOI (Tab 2 of the ESCGP-2 permit application). As a part of this correction, a table is attached which identifies the areas where stormwater is discharged offsite to areas other than a surface water.*

3.	**DEP**	**Section F.1: Provide a better identification of which areas of the project were designed to meet which design standards (i.e. which areas were designed to the standards in an approved Act 167 Plan and which areas were designed to the standards of 25 Pa Code §102.8(g)(2) & §102.8(g)(3)).** **If an area is covered by an approved and current (approved by DEP on or after January 2005) Act 167 Plan, the Post Construction Stormwater Management Plan shall be consistent with any approved and current Act 167 Plan. To demonstrate consistency with an approved and current Act 167 Plan, the applicant may select one of the following options (per Erosion and Sediment Control General Permit for Earth Disturbance Associated with Oil and Gas Exploration, Production, Processing, or Treatment Operations or Transmission Facilities Condition 18.b):** • **Submit a letter provided by the municipal or county planning engineer that verifies plan constancy.** • **Submit an Act 167 Plan consistency verification report, which is prepared and sealed by a licensed professional.** **Make all revisions necessary. 25 Pa Code §102.6(a)(1)**
	SPLP Response:	*The Act 167 verification reports, Act 167 tracking tables, and Post Construction Stormwater Management narrative have been updated to verify consistency with Act 167 or defined where the designs meet the standards of 25 Pa Code §§ 102.8(g)(2) and 102.8(g)(3)). The PCSM design calculations in Attachment 4 also summarize the design criteria utilized for the proposed aboveground facilities. The Act 167 reports have been sealed by a licensed professional.*
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4.	**DEP**	**Section F.3: Ensure that all areas which are required to have a PCSM Plan are properly identified, so that they match with the PCSM Plans. An example provided is the Section identified as UNT to Aughwick Creek; is this the Mount Union Valves site? Make all revisions necessary. 25 Pa Code §102.6(l)**
	SPLP Response:	*Section F3 of the NOI, the PCSM calculations, and the PCSM Plan drawings have been updated to use a consistent block valve naming convention.*
5.	**DEP**	**Section F.3 Sherman Creek (POI-1) & UNT to Aughwick Creek: Provide the stormwater discharge rate for the 2-year/24-hour storm event. 25 Pa Code §102.6(l)**
	SPLP Response:	*Section F3 of the NOI has been updated to provide a stormwater discharge rate for the 2-year/24-hour storm event based on revised calculations.*
6.	**DEP**	**Section F.3 UNT to Aughwick Creek: The increase in impervious area is identified as 0.632 ac.; however, PCSM Standard Worksheet #4 for the Mount Union Valves site identifies an increase in impervious area of 0.623 ac. Clarify this discrepancy. 25 Pa Code §102.6(l)**
	SPLP Response:	*Section F3 of the NOI and the PCSM Worksheets for the valve site previously named Mount Union have been revised for consistency.*

7.	**DEP**	**Section F.5: It appears that there are numerous areas which propose to discharge stormwater to off-site areas other than a surface water. Ensure that this is properly identified throughout the application and all required information is provided. Refer to the attached DEP's *Off-site Discharges of Stormwater Areas That Are Not Surface Waters Fact Sheet* (DEP Document No. 3150-FS-DEP4124). 25 Pa Code §102.4(c), §102.6(l) & §102.8(f)(15)**
	SPLP Response:	*A separate Offsite Discharge Analysis, Attachment 8 of the NOI, has been prepared for the project consistent with the guidance in DEP Document No. 3150-FS-DEP4124.*
8.	**DEP**	**Section G: Provide a separate Anti-Degradation Analysis for each discharge to a special protection surface water/watershed. 25 Pa Code §102.6(l)**
	SPLP Response:	*Due to the linear nature of this project all of the HQ/EV special protection watersheds received the same non discharge alternative evaluation and incorporation of ABACT site restoration BMPs throughout the pipeline. A site-specific antidegradation analysis is provided for the areas requiring PCSM in Attachment 11 of the E&S Control Plan.*
9.	**DEP**	**Section H: It is identified that "Notices of Violations attached in formal application." Clarify the meaning of this statement. The NOI is the formal application for coverage under the ESCGP-2. Provide the identified information related to Sunoco Pipeline, L.P.'s compliance history. 25 Pa Code §102.6(l)**
	SPLP Response:	*The statement has been revised to state, "Notices of Violations can be found in Tab 9 of the ESCGP-2 Permit Application."*
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10.	**DEP**	**Attachment 3 Water/Watershed Table: Verify that Hay Creek has a Designated Use of Exceptional Value (EV) and an Existing Use of High Quality (HQ) Cold Water Fishes (CWF). It appears that there are sections of Hay Creek which have different Designated Uses and some sections which have an Existing Use. Properly identify the Designated and Existing Uses of all receiving surface waters, including multiple identifications if the same stream has different Uses throughout. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(v), §102.6(l) & §102.8(f)(5)**
	SPLP Response:	*After clarification from the SCRO, a column has been added to the Stream and Wetlands Tables (Attachment #3) in the NOI, where applicable, to call out the Existing Uses of receiving waters.*
11.	**DEP**	**Attachment 6 Riparian Buffer Waiver Request:**
	a.	**The first sentence on Page 3 is not accurate. Not all areas covered by Chapter 105 are exempted from the riparian/riparian forest buffer regulations; an example where the riparian/riparian forest buffer regulations apply would be where the pipeline/earth disturbance activity is located parallel to the stream and within the floodway. Make all revisions necessary to appropriately identify the areas that require a waiver of the riparian/riparian forest buffer regulations. 25 Pa Code §102.14(d)**

	SPLP Response:	*The sentence has been revised to reflect that the riparian/riparian forest buffer regulations apply where the pipeline/earth disturbance activity is located parallel to the stream and within the floodway.*
	b.	**If a waiver is being requested for a riparian forest buffer, then provide a waiver of the riparian forest buffer composition. Identify all areas for a waiver of the riparian forest buffer composition. 25 Pa Code §102.14(b)(1)**
	SPLP Response:	*Language has been added to the narrative clarifying that all forested riparian buffers are assumed to be of "composition," native with 60% canopy cover.*
	c.	**The provided Alternatives Analysis is not sufficient. Provide an Alternative Analysis for each area where the riparian/riparian forest buffer waiver is being requested. 25 Pa Code §102.14(d)(2) & §102.14(d)(3)**
	SPLP Response:	*The Alternatives Analysis was expanded to incorporate each riparian zone. This expanded analysis is included as Table 3 in the Riparian Buffer Waiver Request (Attachment 6 of the NOI - Tab 2).*
	d.	**Identify the specific manual which is referred to as "PADEP manual" on Page 11 in the Demonstration of Minimizing Impacts section. 25 Pa Code §102.14(d)(2) & §102.14(d)(3)**
	SPLP Response:	*The text has been revised to reference the "2012 PADEP Erosion and Sediment Pollution Control Program Manual."*
	e.	**Table 2 identifies streams which are currently identified as impaired in the 2014 Pennsylvania Integrated Water Quality Monitoring and Assessment Report. Please note that some streams are currently tentatively impaired and may be identified as impaired in the 2016 Pennsylvania Integrated Water Quality Monitoring and Assessment Report. If 2016 Pennsylvania Integrated Water Quality Monitoring and Assessment Report is finalized before permit coverage is authorized for the project, then revise the application accordingly. 25 Pa Code §102.14(a)(2)**
	SPLP Response:	*This item has been noted. The comment period for the 2016 Pennsylvania Integrated Water Quality Monitoring and Assessment Report closed on September 13, 2016, but DEP has not announced a date for the release of the final version of that report.*
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	f.	**The Riparian Buffer Site Plans are not sufficient. Clearly identify riparian/riparian forest buffer areas to be waived on the plans and identify the top of bank of the stream. Provide these plans at a more legible scale; a scale of 1" = 400' is not sufficient for the riparian/riparian forest buffer waivers. 25 Pa Code §102.14(d)(2) & §102.14(d)(3)**
	SPLP Response:	*The Riparian Buffer Site Plans have been updated to clearly identify all riparian/riparian forest areas and the top of bank of the streams. The plans have also been updated to a scale of 1" = 100'.*

PNDI Coordination/Clearance		
1.	**DEP**	**Identify where on the plans the avoidance and clearance measures are identified for the threatened and endangered species. Provide the avoidance and clearance measures clearly shown and identified on all applicable plans, including notes and locations. 25 Pa Code §102.4(b)(5)(ix), §102.6(a)(2) & §102.8(f)(9)**
	SPLP Response:	*A "Rare, Threatened, and Endangered Species Restrictions and Avoidance Measures" table has been added to the plans and the drawings. Callouts have been added to the drawings at these locations to reference the required restrictions and avoidance measures.*
2.	**DEP**	**Provide clearance for all threatened and endangered species from all resource agencies. 25 Pa Code §102.6(a)(2)**
	SPLP Response:	*Clearance letters for all threatened and endangered species from all resource agencies are provided in Tab 6, Large Project PNDI.*
Erosion & Sediment Control (E&S) Plan – General Technical Deficiencies		
1.	**DEP**	**The E&S Plan shall be separate from the PCSM Plan. In certain instances the E&S Plan and Site Restoration Plan can be combined; however, this combination has to be clearly identified. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(xiv), §102.8(d) & §102.8(n)**
	SPLP Response:	*The PCSM Plan has been updated to only include information regarding post-construction stormwater management BMPs and their installation, operation, and maintenance. Also, the E&S Plan has been updated to only include information regarding erosion and sediment control BMPs and their installation, operation, and maintenance. The E&S Plan and PCSM Plan are now separate from one another.*
2.	**DEP**	**Provide the demonstration that the E&S Plan was prepared by a person trained and experienced in E&S control methods and techniques applicable to the size and scope of the project being designed. DEP recommends utilizing Standard E&S Worksheet #22 from the E&S Manual. 25 Pa Code §102.4(b)(4) & §102.11(a)(1)**
	SPLP Response:	*Worksheet #22 has been completed and incorporated into Attachment 4 of the E&S Report.*
3.	**DEP**	**It appears that some of the symbols being used on the plan sheets are the same or too similar to easily distinguish (e.g. LOD and 100 year floodplain, silt sock and silt fence, property line and right of way, etc.). Revise the plan drawings so that the line types are more distinguishable. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*The line types have been revised so they are easier to differentiate and are more distinguishable.*
4.	**DEP**	**There are numerous instances where symbols are overlapping each other, making it hard to see some of the symbols. Revise the plan drawings so that the symbols are not overlapping. 25 Pa Code §102.4(b)(5)(ix)**

	SPLP Response:	*The E&S Plan sets have been revised so the symbols are not overlapping. Revisions of the overlapping symbols have been reviewed and approved by the DEP.*
5.	**DEP**	**Provide the soil type identifications and boundaries on the E&S Plan drawings. Ensure that the soil limitation resolutions are provided. 25 Pa Code §102.4(b)(5)(ii), 102.4(b)(5)(ix) & 102.4(c)**
	SPLP Response:	*As discussed with the DEP, the soils have not been shown on the E&S plan drawings and remain a separate set of figures. Updated soils maps to show the project centerline to correlate to the E&S plan drawings have been provided in Attachment 5 of the E&S Plan and Attachment 2 of the PCSM Report. The soil limitation resolutions are also provided in those attachments.*
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6.	**DEP**	**Provide additional clarification as to how the project will be accessed throughout the duration of earth disturbance activities (will new temporary access roads be required and removed, will existing access roads require upgrades, how will the mainline be accessed, etc.). Provide all proposed temporary and permanent access roads. Ensure that all earth disturbance activities are included within the limit of disturbance and permit boundary. Ensure that proper BMPs are provided. Clearly identify what is meant by the plan note of "existing road to be used for access no proposed permanent improvements" (i.e. are temporary improvements proposed and if so, what are they). 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*Throughout earth disturbance activities, temporary and permanent access to the project workspace will come from new temporary access roads (to be installed and removed post-construction), new permanent access roads (to be installed and maintained post-construction), existing privately-owned access roads for temporary construction access only, and existing privately-owned access for temporary construction access and permanent post-construction access (to be maintained). These access roads are summarized in the Access Road Summary Table, provided as Attachment 9 to the E&S Narrative.* *Access roads on the E&S Plan Sheets have been reviewed and updated to properly identify all necessary earth disturbance and BMPs (required for all new access roads and existing access roads requiring maintenance/improvement for construction use). Access roads identified as "existing road to be used for access no proposed permanent improvements" are existing access roads to be used for temporary construction access and extensions of culverts will not be added or additional or larger culverts will not be used. These roads will be returned to pre-construction conditions after construction activities are complete. Temporary improvements include, but are not limited to re-grading, gravel placement, and general maintenance and will occur within the LOD and permit boundary. Details are listed in the Access Road Summary Table, provided as Attachment 9 to the E&S Narrative*
7.	**DEP**	**Verify the reference to the Detail Number and Sheet Shown On for details. There are instances where these do not match from one location to another in a County's plan set. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*All references to Detail Number and Sheet Shown On for the details have been updated as needed.*
8.	**DEP**	**Identify the ESCGP-2 Permit Boundary. 25 Pa Code §102.4(b)(5)(ix)**

	SPLP Response:	*The permit boundary is concurrent with the LOD on the E&S drawings.*
9.	**DEP**	**Ensure that all streams, floodways and floodplains have been fully identified in the plan drawings (e.g. Sheet ES-4.02 York County, S-H67). 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*Floodplains and Floodways have been updated to match the plans included with SPLP's Chapter 105 permit application.*
10.	**DEP**	**Ensure that adequate notes are provided related to the HDD sites. Refer to Pages 284 & 285 of the E&S Manual for guidance on proper notes related to the HDD and those work sites; identify where this information can be found within the E&S Plan. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(ix) & §102.11(a)(1)**
	SPLP Response:	*Additional notes have been added to the E&S Sheets related to the HDD sites. The general construction sequence for HDD crossings can be found under the Construction Sequence notes on ES-0.05 or ES-0.06.*
11.	**DEP**	**There are numerous areas throughout the project where a wetland/portion of a wetland is identified as within the limit of disturbance but that the E&S BMPs are not shown at the edge of the limit of disturbance (e.g. WL-BB111 at Station 5764+50 on Sheet ES-3.01 for Blair County). Clarify the proposed disturbance of these wetlands (i.e. are these wetlands to be disturbed or not). Provide a detail for the installation of the orange construction fence. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*While crossing wetland areas the actual disturbance will be kept to a minimum; however, the limit of disturbance was kept at the outer edge of the right-of-way in case site conditions necessitated use of this area. In order to limit the actual disturbance in the wetland, erosion and sediment controls are not shown on the edge of the right-of-way due to the need to disturb the wetland to place the controls. By not installing erosion controls at the edge of the right-of-way, the actual disturbance in the wetland will be kept to a minimum.* *Orange construction fencing (to limit entering the wetland) was added to the drawing set.*
12.	**DEP**	**For the stream and wetland crossings, provide specific site details as to how each crossing will be accomplished. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi), §102.4(b)(5)(vii) & §102.4(b)(5)(ix)**
	SPLP Response:	*The typical crossing details are relevant and applicable to each typical resource crossing, and will be implemented at each crossing without the need to specifically depict such typical details on the plan views of the E&S Plan drawings. In several cases, site-specific drawings have been created and are referenced within the E&S Plan sheets and provided after the standard sheeting. These sites-specifics also reference the typicals which provide a consistent location for the same information.*
13.	**DEP**	**The following technical deficiencies are associated with the construction sequence: 25 Pa Code §102.4(b)(5)(vii)**
	a.	**Provide information for the clearing and grubbing, grading and pipeline trench excavation.**

	SPLP Response:	*Based upon the regulatory citation, SPLP responds as follows: Number 6 of the Construction Sequence has been revised to state, "Clearing, grubbing, and topsoil stripping shall be limited to those areas described in each stage of the construction sequence. General site clearing, grubbing, and topsoil stripping may not commence in any stage or phase of the project until the E&S BMPs specified by the BMP sequence for that stage or phase have been installed and are functioning as described in the E&S Plan."*
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	b.	**Provide measures for how to relieve the compaction for the areas to be restored (e.g. the pullback areas, access routes, pipeline backfill, etc.).**
	SPLP Response:	*Construction Sequence #16 was revised to state, "Any area that used stone and/or timber mats for temporary stabilization and/or access will be completely removed, soil will be decompacted by using tracked equipment. Make multiple passes over the area to reestablish preconstruction contours and replace topsoil to a minimum of 4-8 inches deep. Seed and mulch areas. Vehicular traffic should be restricted from these areas to prevent soil compaction." Compaction is also addressed within the E&S narrative.*
	c.	**Provide for the restoration of the riparian forest buffer shown on the plan drawings.**
	SPLP Response:	*All riparian areas will be revegetated and stabilized following construction in accordance with the Project's E&S Plan, which incorporates antidegradation requirements, and these areas will continue to provide riparian benefits to the stream resources.*
	d.	**Provide for the field marking of the wetlands.**
	SPLP Response:	*A note has been added to the construction sequence and general notes to state, "Orange construction fence will be installed at wetland areas to identify and deter construction equipment, vehicles, and personnel from entering wetlands."*
	e.	**Ensure that a construction sequence is provided for all block valve sites, permanent access roads and temporary access roads. In these construction sequences provide for the installation/construction of the PCSM BMPs.**
	SPLP Response:	*A construction sequence for the installation and construction of PCSM BMPs is provided on PCS-0.01 found in Attachment 6 of Tab 7 of the ESCGP-2 Permit Application.*
	f.	**Provide for the maintenance of the waterbars during the periods of time where the pipe trench is open.**
	SPLP Response:	*Construction Sequence #9 has been revised to state, "Waterbars or approved interceptor dykes will be installed along the alignment prior to pipe installation at the end of each work day. During the periods of time where the pipe trench is open, contractors will provide positive control of all stormwater on site, water bars will be constructed at the end, or during each work day. The contractor will install silt fence if required to control erosion until 70% vegetation growth."*

	g.	**Stage 1 identifies that "Appropriately sized silt fence is an approved alternative in areas that are not special protection watersheds." Identify how the proper sizing will be determined, as no sizing information was provided in the E&S Plan narrative and/or drawings. Provide the sizing calculations and design, if silt fence is to be an approved alternative. Provide a note that identifies the appropriate county conservation district and DEP have to approve any deviation to the authorized plans. 25 Pa Code §102.4(b)(5)(viii)**
	SPLP Response:	*The design of the perimeter E&S Controls have been reevaluated for the maximum slope lengths and sock size adjusted accordingly to comply with the E&SPCP Manual. Worksheet #1 has been updated to reflect this revision and can be found in Attachment 4 of the E&S Report (Tab 3 of the ESCGP-2 Permit Application).*
	h.	**Identify the location of the Access Road Summary Table referenced in Stage 3.**
	SPLP Response:	*The Access Road Summary Table is provided as Attachment 9 to the E&S Narrative.*
	i.	**Provide for the waterbars and approved interceptor dykes in Stage 5 to be installed at the end of each work day and not "as needed based on installation rate and weather conditions."**
	SPLP Response:	*A note has been added in Stage 5 of the Construction Sequence to state, "Waterbars or approved interceptor dykes will be installed along the alignment prior to the pipe installation at the end of each work day. During the periods of time where the pipe trench is open, the contractor will provide positive control of all storm water on site. Waterbars will be constructed at the end of each work day, or during each work day. If required, the contractor will install silt fence to control erosion until 70% vegetative growth has been achieved."*
	j.	**Verify that the reference to the Sheet location for the compost filter sock sizing and spacing chart is correct for all Counties in Stage 6.**
	SPLP Response:	*The reference sheet location for the compost filter sock sizing and spacing chart has been checked and verified for all counties.*
	k.	**Stage 7 identifies to strip topsoil where required. Clearly identify which areas will have the topsoil stripped and stockpiled separately (segregated topsoil).**
	SPLP Response:	*The Construction Sequence, #7, has been revised to state, "Strip topsoil from trench area (where required) and stockpile within the right-of-way in accordance with the details provided. In wetlands, agricultural areas, and residential areas additional topsoil stripping and stockpiling might be required."*
	l.	**It appears that Stages 5 & 7 are out of sequence. Clarify this discrepancy.**
	SPLP Response:	*The sequencing has been reviewed and revised accordingly.*
	m.	**Stage 8 identifies to "minimize total area of disturbance"; clearly provide how the contractor is to minimize the total area of disturbance.**

	SPLP Response:	*Stage 10 (previously Stage 8) of the Construction Sequence, has been revised to state: "Minimize total area of disturbance. Maintain temporary soil stockpiles within existing soil erosion and sediment controls. Should excavation enter streams, follow specific details for these areas shown on the drawings and include the steps detailed in the specific sections below. Pullback areas for HDDs will be cleared and prepared as needed to support staging, welding and testing of the HDD pipe sections. Areas not utilized for construction activities should be avoided to minimize impacts."*
	n.	**Provide topsoil to be placed over all disturbed areas in Stage 9.**
	SPLP Response:	*Construction Sequence #13 (previously #9) has been revised to state, "Backfill excavated area and cover with topsoil (where topsoil was segregated."*
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	o.	**It appears that Stages 9 & 10 are out of sequence. Clarify this discrepancy.**
	SPLP Response:	*Construction Sequence #11 (previously #9 and #10), has been revised to state, "Install pipe and trench plugs in accordance with details on plan sheet ES-0.10. When open cutting driveways and access roads, contractor shall have road plates available to maintain access for landowners. The 20-inch pipeline will be installed first, followed by the 16-inch line. Any temporary stabilization required between the two installations will be implemented in accordance with this E&S Plan. Both pipelines will be installed within the same limit of disturbance and in the same construction period."*
	p.	**Verify that the reference to the Sheet location for the trench plug detail is correct for all Counties in Stage 10.**
	SPLP Response:	*Construction Sequence #11 (previously #10) has been reviewed and verified that the sheet locations for the trench plug details for all Counties are correct.*
	q.	**Verify that the reference to the Sheet location for the waterbar detail is correct for all Counties in Stage 11.**
	SPLP Response:	*Construction Sequence #9 (previously #11) reference to the sheet location for the waterbar detail has been verified for all counties.*
	r.	**Revise Stage 14 to be "uniform 70% perennial vegetative cover".**
	SPLP Response:	*Construction Sequence #18 (formally Stage14) has been revised to state, "Maintain erosion and sedimentation control devices until site work is complete and a uniform 70% perennial vegetative cover is established. Remove soil and erosion sediment control measures upon establishment of a uniform 70% perennial vegetative coverage over the disturbed area. Re-grade and revegetate areas disturbed during the removal of the soil erosion and sediment controls."*

14.	**DEP**	**Revise Standard Erosion and Sediment Control Plan Note 26 such that upon temporary cessation of an earth disturbance activity or any stage or phase of an activity where cessation of earth disturbance activities in non-special protection watersheds will exceed 4 days, the site shall be immediately seeded, mulched, or otherwise protected from accelerated erosion and sedimentation pending future earth disturbance activities and in special protection watersheds temporary stabilization shall be immediate. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(6) & §102.22(b)(1)**
	SPLP Response:	*Standard Erosion and Sediment Control Plan Note #27 (previously #26) has been revised to state, "Upon temporary cessation of an earth disturbance activity or any stage or phase of an activity where cessation of earth disturbance activities in non-special protection watersheds will exceed 4 days, the site shall be immediately seeded, mulched, or otherwise protected from accelerated erosion and sedimentation pending future earth disturbance activities and in special protection watersheds temporary stabilization shall be immediate."*
15.	**DEP**	**Clearly identify the length of time required to excavate the trench, install the pipe, backfill the trench and begin stabilization of the disturbed areas. Page 283 of the E&S Manual identifies this length of time as not to exceed 30 calendar days for most installations, and that long time periods may be approved on a case-by-case basis. Clearly identify any areas that may exceed 30 calendar days and provide sufficient justification for the extended time period. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(6), §102.11(a)(1) & §102.11(b)**
	SPLP Response:	*Construction Sequence #12 has been revised to state, "The length of time required to excavate the trench, install pipe, backfill the trench, and begin stabilization of disturbed areas will not exceed 30 calendar days for most installations. Longer time periods may be approved by PADEP on a case-by-case basis."*
16.	**DEP**	**Revise Standard Erosion and Sediment Control Plan Note 25 to identify slopes of 3:1 or greater and all areas, regardless of slope, within 100 ft. of a special protection surface water to be blanketed with erosion control matting (per the recommendations on Page 273 of the E&S Manual). Ensure consistency between Standard Erosion and Sediment Control Plan Note 25 & 35 and Construction Sequence Stage 12. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(6) & §102.11(a)(1)**
	SPLP Response:	*Standard Erosion and Sediment Control Plan Note #26 (previously #25) has been revised to state, "All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated. Seeded areas within 100 feet of a special protection surface water, or as otherwise shown on the plan drawings, shall be blanketed according to the standards of this plan." Note #36 of the Standard Erosion and Sediment Control Notes and #15 of the Construction Sequence was also revised to state, "Erosion control blanketing shall be installed on all slopes 3H:1V or greater and all areas, regardless of slope within 100 feet of a special protection surface water, and on all other disturbed areas specified on the plan maps and/or detail sheets."*
17.	**DEP**	**Identify if pumped water filter bags will be used during boring activities. If so, provide the location of the bags on the plan sheets. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The use of pumped water filter bags can be found on the HDD boring detail located on E&S Sheet ES-0.08 to be utilized if necessary during boring activities*

18.	**DEP**	**Pumped water filter bags alone are not rated as an antidegradation best available combination of technologies (ABACT) BMP. Surrounding the pump water filter bag with a compost sock ring or by using the pumped water filter bag in conjunction with a sumped pit will elevate the pump water filter bag to an ABACT rating (per Page 53 of the E&S Manual). Clearly identify on the plan drawings or clearly in the detail (ensuring that proper additional details are provided) the measures to ensure that pumped water filter bags for discharges to special protection surface waters will achieve an ABACT rating. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(ix), §102.4(b)(6) & §102.11(a)(1)**
	SPLP Response:	*In HQ or EV waters, CFS will be placed around the downslope side of the pumped water filter bags. This is noted in the third paragraph of the Pumped Water Filter Bag Detail. Pumped Water Filter Bags will be used as needed along the Project site; therefore, the use of Pumped Water Filter bags has not been shown on the plan drawings because the locations of the Pumped Water Filter bags are not known at this time.*
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19.	**DEP**	**Ensure that all county references are correct (e.g. Notes for Site Restoration Note 2 on Sheet ES-0.02 for Lebanon County references Lancaster County, Sheet ES-0.06 for Lebanon County references Washington County Limit of Disturbance, etc.). 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*The drawings have been reviewed to ensure all county references are correct. Sheets ES-0.02 and 0.06 have been updated to correspond to the correct county.*
20.	**DEP**	**Provide the waterbars on the plan drawings at the stream and wetland crossings, as identified in the Timber Mat Crossing Detail. 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*Water bars are placed a minimum of 50' from the top of bank per the detail and the DEP-designated floodway for streams that do not have a FEMA-designated floodplain. Water bars are placed where applicable outside that 50' buffer based on topography. Areas where contours are parallel to the LOD cannot accommodate water bars.*
21.	**DEP**	**The waterbars shown on the Timber Mat Crossing Detail are not shown on the plan view and are not identified to discharge to sediment control BMPs. Clarify these discrepancies. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Water bars are placed a minimum of 50' from the top of bank per the detail and the DEP-designated floodway for streams that do not have a FEMA-designated floodplain. Water bars are placed where applicable outside that 50' buffer based on topography. Areas where contours are parallel to the LOD cannot accommodate water bars. Compost Filter Socks (CFS) are applied at the end of each water bar, and along the edges of the ROW parallel to pre-disturbed surface gradients. Per the DEP BMP manual, edges of CFS are turned "upflow" at each location The waterbar detail has been modified to indicate the addition of the compost filter socks at the end of waterbars.*

22.	**DEP**	**Provide a detail for the J-hooks at the end of a waterbar. Provide the demonstration that the designed J-hooks will function adequately and appropriately to manage the erosion and sedimentation from the runoff. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(viii), §102.4(b)(5)(ix) & §102.4(c)**
	SPLP Response:	*The compost filter sock (J-hooks) are shown on the individual E&S sheets and typical detail #3 on ES-0.08. The J-hook will be upsized one standard size from what the slope and up slope length would require from Worksheet 1 in the E&S Design Calculations.*
23.	**DEP**	**Identify/distinguish which waterbars are temporary versus permanent on the plan drawing. 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*The water bars have been color coded to identify which are permanent versus temporary.*
24.	**DEP**	**Provide for surface roughening, as recommended on Page 260 of the E&S Manual. If surface roughening is not proposed, then provide the alternative BMP and design standard demonstration. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(ix), §102.4(b)(6), §102.11(a)(1) & §102.11(b)**
	SPLP Response:	*Notes have been added to the E&S Plans to indicate that, "Surface roughening should be applied to slopes 3H:1V or steeper unless a stable rock face is provided or it can be shown that there is not a potential for sediment pollution to surface waters. For roughened surfaces within 50 feet of a surface water, and where blanketing of seeded areas is proposed as the means to achieving permanent stabilization, spray-on type blankets are recommended. Surface roughening shall be accomplished using dozers affixed with grouser tracked equipment. Dozers shall run up and down the slopes leaving horizontal grooves perpendicular to the slope. Dozer blades shall be raised and not used during surface roughening."*
25.	**DEP**	**Identify the type of erosion control blanket/matting to be used and for which conditions. Provide the staple pattern details for the erosion control blanket installations. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*A table has been added to the E&S Plans on ES-0.07 to identify the types of erosion control blanket and matting to be used for which conditions.*
26.	**DEP**	**Note 3 on the plan view drawings identifies that "BMP installation to be adjusted as needed..."; however, it is not clear who is to be determining the adjustment(s). Properly identify who will make the determination of adjusting the BMPs. A deviation from the authorized plans may be necessary; however, the appropriate county conservation district and DEP have to approve any deviation to the authorized plans. Make all revisions necessary to clearly identify this requirement. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The on-site Environmental Inspector and/or Inspection Chief will determine whether any BMPs need to be adjusted. Language has been added to Note 3 on the plan view drawings to identify that, "A deviation from the authorized plans may be necessary; however, the appropriate county conservation district and DEP must approve any material deviation to the authorized plans."*

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27.	**DEP**	**Provide discussion related to the timing of the sequence of construction, including how runoff will be properly managed from when the trench backfill is complete to the installation of the waterbars and permanent stabilization. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(vii)**
	SPLP Response:	*The Construction Sequence, #9, has been revised to state, "Water bars or approved interceptor dykes will be installed along the alignment prior to pipe installation at the end of each work day. During the periods of time where pipe trench is open contractors will provide positive control of all storm water on site, water bars will be constructed at the end of each work day, or during each work day if required contractor will install silt fence to control erosion until 70% vegetation growth has been achieved."*
28.	**DEP**	**The Right-Of-Way Detail (e.g. Sheet ES-0.08 for Blair County) shows compost filter sock running parallel with edge of the right-of-way; which is inconsistent with the plan drawings. Provide a note with this detail that compost filter sock should be installed parallel with existing contours and as shown on the plan drawings. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*A note has been added to the right of way detail (now ES-0.11).*
29.	**DEP**	**Provide additional information in the Right-Of-Way Detail, which identifies the approx. depth of existing topsoil and the amount of topsoil to be placed at the surface during the trench backfill operations. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*A note has been added to the right of way detail (now ES-0.11).*
30.	**DEP**	**The Bank Restoration Detail (e.g. Sheet ES-0.10 for Blair County) shows the use of erosion control blanket and native plantings. Identify the type of erosion control blanket and the native plantings to be used. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The existing stream bank restoration detail has been revised to indicate that the existing bank, slope, grade, and elevation will be restored with a biodegradable erosion control blanket and existing streambed material. Where a-typical stream banks are anticipated and at locations requested by PADEP, site specific restoration details have been added to the E&S plan drawings for those crossing locations.*
31.	**DEP**	**Provide a note on the E&S Plan that identifies no soil amendments (lime, fertilizer, etc.) are to be used in wetland areas (refer to Page 265 of the E&S Manual). 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(ix) & §102.11(a)(1)**
	SPLP Response:	*A note has been added to the Standard Erosion and Sediment Control Plan Notes (ES-0.06) and to the notes regarding Working in a Wetland Area which states, "No soil amendments such as agricultural lime or fertilizer will be used within wetland areas."*

32.	**DEP**	**Identify/label the compost filter socks in the plan view drawings, so that the sizing can be verified with Standard E&S Worksheet #11. On all plan view drawings, ensure that all sediment barriers (compost filter socks, silt fences, etc.) are shown with the ends turned upslope at 45 degrees to the main barrier alignment for a distance sufficient to elevate the bottom of the barrier ends to the elevation of the top of the bather at the lowest point. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	
33.	**DEP**	**Spot checks at several locations found that a number of maximum slope lengths appear to have been exceeded for the proposed compost filter socks (e.g. Socks #7, 8, 24, 27, 29, 32, and 49 for Lancaster County). Ensure that the compost filter socks are sized according to the maximum slope length above the sock, not just the disturbed area above the sock, as identified in the E&S Manual. If the recommended maximum slope length from the E&S Manual is exceeded, then a demonstration of alternative BMP and design standard must be provided. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(viii), §102.4(b)(5)(ix), §102.11(a)(1) & §102.11(b)**
	SPLP Response:	*The design of the compost filter socks has been reevaluated for the maximum slope lengths and sock size adjusted accordingly to comply with the manual. Worksheet #1 has been updated to reflect this revision. If compost filter sock was not adequate, a temporary diversion and slope pipe is proposed to divert clean water through the project area.*
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34.	**DEP**	**The compost standards identified in Table 4.2 in Attachment 4 of the E&S Plan narrative are not correct. Per the Corrections For Erosion And Sediment Pollution Control Program Manual TON 363-2134-008 Mach 2012, the following are the correct compost standards:** **Organic Matter Content: 25% - 100% (dry weight basis)** **Organic Portion: Fibrous and elongate** **pH: 5.5 - 8.5** **Moisture Content: 30% - 60%** **Particle Size: 30% - 50% pass through 3/8" sieve** **Soluble Salt Concentration: 5.0 dS/m (mmhos/cm) Maximum.** **Make all revisions necessary. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(ix) & §102.11(a)(1)**
	SPLP Response:	*The compost standards in Table 4.2 of Attachment 4 of the E&S Plan narrative have been updated to reflect the latest compost standards from the March 31, 2015 modifications to the Erosion and Sediment Control Program Manual - March 2012.*
35.	**DEP**	**Provide Table 4.1 (from Page 63 of the E&S Manual) and the corrected Table 4.2 (from the E&S Manual and Corrections for Erosion and Sediment Pollution Control Program Manual TGN 363-2134-008 Mach 2012) on the plan drawing sheet with the Compost Filter Sock detail. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Table 4.1 and the updated Table 4.2 have been added to the compost filter sock detail.*

36.	**DEP**	**Provide each HDD location's staging areas, including contours (if grading is to be accomplished), stockpile locations (if necessary), etc. Provide a demonstration that perimeter controls are sufficient for these large areas and that other E&S BMPs, such as sediment basins, sediment traps, etc., will not be required to properly manage the runoff. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*HDD staging areas are shown on the plan sheets. Where grading is necessary for use of the staging area, grading is shown. All E&S BMPs have been verified.*
37.	**DEP**	**Provide discussion on what E&S BMPs will be utilized at the HDD and conventional boring locations for the drilling mud. Ensure that these BMPs are properly shown on the plan view drawings. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Drilling mud will be stored in tanks or pits at the HDD and conventional boring locations and therefore the management of drilling mud is not expected to have any impact on erosion or sedimentation. E&S BMPs for stormwater are shown on the E&S plans.*
38.	**DEP**	**The Standard Construction Detail #13-4 in Attachment 4 of the E&S Plan narrative and the Trench Plug Installation detail (e.g. Sheet ES-0.10 for Blair County) are not correct. The Standard Construction Detail #13-4 from the E&S Manual was revised per the Corrections for Erosion and Sediment Pollution Control Program Manual TGN 363-2134-008 Mach 2012, to identify the trench plugs extending to the trench bottom (as opposed to the bottom of the pipe). If an alternative BMP and design standard will be used for trench plugs, then that demonstration shall be provided. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(ix), §102.11(a)(1) & §102.11(b)**
	SPLP Response:	*An updated trench plug detail has been provided (now ES-0.11) to be consistent with the correction sheet.*
39.	**DEP**	**Ensure the entire length of a surface water (and any adjacent features) is shown within the Permit Boundary. It appears that only sections of streams are shown that start/stop in the middle of the right-of-way. If the streams are shown correctly, then provide a narrative discussion identifying these features. 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*The wetland and stream delineations were based on 200-foot-wide survey corridor. The delineation of these features and the extent of the survey area are documented within the wetland reports and supplementals provided with the Chapter 105 and 102 applications. At times streams do start and/or end within the survey corridor and this represents the alignment of the stream as surveyed in the field. The narratives are found within the wetland reports and supplementals. The Chapter 105 permit application comments requested that we field visit many of these cases and verify the survey and take additional pictures. That additional fieldwork was completed and the data gathered is provided within the supplemental reports included within this revised application.*

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40.	**DEP**	**Provide discussion as to why HDD or conventional boring was not utilized to cross all special protection surface waters, as boring could be considered an ABACT E&S BMP (refer to Page 290 of the E&S Manual). It appears that boring could be accomplished at Station 6900+00 (Sheet ES-3.67 for Blair County) for the crossing of Clover Creek (HQ-CWF). 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(6) & §102.11(a)(1)**
	SPLP Response:	*The alternatives analysis included within the Chapter 105 application has been revised to demonstrate that the proposed pipeline route has been designed to minimize the number and linear footage of crossings of all surface waters, including those classified as High Quality (HQ) or Exceptional Value (EV), and adopted the use of trenchless crossing installation methods at selected surface water crossings, to the maximum extent practicable. For each surface water, including HQ and EV surface waters, crossed by the open cut installation method, the E&S Plan identifies and incorporates ABACT E&S best management practices (BMPs).*
41.	**DEP**	**Provide additional information related to the geotextile (e.g. type, strength, etc.) identified to be used under the timber mats in the Timber Mat Detail (e.g. Sheet ES-0.09 for Blair County) 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The typical timber mat detail has been revised to include information on the geotextile. The timber mat detail is located on E&S Sheet ES-0.18.*
42.	**DEP**	**It appears that the temporary seeding information is not consistent between the narrative and the plan drawings. Clarify this discrepancy. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The temporary seeding information has been reviewed and verified to be consistent between the narrative and the plan drawings.*
43.	**DEP**	**The existing riparian forest buffers do not appear to be shown correctly. For example, the existing riparian forest buffer identified for Stream S-196 on Sheet ES-3.03 for Blair County is shown to be approx. 100 ft. wide. Riparian forest buffers are 150 ft. in width. Identify the full riparian forest buffer. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(ix) & §102.4(b)(5)(xv)**
	SPLP Response:	*The classification of the UNT to Blair Run was identified as a CWF for which the riparian buffer is reflected at 100 feet on ES -3.03. Riparian forested buffers are shown at 100 feet for other waters and 150 feet for special protection. SPLP and PADEP agreed that buffers at non special protection waters are to be shown at 100 feet and 150 feet at special protection waters.*
44.	**DEP**	**If any soil stockpiles are needed due to the installation of the rock construction entrances, then provide/identify those stockpiles on the plan view drawings. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The protection of soil/spoil stock piles will be in accordance with the detail on ES 0-09. Stock piles will be located within the proposed limit of disturbance.*

45.	**DEP**	**Compost sock sediment traps are shown to be utilized (e.g. approx. Station 7662+00 on Sheet ES-3.39 for Huntingdon County); however, the sizing calculations could not be located in the E&S Plan narrative. Provide the sizing calculations for all compost sock sediment traps. 25 Pa Code §102.4(b)(5)(viii) & §102.4(b)(5)(ix)**
	SPLP Response:	*The sizing calculations for E&S BMPs utilized throughout the length of the pipeline are located in Attachment 4 of the E&S Report (Tab 3 of the ESCGP-2 Permit Application).*
46.	**DEP**	**Provide the proposed grading for all proposed features (including the infiltration berms for the valve sites, stations, etc.). 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*All grading for proposed features is provided on the E&S and PCSM plan drawings.*
47.	**DEP**	**The following technical deficiencies are related to the restoration activities during the earth disturbance activities:**
	a.	**Provide more identification in the narratives and on the plan drawings related to topsoil segregation. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The Construction Sequence, #8 (previously #7), has been revised to state, "Clearing, grubbing, and topsoil stripping shall commence along the pipeline route and be limited to those areas described in each stage of the construction sequence. General site clearing, grubbing and topsoil stripping may not commence in any stage or phase of the project until the E&S BMPs specified by the BMP sequence for that stage or phase have been installed and are functioning as described in this E&S plan. For clearing, grubbing, and topsoil removal in all stream, river, wetland or other water body crossings, refer to construction sequence notes below. Topsoil will be segregated at locations throughout the project where topsoil exists." The details are shown on the Details on sheet ES-0.09, 0.11-0.17 of the plans*
	b.	**Provide more identification in the narratives and on the plan drawings related to loosening of compacted soils prior to topsoil placement and stabilization (at the temporary access roads, topsoil stockpiles, access routes along the mainline, etc.). 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Construction Sequence #16 was revised to state, "Any area that used stone and/or timber mats for temporary stabilization and/or access will be completely removed, soil will be decompacted by using tracked equipment. Make multiple passes over the area to reestablish preconstruction contours, and replace topsoil to a minimum of 4-8 inches deep. Seed and mulch areas. Vehicular traffic should be restricted from these areas to prevent soil compaction."*

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	c.	**Provide a discussion of measures that will be taken to avoid and minimize compaction to the maximum extent practicable and where compaction occurs, what measures will be taken to ensure adequate infiltration and successful vegetation of the right of way. 25 Pa Code §102.4(b)(4) & §102.22**
	SPLP Response:	*Compaction concerns are restricted to the limit of disturbance, which has been minimized to the maximum extent practicable. Within the pipeline right of way, travel lanes will be utilized to restrict the extent of compaction. Following installation of the pipeline, deep ripping or chisel plowing will occur to alleviate compaction, promote infiltration, and facilitate vegetative growth. The site restoration construction sequence has been updated in the Site Restoration and Post-Construction Stormwater Management Plan narrative and on drawing PCS-0.01. The sequence now specifies chisel plowing or incorporating soil amendments where compaction occurs. The sequence also specifically addresses restoration of access roads.*
	d.	**Describe how your planning and design requirements satisfy 25 Pa Code §102.4(b)(4) and are minimizing the extent and duration of the construction and the minimizing any increase in stormwater runoff Identify how these measures are satisfied when the ROW is in close proximity or is crossings surface waters or wetlands.**
	SPLP Response:	*The Site Restoration and Post Construction Stormwater Management Plan addresses how the project minimizes the extent and duration of construction to minimize stormwater. The plan addresses the potential impacts to surface waters when the corridor is in close proximity or crosses the surface waters and how the waters are protected.*
48.	**DEP**	**Clarify if the dual pipelines will be constructed within the same trench or if two trenches will excavated. If the dual pipelines will be installed within the same trench, then provide the trench plugs for each pipeline at the same location/Station (not at different locations/Stations; e.g. Station 13289+50 on Sheet ES-1.05 for Berks County and Station 13314+50 on Sheet ES-1.06 for Berks County). Make all revisions necessary. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The Project Description throughout the Application has been updated to reflect the timing of the installation of the 20-inch and the 16-inch pipeline. In general, the 20-inch pipeline would be installed first, followed by the 16-inch line. For a conventional lay, the pipelines would be installed within the same disturbance to the maximum extent practicable. For safety purposes, the installation would be staggered by what is estimated to be no more than 60 days. At some HDDs with longer drills, however, the time period between installations of the two pipelines may exceed 60 days. Any temporary stabilization required would be implemented in accordance with the Project's E&S Plans.* *The E&S Plans have been reviewed and revised to display the trench plugs for each of the two pipelines at the same locations.*

49.	**DEP**	**Ensure that all earth disturbances are properly identified and included within the limit of disturbance and the Permit Boundary. Describe the installation/construction for the test water source piping, the construction of the test water source pump pad, installation of culvert to cross railroad tracks, etc. (e.g. Sheets ES-4.03 & 4.04 for Dauphin County). If earth disturbance is proposed, then provide the appropriate E&S BMPs and all necessary plan information. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi), §102.4(b)(5)(vii), §102.4(b)(5)(ix) & §102.4(b)(5)(x)**
	SPLP Response:	*As stated in Note 3 on ES 4.03, all surface water withdrawal equipment will be temporary and above-ground. Additionally, the pump will be located on an existing gravel parking lot on Highspire Boating Association property; therefore, a pad will not need to be installed. The water intake hose and screen will be removed from the floodway when not in use. No dredging or filling activities will be completed within the Susquehanna River as part of the water withdrawal activities. The temporary piping through the existing culvert under the Amtrak railroad tracks will be installed in a manner whereby it is easily removed when not in use or prior to any flooding events. A hydraulic analysis of the culvert was completed that demonstrated that the culvert is adequately sized to accommodate the temporary hose as well as normal Burd Run flow rates. See E&S Report Attachment 8 for the supporting calculations. Drawing ES 4.03 has been revised to include limits of disturbance to encompass water withdrawal activities and the access roads.*
50.	**DEP**	**Provide specific E&S BMPs for each stream and wetland crossing. It is recommended that a blow-up of each specific stream and wetland crossing be provided, which clearly illustrates all E&S BMPs. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Site specific details with appropriate E&S BMPs have been included for stream and wetland crossings. The details can be found at the end of each County E&S Plan set in Attachment 2 of the E&S Report (Tab 3 of the ESCGP-2 permit application).*
51.	**DEP**	**If trench plugs will be utilized at the boring locations, then the trench plugs shall be shown on Bore Crossing in the Typical Stream Crossing detail (e.g. Sheet ES-0.09 for Blair County). Provide a typical wetland crossing detail, which is similar to the Typical Stream Crossing detail (e.g. Sheet ER-0.09 for Blair County). 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Boring does not unconsolidate soil; therefore, water will not travel along this path and stream/wetland integrity will remain intact. Trench plugs for borings have not been added to the Typical Stream Crossing detail. Also, a typical wetland crossing detail is provided on ES-0.15.*
52.	**DEP**	**Ensure that all ATWS locations are properly identified and that the E&S Plan includes the duration of proposed activities, the expected layout, E&S BMPs, and size or quantity of materials or structures proposed. 25 Pa. Code §102.4(b)(5)(ix)**
	SPLP Response:	*All ATWS locations are identified. Where specific activities are known, they are called out on the E&S Plan Sheet. Other areas are available for contractor use. All E&S BMPs were verified and are shown on the plans. Should the ATWS require a change in BMPs during construction, standard permit modification procedures will be followed.*

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53.	**DEP**	**The site plan sheets from the Chapter 105 permit applications and E&S Plan sheets identify the floodway which appear to be measured from the centerline of the stream as opposed to the top of bank for the 50-feet assumed floodway boundary. Provide floodway boundaries on all plan drawings that adhere to the definitions in Chapter 105 by providing the FEMA mapped floodway boundary, in areas absent a FEMA mapped floodway, the floodway boundary measured 50 feet landward from the top of bank, or in areas absent a FEMA mapped floodway a floodway boundary with evidence provided that the assumed 50 feet floodway is not accurate. 25 Pa. Code §102.4(b)(5)(ix) & §105.1**
	SPLP Response:	*Floodplains and Floodways have been updated to match the plans included with the Chapter 105 permit application, 50' from top of bank, where FEMA floodplains and floodways are not delineated.*
54.	**DEP**	**The Typical Wetland Crossing detail on the E&S Plan indicates soil will be stockpiled in the wetland along the trench. Revise the detail to include a means of separating the stockpiled soil from the wetlands, such as geo-fabric and matting, to ensure full removal of the stockpiled soil and minimize impacts. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The topsoil will be removed by pushing it to one side of the construction boundary. This will cause the topsoil to sit on topsoil, in the wetland, which is standard practice. Wetland topsoils and subsoils are kept within the wetland boundaries to maintain soil properties to the greatest extent practical. Only wetland soils are stockpiled in these boundaries. All upland soil stockpiles are kept a minimum of 10-feet from the wetland. This segregation practice makes wetland restoration easier and more effective than moving the soils a distance out of the wetlands. The detail for wetland stockpiles notes that a physical separation is to be provided.*
55.	**DEP**	**The typical wetland crossing details shown on the E&S Plans indicates Trench Breakers are to be installed in the trench in the wetlands; however it is not clear what Trench Breakers are or if Trench Plugs are what is meant. Revise this detail to identify if Trench Plugs are meant by this term or provide a detail for trench breakers. In addition, if trench plugs are proposed to maintain wetland hydrology, revise the detail to include trench plugs within the wetland for long wetland crossings and specify the distance increments. Furthermore, the E&S Plan drawings depict trench plugs which are inconsistent with the detail. Revise the site plans to be consistent with the detail. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Trench plugs are proposed at the trench extents within the limits of the wetland boundary. The detail indicates the installation and location of the trench plugs at wetland crossings in order to maintain wetland hydrology. Locations of the trench plugs are indicated on the typical wetland crossing detail, E&S plans, and site specific plan drawings.*
56.	**DEP**	**The Typical Wetland Crossing detail on the E&S Plan states that the detail does not apply to active cultivated or rotated cropland. Revise the detail to apply to all wetland crossings or provide a separate detail for wetland crossings in active cropland. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**

	SPLP Response:	*A new typical wetland crossing detail has been created (ES-0.15) which now applies to all wetland crossings.*
57.	**DEP**	**The Mitigation Plan (from the Chapter 105 permit application) states that the excavated stream banks will be reseeded; however, the E&S Plan's detail for bank restoration does not indicate this. Revise the Bank Restoration Detail to be consistent and include the native seeding mixture to be utilized. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The bank restoration details, both site specific and typical, have been revised to indicate that the stream banks will be reseeded in accordance with the seed mix for waterways on the E&S plan drawings.*
58.	**DEP**	**The E&S Plan details for temporary stream crossings and plan drawings state timber mats or temporary equipment bridge may be utilized but only depicts a timber mat bridge. Provide details for the proposed temporary equipment bridge(s) which depict the size, shape, and span of the structure. Provide separate details depicting the timber mat and other bridge structure crossing's cross sections. In addition, revise the E&S Plan and/or other plan drawings to identify the method of each temporary stream crossing proposed at each location. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Details for a temporary timber mat and a temporary timber bridge have been added to E&S Sheet ES-0.11, which includes the size, shape, and span of the structure. Site specific crossings have been added to the E&S Plans and can be found in Attachment 2 of the E&S Report (Tab 3 of the ESCGP-2 permit application). The E&S Plans have been revised to identify the appropriate temporary stream crossing method proposed at each location.*
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59.	**DEP**	**Revise the E&S Plan to include all avoidance and minimization measures for identified species of concern associated with water obstructions and encroachments from the Pennsylvania Game Commission, Pennsylvania Fish and Boat Commission, Pennsylvania Department of Conservation and Natural Resources, and the U.S. Fish and Wildlife Service. Ensure any seed mixtures, matting, or other specified items are included in the plans and/or E&S plans. In addition, revise the Environmental Assessment to discuss the avoidance and minimization measures and clearances received. 25 Pa. Code §102.6(a)(2) & §102.4(b)(5)(ix)**
	SPLP Response:	*A "Rare, Threatened, and Endangered Species Restrictions and Avoidance Measures" table and a "Seasonal In Stream Restrictions" table have been added to the plans and the drawings. The Environmental Assessment is being updated in the Chapter 105 permit.*
60.	**DEP**	**Section 2.2.2.1 of the Mitigation Plan (from the Chapter 105 permit application) identifies that wetlands will be reseeded with a native wetland seed mixture; however, the mixture is not specified nor is it proposed on the plans. Revise the application to identify the seed mixture to be used and revise the E&S Plans to indicate its use for wetland restoration in the Typical Wetland Restoration detail. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The wetland seed mixture identified in the Chapter 105 Mitigation Plan has been added to the E&S Plans with the other seed mixtures for the project on ES-0.05.*

61.	**DEP**	**Trench plugs are proposed to be located at wetland/upland interfaces. Additional trench plugs may be necessary along the length of the crossing due to the length and/or slope to maintain hydrology throughout the wetland. Review and revise the application and plans accordingly. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The trench plug locations relative to the wetlands have been reviewed and revised as necessary throughout the drawings sets.*
62.	**DEP**	**Temporary road stream crossing details utilizing culverts are provided on E&S Plans ES-0.09 and ES-0.11 (e.g. from Blair County); however, the E&S Plans and impact plans (from the Chapter 105 permit application) do not identify that any of these crossings are to be used. Revise the E&S Plans to remove these proposed crossing methods if not proposed to be utilized, or identify where the proposed crossing methods will be utilized. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Plan provides the contractor the option to use DEP approved standard typical details for temporary road crossings. The approved details will be used in cases where alternative crossing methods are needed by the contractor to facilitate the crossing and safe installation of the pipelines.*
E&S Plan – Berks County Technical Deficiencies		
1.	**BCCD**	**Exceptional Value (EV) wetlands include wetlands that are located in or along the floodplain of a reach of a wild trout stream or waters listed as exceptional value under Chapter 93 (relating to water quality) and the floodplain of streams tributary thereto. It appears that the following wetlands are EV: Wetlands WL-B22, B24, B26, B27, B29, B33, B34, B38, B41, B42, B43, B44, B45, B46, B49, C1, C3, C5, C6, C7, C8, C12, C13, C14, BB133, W48, AM2, H14, H18, H19 H21, H22, 301 & Q80. Clearly identify the receiving surface waters, including EV wetlands. Provide an antidegradation analysis for all discharges to special protection surface waters, including the use of ABACT BMPs. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(v), §102.4(b)(5)(ix), §102.4(b) & §105.17(l)(iii)**
	SPLP Response:	*An antidegradation analysis for the EV wetlands noted in Berks County is provided in Section 3.6. An antidegradation analysis has been provided for all discharges to special protection surface waters in Section 3.6 of the E&S narrative.*
2.	**BCCD**	**Revise Note 2 on Sheet ES-0.02 to properly identify that this portion of the project takes place in Berks County, not Lancaster County. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*Note 2 on Sheet ES-0.02 has been revised to properly identify that this portion of the project takes place in Berks County.*

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3.	**BCCD**	**Compost filter socks shown on Sheet ES-1.15 along the proposed access drive for the Montello Block Valve Station are not shown parallel to existing contour. As with other sediment barriers, compost filter socks should be placed parallel to contour with both ends of the sock extended upslope at a 45 degree angle to the rest of the sock to prevent end-around flows (refer to Page 62 of the E&S Manual). Make all revisions necessary. 25 Pa Code §102.4(b)(5)(ix) & §102.11(a)(1)**
	SPLP Response:	*Compost filter socks have been specified to capture stormwater coming downslope from the elevated rails, paralleling the access road to the southeast. In this case, the CFS are correctly shown parallel to the elevated rail bed contours, and will prevent runoff carrying sediment out of the LOD to the northwest.*
4.	**BCCD**	**It appears that the fill slopes at the Montello Block Valve Site (along access drive; Sheet ES-1.15)) and cut and fill slopes at the Wyomissing Block Valve Site (around pad area; Sheet ES-1.35) are steeper than 3:1. Clarify why these areas are not shown to receive erosion control blanketing (as other areas on the plan drawings clearly identify where erosion control blanketing is required). Show the extent of all erosion control blanketing on the plan drawings. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*The access road and block valve pad fill slopes have been revised to include erosion control blanketing.*
5.	**BCCD**	**ATWS on Sheet 1 of Tab 7A in the floodplain and floodway of Stream S-B16 (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-1.01 has been revised to identify the location of spoil stockpiles and to include associated E&S Controls to minimize the potential for discharge of fill material to the stream. A soil stockpile typical detail has also been added to the E&S Plan.*
6.	**BCCD**	**ATWS on Sheet 31 of Tab 7A in the floodway of Stream S-H21 (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-1.54 has been revised to identify the location of spoil stockpiles and to include associated E&S Controls to minimize the potential for discharge of fill material to the stream. A soil stockpile typical detail has also been added to the E&S Plan.*
7.	**BCCD**	**ATWS on Sheet 17 of Tab 7A in the floodway of Stream S-B31 (from the Chapter 105 permit application) are designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**

	SPLP Response:	*E&S Sheet ES-1.30 has been revised to identify the location of spoil stockpiles and to include associated E&S Controls to minimize the potential for discharge of fill material to the stream. A soil stockpile typical detail has also been added to the E&S Plan.*
8.	**BCCD**	**ATWS on Sheet 35 of Tab 7A in the floodway of Streams S-Q90 and S-Q89 (from the Chapter 105 permit application) are designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-1.60 has been revised to identify the location of spoil stockpiles and to include associated E&S Controls to minimize the potential for discharge of fill material to the stream. A soil stockpile typical detail has also been added to the E&S Plan.*
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9.	**BCCD**	**The Impact Plan drawings and Table 3 of Tab 11 (from the Chapter 105 permit application) identify the corresponding E&S Plan sheets incorrectly. Revise the plan drawings and table to be accurate. 25 Pa. Code §102.4(b)(5)(ix)**
	SPLP Response:	*The Impact Plan Drawings and Table 3 of Tab 11 (from the Chapter 105 permit application) have been revised to correctly identify the corresponding E&S Plan Sheets.*
10.	**BCCD**	**The E&S Plan drawings do not depict the proposed temporary timber mats crossing the wetlands; they only depict them up to the wetland boundary. Revise the E&S Plan drawings to depict the temporary matting crossing the wetland. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The wetlands CAD layer on the E&S Sheets was incorrectly placed on top of, and thus, obscuring the E&S Controls, which are in place. The wetland layer has been moved "behind" the temporary matting to correctly show the proposed temporary timber mats crossing the wetland.*
11.	**BCCD**	**The Auger Bore Drawing, PA-BR-0060.0000-RD (from the Chapter 105 permit application), depicts the auger bore pits in different locations than the E&S Plan drawing ES-1.21. In addition, the Auger Bore plan depicts temporary workspace in stream S-C33 and wetland C13 which are not depicted on the E&S Plan. Revise the application to contain consistent and accurate plans. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Plan Drawing ES-1.21 has been revised to accurately reflect the location of the auger bore pits and temporary workspace in streams S-C33 and wetland C13 as properly represented in the Auger Bore Drawing.*
12.	**BCCD**	**Wetland BB42 is not identified on the impact table or site plans to be impacted; however, E&S Plan drawing ES-1.74 depicts proposed impacts to this wetland. Revise this E&S Plan drawing to be accurate and consistent with the remainder of the application. 25 Pa. Code §102.4(b)(5)(ix)**

	SPLP Response:	*ES-1.74 has been revised to accurately indicate no proposed impacts to the wetland. A layer in CAD made the road appear as though it was over top of the wetland. The LOD layering has been revised.*
13.	**BCCD**	**Provide a site specific plan drawing and cross section drawing for stream S-B31 which depicts at a minimum: the stream banks, bore pit locations, travel lanes, proposed pipelines, depth of the proposed pipelines beneath the stream, and stream bed. In addition, E&S Plan drawing ES-1.30 depicts the proposed bore pit within the stream which is inconsistent with the site plan drawings (from the Chapter permit application). Revise the E&S Plan to be consistent with the site plan drawing. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*A site specific plan drawing of stream S-B31, which depicts the requested items, has been created and can be found on S-B31-A and S-B31-B, which is consistent with the Chapter 105 Permit Application.*
14.	**BCCD**	**The plan site plan drawing (from the Chapter 105 permit application) indicates that stream S-BB34 will utilize an existing bridge. However, the E&S Plan drawing ES-1.33 depicts placing timber matting over the bridge. If a temporary structure is proposed over the existing bridge, provide site specific plans and a cross section depicting the proposed temporary structure. If only the existing bridge is proposed to be utilized, revise the E&S Plan drawing accordingly, and revise the impact table to accurately depict that no temporary impacts are proposed to the stream. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Only the existing bridge is proposed to be utilized and a culvert has been verified at this location. ES-1.33 and the impact table have been revise to indicate that no temporary impacts are proposed to the stream and to remove the timber matting from this location.*
15.	**BCCD**	**The Auger Bore drawing PPP-BR-0132.0000-RD (from the Chapter 105 permit application) depicts the auger bore pit west of wetland B31. However, the E&S Plan drawing ES-1.44 and the site specific plan drawing B29-B31-C-101 (from the Chapter 105 permit application) depict it located within wetland B31. Revise the E&S Plan drawing to accurately depict the auger bore pit west of this wetland and be consistent with the impact table and other plan drawings. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*ES-1.44 has been revised to accurately depict the bore pit west of the wetland.*
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16.	**BCCD**	**The E&S Plan drawing ES-1.51 depicts the proposed auger bore pit within stream S-C107; however, the impact table and other plan drawings (from the Chapter 105 permit application) depict this pit east of this stream. Revise the E&S Plan to accurately identify the location of the auger bore pit east of the stream to avoid and minimize impacts. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*ES-1.51 has been revised to accurately depict the bore pit east of the stream.*

17.	**BCCD**	**Provide profiles for the temporary crossings identified in the E&S Plan that depict at a minimum the existing conditions and the proposed conditions, and provide information regarding the length of time that all temporary crossings will be in place. Some of the plans appear to use unnatural stream contours upon restoration. Identify the aggregate and the typical timber mat crossing being used. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Profiles for the temporary stream crossings that depict the existing and proposed conditions are provided as part of Attachment 10 in the E&S Report (Tab 3 of the ESCGP-2 Permit Application), Stream Profiles. Temporary crossings are proposed to be in place for a period of no longer than one year. Stream restoration will use existing materials except at site specific stream crossings where details have been specified for those crossing locations requested by the PADEP.*
E&S Plan – Beckersville Pump Station Technical Deficiencies		
1.	**BCCD**	**The construction sequence proposes the installation of Detention Basin 2 prior to permanent stabilization of all upslope drainage areas. However, it appears as though it may be necessary to design Basin 2 as a sediment control facility during construction. Provide discussion demonstrating that a large sediment control facility is not required at this location. Provide instructions for conversion to a PCSM Detention Basin once all upslope drainage areas have been permanently stabilized. Refer to Chapters 7 and 8 of the E&S Manual for design criteria and construction details for applicable sediment control facilities. Provide all calculations, DEP recommends utilizing Standard E&S Worksheets from Appendix B of the E&S Manual. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(vii), §102.4(b)(5)(viii), §102.4(b)(5)(ix) & §102.11(a)(1)**
	SPLP Response:	*Basin #2 was moved south of the access road and redesigned to be a detention/infiltration basin. Additional infiltration testing was completed in May, 2016. Since we are preserving the existing woods and vegetation downslope from the new grading work, we believe that the proposed compost filter sock will be adequate to control sediment from the work area. Standard worksheet #1 was completed to show compliance on page 371 of E&S Report.*
2.	**BCCD**	**Provide calculations for the emergency spillway for the proposed Infiltration Berm. Identify appropriate protective spillway lining on plan drawings and detail sheets. Refer to Pages 192-199 of the E&S Manual for guidance. §102.4(b)(viii), §102.4(b)(5)(ix) & §102.11(a)(1)**
	SPLP Response:	*The infiltration berm was revised to a basin. The emergency spillway calculations are included within the report and details shown on the plans. See page 7 of the plans and page 385 of the report.*
3.	**BCCD**	**Provide calculations for the energy dissipater (R-4 riprap) proposed at the emergency spillway of Basin 2. Refer to Chapter 9 of the E&S Manual for guidance. 25 Pa Code §102.4(b)(5)(viii) & §102.11(a)(1)**
	SPLP Response:	*A riprap apron calculation and detail is provided for the end of the grass lined emergency spillway for Basin #2. See page 382-384 of the report and page 10 of the plans.*

4.	**BCCD**	**Plan drawings indicate the grading of a channel parallel to the access drive, terminating at proposed HW-1. Label the channel on plan drawings and provide all applicable construction details. Provide all applicable calculations (channel bed slopes may not be averaged (see Item 3 on Page 129 of the E&S Manual), DEP recommends utilizing Standard E&S Worksheet #11 in Appendix B of the E&S Manual. 25 Pa Code §102.4(b)(5)(viii), §102.4(b)(5)(ix) & §102.11(a)(1)**
	SPLP Response:	*Calculations and WS #11 are provided for Channel #1 and #2, which have been labeled on the plans.*
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E&S Plan – Blair County Technical Deficiencies		
1.	**BCCD**	**A UNT to Dry Run (S-KP2) is identified on Sheet ES-3.17; provide the associated floodway with this stream. Also, identify what the heavy solid line represents shown across the existing access road near S-KP2. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(v) &**
	SPLP Response:	*The solid lines on either side of S-KP2 are the associated floodway limits (50 feet on either side of the stream banks). This line type has been corrected to match the legend.*
2.	**BCCD**	**Provide a clarification for the disturbance (clearing, grubbing & restoration, etc.) proposed for the right-of-way for the area of the horizontal directional drill from Station 6127+50 to 6147+00 on Sheets ES-3.22 & 3.23. 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*Clarification has been provided on the sheets.*
3.	**BCCD**	**Ensure that all bore pits are identified on the plan drawings (e.g. Stations 6479+00 & 6481+50 on Sheet ES-3.42). Make all revisions necessary. 25 Pa Code §102.4(b)(5)(viii) & §102.4(b)(5)(ix)**
	SPLP Response:	*All bore pits have been identified and verified on the plan drawings. Bore pits have been added to Sheet ES-3.42.*
4.	**BCCD**	**The E&S Plan and Impact/Subtraction plan (from the Chapter 105 permit application) depict the Blair/Cambria county boundary west of wetland L70 while the Impact and Aquatic Resource Delineation plans (from the Chapter 105 permit application) depict the county boundary within wetland L70. The E&S Plan drawings identify that a temporary impact to wetland Q51 will occur in Blair County. However, all other plan sheets depict this wetland to be in Cambria County. Revise and clarify the plan drawings, impact tables, impact calculations, etc. to accurately reflect the county boundary and the impacts to wetlands L70 and Q51 within Blair County. In addition, it is recommended that the Cambria County application be evaluated and revised for consistency as necessary. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*In the E&S Plan drawings, the Cambria/Blair County boundary has been shifted to the East to accurately reflect the county boundary designation in the Chapter 105 permit application.*

5.	**BCCD**	**The E&S Plan and Impact plan drawings (from the Chapter 105 permit application) depict additional wetlands north of Stream S-L94 which are not depicted on the Aquatic Resource Delineation plan drawings (from the Chapter 105 permit application). Revise the aquatic resource delineation to delineate and provide data sheets for this wetland. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*Wetland WL-L70 north of Stream S-L94 has been identified in the August 2015 Blair County Aquatic Resource Report.*
6.	**BCCD**	**Revise E&S Plan drawing ES-3.21 to accurately depict the wetland M-49 boundary, consistent with the delineation and other plan drawings (from the Chapter 105 permit application). 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Plan drawing ES-3.21 has been revised to accurately depict the wetland W-M49 boundary consistent with the delineation and the other plan drawings in the Chapter 105 permit application.*
7.	**BCCD**	**Wetland W-L59 is identified on the impact plan drawings and impact table from the Chapter 105 permit application) as having a temporary crossing impact with temporary matting. However, the E&S Plan sheet ES-3.34 does not depict impacts to this wetland. Revise the application documents to be consistent and avoid and minimize impacts to the extent practicable. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Plan Sheet ES-3.34 has been revised to include timber matting over W-L59 and is now consistent with plan drawings and tables in the Chapter 105 permit application. Impacts to the wetland were avoided and minimized to the extent practicable.*
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8.	**BCCD**	**The E&S Plan drawing ES-3.34 labels streams S-L80 and S-L79 differently than the rest of the application and it does not identify how any of these streams will be crossed. It is unclear if an existing culvert may or may not be present. Revise the application to identify these streams accurately and consistently and identify the stream crossing method. Alternatively, if an existing culvert or obstruction is to be utilized, revise the application to clearly identify this. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*Sheet 3.34 has been revised show floodways and temporary impacts for Streams S-L80 and S-79. Stream S-L81 was mislabeled on Sheet ES-3.34 and has been corrected to be S-L80. Also, a temporary equipment crossing is now shown on Sheet ES-3.34 for the temporary crossing of S-L80.*
9.	**BCCD**	**Wetlands W-BB107 & W-BB108 are proposed to be temporarily impacted with timber matting; however, the E&S Plan sheet ES-3.42 does not depict temporary matting to be used. Revise the E&S Plan drawing to depict the temporary matting for the proposed temporary impacts. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*Sheet ES-3.42 has been revised to show that the LOD is necked down to the road width and avoid wetland impacts.*

10.	**BCCD**	**For wetland BB124, the impact plan sheet 28 (from the Chapter 105 permit application) is inconsistent with the E&S Plan drawing ES-3.44 and the site specific drawing (from the Chapter 105 permit application). Make all revisions necessary to accurately delineate the ATWS for the pipe pull back area and to depict the proposed temporary workspace in the wetland along the proposed ROW. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Plan Sheet ES-3.44 has been revised to accurately depict the ATWS for the pipe pull back area and to depict the proposed temporary workspace in the wetland along the proposed ROW consistent with the Chapter 105 application.*
11.	**BCCD**	**For wetland BB124, the E&S Plan sheet ES-3.44 is not consistent with the site specific drawing (from the Chapter 105 permit application) for this area. The timber mat placement along the ROW is inconsistent and the timber mat placement in the ATWS for the pipe pull back area is inconsistent. Revise the E&S Plan to be accurate and consistent with the extent and nature of the proposed permanent and temporary impacts. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*ES-3.44 has been revised to accurately reflect the timber mat placement along the ROW and in the ATWS for the pipe pull back area as consistent with the site specific drawing for the Chapter 105 permit application.*
12.	**BCCD**	**Revise the application to clarify how trench plugs are to be installed along the bore path for stream S-L75 as depicted on E&S Plan ES-3.46. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The trench plugs on E&S Plan Sheet ES-3.46 have been reviewed and the sheet was revised to move the plugs out of the bore pit near Stationing 6541+00.*
13.	**BCCD**	**The site specific plan drawing (from the Chapter 105 permit application), S-L72-S-BB96-C-101, is not consistent with the proposed impacts on the E&S Plan drawings ES-3.46 & ES-3.47. Revise the E&S Plan drawings to be consistent and accurate in depicting the proposed impacts. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheets ES-3.46 and ES-3.47 have been revised to be accurate and consistent with the proposed impacts as shown on the site specific plan drawing in the Chapter 105 Permit Application. Specifically, timber mats have been revised and added to the E&S Sheets.*
14.	**BCCD**	**Revise E&S plan sheet ES-3.51 to identify the floodway boundary of stream S-M31. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*Sheet ES-3.52 has been revised to identify the floodway boundary of Stream S-M31.*
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15.	**BCCD**	**Plan sheet 34 (from the Chapter 105 permit application) depicts stream S-M38 as being crossed by HDD and open cut in the floodway. Table 3 (form the Chapter 105 permit application) and E&S Plan drawing ES-3.53 depict the floodway being entirely crossed by HDD. Revise the applications to be consistent and accurate. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**

	SPLP Response:	*Stream S-M38 and the floodway will be entirely crossed by HDD. Plan Sheet 34 from the Chapter 105 permit application has been updated to be consistent.*
16.	**BCCD**	**The E&S Plan drawings ES-3.74 through ES-3.76 indicate no improvements are proposed to the road for the resource crossings. However, the impact plan drawings and impact tables (from the Chapter 105 permit application) indicate temporary crossings and bridges are proposed. Revise the application accordingly to be accurate. If temporary crossings are proposed, revise the E&S Plan drawings to depict the impacts. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Plan is correct and no improvements and no wetland matting or temporary equipment crossings are proposed. The road is in good condition and the wetlands were found to be adjacent to the LOD and the streams to be crossed are already culverted. Impacts to these resources have been removed from the Chapter 105 impact tables.*
17.	**BCCD**	**The proposed temporary access road depicted on plan sheets 34 through 39 (from the Chapter 105 permit application) deviates from the visible gravel road on the aerial photography, and appears to differ than the path on the E&S Plan drawings. Revise the application materials to be consistent and accurate. 25 Pa. Code §102.4(b)(5)(ix)**
	SPLP Response:	*The LOD, which includes the proposed access road, on Plan Sheets 34 through 39 (from the Chapter 105 permit application) have been revised to match the aerial photography.*
18.	**BCCD**	**The site specific Bore Plan (from the Chapter 105 permit application) for wetland M35 depicts temporary workspaces inside the wetland. However, the site plan drawing (from the Chapter 105 permit application) and E&S Plan drawing do not depict any workspaces in the wetland. Make all revisions necessary for consistency and depict the proposed bore pits, trench plugs, and other proposed work. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Sheet ES-3.42 has been revised to show the proposed bore pits, trench plugs, and other proposed work under wetland W-M35.*
19.	**BCCD**	**The ATWS area in the floodways of Streams S-L75 and S-L76 on Sheets 29 and 30 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-3.46 has been revised to include the location of the spoil stockpiles and the associated E&S Controls used to minimize the potential for discharge of fill material to the stream. A soil stockpile typical detail has also been added to the E&S Plan.*

20.	**BCCD**	**The ATWS area in the floodway of Stream S-M32 Sheet 33 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-3.51 has been revised to include the location of the spoil stockpiles and the associated E&S Controls used to minimize the potential for discharge of fill material to the stream. A soil stockpile typical detail has also been added to the E&S Plan.*
E&S Plan – Cumberland County Technical Deficiencies		
1.	**CCCD**	**Provide additional discussion related to how the runoff will be properly managed from Station 9154+00 to 9173+00 (Sheets ES-4.01 and ES-4.02). The slope of the 1900 if run is 38%, and the disturbance is approximately 4.5 acres. Identify how runoff will be properly controlled during the initial clearing, grubbing and grading stages. The plan is proposing water bars and silt socks to be installed across the slope at regular intervals. Identify how the runoff will reach the silt socks with the trenches open. Identify how the water bars will be maintained while the pipe is being prepared for installation. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(ix) & §102.4(b)(5)(x)**
	SPLP Response:	*Runoff will be properly managed in this area by working in smaller segments of the entire slope to limit the amount of area that is disturbed before the water bars and silt sock are in place. Initially, trees will be cleared which will be immediately followed by grubbing, topsoil stripping, sock placement, and waterbar construction. The length of the segment is dependent on the amount of equipment that can be safely operated on the slope. On steep slopes, the length of open trench is typically kept to a minimum, so that water bars can function in front of and behind the open trench. Once the trench is backfilled, a temporary diversion will be constructed to divert water away from the trench area.* *Water bars will be regularly maintained during the pipe installation. If a portion of the water bar needs to be flattened to allow vehicles to traverse the water bar, it will be restored prior to the end of the day or before rain is expected.*
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2.	**CCCD**	**ATWS in the floodplain and floodway of Stream S-I69 on Sheet 21 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, the spoil location in conjunction with E&S controls is not provided. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-4.33 has been revised to identify the location of spoil stockpiles and the associated E&S Controls used to minimize the potential for discharge of fill material to the stream. A soil stockpile typical detail has also been added to the E&S Plan.*
3.	**CCCD**	**Upland ATWS on Sheet 23 of Tab 7A (from the Chapter 105 permit application) does not have associated E&S measures. Ensure that the E&S Plan demonstrates proper measures to minimize accelerated erosion to protect surface waters. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**

	SPLP Response:	*CFS was added downhill of the ATWS near Station 9755+50 on Sheet ES-4.36.*
4.	**CCCD**	**ATWS on Sheet 27 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize accelerated erosion to protect surface waters. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-4.43 has been revised to identify the location of spoil stockpiles and the associated E&S Controls. A soil stockpile typical detail has also been added to the E&S Plan.*
5.	**CCCD**	**The plans (from the Chapter 105 permit application) indicate that Streams S-J43, S-K4, S-K2, S-K-1, S-I75, S-I76, S-I65, S-I59, S-J13, S-H70, S-BB40, and S-H69 flow in and along and under the ROW and proposed pipelines and not across and immediately through them. The plan provided for S-K4 in Tab 7D (from the Chapter 105 permit application) do not adequately depict the existing or proposed conditions upon stream restoration or excavation limits. The E&S Plan does not provide sufficient detail on the stream limits, banks, excavation limits, etc. Provide site-specific plans, cross sections, and profiles that adequately depict the existing and proposed conditions, stream bed, stream banks, limits of excavation, and methods for the stream restorations. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Site specific plan drawings, cross sections, and profiles have been prepared for these crossings which depict the existing and proposed conditions, stream bed, stream bank, limits of excavation, and method for stream restoration. See Site Specific Details at the end of the E&S and Site Restoration Plan set in Attachment 2 of the E&S Report (Tab 3 of the ESCGP-2 Permit Application).*
6.	**CCCD**	**The ATWS area in the floodways of Streams S-M21 and S-BB98 on Sheet 23 of Tab 7A (from the Chapter 105 permit application) are designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*This is a Huntingdon County reference. Please see response to Comment #18 from Huntingdon County in the Technical Comments document.*
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7.	**CCCD**	**The impact plans (from the Chapter 105 permit application) and E&S Plan drawings do not depict what impacts are proposed to Pond-J4. The E&S Plan sheet ES-4.04 depicts that timber mats end prior to the pond, and that the pond may need to be partially impacted by temporary a temporary, crossing(s). Revise the plans to clearly depict the proposed impacts. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Plan Sheet ES-4.04 has been revised to extend the timber matting across the edge of Pond-J4.*

8.	**CCCD**	**E&S Plan drawing ES-4.51 does not depict any water obstructions or encroachments in the stream S-I85 in this temporary ROW. Ensure that all activities are properly identified on the E&S Plan. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Plan drawing ES-4.15 (incorrectly referenced as ES-4.51) not showing any obstructions and encroachments in Stream S-I85 is correct. The stream is protected by compost filter sock and activities will not encroach on the stream.*
9.	**CCCD**	**The site plans indicate that wetland W177 and stream S-BB120 (from the Chapter 105 permit application) will be open cut to install the pipelines and not installed by HDD. However, the E&S Plan sheets ES-3.21 and ES-3.22 indicate the stream and wetland have the pipelines installed by HDD. In addition site specific HDD plans are provided for this area. Revise the application to be accurate and consistent in what the proposed impacts. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The Chapter 105 site plans have been updated to reflect that wetland W-177 and stream S-BB120 will be crossed by HDD and not open cut.*
10.	**CCCD**	**Revise all plan drawings to include the FEMA floodplain boundary in the area of E&S Plan sheet ES-4.27 and wetland BB151. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-4.27 has been revised to include the FEMA Floodplain boundary in the area of the plan and Wetland BB151.*
11.	**CCCD**	**The wetland delineation for wetland BB151 (from the Chapter 105 permit application) appears that it may be inconsistent with the wetland delineation for Sunoco's Mariner East I 8-inch integrity repair project. Revise the wetland delineation to compare and explain any inconsistencies. In addition, identify any access roads which were installed in wetlands for this repair project. The E&S Plan drawing E&S-4.27 indicates that there are no proposed improvements to the existing road; therefore, clarify if road improvements made under the Mariner East I 8-inch Integrity Repair project are remaining in place. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The wetland delineation has been verified against the delineation for the ME1 8-inch integrity project for consistency. Improvements that were made in fall of 2014 for the 8-inch repair project consisted of maintenance of the existing stone access road. The area of this wetland was matted during the ME1 8-inch effort and no improvements outside the existing footprint of the original gravel road were made. This existing access road will be used for the ME2 effort in its current condition and here are no proposed improvements to the existing road.*
12.	**CCCD**	**The E&S Plan sheet ES-4.27 states that no improvements are proposed to the existing access road which crosses wetland BB151; however, the site plan drawings and impact table (from the Chapter 105 permit application) indicate temporary matting will be utilized. Revise the application to be accurate and consistent. 25 Pa. Code §102.4(b)(5)(ix)**

	SPLP Response:	*Plan Sheet ES-4.27 has been revised to include temporary matting on the crossing of WL-BB151. The Sheet is now consistent with the site plan drawings and impact table from the Chapter 105 permit application.*
13.	**CCCD**	**Revise the site plan E&S Plan drawing ES-4.33 to accurately depict the stream banks of stream S-I69. The Chapter 105 permit application states the stream has a bank-to-bank width of 10 feet and flows at the edge of wetland I41. Therefore, it appears additional temporary bridges will be necessary for construction. Revise the application accordingly to depict all proposed stream crossings. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Drawing ES-4.33 has been revised to depict the stream banks of stream S-169.The temporary equipment crossings on the drawing have been extended to cover areas where S-I69 flows adjacent to the wetland where the bank may encroach on the ROW.*
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14.	**CCCD**	**The ATWS is proposed in stream S-I59 on E&S Plan sheet ES-4.43; however, no temporary impacts are proposed on the site plan drawing, sheet 27 (from the Chapter 105 permit application), or the impact table (from the Chapter 105 permit application). Revise the E&S Plan drawing to be consistent and accurate. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Temporary impacts for S-I59 are indicated on both the Site Plan and E&S plan drawings.*
15.	**CCCD**	**E&S Plan sheet ES-4.47 depicts the proposed pipelines in different locations than the trench plugs' locations. Revise the application plan drawings to be accurate and consistent. 25 Pa. Code §102.4(b)(5)(ix)**
	SPLP Response:	*The trench plugs on E&S Plan Sheet ES-4.47 have been reviewed and the plug locations on the sheet have been revised as appropriate.*
16.	**CCCD**	**E&S Plan sheet ES-4.54 does not depict any temporary timber mat crossings of wetland K41. It is unclear if all of this wetland within the proposed ROW will be excavated, or if some of it will also be crossed using timber mats. Revise the application plan drawings for this wetland to depict the proposed water obstructions and encroachments. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*See site specific plan for crossing details.*
17.	**CCCD**	**Revise E&S Plan drawing ES-4.6 to depict the stream banks of stream S-BB83 and depict the proposed temporary crossing of this stream and wetland KP2. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Drawing ES-4.06 has been updated to show temporary matting on the road. In addition, the floodway limits have been added to the drawing as well.*

18.	**CCCD**	**E&S Plan sheet ES-4.91 does not depict any temporary timber mat crossings of wetland BB44. It is unclear if all of this wetland within the proposed ROW will be excavated, or if some of it will also be crossed using timber mats. Revise the application plan drawings for this wetland to depict the proposed water obstructions and encroachments. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Wetland BB-44 will be fenced off and not disturbed.*
19.	**CCCD**	**Provide profiles for the temporary crossings identified in the E&S Plan that depict at a minimum the existing conditions and the proposed conditions. Identify the aggregate and the typical timber mat crossings being used. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Profiles for the temporary stream crossings that depict the existing and proposed conditions are provided as part of Attachment 10 in the E&S Report (Tab 3 of the ESCGP-2 Permit Application), Stream Profiles. Temporary crossings are proposed to be in place for a period of no longer than one year. Stream restoration will use existing materials except at site specific stream crossings where details have been specified for those crossing locations requested by the PADEP.*
E&S Plan – Dauphin County Technical Deficiencies		
1.	**DCCD**	**There are several instances on Sheet ES-4.17 where the compost filter sock is shown not parallel to the contour and where it is shown across an area of concentrated flow. Revise the placement of the compost filter sock as necessary. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*ES-4.17 has been revised so that the compost filter sock is shown parallel to the contour and removed from across an area of concentrated flow.*
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E&S Plan - Middletown Station Technical Deficiencies		
1.	**DCCD**	**Provide an appropriate and adequate sequence of construction for this specific site; including from initial earth disturbance, through the placement of PCSM BMPs to final/permanent stabilization. 25 Pa Code §102.4(b)(5)(vii)**
	SPLP Response:	*The construction sequence was revised in the E&S Plans to include all work and the placement of PCSM BMPs.*
2.	**DCCD**	**Three sections of the 24-in compost filter sock along the northwest limit of disturbance appear to have maximum slope lengths that exceed the proposed compost filter socks size. Ensure that the compost filter socks are sized according to the maximum slope length above the sock, not just the disturbed area above the sock, as identified in the E&S Manual. If the recommended maximum slope length from the E&S Manual is exceeded, then a demonstration of alternative BMP and design standard shall be provided. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(viii), §102.4(b)(5)(ix), §102.11(a)(1) & §102.11(b)**
	SPLP Response:	*The sequence was revised in the E & S Plans to include installation and stabilization of the diversion channels, prior to placement of the compost filter sock. This will decrease the slope length for the 24" filter sock to acceptable design limits.*

3.	**DCCD**	**The following technical deficiencies are associated with the proposed Channels:**
	a.	**Diversion Channels #1, 2, 3 & 4 are identified as trapezoidal on Standard E&S Worksheet #11; however, the plan drawings identify these channels as v-shaped. Clarify this discrepancy. 25 Pa Code §102.4(b)(5)(viii) & §102.4.(b)(5)(ix)**
	SPLP Response:	*All diversion channels will be trapezoidal shaped. The E&S Plans have been modified to reflect Worksheet #11.*
	b.	**Channels #5, 8 & 9 are identified and designed as v-shaped with an erosion control matting; however, Page 128 of the E&S Manual recommends against v-shaped channels with matting, due to the tendency for gaps to be left under the lining at the bottom of the channel. Revise the shape of these channels or provide the alternative BMP and design standard demonstration. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(viii), §102.4(b)(5)(ix), §102.11(a)(1) & §102.11(b)**
	SPLP Response:	*Channels #5, #8 and #9 have been revised to trapezoidal shaped. The revised calculations for these channels are included within the E & S Report. See pages 931-936 of the E&S Report.*
	c.	**Provide the design calculations for Channels #5, 6, 7, 8, 9 & 10 in the temporary condition. 25 Pa Code §102.4.(b)(5)(viii)**
	SPLP Response:	*Worksheet #11 has been revised within the E & S Report to include all channels in the temporary, un-vegetated condition.*
	d.	**Provide a detail for Channels #5, 6, 7, 8, 9 & 10. 25 Pa Code §102.4(b)(5)(vi) & §102.4.(b)(5)(ix)**
	SPLP Response:	*The detail for Channel #5 through #10 is shown on Sheet 14 of the E&S Plans.*
	e.	**Provide the manufacturer's lining installation detail for the North American Green C125. 25 Pa Code §102.4(b)(5)(vi) & §102.4.(b)(5)(ix)**
	SPLP Response:	*The North American Green installation detail for SC250 permanent spillway lining is shown on Sheet 14 of the E & S Plans. The staple patterns have been added to Sheet 10 of the plans.*
4.	**DCCD**	**The following technical deficiencies are associated with the outlet protection:**
	a.	**Provide the design calculations for all riprap aprons. 25 Pa Code §102.4.(b)(5)(viii)**
	SPLP Response:	*The design calculations for all riprap aprons are included in the report, please see Appendix E of the E&S Report.*

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	b.	**The provided riprap apron detail on Sheet CONSTDET 11 is not the Standard Construction Detail #9-1 from the E&S Manual. Rename the detail as it is not Standard Construction Detail or provide the Standard Constriction Detail #9-1 from the E&S Manual. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(ix) & §102.11(a)(1)**
	SPLP Response:	*The Modified Construction Detail #9-1 has been re-labeled to "modified" on Sheet 12 of the E & S Plans.*
5.	**DCCD**	**Provide a detail for the waterbar. 25 Pa Code §102.4(b)(5)(vi) & § 102.4.(b)(5)(ix)**
	SPLP Response:	*The detail for the water bar is shown on Sheet 14 of the E & S Plans.*
E&S Plan – Huntingdon County Technical Deficiencies		
1.	**HCCD**	**Clarify the disturbance proposed for the existing driveway/road off of Hollow Road at approx. Station 7197+00 on Sheet ES-3.11. If this is an existing road to be used for access with no proposed permanent improvements, then identify the existing road as such (as provided on Sheet ES-3.27 at Station 7463+00). 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*Sheet ES-3.11 has been revised to reflect that the LOD will not include Hollow Road. The disturbance is proposed to be a travel LOD and is defined on the plan drawings and in the E&S legend.*
2.	**HCCD**	**Identify why the LOD is expanded to the south at approx. Station 7337+00 to 7340+00 (on Sheet ES-3.20). 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*The area in question is an additional temporary workspace to be used for a conventional bore crossing. E&S Plan Sheet ES-3.20 has been revised to identify the presence of this temporary workspace.*
3.	**HCCD**	**Near Station 7563+00 (on Sheet ES-3.33) a 24" silt sock is shown outside the LOD and installed across concentrated flow at WL-JH2 & S-L45a. Clarify this silt sock shown outside of the LOD. If this is not a drafting error, then revise the LOD accordingly and provide a demonstration showing that the silt sock is an appropriate BMP to be used in a concentrated flow condition and across a stream. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi), §102.4(b)(5)(ix), §102.11(a)(1) & §102.11(b)**
	SPLP Response:	*E&S BMPs have been revised in this HDD staging area and are all located in the LOD.*

4.	**HCCD**	**A rock construction entrance is shown on Sheet ES-3.56 for the temporary access road at approx. Station 7944+50. The rock construction entrance appears to be located on a drainage divide between a special protection watershed and a non-special protection watershed. Because vehicular traffic could exit off of the temporary access road and drive west on Nebo Road (into the special protection watershed), provide a rock construction entrance that achieves an ABACT rating. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(ix) & §102.4(b)(6)**
	SPLP Response:	*Sheet ES-3.56 has been revised to identify a rock construction entrance with a wash rack that will achieve the ABACT rating.*
5.	**HCCD**	**Provide an identification of the construction method to be utilized for each roadway crossing. Clarify the crossing method proposed for Croghan Pike (Station 7992+00 on Sheet ES-3.59); as the plans appear to show bore pits but there is no "Area to be Bored" designation and the roadway is identified to be disturbed. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Plan Sheet ES-3.59 has been revised to reflect that Croghan Pike will be crossed via conventional bore and to add the "Area to be Bored" designation.*
6.	**HCCD**	**On Sheet ES-3.61 there doesn't appear to be sufficient room within the LOD for the rock construction entrance (on the west side of Cummings Road at Station 8032+00) and appropriate vehicular movement to access/utilize the rock construction entrance (i.e. the end of the rock construction entrance is the LOD). Provide the demonstration that there is sufficient room for vehicular movement to access/utilize the rock construction entrance. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi), §102.4(b)(5)(ix) & §102.4(c)**
	SPLP Response:	*The rock construction entrance on ES-3.61 is shown to be the standard length; however, the entrance has been extended to the north to allow better turning movements onto the rock construction entrance.*
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7.	**HCCD**	**Sheet ES-3.72 shows two rock construction entrances at approx. Station 8206+00. Identify the need for these rock construction entrances, as there is no existing roadway or access road shown at this location. Clarify this discrepancy. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The two rock construction entrances were shown in error and have been removed from Sheet ES-3.72.*
8.	**HCCD**	**On Sheet ES-3.76 it appears that the trench plugs are shown not aligned with the mainline pipeline (between Stations 8280+00 and 8284+00). Clarify this discrepancy. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*The trench plugs have been aligned with the pipeline on plan sheet ES-3.76 between station 8280+00 and 8284+00.*
9.	**HCCD**	**The following technical deficiencies are associated with Sheet ES-3.79:**

	a.	**The proposed contour information is difficult to identify for the Shade Valley/Highway 35 Block Valve Site (e.g. it is difficult to discern if the proposed contours tie into the existing contours, it is difficult to identify the contour elevation, etc.). Provide better clarity for this location. 25 Pa Code §102.4(b)(5)(i), §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*Sheet ES-3.79 has been revised to clarify and label the proposed contours for the Shade Valley/Highway 35 block valve site to make them easier to read.*
	b.	**It appears that the length of pipeline to be bored does not extend to the identified bore pits on the east side of Route 35. Clarify this discrepancy. 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*The callout for the length of pipeline to be bored has been corrected so that it extends to the identified bore pits on the east side of Route 35.*
10.	**HCCD**	**On Sheet ES-3.81 a rock construction entrance is shown at the end of the timber mat at Station 8371+00; clarify the need for a rock construction entrance at this location. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The subject rock construction entrance has been removed from Sheet ES-3.81.*
11.	**HCCD**	**The following technical deficiencies are associated with Sheet ES-3.82: 25 Pa Code §102.4(b)(5)(ix)**
	a.	**It appears that a rock construction entrance would be needed at on the west side of Foltz Hollow Road (Station 8373+50 on Sheet ES-3.82); clarify why a rock construction entrance is not needed at this location. 25 Pa Code §102.4(b)(5)(vi)**
	SPLP Response:	*Sheet ES-3.82 has been revised to add a rock construction entrance to the west side of Foltz Hollow Road.*
	b.	**Identify the name and Chapter 93 Designated and Existing Uses for Stream S-K88 (i.e. "UNT to…"). 25 Pa Code §102.4(b)(5)(vi)**
	SPLP Response:	*The designated and existing use for Stream S-K88 has been added to ES-3.82. Stream S-K88 is an Unnamed Tributary to George Creek (CWF).*
	c.	**It appears that the flow direction arrow for Stream S-K87 is shown backwards. Clarify this discrepancy.**
	SPLP Response:	*The flow arrows have been corrected on ES-3.82.*
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12.	**HCCD**	**The ATWS area in the floodway of Stream S-L30 on Sheet 36 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**

	SPLP Response:	*E&S Sheet ES-3.59 has been revised to identify the location of spoil stockpiles and associated erosion and sediment controls used to minimize the potential for discharge of fill material to the stream. In addition, a typical soil stockpile detail has been added.*
13.	**HCCD**	**The ATWS area in the floodway of Stream S-L45a on Sheet 21 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-3.33 has been revised to identify the location of spoil stockpiles and associated erosion and sediment controls used to minimize the potential for discharge of fill material to the stream. In addition, a typical soil stockpile detail has been added.*
14.	**HCCD**	**The ATWS area in the floodway of Stream S-M3 on Sheet 43 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-3.71 has been revised to identify spoil stockpiles and associated erosion and sediment controls used to minimize the potential for discharge of fill material to the stream. In addition, a typical soil stockpile detail has been added.*
15.	**HCCD**	**The ATWS area in the floodway of Stream S-Y22 on Sheet 3 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-3.05 has been revised to identify spoil stockpiles and associated erosion and sediment controls used to minimize the potential for discharge of fill material to the streams. In addition, a typical soil stockpile detail has been added*
16.	**HCCD**	**The ATWS area in the floodway of Stream S-Y23 on Sheet 4 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-3.06 has been revised to identify spoil stockpiles and associated erosion and sediment controls used to minimize the potential for discharge of fill material to streams. In addition, a typical soil stockpile detail has been added.*

17.	**HCCD**	**The ATWS area in the floodplain Of Stream S-Y1 on Sheet 6 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-3.09 has been revised to identify spoil stockpiles and associated erosion and sediment controls used to minimize the potential for discharge of fill material to streams. In addition, a typical soil stockpile detail has been added.*
18.	**HCCD**	**The ATWS areas in the floodways of Streams S-M21 and S-BB98 on Sheet 23 of Tab 7A (from the Chapter 105 permit application) are designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-3.37 has been revised to identify spoil stockpiles and associated erosion and sediment controls used to minimize the potential for discharge of fill material to streams. In addition, a typical soil stockpile detail has been added.*
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19.	**HCCD**	**The site Specific Drawing S-Y3-C-101 (from the Chapter 105 permit application) is inconsistent with E&S Plan sheet ES-3.10 and the HDD plan drawings (from the Chapter 105 permit application) and proposes different locations of the bore face, stream impacts, and E&S BMPs. Revise the E&S Plan drawing to be consistent and accurate. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The Site Specific Drawing, E&S Plan Sheet ES-3.10, and Chapter 105 site plans have been revised to be consistent for the locations of the bore face, stream impacts, and E&S BMPs.*
20.	**HCCD**	**The March 2016 Wetland Delineation Addendum (from the Chapter 105 permit application) delineates wetland Y7's Palustrine Forested (PFO) and Palustrine Emergent (PEM) boundaries differently than the July 2015 Aquatic Resources Report (from the Chapter 105 permit application). The impact plan drawings (from the Chapter 105 permit application) utilize the more recent delineation; however, the E&S Plans ES-3.11 and ES-3.12 and the HDD plan drawings (from the Chapter 105 permit application) utilize the July 2015 delineation. Revise the E&S Plan drawings to depict the wetland accurately utilizing the March 2016 Wetland Delineation Addendum delineation. 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Plan Sheets ES-3.11 and ES-3.12 have been updated to utilize the most recent wetland delineations from the March 2016 Wetland Delineation Addendum.*
21.	**HCCD**	**The E&S Plan drawing E&S-3.21 depicts a temporary stream crossing of stream S-Y6 at approximately pipe station 7200+50 which does not cross the stream but rather depicts the edge of the matting overtop of the stream channel. This is inconsistent with the standard detail. Revise the plans to cross the stream as close to perpendicular as practicable and if the crossing remains as proposed, provide plans depicting how the crossing will be accomplished in this fashion. 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**

	SPLP Response:	*The E&S Plan sheets reference by symbology and notes that a temporary equipment crossing is called for at this location. The contractor will use the standard details to install the most appropriate crossing to allow safe installation of the pipelines. The contractor is required to install the crossing in accordance with the specification of the typical notes and details. The combination the plan sheet and details will ensure all crossings will be properly installed.*
22.	**HCCD**	**The delineated boundaries on LK-2 (from the Chapter 105 permit application) are inconsistent with the open water visible on the aerial imagery on the plan drawings and on the contours on the plan drawings and the E&S Plan drawings ES-3.22 and ES-3.23. Revise the delineation boundaries for LK-2 to be accurate and consistent on the plan drawings. 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*The boundaries of LK-2 have been revised on Sheets 14 and 15 of the Site Plans in the Chapter 105 permit application to be consistent with the open water visible on the aerial imagery and consistent with the E&S Plan drawings.*
23.	**HCCD**	**The impact table identifies that stream S-L45A will have a temporary impact; however, the site plan (from the Chapter 105 permit application) and E&S Plan do not depict temporary impacts to this stream. Revise and clarify the application to be consistent and accurate. 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*The Chapter 105 site plans identify temporary floodway impacts to S-L45A on Sheet 21 of Huntingdon County. The same temporary floodway impacts are shown on E&S Sheet ES-3.33, and therefore, no revisions are necessary.*
24.	**HCCD**	**It appears that stream S-L30 continues and crosses the proposed access road identified on plan sheets 36 and 37 (from the Chapter 105 permit application) and E&S Plan sheet ES-3.60. No stream has been identified in the Aquatic Resource Report (from the Chapter 105 permit application). Revise the application to identify this stream and if any water obstructions are proposed. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*There is a culvert under the existing road in the location in question and no water obstructions are proposed.*
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25.	**HCCD**	**Provide profiles for the temporary crossings identified in the E&S Plan that depict at a minimum the existing conditions and the proposed conditions. Also, provide information regarding the length of time that all temporary crossings will be in place. Some of the plans appear to use unnatural stream contours upon restoration. Identify the aggregate and the typical timber mat crossing being used. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Profiles for the temporary stream crossings that depict the existing and proposed conditions are provided as part of Attachment 10 in the E&S Report (Tab 3 of the ESCGP-2 Permit Application), Stream Profiles. Temporary crossings are proposed to be in place for a period of no longer than one year. Stream restoration will use existing materials except at site specific stream crossings where details have been specified for those crossing locations requested by the PADEP.*

26.	**HCCD**	**E&S Plan drawing ES-3.73 identify that stream S-K94, which is 20-feet wide, will be temporarily crossed with timber mats. Explain how timber mats will be utilized to construct a temporary bridge of this length. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*A temporary equipment crossing will be installed at this stream crossing and the typical equipment crossing details can be utilized to cross Stream S-K94 on E&S Sheet ES-3.37. The contractor will use the standard details to install the most appropriate crossing to allow safe installation of the pipelines. The contractor is required to install the crossing in accordance with the specification of the typical notes and details. The combination the plan sheet and details will ensure all crossings will be properly installed.*
27.	**HCCD**	**The ATWS area on plan sheet 45 (from the Chapter 105 permit application) appears to include wetland K71. However, the plan is not of a sufficient scale to depict whether wetland K71 will be impacted or not, and E&S Plan sheet ES-3.74 does not contain all of the ATWS area on it. Revise the E&S plan to clearly depict this area in the floodway of stream S-K96 and that wetland K71 will not be impacted. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*ES-3.74 has been revised to clearly depict all of the ATWS area in the floodway of stream S-K96. The wetland W-K71 is not impacted by the ATWS.*
28.	**HCCD**	**Stream S-L16 is depicted on E&S Plan sheet ES-3.78 as being crossed by a temporary timber mat at the same location as a proposed gas line. Explain how this will occur and provide additional plan sheets to show stages of construction if necessary. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*ES-3.78 has been revised to reflect that the timber mat will not be located on the gas line.*
29.	**HCCD**	**E&S Plan drawing ES-3.84 does not depict any water obstructions or encroachments in stream S-K83 in this temporary ROW. Ensure that all activities are properly identified on the E&S Plan. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*ES-3.84 has been revised to accurately depict the stream and floodways.*
30.	**HCCD**	**Wetland M3 is identified on the impact table, and identified and depicted impact plan drawing sheet 43, as being open cut and stream S-M3 is identified as the floodway being bored (from the Chapter 105 permit application). However, the E&S Plan sheet ES-3.71 and bore plan drawing PPP-PA-HU-0102.000-RD (from the Chapter 105 permit application) depict that stream S-M3 and wetland M3 will be bored and the floodway of S-M3 will be bored and partially open cut for bore pits. Revise and clarify the E&S Plan to be accurate and consistent. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*The Stream S-M3 and the wetland W-M3 will be bored and the floodway of S-M3 will be bored and partially open cut for bore pits. The Chapter 105 permit application has been revised to reflect this.*

31.	**HCCD**	**The site impact plan sheet 23 (from the Chapter 105 permit application), E&S Plan sheet ES-3.37, site specific drawing S-BB7-C-101 (from the Chapter 105 permit application), and Bore drawing PPP-PA-HU-0047.012-RD (from the Chapter 105 permit application) all depict different proposed impacts, construction techniques, and BMPs. Revise the E&S Plan to provide plan drawings which are all consistent, accurate, and depict the same proposed impact. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Plan Sheet ES-3.37 has been revised to show Streams S-M21 and S-BB97 as being crossed by conventional bore. A temporary equipment crossing is also proposed as a crossing method for Stream S-M21. In addition, a site specific drawing has been added for S-BB97 and can be found on sheets S-BB97-A and S-BB97-B.*
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32.	**HCCD**	**The E&S Plan drawing ES-3.37 depicts proposed temporary matting in wetland BB127 north of the proposed pipelines while the site specific plan (from the Chapter 105 permit application) depicts temporary matting south of the proposed pipelines. Revise and clarify the site plans to be accurate and consistent. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Sheet ES-3.37 has been revised to accurately depict the timber matting south of the proposed pipeline and is now consistent with the Chapter 105 Permit Application.*
E&S Plan - Mount Union Station Technical Deficiencies		
1.	**HCCD**	**The Note on the Cover Sheet refers to a Geotechnical Report which is being prepared separately from the E&S Plan and that the certifying engineer for the E&S Plan does not certify the geotechnical features. Identify how this note meets the regulatory requirements for the E&S Plan. Identify what information is contained in this additional geotechnical report and identify how this other report affects the design and planning of the E&S Plan. 25 Pa Code §102.4(b)(5)(ii) & §102.4(b)(5)(xii)**
	SPLP Response:	*The additional geotechnical report was prepared for the design of foundations at the facility. The report also provides information related to embankment fill and slope construction. The note is not intended to meet any specific regulatory requirements for the E&S Plan. The note on the plan is included to clarify that the foundations, embankment fill and slope construction are not certified by the PCSM / E&S engineer. Please reference Section 2.2 Geology and Soils and Attachment 4 for the types, depths, slopes, locations, and limitations of the soils present at the site*
2.	**HCCD**	**The following technical deficiencies are associated with Sheet C-1:**
	a.	**Please provide a complete legend, as some of the symbols on the plan sheet C-2 are not included in the legend provided on plan sheet C-1. 25 Pa Code §102.4(b)(5)(i)**
	SPLP Response:	*The legend on plan sheet C-1 was updated with the proper symbols.*

	b.	**Notes 1 & 6 make it appear that the existing site has not been field surveyed for existing conditions and existing contour/grades. Clarify if the existing conditions shown on the plan are field survey. If they are not, identify how the information shown meets the regulatory requirements. 25 Pa Code §102.4(b)(5)(i), §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*To clarify the source of the existing conditions survey, the drawing notes were revised as follows: "1. Existing topography and features compiled from www.pasda.psu.edu and Trico Surveying and Mapping, Inc. 2. Property lines from Trico Surveying and Mapping, Inc."*
	c.	**The Soil Stockpile in the Legend identifies to reference Standard Erosion & Sediment Control Note 7 on Sheet ES-7; however, Sheet ES-7 is not provided nor part of the E&S Plan for the Mount Union Station. If a separate E&S Plan is provided for the Mount Union Station, then provide all required regulatory information in this Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5) & §102.4(b)(5)(xiv)**
	SPLP Response:	*The reference is not necessary and has been removed.*
3.	**HCCD**	**The following technical deficiencies are associated with Sheet C-2:**
	a.	**The type of cover at this location is not clear on the plan sheets. Please provide additional information as to the type of cover that is found here. 25 Pa Code §102.4(b)(5)(i)**
	SPLP Response:	*The plan sheets have been updated to show what type of cover material will be present on site.*
	b.	**The information shown on the plan is confusing. It appears that the existing valve station is shown as proposed on this E&S Plan. If there is an existing station/site features, identify those as existing (including existing contours/grades). 25 Pa Code §102.4(b)(5)(i), §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*Existing features, including contours and grades, are shown as grey lines and proposed features are shown as dark/bold lines.*
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	c.	**Identify the receiving surface waters and their Chapter 93 Designated and Existing Uses. 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*Information regarding the receiving surface waters and their Chapter 93 Designated and Existing Uses has been provided in Section 2.3 Surface Water Hydrology and on sheet C-1 of the E&S Plans.*
	d.	**The outlet from the unidentified infiltration trench proposes to discharge concentrated stormwater directly at the compost filter sock. Compost filter socks are not intended to manage concentrated runoff; either revise the design or provide a demonstration showing that the silt sock is an appropriate BMP to be used in a concentrated flow condition and across a stream. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi), §102.4(b)(5)(ix), §102.11(a)(1) & §102.11(b)**

	SPLP Response:	*The construction sequence was clarified to indicate that storm inlets will be protected from runoff during construction and BMP's will be maintained offline, eliminating concentrated flow until the site is stabilized. When the permanent stormwater controls are placed into service, the compost filter sock will be removed at the point of concentrated flow.*
	e.	**It appears that construction may be taking place outside the LOD, in particular the area north of the RCE. Clarify this discrepancy. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*All construction will take place within the LOD. The area north of the RCE is an existing station. The plans have been revised to clarify which work is existing and which work is proposed.*
	f.	**The compost filter sock located along the SW edge of the LOD may need extended to better protect the existing wetland (CC27) during construction and prior to blanketing. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*The plan was revised so that the grading was pulled away from the property line and compost filter sock was added in that area, thereby better protecting Wetland CC27.*
	g.	**Identify the location of the compost filter sock below the rock construction entrance (as identified in the Rock Construction Entrance detail on Sheet C-4). 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*The location of the compost filter sock is now identified on the plan.*
4.	**HCCD**	**The following technical deficiencies are associated with Sheet C-3:**
	a.	**Provide a note on the plan sheet regarding if soil/rock is to be removed from the site that the soil/rock must be taken to a location w/an E&S plan and BMPs in place. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*A note with these instructions was added to sheet C-1 of the E&S Plans.*
	b.	**Provide a note on the plan sheets regarding clean fill, including the definition and reference to the correct DEP Document Number. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*Section 3.4 in the E&S narrative has been updated to include information regarding clean fill. Also, a note has been added to C-1 of the E&S Plan to address clean fill, including the definition and reference to the correct DEP Document Number.*
	c.	**Provide a complete and site specific construction sequence, the current sequence does not address when the launcher, receiver, knock-out tank, pipe supports, storm sewer system and infiltration trench are to be constructed. 25 Pa Code §102.4(b)(5)(vii) & §102.4(b)(5)(ix)**
	SPLP Response:	*The construction sequence in section 3.1 was updated to include a complete and more site specific construction sequence.*
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5.	**HCCD**	**The following technical deficiencies are associated with Sheet C-4:**

	a.	**If concrete will be needed on site, please provide on the plan sheets a concrete wash-out location, relevant detail and direction for disposal. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(ix), §102.4(b)(5)(x) & §102.4(b)(5)(xi)**
	SPLP Response:	*A wash-out location and direction of disposal has been called out on the plan sheet. Please reference Attachment 2, Sheet C-4 for a relevant detail for the rock construction entrance and wash rack.*
6.	**HCCD**	**Standard E&S Worksheet #1 does not include the 24" silt sock. The Worksheet also identifies the 12" silt sock as sock #1 and #2. Revise the E&S Plan Sheet C-2 to include a call-out for the location of sock #1 and #2 and revise the Worksheet to include the 24" silt sock. 25 Pa Code §102.4(b)(5)(ix) & §102.4(b)(5)(viii)**
	SPLP Response:	*The Standard E&S Worksheet #1 has been revised to reflect the correct, 24" silt socks to be used. Also, the E&S Plan Sheet C-2 has been updated to show call-outs for the locations of sock #1 and #2.*
E&S Plan - Juniata County Technical Deficiencies		
1.	**JCCD**	**The ATWS areas in the floodway of Stream S-K80 on Sheet 2 of Tab 7A (from the Chapter 105 permit application) are designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-3.03 has been revised to identify the location of spoil stockpiles and associated erosion and sediment controls used to minimize the potential for discharge of fill material to the stream. In addition, a typical soil stockpile detail has been added.*
2.	**JCCD**	**The plans (from the Chapter 105 permit application) indicate that Streams S-L12, S-K70, S-K65, S-K62, S-K63, S-L8, S-L9, K58, S-K57, and S-K56 flow in and along and under the ROW and proposed pipelines and not across and immediately through them or start/end in the area of excavation for the pipes. The plans provided for S-K69 and S-K70 in Tab 7D (from the Chapter 105 permit application) do not adequately depict the existing or proposed conditions upon stream restoration or excavation limits. The E&S Plan does not provide sufficient detail on the stream limits, banks, excavation limits, etc. Provide site-specific plans, cross sections, and profiles that adequately depict the existing and proposed conditions, stream bed, stream banks, limits of excavation, and methods for the stream restorations. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Site specific plan drawings, cross sections, and profiles have been prepared for these crossings which depict the existing and proposed conditions, stream bed, stream bank, limits of excavation, and method for stream restoration. See Site Specific Details at the end of the E&S and Site Restoration Plan set in Attachment 2 of the E&S Report (Tab 3 of the ESCGP-2 Permit Application).*

3.	**JCCD**	**Wetland Q64 is depicted on the plan drawings and impact tables (from the Chapter 105 permit application) as being impacted; however, the E&S Plan drawing ES-3.06 appears to delineate wetland Q64 in a different location than the plan drawings and aquatic resource delineation (from the Chapter 105 permit application). Revise the E&S Plan to accurately depict the location and impacts to wetland Q64. 25 Pa. Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Plan Drawing ES-3.06 has been revised to delineate Wetland WL-Q64 in a location consistent with the Chapter 105 Permit Application.*
4.	**JCCD**	**E&S Plan sheet ES-3.06 depicts temporary matting which is different than the site specific plan drawing S-K69-S-K70-C-101 (from the Chapter 105 permit application). Revise the E&S Plan to be accurate and consistent. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Plan Sheet ES-3.06 has been revised to accurately depict additional temporary matting around streams S-K69 and S-K70. The Sheet is now consistent with the Chapter 105 permit application.*
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5.	**JCCD**	**Table 3 identifies 93 feet of permanent impact to stream S-K58 in the ROW (from the Chapter 105 permit application); however, E&S Plan ES-3.08 depicts over 100ft of stream S-K58 is within the ROW. Make all revisions necessary to consistently and accurately identify the area of impact to this stream. 25 Pa. Code §102.4(b)(5)(iii), §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Sheet ES-3.08 has been revised to reflect a smaller impact of S-K58 within the ROW to be consistent with the Chapter 105 permit application.*
E&S Plan - Lancaster County Technical Deficiencies		
1.	**LCCD**	**Spot checks at several locations found that a number of maximum slope lengths have been exceeded for the proposed filter socks, including those at Socks #7, 8, 24, 27, 29, 32 & 49. Ensure that all filter socks are to be sized according to the maximum slope length above the sock, not just the disturbed area above the sock and to the recommended maximum slope lengths should conform to those provided in Figure 4.2 on Page 66 of the E&S Manual. 25 Pa Code §102.4(b)(5)(viii) & §102.11(a)(1)**
	SPLP Response:	*The design of the compost filter socks have been reevaluated for the maximum slope lengths and sock size adjusted accordingly to comply with the E&SPCP Manual. Worksheet #1 has been updated to reflect this revision and can be found in Attachment 4 of the E&S Report (Tab 3 of the ESCGP-2 Permit Application).*
2.	**LCCD**	**The ATWS area in the floodway of Stream S-B82 on Sheet 9 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-1.16 has been revised to identify the location of spoil stockpiles and associated erosion and sediment controls used to minimize the potential for discharge of fill material to the stream. In addition, a typical soil stockpile detail has been added.*

3.	**LCCD**	**The ATWS area in the floodway of Stream S-B10 on Sheet 12 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-1.20 has been revised to identify the location of spoil stockpiles and associated erosion and sediment controls used to minimize the potential for discharge of fill material to the stream. In addition, a typical soil stockpile detail has been added.*
4.	**LCCD**	**E&S Plan drawing ES-1.12 is inconsistent with the site plan drawings and the HDD plan drawings (from the Chapter 105 permit application), which only depict one continuous HDD for each pipeline. Revise the E&S Plan drawings to be consistent and accurate. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Sheet ES-1.12 has been updated to be consistent with the Chapter 105 site plans and the HDD plan drawings and reflect one continuous HDD for each pipeline.*
5.	**LCCD**	**The site specific drawing S-B83-C-101 (from the Chapter 105 permit application) depicts different temporary wetland and stream crossing impacts than the E&S Plan drawing ES-1.17. Revise the E&S Plan drawings to be consistent and accurately depict the proposed impacts. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Plan Sheets ES-1.16 and ES-1.17 have been updated to include additional temporary matting to be consistent with the Chapter 105 Permit Application.*
6.	**LCCD**	**Provide profiles for the temporary crossings identified in the E&S Plan that depict at a minimum the existing conditions and the proposed conditions. Provide information regarding the length of time that all temporary crossings will be in place. Some of the plans appear to use unnatural stream contours upon restoration. Identify the aggregate and the typical timber mat crossing being used. 25 Pa. Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Profiles for the temporary stream crossings that depict the existing and proposed conditions are provided as part of Attachment 10 in the E&S Report (Tab 3 of the ESCGP-2 Permit Application), Stream Profiles. Temporary crossings are proposed to be in place for a period of no longer than one year. Stream restoration will use existing materials except at site specific stream crossings where details have been specified for those crossing locations requested by the PADEP.*
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E&S Plan - Lebanon County Technical Deficiencies		
1.	**LCCD**	**Bore pits are shown at Station 11842+50 (on Sheet ES-1.02) and Station 11847+00 (on Sheet ES-1.03); however, there is no plan identification of an area to be bored. Clarify this discrepancy and make all revisions necessary. 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-1.03 has been revised to indicate the "Area to be Bored" on the drawing.*

2.	**LCCD**	**A temporary equipment bridge appears to be intersecting an existing road/driveway at Station 12012+00 on Sheet ES-1.14. Identify how the existing road/driveway will continue to function during use of the temporary equipment bridge. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The temporary equipment bridge has been replaced with rock construction entrances on both sides of the north-south road.*
3.	**LCCD**	**The E&S Plan sheets indicate that wetland J47 is within both Dauphin and Lebanon Counties. Clarify if all of the proposed impacts to this wetland are accounted for in the Dauphin County Application. Revise the impact plan drawing to depict the county boundary and accurately identify the impacts to the wetland in Lebanon County. In addition, it is recommended that the Dauphin County E&S Plan be evaluated and revised for consistency as necessary. 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Plan Sheet ES-1.01 has been revised to match the Chapter 105 Permit Application and depict WL-J47 as being impacted in Dauphin County only.*
4.	**LCCD**	**The impact plans and impact table (from the Chapter 105 permit application) indicate temporary impacts from a temporary bridge are proposed to stream S-A49. However, the E&S Plan does not depict any proposed temporary impacts. Revise the E&S Plan to depict any proposed temporary impacts to stream S-A49 and clarify what permanent impacts are proposed beyond the HDD installed pipelines. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The E&S Plan Sheet ES-1.02 has been updated to depict temporary matting across S-A49 within the ROW.*
5.	**LCCD**	**The plans (from the Chapter 105 permit application) indicate that Streams S-B77, S-A2, S-A3, S-A5, S-A10, and S-H7 flow in and along and under the ROW and proposed pipelines and not across and immediately through them. The E&S Plan does not provide sufficient detail on the stream limits, banks, and excavation limits etc. Provide site-specific plans, cross sections, and profiles that adequately depict the existing and proposed conditions, stream bed, stream banks, limits of excavation, and methods for the stream restorations. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Site specific plan drawings, cross sections, and profiles have been prepared for these crossings which depict the existing and proposed conditions, stream bed, stream bank, limits of excavation, and method for stream restoration. See Site Specific Details at the end of the E&S and Site Restoration Plan set in Attachment 2 of the E&S Report (Tab 3 of the ESCGP-2 Permit Application).*
6.	**LCCD**	**The HDD plan drawing PA-LE-0055.0000-RD (from the Chapter 105 permit application) indicates that the HDD Entry/Exit point will be located within wetland A13. However, the site impact plan drawings (from the Chapter 105 permit application) and the E&S Plan drawing depict that this entry exit point will not be located within this wetland. Revise and clarify the E&S Plan drawings to be consistent and accurately reflect the proposed impacts. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**

	SPLP Response:	*The HDD plan drawing PA-LE-0055.000-RD has been revised to be consistent with the impact plan drawings and the E&S Plan drawings and shows the HDD entry/exit point outside of wetland W-A13.*
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7.	**LCCD**	**The stream banks of S-A25 are not depicted on the E&S Plan drawing ES-1.50. Based on the width of the stream, it appears that this stream may be partially located within the permanent ROW on the southern portion of the proposed ROW. Revise the E&S Plan drawing to depict the proposed stream banks and any proposed impacts to the stream from the meander of the stream re-entering the proposed ROW. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*A site specific detail has been prepared at this location. See Sheets S-A25-A and S-A25-B.*
8.	**LCCD**	**The Site Plan drawing and impact table (from the Chapter 105 permit application) state that the stream crossing S-A27 will be a dry crossing; however, the site plan drawing, sheet 30 (from the Chapter 105 permit application), and E&S Plan drawing ES-1.53 depict that the stream will have temporary timber mat bridge crossing and that the pipelines will be bored underneath the stream. Revise the E&S Plan to be consistent and accurate to what is proposed, and include a site specific/auger bore drawing for this crossing. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The Stream S-A27 has been verified to be crossed by a conventional bore. The Chapter 105 site plans drawings, impact table, and E&S Sheet ES-1.53 have been updated to reflect the bore under the stream.*
9.	**LCCD**	**The ATWS area in the floodplain and floodway of Stream S-A24 on Sheet 26 of Tab 7A (from the Chapter 105 permit application) is designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to streams. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Sheet ES-5.47 has been revised to identify the location of spoil stockpiles and associated erosion and sediment controls used to minimize the potential for discharge of fill material to the stream. A spoil stockpile detail has been added to E&S Sheet ES-0.09.*
10.	**LCCD**	**E&S Plan drawing ES-1.32 identifies that stream S-A17, which is 25-feet wide, will be temporarily crossed with timber mats. Explain how timber mats will be utilized to construct a temporary bridge of this length. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*A site specific detail has been prepared at this location for Stream S-A17. See Sheets S-A17-A and S-A17-B.*

E&S Plan - Perry County Technical Deficiencies		
1.	**PCCD**	**E&S Plan drawing ES-3.09 and C-2 of the Doylesburg Station E&S Plan do not identify the temporary impacts indicated on Sheet 6 of Tab 7A (from the Chapter 105 permit application). Ensure that the E&S Plans properly identify all of the proposed activities. 25 Pa Code §102.4(b)(5)(iii), 1 §02.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The temporary impacts shown on Sheet 6 of Tab 7A are shown on E&S Plan Drawings ES-3.10 not ES-3.09. The impacts are not shown on C-2 of the Doylesburg Station E&S plan because it is outside the view of the plan sheet.*
2.	**PCCD**	**The plans (from the Chapter 105 permit application) indicate that Streams S-K51, S-K52, S-Q64, S-Q67, S-J63, S-J62, a portion of S-J70, and S-J69 flow in and along and under the ROW and proposed pipelines and not across and immediately through them or start/end in the area of excavation for the pipes. The plan (from the Chapter 105 permit application) provided for S-Q67 in Tab 7D does not adequately depict the existing or proposed conditions upon stream restoration or excavation limits. The E&S Plans does not provide sufficient detail on the stream limits, banks, excavation limits, etc. Provide site-specific plans, cross sections, and profiles that adequately depict the existing and proposed conditions, stream bed, stream banks, limits of excavation, and methods for the stream restorations. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Site specific plan drawings, cross sections, and profiles have been prepared for these crossings which depict the existing and proposed conditions, stream bed, stream bank, limits of excavation, and method for stream restoration. See Site Specific Details at the end of the E&S and Site Restoration Plan set in Attachment 2 of the E&S Report (Tab 3 of the ESCGP-2 Permit Application).*
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3.	**PCCD**	**Stream S-J70 is delineated as being within the Temporary ROW on E&S Plan drawing ES-3.27 and outside of the Temporary ROW on plan sheet 17 (from the Chapter 105 permit application). Revise the E&S Plan to be accurate with the site plan (from the Chapter 105 permit application). 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*ES-3.27 has been revised to accurately reflect Stream S-J70 as delineated outside of the Temporary ROW.*
4.	**PCCD**	**The E&S Plan drawing ES-3.03 does not have all of wetlands L1 and L2 delineated in the March 2016 Aquatic Resource Report Addendum (from the Chapter 105 permit application). In addition, this plan sheet does not depict stream S-Q70. Revise the E&S Plan drawings to accurately delineate the streams and wetlands. 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*E&S Plan drawing ES-3.03 has been updated to depict all of the Wetlands L1 and L2 as delineated in the March 2016 Aquatic Resource Report Addendum. Stream S-Q70 has been added to ES-3.03 as well.*
5.	**PCCD**	**The E&S Plan drawing ES-3.1 delineates streams S-K51 and S-K53 differently than the delineation report and site plan drawings (from the Chapter 105 permit application). Revise the E&S Plan to accurately delineate and depict these watercourses, their floodways, and the proposed impacts. 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**

	SPLP Response:	*ES-3.1 has been revised to accurately delineate Streams S-K51 and S-K53and be consistent with the Chapter 105 permit application. The streams' floodways and proposed impacts have been revised as necessary.*
6.	**PCCD**	**E&S Plan drawing ES-3.10 identifies that stream S-K53, which is 25-feet wide, will be temporarily crossed with timber mats. Explain how timber mats will be utilized to construct a temporary bridge of this length. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The crossing Stream S-K53 on ES-3.10 has been revised to indicate that a temporary equipment crossing will be utilized. The temporary equipment crossing typical details, provided on ES-0.10, provide the contractor the ability to use a bridge without a center span up to 40 feet or culvert the crossing.*
7.	**PCCD**	**E&S Plan sheet ES-3.17 identifies that a bore pit is partially located within wetland W-25e; however, the site specific bore plan PPP-PA-PE-0010.0000-AR (from the Chapter 105 permit application) depicts that all bore pits will be located outside of wetlands. Revise the E&S Plan to be consistent and accurate. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*ES-3.17 has been revised so that the bore pit has been moved out of the wetland.*
8.	**PCCD**	**The site specific plan drawing S-Q66-S-Q67-C-101 (from the Chapter 105 permit application) depicts different temporary crossings with timber matting than the E&S Plan sheet ES-3.17. Revise the E&S Plan to be consistent and accurate. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The timber matting on E&S Plan Sheet ES-3.17 has been revised to match the Chapter 105 Permit Application.*
9.	**PCCD**	**E&S Plan sheet ES-3.22 does not accurately delineate wetland J-70 as delineated in the March 2016 Aquatic Resource Report Addendum (from the Chapter 105 permit application). Revise the E&S Plan drawings to accurately delineate this wetland. 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**
	SPLP Response:	*Wetland WL-J70 has been updated on ES-3.22 to accurately depict the wetland as delineated in the March 2016 Aquatic Resource Report Addendum from the Chapter 105 Permit Application.*
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10.	**PCCD**	**E&S Plan sheet ES-3.31 identifies that the proposed temporary timber mat stream crossing over stream S-J62 is in excess of 100-feet in length across the stream. Explain how timber mats will be utilized to construct a temporary bridge of this length. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*A site specific detail has been prepared at this location for Stream S-J62. See sheets S-J62-A and S-J62-B.*
11.	**PCCD**	**E&S Plan sheet ES-3.31 does not delineate stream S-J62 as it is delineated on the Aquatic Resource Report delineation or the site plan drawings (from the Chapter 105 permit application). Revise the E&S Plan to accurately delineate this stream and accurately depicts the stream banks. 25 Pa Code §102.4(b)(5)(v) & §102.4(b)(5)(ix)**

	SPLP Response:	*Stream S-J62 has been updated on Sheet ES-3.31 to match the Chapter 105 permit application and the Aquatic Resource Report. A site specific drawing has been provided on sheet S-J62-A and S-J62-B.*
12.	**PCCD**	**The ATWS areas in the floodway of Stream S-K80 on Sheet 2 of Tab 7A (from the Chapter 105 permit application) are designated for spoil; however, a plan depicting the location of the spoil in conjunction with E&S controls could not be found. Ensure that the E&S Plan demonstrates proper measures to minimize the potential for discharge of fill material to the stream. In addition, the western ATWS is located in the stream; however, the impact table (from the Chapter 105 permit application) does not identify any temporary impacts. Revise the E&S Plan as necessary. 25 Pa Code §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*See Juniata County Technical Deficiencies #1 (Page 37, #1).*
13.	**PCCD**	**The site plan drawing on Sheet 20 of Tab 7A (from the Chapter 105 permit application) and E&S Plan drawing ES-3.32 appear to indicate that stream S-J64 is proposed to be crossed by the proposed pipelines where it currently flows underneath and/or alongside Meadow Road. Provide detailed plans, cross sections, and profiles for the construction of the proposed pipelines and temporary crossing which depict existing and proposed conditions. This includes plans and profiles for any culvert or bridge carrying stream S-J64 underneath Meadow Road. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(v), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*The temporary equipment crossing has been removed. Stream S-J64 is an ephemeral stream running through a culvert on a DCNR SF property. The DCNR requested that SPLP cut most of the DCNR roads, as opposed to boring.*
E&S Plan - Doylesburg Pump Station Technical Deficiencies		
1.	**PCCD**	**The following technical deficiencies are associated with Sheet C-2: 25 Pa Code §102.4(b)(5)(ix)**
	a.	**Verify that all of the Detail Indicators have correct references (e.g. rock filter & rock construction entrance).**
	SPLP Response:	*The detail indicators were checked and updated as necessary to ensure they have correct references.*
	b.	**Proposed grading is shown outside the limit of disturbance for the channel on the east side of the site. Ensure that all earth disturbances are shown within the limit of disturbance. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(iii)**
	SPLP Response:	*There are no proposed features or grading outside of the LOD. This has been clarified by revising drawing line types, which may have made it appear that grading was to occur outside the LOD.*
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	c.	**Clearly identify the existing features versus the proposed features. 25 Pa Code §102.4(b)(5)(iii)**

	SPLP Response:	*Existing features are shown with a light grey line type and all proposed features are shown with a black line type to clarify existing versus proposed features.*
2.	**PCCD**	**Provide a more specific sequence of construction, including site specific information and the specific BMPs that will be employed during each stage of construction. 25 Pa Code §102.4(b)(5)(vii)**
	SPLP Response:	*The construction sequence was made more specific by including more site specific information and the specific BMPs that will be employed during each stage of construction.*
3.	**PCCD**	**Remove "as needed" from Stage 2 of the sequence of construction for the installation of rock construction entrance. This location of this E&S BMP is provided on the plan drawings and it is to be utilized where equipment/traffic will exit the site. 25 Pa Code §102.4(b)(5)(vii) & §102.4(b)(5)(xiv)**
	SPLP Response:	*The phrase "as needed" has been removed.*
4.	**PCCD**	**Remove the reference of silt fence and other BMP from Stage 5 of the sequence of construction. This site located in a special protection watershed (Sherman Creek; HQ-CWF); ABACT BMPs are to be provided and utilized. An alternative would be to provide the necessary information (details, notes, plan view, etc.) to upgrade the silt fence to an ABACT rating using additional E&S BMPs (refer to Page 75 of the E&S Manual). 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(vii), §102.4(b)(5)(ix), §102.4(b)(5)(x), §102.4(b)(6)(ii) & §102.11(a)(1)**
	SPLP Response:	*References to silt fence has been removed from the construction sequence. Silt fence will not be used at the Doylesburg station. ABACT BMPs have been specified in the Plans.*
5.	**PCCD**	**The proposed rock filters provided in the Rock Filters detail on Sheet C-4 are not ABACT rated. In order to be raised to an ABACT rating, the rock filters are to be provided with a 6-in layer of compost on the upslope side (refer to Page 92 of the E&S Manual). Revise the rock filter detail so that the E&S BMP conforms to the ABACT rating for use in the special protection watershed. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(ix), §102.4(b)(6)(ii) & §102.11(a)(1)**
	SPLP Response:	*The detail has been revised to show the 6-inch layer of compost on the upslope side of the rock filters.*
6.	**PCCD**	**The Rock Filters detail provided on Sheet C-4 references a Channel C. Identify Channel C on the plan view and if Channel C is proposed, provide a detail for Channel C. 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*The plan has been revised to indicate that the rock filters will be placed in the existing channel C.*
7.	**PCCD**	**Provide calculations, including the drainage area delineations, for each proposed channel, DEP recommends utilizing Standard E&S Worksheet #11 in Appendix B of the E&S Manual. 25 Pa Code §102.4(b)(5)(viii) & §102.11(a)**
	SPLP Response:	*Worksheet #11 has been filled out for the proposed channels.*

8.	**PCCD**	**Revise the county reference from Huntingdon to Perry in Section 2.0 on Page 2-1 of the E&S Plan Narrative. 25 Pa Code §102.4(b)(5)(iii)**
	SPLP Response:	*The county reference has been revised to indicate Perry County.*
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E&S Plan - York County Technical Deficiencies		
1.	**YCCD**	**Provide site specific instructions to address how the contractor will open trench, bypass the stream flow and restore the 80' wide stream crossing at S-H56. Identify how timber mats will be able to be used at this location, as the existing conditions were observed as an approximately 80' wide boulder strewn field consisting of diabase material. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(vii) & §102.4(b)(5)(ix)**
	SPLP Response:	*A site specific plan drawing of stream S-H56 has been created and can be found on E&S Sheets S-H56-A and S-H56-B.*
2.	**YCCD**	**The waterbars in several locations appear to outlet back onto the right-of-way (e.g. east of stream crossing S-H67, between Stations 10960+00 and 10967+00, between Station 11130+70 and stream crossing S-H59). Provide additional BMPs if the waterbars cannot be extended to discharge the runoff off the right-of-way. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Several waterbars have been re-oriented for better discharge off the right-of-way on E&S Sheet ES-4.08.*
3.	**YCCD**	**Provide discussion related to the use of compost filter sock at Stations 10980+70 & 10984+70, as it t appears that concentrated flow will be directed to the compost filter sock. 25 Pa Code §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*A temporary upslope diversion berm has been added to that area and clean water flow directed to 18" CFS which will function as a level spreader to address this area on ES-4.09.*
4.	**YCCD**	**Identify how access will be maintained for the existing driveways and roadways crossings (e.g. Stations 11011+25, 11086+60, 11107+15, 11111+75, 11119+75 & 11139+25). 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*Access to these existing driveways and trails will be maintained by having road plates available to use for crossing the trench. If requested by the owner, the trench can be plated during off hours to allow access by the landowner. The road surface will be restored in accordance with the landowner agreement.*
5.	**YCCD**	**The slope length to the 12" compost filter sock located along the on the east side of stream crossing S-H60, between Station 11147+00 and stream crossing S-H58 & in the area of stream crossing S-H58 exceed the maximum allowable slope length for the percent slope. Provide an appropriately size E&S BMP in these locations. 25 Pa Code §102.4(b)(5)(vi), §102.4(b)(5)(viii) & §102.4(b)(5)(ix)**

	SPLP Response:	*All E&S BMPs were verified and shown on the plans. Clean water diversions, waterbars, and appropriately sized CFS are shown.*
6.	**YCCD**	**An existing linear clearing is shown to the south of the proposed pipeline starting at Station 11154+00 (on Sheet ES-4.19) and continuing along to the south of the proposed pipeline and then crosses the proposed pipeline at Station 11167+00 (on Sheet ES-4.20). Identify what this existing clearing is for (i.e. existing trail, existing above ground utility, existing below ground utility, etc.). 25 Pa Code §102.4(b)(5)(iii) & §102.4(b)(5)(ix)**
	SPLP Response:	*The linear clearing south of the proposed pipeline on ES-4.19 and ES-4.20 is an existing pipeline.*
7.	**YCCD**	**It appears that there is a portion of the disturbed area near the proposed bore pits at Station 11169+50 (on Sheet ES-4.20) that would not be managed by an E&S BMP, due to the close proximity of the bore pits to the existing stream. Clarify this discrepancy. 25 Pa Code §102.4(b)(5)(iii), §102.4(b)(5)(vi) & §102.4(b)(5)(ix)**
	SPLP Response:	*Additional compost filter sock has been added near the bore pits at Station 11169+50 (on Sheet ES-4.20).*
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Site Restoration and PCSM Plan Narrative - Pennsylvania Pipeline Project - South Central Region: Spreads 3, 4, 5		
1.	**DEP**	**Page 1 is confusing, as it is not clear what this narrative covers. Clearly identify if this narrative covers just the areas that require a PCSM Plan (block valve, stations, etc.) or if the narrative covers the site restoration of the mainline project (under site restoration) and the areas that require a PCSM Plan. 25 Pa Code §102.8(f)(3)**
	SPLP Response:	*The Introduction on Page 1 has been revised to provide clarification. The narrative covers both the areas that will require site restoration as well as the areas that require a PCSM Plan. The site restoration portion of the Site Restoration and Post-Construction Stormwater Management Plan (the "Plan") (Section 3.0) will ensure prompt and effective stabilization of the pipeline right-of-way, associated workspaces, and temporary access roads following pipeline construction, and the PCSM portion of the Plan (Section 4.0) will manage stormwater runoff from the permanent aboveground facilities (block valve sites) associated with the Project.*
2.	**DEP**	**Identify the source and cause of an impairment for any stream which is impaired and not just for the siltation impaired streams. Make all revisions necessary. 25 Pa Code §102.8(f)(5)**
	SPLP Response:	*Table 1 has been updated to include the causes of impairments for the receiving waters that receive runoff from the proposed block valves.*
3.	**DEP**	**Section 2.0 on Page 2 references "This site E&S and Site Restoration Plan..." This is the narrative for post construction. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*Section 2.0 has been revised to remove the reference to the E&S Plan. The E&S Plan is a separate document from the Site Restoration and Post-Construction Stormwater Management Plan.*

4.	**DEP**	**Section 2.0 on Page 2 references 24 new block valve locations, 3 station valves, 1 substation and 3 additional block valves at existing facilities (for a total of 31 sites); however, Table 1 in Attachment 5 only lists 30 sites. Clarify this discrepancy. 25 Pa Code §102.8(f)(3)**
	SPLP Response:	*An explanation for the total number of block valve sites versus the ones that require PCSM is now included in the narrative.*
5.	**DEP**	**Section 2.0 on Page 2 is not clear if the 3 additional block valves at the existing facilities are included in the earth disturbance for the project. Clearly identify if these block valves are included or not; if not, include them in the ESCGP-2 Permit Boundary. Make all revisions necessary. 25 Pa Code §102.5(c) & §102.8(f)(3)**
	SPLP Response:	*An explanation for the total number of block valve sites versus the ones that require PCSM is now included in the narrative. PCSM calculations have been performed for each block valve that proposes new impervious cover. All block valves are included in the earth disturbance for the project.*
6.	**DEP**	**Section 2.1 on Page 4 is not specific to the locations cover by this Plan. Ensure that Plan is related to portions for which is covered by this Plan and ESCGP-2 Permit (i.e. Monongahela River and Cambria County are outside of this Permit application). 25 Pa Code §102.8(f)(3)**
	SPLP Response:	*Section 2.1 on page 4 of the narrative has been updated to reflect topography within the southcentral region that the proposed project traverses.*
7.	**DEP**	**Section 2.3 on Page 5 provides for soil resolutions, but does not identify the site specific soils or their limitations. Provide the site specific soils, limitations and appropriate resolution for this soil limitation for the post construction condition and how the project was designed to address the limitation for the PCSM BMPs. 25 Pa Code §102.8(f)(2), §102.8(f)(12) & §102.8(g)(5)**
	SPLP Response:	*Tables summarizing the site-specific soils, their limitations, and appropriate resolution to address soil limitations for site restoration and the post-construction condition have been added to Attachment 2.*
8.	**DEP**	**Section 2.3 on Page 5 identifies that the receiving surface waters can be seen on the maps and drawings in Attachments 1 & 2; however, the maps and drawings provided in Attachments 1 & 2 do not clearly identify the receiving surface waters. Clearly identify the receiving surface waters as indicated in the narrative. 25 Pa Code §102.8(f)(5) & §102.8(f)(9)**
	SPLP Response:	*An additional set of USGS location maps has been added to Attachment 1. The maps show and label all delineated streams that the project traverses.*
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9.	**DEP**	**Section 2.3 on Page 5 references to see the E&S Plan. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**

	SPLP Response:	*The reference to the Erosion and Sediment Control plan has been removed.*
10.	**DEP**	**The following technical deficiencies are associated with the construction sequence in Section 3.1 starting on Page 7: 25 Pa Code §102.8(f)(7)**
	a.	**It is identified that "It is not intended that the drawings and this report show detailed information on methods and materials." This statement does not meet regulations. The E&S and PCSM Plans shall be final for construction, and the information, details and provide the methods and materials to properly construct and implement the Plans, including the BMPs, within the construction sequences associated with these Plans. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The referenced statement has been removed from the Plan.*
	b.	**The narrative identifies that the contractor can deviate from the authorized E&S and PCSM Plans based upon field conditions. A deviation from the authorized plans may be necessary under certain limited circumstances; however, the appropriate county conservation district and DEP have to approve any deviation to the authorized plans. Make all revisions necessary to clearly identify this requirement.**
	SPLP Response:	*Language has been added to the construction sequence to specify that the appropriate county conservation district and DEP shall be contacted and must approve any deviation from the authorized plans.*
	c.	**Provide a schedule of inspections for critical stages of PCSM BMP installation with the construction sequence.**
	SPLP Response:	*Installation of PCSM BMPs is discussed in Section 4.1 The schedule for inspections and maintenance of PCSM BMPs is provided in Section 4.5.*
11.	**DEP**	**More information is required to properly identify what the "Adverse Sites" are or how to identify them in Permanent Seeding sections in Section 3.1 on Page 7 and Section 4.1 on Page 18. 25 Pa Code §102.8(f)(6)**
	SPLP Response:	*Sections 3.1 and 4.1 have been updated to provide an explanation of adverse sites so the appropriate seeding rate can be determined onsite.*
12.	**DEP**	**Footnote 7 on Pages 8 & 19 for the Permanent Seeding section tables references extreme southeastern and extreme southwestern areas. If this is not applicable to the area covered by this ESCGP-2 Permit, then remove the reference. If this is applicable to the area covered by this ESCGP-2 Permit, then provide a more specific reference as to where it is acceptable. 25 Pa Code §102.8(f)(6)**
	SPLP Response:	*Footnote 7 of the Permanent Seeding section has been removed because it does not apply to the Project. The footnotes have been renumbered, and seed mixture 9 has been removed from the table that recommends seed mixtures for site conditions.*

13.	**DEP**	**Section 3.2 on Page 11 and Section 4.2 on Page 22 are not sufficient as they do not provide for procedures which ensure that the proper measures for recycling or disposal of materials associated with or from the PCSM BMPs are in accordance with Department laws, regulations and requirements. 25 Pa Code §102.8(f)(11)**
	SPLP Response:	*Section 3.2 has been revised to be specific to recycling and disposal of materials associated with site restoration activities. Section 4.2 has been revised to provide information specific recycling and disposal of materials associated with or resulting from PCSM BMPs.*
14.	**DEP**	**Section 3.3 on Page 11 is not sufficient as there is no clear demonstration that the thermal impacts will be mitigated by the minimized clearing during construction and by permanent stabilization as soon as practicable. This thermal impact analysis appears to be more for the E&S Plan than for the PCSM Plan. Provide an appropriate thermal impact analysis specific to the PCSM Plan for this location. 25 Pa Code §102.8(f)(13)**
	SPLP Response:	*Section 3.3 has been updated to provide a discussion of thermal impacts specific to the site restoration phase of the project. The thermal impact analysis for the PCSM phase of the project is provided in Section 4.3 of the narrative.*
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15.	**DEP**	**Section 3.4 on Page 11 and Section 4.4 on Page 29 provide information related to the riparian buffer/riparian forest buffer waiver request. Identify if this information is in addition to the information provided with the NOI. Provide all riparian/riparian forest buffer waiver request information in one place together. 25 Pa Code §102.14(d)(2) & §102.14(d)(3)**
	SPLP Response:	*Sections 3.4 and 4.4 are intended to be a summary of the information provided with the NOI. The riparian forest buffer waiver request within the NOI provides all information in one location.*
16.	**DEP**	**Section 3.5 on Page 13 appears to have information related to the E&S Plan and activities during construction are included in this narrative. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. 25 Pa Code §102.4(b)(5)(xiv), §102.8(d) & §102.8(f)(10)**
	SPLP Response:	*Section 3.5 has been revised to remove references to E&S BMPs. This section is now specific to inspection and maintenance during site restoration activities.*
17.	**DEP**	**If the information provided in Section 3.9 is not a sufficient antidegradation analysis. The narrative identifies that non-discharge alternatives were evaluated; however, there is no discussion related to show what was evaluated. It appears that the discussion is focus on the E&S Plan and during the earth disturbance activities; provide an antidegradation analysis for the PCSM Plan. Provide an antidegradation analysis for each point of discharge that requires one. 25 Pa Code §102.8(d), §102.8(f)(6) & §102.8(h)**
	SPLP Response:	*Section 3.6 has been expanded to discuss the non-discharge alternatives and Due to the linear nature of this project all of the HQ/EV special protection watersheds received the same non discharge alternative evaluation and incorporation of ABACT site restoration BMPs was applied throughout the pipeline.*

18.	**DEP**	**The narrative discussion in Section 3.7 on Page 14 is not clear as to what is being discussed; site restoration or post construction. If the activities are site restoration and meet 25 Pa Code §102.8(n), then a stormwater analysis is not required. If the activities are site restoration and the Site Restoration Plan was planned and designed to 25 Pa Code §102.8(n), then clearly identify that as such along with which areas are included in the Site Restoration Plan. 25 Pa Code §102.8**
	SPLP Response:	*Section 3.7 has been revised to clarify the intent of the section. The section addresses site restoration activities which were planned and designed in accordance with 25 Pa Code § 102.8(n). All areas of the project, excluding the permanent block valve sites and associated permanent access roads, are addressed by Section 3.7.*
19.	**DEP**	**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)**
	SPLP Response:	*A site restoration narrative has been added to the E&S plan for the mainline pipeline construction. In addition, Section 3.0 of the Site Restoration and Post-Construction Stormwater Management Plan discusses site restoration for the mainline pipeline. The narratives are in conformance with the E&S Plan for the project.*
	b.	**Provide more identification in the narratives and on the plan drawings related to topsoil segregation. 25 Pa Code §102.8(f)(3), §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*Topsoil will be stockpiled separate from subsoil in all areas where topsoil is present. Specific topsoil stockpile locations will be determined during construction but will conform to the requirements in the general notes and details on the plan drawings. The right of way detail shows the general topsoil stockpile location relative to the pipe trench and subsoil stockpile, and the soil stockpile detail shows the perimeter E&S BMPs that shall be installed downslope of topsoil stockpiles. The site restoration construction sequence has been updated to provide specifications for backfilling topsoil after final grades are established.*
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	c.	**Provide more identification in the narratives and on the plan drawings related to loosening of compacted soils prior to topsoil placement and stabilization (at the temporary access roads, topsoil stockpiles, access routes along the mainline, etc.). 25 Pa Code §102.8(f)(3), §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*The site restoration construction sequence has been updated in the Site Restoration and Post-Construction Stormwater Management Plan narrative and on the applicable drawing sets. The sequence now specifies chisel plowing or incorporating soil amendments where compaction occurs. The sequence also specifically addresses restoration of access roads.*

	d.	**Provide a discussion of measures that will be taken to avoid and minimize compaction to the maximum extent practicable and where compaction occurs, what measures will be taken to ensure adequate infiltration and successful vegetation of the right of way. §102.8(b) & §102.22. The Department recommends you evaluate Section 6.7 (Restoration BMPs) of the PCSM Manual. Ensure notes are included on the drawings and in the documents that will be provided to the construction contractors.**
	SPLP Response:	*Compaction concerns are restricted to the limit of disturbance, which has been minimized to the maximum extent practicable. Within the pipeline right of way, travel lanes will be utilized to restrict the extent of compaction. Following installation of the pipeline, deep ripping or chisel plowing will occur to alleviate compaction, promote infiltration, and facilitate vegetative growth. The site restoration construction sequence has been updated in the Site Restoration and Post-Construction Stormwater Management Plan narrative and on drawing PCS-0.01. The sequence now specifies chisel plowing or incorporating soil amendments where compaction occurs. The sequence also specifically addresses restoration of access roads.*
	e.	**Describe how your planning and design requirements satisfy 25 Pa Code §102.8(b) and are minimizing the extent and duration of the construction and the minimizing any increase in stormwater runoff. Identify how these measures are satisfied when the ROW is in close proximity or is crossings surface waters or wetlands.**
	SPLP Response:	*In accordance with 25 Pa Code § 102.8(b), the following principles have been incorporated into the project design in accordance with the numbering in 25 Pa Code § 102.8(b): (1) The integrity of stream channels and the physical, biological, and chemical qualities of the receiving waters will remain unchanged. The project has been design with E&S and PCSM BMPs that protect the existing and designated uses of the receiving waters. The BMPs ensure that water which leaves the project site will not affect the physical, biological, or chemical qualities of the receiving waters. (2)(3) PCSM BMPs have been designed in accordance with the Pennsylvania Stormwater Best Practices Manual to ensure that there will be no increase in stormwater runoff rates or volume as a result of installing impervious surfaces as part of the project. All other areas of the project will be restored to a meadow or lawn in good condition, thereby meeting the requirements set forth in 25 Pa Code § 102.8(n). (4) Proposed impervious surfaces have been minimized to the maximum extent practicable. Temporary access roads will be restored to a vegetated condition following installation of the pipeline. The impervious cover at permanent block valve facilities has been minimized by removing gravel from turnaround areas, using existing roads where feasible, and co-locating valve sites at existing block valve locations. (5) Existing drainage features and vegetation will be protected by restoring the project area back to its original grade, with the exception of the permanent block valve facilities. As a result, drainage features and existing vegetation surrounding the project area will be preserved. (6) Land clearing and grading will be minimized because the project area has been minimized to the area required to safely install the natural gas pipelines. (7) Soil compaction will be minimized by utilizing travel lanes within the pipeline right of way. Following construction, areas that have been compacted will be roughened or chisel plowed or soil amendments will be incorporated prior to backfilling topsoil and seeding. (8) PCSM BMPs have designed to ensure that there will be no increase in stormwater runoff rates or volume at block valve sites. All other areas of the project will be restored to a vegetated or lawn condition which will prevent or minimize changes in stormwater runoff.*

	f.	**Provide an antidegradation analysis addressing the requirements of 25 Pa Code §102.8(h) for the portions of the project that drain to HQ or EV surface waters. Ensure that areas where there may be concentrated stormwater runoff that there are adequate BMPs to control the volume, rate and water quality from the site. 25 Pa Code §102.8(f)(6)**
	SPLP Response:	*Section 3.6 has been expanded to discuss the non-discharge alternatives and due to the linear nature of this project all of the HQ/EV special protection watersheds received the same non discharge alternative evaluation and incorporation of ABACT site restoration BMPs was applied throughout the pipeline.*
20.	**DEP**	**It appears that additional information is necessary for Section 4.0 on Page 16. Provide additional information related to all areas covered by the PCSM Plan. 25 Pa Code §102.8(f)(6)**
	SPLP Response:	*Section 4.0 has been updated to provide clarification regarding the portions of the project area which are covered under that section.*
21.	**DEP**	**The following technical deficiencies are associated with the construction sequence in Section 4.1 starting on Page 16: 25 Pa Code §102.8(f)(7)**
	a.	**It is identified that "It is not intended that the drawings and this report show detailed information on methods and materials." This statement does not meet regulations. The E&S and PCSM Plans shall be final for construction, and the information, details and provide methods and materials to properly construct and implement the Plans, including the BMPs, within the construction sequences associated with these Plans. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The referenced statement has been removed from the Plan.*
	b.	**The narrative identifies that the contractor can deviate from the authorized E&S and PCSM Plans based upon field conditions. A deviation from the authorized plans may be necessary in certain limited circumstances; however, the appropriate county conservation district and DEP have to approve any deviation to the authorized plans. Make all revisions necessary to clearly identify this requirement.**
	SPLP Response:	*Language has been added to the construction sequence to specify that the appropriate county conservation district and DEP shall be contacted and must approve any deviation from the authorized plans.*
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	c.	**Provide a schedule of inspections for critical stages of PCSM BMP installation.**
	SPLP Response:	*A schedule of inspections for the critical stages of PCSM BMP installation has been provided for the various PCSM BMPs utilized across the project.*

	d.	**More information is required related to how to properly excavate/construct the individual PCSM BMPs. Step 2 for the Infiltration Berm is not sufficient, as it is not directive enough for the contractor to ensure that the infiltration area will not be compacted. Step 2 for the Infiltration Trench, provide measures for how the area will be protected. Provide additional information identifying how the areas will be constructed/excavated to ensure that compaction does not occur.**
	SPLP Response:	*Additional information has been added to the infiltration berm and infiltration trench construction sequences to provide specific recommendations for avoiding compaction. Orange construction fencing will be placed around ponding areas (infiltration areas), and construction techniques will be utilized to avoid compaction.*
	e.	**The following technical deficiencies are related to the steps for the Infiltration Trench:**
	i.	**i. Step 3: If it is not possible to install the trench in later phases of site construction, identify how the trench will be protected from sedimentation and damage.** **ii. Step 4: This step appears to be out of order, as the E&S BMPs should be installed prior to construction of the infiltration trench. Clarify why this step is not earlier.** **iii. Steps 8 & 9: Identify what "lightly compacting" means.**
	SPLP Response:	*i. Language has been added to the infiltration trench construction sequence to specify that compost filter sock shall be placed upslope of any infiltration trenches which are constructed in the early phases of construction.* *Ii. The infiltration trench construction sequence has been reordered to specify installation of E&S BMPs prior to construction of the trench.* *iii. Clarification has been provided for the term "lightly compacting." Light compaction of the aggregate will ensure that it won't settle below the intended top elevation of the trench over time. Care will be taken so as not to compact the subgrade during light compaction of the aggregate lifts.*
22.	**DEP**	**The following technical deficiencies are associated with Section 4.3 on Page 22: 25 Pa Code §102.8(f)(13)**
	a.	**The table only provides for 23 site locations. Clarify this number of site locations versus the previously provided number of site locations.**
	SPLP Response:	*Section 4.3 has been revised to include all of the proposed block valve locations that require stormwater management.*
	b.	**The narrative discussions reference multiple BMPs at each site; however, Section 4.6 on Page 32 references a singular BMP for each site. Clarify this discrepancy, and clearly identify how many BMPs are proposed for each site location.**
	SPLP Response:	*Section 4.6 has been updated to reflect PCSM design changes as a result of comments on PCSM calculations. All proposed block valve sites which drain to a special protection watershed will utilize two BMPs in series to meet the antidegradation requirements outlined in the Pennsylvania Stormwater Best Practices Manual.*

23.	**DEP**	**The following technical deficiencies are associated with Section 4.5 starting on Page 30: 25 Pa Code §102.8(f)(10)**
	a.	**It appears that information related to the E&S Plan and activities during construction are included in this narrative. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*All information relating to inspection and maintenance of E&S BMPs has been removed from the Site Restoration and Post-Construction Stormwater Management Plan.*
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	b.	**Provide a demonstration that inspecting the infiltration only 4 times per year is sufficient to ensure proper function and operation.**
	SPLP Response:	*The inspection and maintenance schedule has been updated to comply with the Pennsylvania Stormwater Best Practices Manual, at a minimum. Infiltration berms will be inspected after the first major storm event and then inspected at least 4 times per year. Infiltration trenches, soil amendments, and slow-release trenches will also be inspected at least 4 times per year. The inspection and maintenance schedule now provides clarification that any PCSM BMPs which are constructed prior to stabilization of contributory upslope drainage areas will be inspected weekly and after runoff events until the area achieves stabilization. Following stabilization of the contributory drainage areas, 4 inspections per year will ensure proper functionality of PCSM BMPs. It is not anticipated that irreversible damage will occur between the quarterly inspections.*
	c.	**No information is provided related to inspecting the infiltration BMPs to ensure that they are dewatering. Ensure that appropriate repair, replacement and other routine maintenance is provided.**
	SPLP Response:	*The inspection and maintenance schedule has been updated for PCSM BMPs to ensure that they will dewater and function properly.*
	d.	**Ensure that appropriate long-term operation and maintenance schedules are provided for all PCSM BMPs (including any and all PCSM BMPs utilized on PCSM Standard Worksheet #10).**
	SPLP Response:	*Long term operation and maintenance schedules are now provided for all PCSM BMPs in both the narrative and on the plan drawings.*
24.	**DEP**	**The following technical deficiencies are related to Section 4.6 starting on Page 32: 25 Pa Code §102.8(f)(15) & §102.8(h)**
	a.	**The narrative identifies that the project site was designed to minimize the amount of impervious area; however, there is no discussion related to show how this was achieved or evaluated.**
	SPLP Response:	*Section 4.6 has been updated to provide a demonstration that the proposed impervious area was minimized at each block valve site. In summary, the impervious footprint at each block valve site is the minimum area required to safely construct and operate the block valve. The turnaround areas, which were previously proposed as impervious cover, are now proposed to be vegetated. In addition, two block valves (Blainsport and Plainfield) are now co-located at existing pump stations, and the footprint of several block valve sites has been reduced by utilizing areas of existing impervious cover.*

	b.	**It does not appear that non-discharge alternatives were evaluated. Clearly provide the discussion related to the evaluation of non-discharge alternatives.**
	SPLP Response:	*Section 4.6 has been updated to provide a discussion related to the evaluation of non-discharge alternatives.*
	c.	**Identify What "resultant stormwater" is.**
	SPLP Response:	*The phrase has been revised. Resultant stormwater is referring to the stormwater runoff from the proposed impervious surface.*
	d.	**Clearly identify how the site will be promptly restored/stabilized.**
	SPLP Response:	*A discussion relating to prompt site stabilization has been added to Section 4.6.*
	e.	**Provide the demonstration as to how cuts and fills were minimized.**
	SPLP Response:	*A discussion relating to the minimization of cut and fill slopes has been added to Section 4.6.*
	f.	**Provide additional information to support the claim that pre-construction drainage patterns will be maintained.**
	SPLP Response:	*A discussion relating to pre-construction drainage patterns being maintained is included in Section 3 of the narrative which discusses Site Restoration of the mainline pipeline.*
25.	**DEP**	**The following technical deficiencies are associated with Section 4.7 starting on Page 36: 25 Pa Code §102.8(g)**
	a.	**Provide the drainage area maps with the PCSM Plan, not as part of the E&S Plan. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The pre and post drainage area maps are now provided with the PCSM Plan.*
	b.	**In the seventh sentence of the second paragraph, clarify if the reference to "stormwater runoff" is just for volume.**
	SPLP Response:	*The sentence has been adjust to clarify that the term "stormwater runoff" refers to both stormwater runoff volume and stormwater runoff rates.*
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	c.	**Provide a narrative discussion as to how water quality is being managed. 25 Pa Code §102.8(g)(2)**
	SPLP Response:	*A discussion relating to water quality has been added to Section 4.7.*
	d.	**The regulatory requirement is to manage post construction stormwater for storm events of a 24-hour duration. Make all revisions to appropriately identify the storm events. 25 Pa Code §102.8(g)(2) & §102.8(g)(3)**

	SPLP Response:	*The PCSM Plan has been revised to clarify that storm events of a 24-hour duration have been used in the analysis.*
	e.	**Identify to what standards the PCSM Plan was designed and planned to (i.e. Act 167 Plan, 25 Pa Code §102.8(g)(2) & §102.8(g)(3), or an alternative design standard per 25 Pa Code §102.8(g)(2)(iv) & §102.8(g)(3)(iii)).**
	SPLP Response:	*The PCSM design was designed in accordance with §102.8(g)(2) and §102.8(g)(3). Where feasible, the PCSM design aimed to achieve the applicable Act 167 Plan. Site-specific discussion relating to PCSM design standards is included in the individual write-ups that accompany each set of calculations in Attachment 4.*
	f.	**The following technical deficiencies are associated with the Loading Ratio Analysis: 25 Pa Code §102.8(f)(6), §102.8(f)(8), §102.8(f)(15), §102.11(a)(2) & §102.11(b)**
		i. Identify how it was determined that the failure of a BMP is defined as when the BMP does not dewater within 72 hours. The failure of a PCSM BMP would occur if the BMP is not operating and functioning as designed. Make all revisions necessary. **ii. The provided information is not sufficient to demonstrate that the proposed alternative BMP and design standard will achieve the same regulatory standard as the recommendations of the PCSM Manual. Provide this clear demonstration.** **iii. Identify what the proposed loading ratios are for each PCSM BMP.** **iv. There are several sites located in karst geology (e.g. Middlesex Road location), and Protocol 2.2.e in Appendix C of the PCSM Manual recommends an impervious loading ratio of 3:1 for infiltration BMPs in karst areas. However, the provided analysis does not appear to account for or include discussions for those sites in karst areas. Make all revisions necessary.**
	SPLP Response:	*i. Clarification has been added to the narrative. Failure of the BMP would occur if the BMP is not operating and functioning as designed. For all of the proposed PCSM BMPs, this includes dewatering within 72 hours.* *Ii. Clear demonstration is now provided to prove that any sites which do not achieve the drainage area loading ratio will achieve the same regulatory standard as the recommendations in the PA Stormwater BMP Manual.* *iii. The proposed loading ratios for each PCSM BMP are now identified.* *iv. Language regarding the importance of loading ratios has been revised to indicate that they are a PCSM BMP design element which helps to ensure that BMPs are properly designed.* *v. The loading ratio analysis has been revised to account for karst geology and the desire to achieve an impervious loading ratio of 3:1 in karst areas.*

26.	**DEP**	**Section 5.0 on Page 54 references the Pennsylvania Stormwater Best Management Practices Manual Draft, Pennsylvania Department of Environmental Protection, Bureau of Watershed Management, October, 2009. This referenced manual is not the current PCSM Manual. The current PCSM Manual is dated December 30, 2006 with DEP Document No. 363-0300-002. Identify the DEP Document Number for the referenced manual. If the PCSM Plan and BMPs were not designed to the current version of the PCSM Manual, then all designs shall be considered an alternative BMP and design standard. Provide all required information and make all revisions necessary. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Section 5.0 has been corrected to reference DEP Document Number 363-0300-002, Department of Environmental Protection Bureau of Watershed Management Pennsylvania Stormwater Best Management Practices dated December, 2006. This manual was used for development of the PCSM Plan and the design of the PCSM BMPs.*
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27.	**DEP**	**Verify that the Receiving Waters Table clearly identifies the receiving surface waters and their Designated and Existing Uses. Hay Creek is identified with a Designated Use of Exceptional Value (EV) and with an Existing Use of High Quality (HQ) Cold Water Fishes (CWF); however, there is no section of Hay Creek with these Uses together. If the project discharges to the same surface water but in different segments with different Uses; then identify each segment and its Uses. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(v), §102.6(1) & §102.8(0(5)**
	SPLP Response:	*After clarification from the SCRO, a column has been added to the Stream and Wetlands Tables Attachment in the NOI, where applicable, to identify the existing uses of receiving waters. Also, a row has been added to indicate where any stream crosses the pipeline with a different designated or existing use.*
28.	**DEP**	**Protocol 2.1.c in Appendix C of the PCSM Manual recommends soils underlying infiltration devices to have infiltration rates between 0.1 and 10 in./hr. Protocol 2.1.c also recommends that soils with rates in excess of 6.0 in./hr. may require an additional soil buffer (such as an organic layer over the bed bottom) if the Cation Exchange Capacity is less than 5 and pollutant loading is expected to be significant. If the tested/raw infiltration rates are outside the recommendations of the PCSM Manual, then submit additional information which demonstrates that the proposed alternative BMP and design standard will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §91.51(a), §102.8(f)(6), §102.8(f)(15), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*While pollutant loading is not expected to be significant, soil amendments which will include organic compost or a layer or topsoil will be placed within the ponding area of the BMP to improve the cation exchange capacity where raw infiltration rates consistency exceed 6 in/hr. Justification for infiltrating in areas that yielded infiltration rates above 10 in/hr is provided in the write-up that accompanies the PCSM calculations for the individual block valve sites.*
29.	**DEP**	**Provide a narrative discussion related to the planning and design of the PCSM BMPs for site located in karst areas. 25 Pa Code §102.8(f)(2), §102.8(f)(6), §102.8(f)(12), §102.8(f)(15) & §102.8(g)(5)**

	SPLP Response:	*A narrative discussion regarding karst topography has been added to Section 4.7 of the narrative. A Sinkhole Repair Plan has also been added to Attachment 2.*
30.	**DEP**	**Provide the dewatering calculations for all PCSM BMPs. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*Dewatering calculations are now provided for all PCSM BMPs as a part of this comment response package following Worksheet 10.*
31.	**DEP**	**The following technical deficiencies are associated with Attachment 3: 25 Pa Code §102.8(f)(6)**
	a.	**Details for E&S BMPs are provided. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The E&S BMP details have been removed from the Site Restoration and Post-Construction Stormwater Management Plan.*
	b.	**The Berm Detail is not consistent with the Infiltration Berm Detail provided in the PCSM Plan drawings. Clarify this discrepancy. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The details have been revised for consistency.*
	c.	**Identify why a portion of Chapter 6 of the PCSM Manual is provided related to an infiltration trench.**
	SPLP Response:	*The referenced pages have been removed from Attachment 3 and have been replaced with the infiltration trench detail being used for this project.*
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32.	**DEP**	**The following technical deficiencies are associated with Attachment 4: 25 Pa Code §102.8(f)(8), §102.8(g)(2), §102.8(g)(3) & §102.8(g)(4)**
	a.	**It is not clear how the rainfall depths were determined. Clearly identify, how the utilized rainfall depths were determined for each location (i.e. regulator station, compressor station, permanent access road, etc.). Chapter 8 (Page 6) of the PCSM Manual recommends utilizing the rainfall data from the NOAA Atlas 14. If the recommendations of the PCSM Manual are not followed, then provide a demonstration which identifies how the alternative BMP and design standard will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §102.8(f)(15), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The rainfall depths used in the calculations for every location in Attachment 4 were obtained from NOAA Atlas 14.*
	b.	**Identify the breakdown for the Curve Numbers (CN) used in the hydrograph analyses.**
	SPLP Response:	*The CN breakdowns are provided on the Hydraflow output within each Hydrograph Report.*

	c.	**Ensure that the Major River Basins (e.g. Susquehanna, Ohio, Schuylkill, etc.) are properly identified in PCSM Standard Worksheet #1.**
	SPLP Response:	*The PCSM Standard Worksheet #1's for each site have been evaluated and revised where necessary to properly identify the major river basins.*
	d.	**Identify the existing sensitive natural resource identified in PCSM Standard Worksheet #2. 25 Pa Code §102.8(g)(1)**
	SPLP Response:	*The existing sensitive natural resources identified on PCSM Standard Worksheet #2 are shown on the pre-development PCSM drawings in Attachment 6.*
	e.	**PCSM Standard Worksheet #4 uses gravel as a ground cover. However, the type of gravel that will be utilized for the pad and drives is not clearly identified in the PCSM Plan drawings. Properly identify what type of gravel will be used. If PennDOT #2A will be utilized provide discussion as to why it wasn't analyzed as an impervious area (as PennDOT #2A acts like an impervious surface due its fines and its ability to be compacted).**
	SPLP Response:	*All areas shown as gravel will use AASHTO #57 stone choked with sand. Details have been revised accordingly.*
	f.	**Provide the latest version of the PCSM Standard Worksheet #5. Identify/provide calculations as to how the volume to be permanently reduced was calculated.**
	SPLP Response:	*The latest version of PCSM Standard Worksheet #5 is provided for each drainage area. The volume to be permanently reduced has been calculated as the lowest value amongst (i) the drainage area runoff volume, (ii) the storage volume of the berm and (iii) the infiltrated volume within 72 hours after the 2-year/24-hour storm event.*
	g.	**Provide the calculations for each Time of Concentration Adjustment. Ensure that these calculations identify the storage volume utilized and how that storage volume was calculated. The storage volume used in these calculations is the storage volume utilized for the storm event, not the total possible storage of the BMP. Make all revisions necessary.**
	SPLP Response:	*Detailed calculations for the Time of Concentration Adjustment method have been provided for each site. Additionally, the adjustment calculations have been revised to only utilize the storage volume for the storm event rather than the total possible storage of the BMP.*
	h.	**PCSM Standard Worksheet #10 identifies PCSM BMPs to be utilized; however, there is little to no information related to these PCSM BMPs provided throughout the PCSM Plan narrative and drawings. Provide the regulatory required information for each PCSM BMP utilized in the design (e.g. narrative discussion, long-term operation and maintenance schedule, plan location, etc.). 25 Pa Code §102.8(f)(6), §102.8(f)(7), §102.8(f)(9) & §102.8(f)(10)**
	SPLP Response:	*Additional information has been added to the narrative regarding the proposed PCSM BMPs, including a narrative discussion and long-term operation and maintenance.*

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	i.	**In order to be able to utilize PCSM Standard Worksheet #10, 90% of the disturbed area has to be controlled/managed by a PCSM BMP (refer to Flow Chart D in Chapter 8 of the PCSM Manual). Provide the demonstration that 90% of the disturbed area at each site (individually) is controlled/managed by a PCSM BMP (e.g. it appears that less than 90% of the disturbed area is being controlled/managed by a PCSM BMP at the Juniata River West Block Valve site). If less than 90% of the disturbed area is being controlled/managed by a PCSM BMP, then water quality management can be shown through PCSM Standard Worksheets # 12 & 13 (for TSS, TP & NO_3). Make all revisions necessary. 25 Pa Code §102.8(f)(6) & §102.11(a)(2)**
	SPLP Response:	*Drainage area maps for the pre and post construction conditions which include contour information at a legible scale area now provided for each of the PCSM sites. 90% of the disturbed areas are now controlled and managed by a PCSM BMP at each of the sites. As a result, Worksheets 12 and 13 are not needed.*
	j.	**Provide drainage area maps for the pre and post construction conditions, including contour information, at a legible scale. The drainage area maps on USGS Quads are not appropriate, as their scale is too large.**
	SPLP Response:	*The drainage areas used have been reevaluated and many of the drainage areas have been revised to encapsulate only the disturbed areas required for construction of the proposed block valve pads and associated access roads as well as the selected PCSM BMPs.*
	k.	**Provide discussion as to why such large drainage areas are analyzed for each site. 25 Pa Code §102.8(f)(15)**
	SPLP Response:	*The drainage areas used have been reevaluated and many of the drainage areas have been revised to encapsulate only the disturbed areas required for construction of the proposed block valve pads and associated access roads as well as the selected PCSM BMPs.*
	l.	**Valley Forge site:**
	i.	**It appears that the hydrograph combination for the Post without BMPs is not returning an accurate result. The combination peak rate being returned is less than the largest peak of the contributing hydrographs. Verify that the combination hydrographs are accurate.**
	SPLP Response:	*The pre and post development calculations for the Valley Forge site have been updated based on other design comments and the provided hydrographs have been updated and are accurate.*
	m.	**Juniata River West site:**

	i.	**The Post With BMPs identifies an increase of 0.03 cfs in the runoff rate for the 50-year/24-hour storm event and an increase of 0.01 cfs in the runoff rate for the 100-year/24-hour storm event. These increases do not meet 25 Pa Code §102.8(g)(3). Provide the demonstration of an alternative design standard per 25 Pa Code §102.8(g)(3)(iii).**
	SPLP Response:	*The Juniata River West site has been renamed "Juniata Valley Road" as part of these responses. The pre and post development calculations for the Juniata Valley Road site have been updated based on other design comments. The revised calculations no longer identify an increase in the runoff rate for any of the post storm events, therefore, a demonstration of an alternative design standard is not required.*
	n.	**Juniata River East site:**
		i. Identify the Area in PCSM Standard Worksheet #5. **ii. The Post With BMPs identifies an increase of 0.13 cfs in the runoff rate for the 100-year/24-hour storm event. This increase does not meet 25 Pa Code §102.8(g)(3). Provide the demonstration of an alternative design standard per 25 Pa Code §102.8(g)(3)(iii).**
	SPLP Response:	*The Juniata River East site has been renamed "High Street" as part of these responses. The pre and post development calculations for the High Street site have been updated based on other design comments. The revised calculations no longer identify an increase in the runoff rate for any of the post storm events, therefore, a demonstration of an alternative design standard is not required.*
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	o.	**Raystown Road site:**
		i. Identify the site consistently. Other locations in the narrative identify this site as SR 26 Raystown Road. **ii. The predevelopment drainage area analyzed is 2.81 acres; however, the post development drainage areas analyzed are 2.37 acres (Undetained = 1.43 ac. + Detained 0.94 ac.). Provide the discussion as to why the post development conditions analyzed 0.44 ac. less than the predevelopment conditions.** **iii. Rename the post drainage area hydrographs to from SR29 to SR26.**
	SPLP Response:	*Revisions have been made to correctly identify the site name as "Raystown Road" throughout the calculations, drawings, narratives, and figures. The pre and post development condition calculations have been revised to show the same overall surface area with the 0.44 acre discrepancy corrected.*
	p.	**Raystown Lake West site:**

		i. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4. **ii. Identify how a volume reduction is shown on PCSM Standard Worksheet #5 when Table 1 in Attachment 5 identifies "N/A" for an infiltration rate.** **iii. The project is proposing an increase in impervious/gravel area, which will increase the runoff, however, the calculations show a reduction in runoff rate without implementing the PCSM BMPs. Provide discussion as to how the runoff rate is being reduced without the use of PCSM BMPs. 25 Pa Code §102.8(f)(15)**
	SPLP Response:	*The referenced block valve site is no longer proposed as an impervious surface. Due to various site constraints, it was not feasible to accommodate stormwater management BMPs within the project area. The access road and block valve will be graded as shown on the plan, and geoweb will provide structural support and maintain void space. The geoweb will be filled with soil and vegetated to a meadow in good condition, thereby eliminating the necessity to perform stormwater management calculations.*
	q.	**Happy Hills site:**
		i. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4. **ii. Verify that all hydrograph printouts are provided. It appears that the post development hydrographs are not included and that the hydrographs provided may be out of sequence.** **iii. Identify if a Time of Adjustment used for this site, as there are no Post with BMPs hydrographs provided. The Post without BMPs identifies an increase of 0.01 cfs in the runoff rate for the 2- & 10-year/24-hour storm events. These increases do not meet 25 Pa Code §102.8(g)(3). Provide the demonstration of an alternative design standard per 25 Pa Code §102.8(g)(3)(iii).**
	SPLP Response:	*The CN for forest/woods land use has been revised to reflect woods in "good" condition which results in a lower CN as compared to meadow condition. The drainage area maps, land use figures, and calculations have been revised and made consistent. All post development hydrographs are now included and are ordered in the correct sequence. Details of the time of concentration adjustment method for this site have also been included. The revised calculations no longer identify an increase in the runoff rate for any of the post storm events, therefore, a demonstration of an alternative design standard is not required.*
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	r.	**PA 655 site:**

		i. Verify the Major River Basin as the Ohio River, as identified on PCSM Standard Worksheet #1. **ii. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4.** **iii. Clearly identify which contributing drainage area worksheets go to which berm.** **iv. Provide consistency in the naming conventions for the drainage areas between the maps and hydrographs. The maps identify DA-1 as undetained, DA-2 as detained and DA-3 as detained; however, the hydrographs utilized Detained 1 and Detained 2.**
	SPLP Response:	*The PA 655 site has been renamed "Hares Valley Road" as part of these responses. The Major River Basin identified on PCSM Standard Worksheet #1 has been corrected to show Juniata River. The CN for forest/woods land use has been revised to reflect woods in "good" condition which results in a lower CN as compared to meadow condition. The drainage area maps, land use figures, and calculations have been revised and made consistent.*
	s.	**Shade Valley Highway site:**

		i. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4. **ii. Clearly identify which contributing drainage area worksheets go to which berm.** **iii. The calculations on PCSM Standard Worksheet #5 utilize an infiltration time of 12 hours. Provide justification for use of an infiltration time of 12 hours versus the recommended infiltration time of 2 hours or the Time of Concentration (whichever is greater) from Chapter 6 of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)** **iv. PCSM Standard Worksheet #5 identifies a volume permanently reduced of 1,173 cf; however, the contributing drainage area worksheets identify on 951 cf generated in the storm event. Clarify this discrepancy. Make all revisions necessary.** **v. Provide consistency in the naming conventions for the drainage areas between the maps and hydrographs. The maps identify DA-1 as undetained, DA-2 as detained and DA-3 as detained; however, the hydrographs utilized Detained 1 and Detained 2.** **vi. Provide consistency in the naming conventions for the drainage areas between the maps and hydrographs. The maps identify DA-1 as undetained, DA-2 as detained and DA-3 as detained; however, the hydrographs utilized Detained 1 and Detained 2.** **vii. Provide all hydrographs and information for all regulatory storm events in all conditions. Make all revisions necessary.** **viii. Identify is infiltration testing and soil probes were performed for Infiltration Berm A.**
	SPLP Response:	*The CN for forest/woods land use has been revised to reflect woods in "good" condition which results in a lower CN as compared to meadow condition. The contributing drainage areas and worksheets have been revised to clarify which worksheets apply for each BMP. The revised calculations no longer utilize an assumed infiltration time for the time of concentration adjustment. The volume reduction has been clarified based on the revised PCSM BMP layout. All hydrographs have been revised to show consistency with naming conventions and to include all regulatory storm events. All infiltration test locations analyzed have been added to the plan drawings.*
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	t.	**Plainfield Station Valves A & B site:**

		i. Verify that the Major River Basin is not the Susquehanna River (PCSM Standard Worksheet #1). **ii. Provide the discussion as to why there are two PCSM Standard Worksheets #4 & 5 and only one PCSM Standard Worksheet #10 and one point of discharge analysis for the runoff rate.** **iii. Provide consistency in the naming conventions for the drainage areas between the maps and hydrographs. The maps identify DA-1 as undetained, DA-2 as detained and DA-3 as detained; however, the hydrographs utilized Detained 1 and Detained 2.** **iv. Identify why a CN of 89 was used on PCSM Standard Worksheet #4 and a CN of 91 was used in the hydrograph calculations for the same ground cover type.** **v. Provide all hydrographs and information for all regulatory storm events in all conditions. Make all revisions necessary.**
	SPLP Response:	*The Plainfield block valve site will now be colocated with the pump station in an effort to minimize the addition of impervious cover to the maximum extent practicable. The valve settings will fit within the existing footprint of the Plainfield pump station. The limit of disturbance has been revised in this area to accommodate the revision. As a result of these changes, the comments regarding post-construction stormwater management at the Plainfield block valve site no longer apply.*
	u.	**Creek Road site:**
		i. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4. **ii. Identify how a volume reduction is shown on PCSM Standard Worksheet #5 when Table 1 in Attachment 5 identifies "N/A" for an infiltration rate.** **iii. Verify the naming convention for the Post with BMPs hydrographs.** **iv. The project is proposing an increase in impervious/gravel area, which will increase the runoff; however, the calculations show a reduction in runoff rate without implementing the PCSM BMPs. Provide discussion as to how the runoff rate is being reduced without the use of PCSM BMPs. 25 Pa Code §102.8(f)(15)**
	SPLP Response:	*The CN for forest/woods land use has been revised to reflect woods in "good" condition which results in a lower CN as compared to meadow condition. The Creek Road block valve has been relocated as a part of these responses. Infiltration testing was performed in the area of the new block valve to analyze the suitability of soils for infiltration BMPs. As a result, the soils were not acceptable for infiltration, therefore a slow release concept PCSM BMP was utilized and designed to handle the 2-year 24-hour storm event runoff increase in volume and increase in the 2 through 100 year peak rates of runoff. All applicable calculations, write-ups, and worksheets have been provided for the new design.*
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	v.	**Wolf Bridge Road A & B site:**

		i. Provide the justification for using a single CN for Hydrologic Soil Groups C & D on PCSM Standard Worksheet #4. **ii. The calculations on PCSM Standard Worksheet #5 utilize an infiltration time of 12 hours. Provide justification for use of an infiltration time of 12 hours versus the recommended infiltration time of 2 hours or the Time of Concentration (whichever is greater) from Chapter 6 of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)** **iii. The infiltration rate utilized in Infiltration Volume calculation on PCSM Standard Worksheet #5 does not match the recommended infiltration rate from Table 1 in Attachment 5. Clearly identify which contributing drainage area worksheets go to which berm. Clarify these discrepancies.** **iv. Clarify which worksheets go to which berm, then match the naming conventions.** **v. It appears that PCSM Standard Worksheet #5 for DA-2 is with the other worksheets for DA-1, and vice versa. Re-group the worksheets such that each drainage area is together.** **vi. Provide all hydrographs and information for all regulatory storm events in all conditions. Make all revisions necessary.** **vii. Verify the naming convention for the Post with BMPs hydrographs. Verify that all the hydrographs are provided in the correct sequence.** **viii. PCSM Standard Worksheet #5 appears to show volume reduction for Infiltration Berm B; however, the testing resulted in an infiltration rate of zero. Identify how Infiltration Berm B will reduce runoff volume.**
	SPLP Response:	*The calculations have been revised to show separate CN values for HSG C and D soils on PCSM Standard Worksheet and the Hydraflow rate calculations. The revised calculations no longer utilize an assumed infiltration time for the time of concentration adjustment. The infiltration rates utilized in the calculation package have been revised to reflect the recommended rates of infiltration. Naming conventions have been revised for clarity and consistency between the hydrographs and the worksheets. All hydrographs for the appropriate regulatory storm events have now been provided. Due to unsuitable soils for infiltration present on site, a slow release concept PCSM BMP was utilized and designed to handle the 2-year 24-hour storm event runoff increase in volume and increase in the 2 through 100 year peak rate of runoff. All applicable calculations, write-ups, and worksheets have been provided for the new design.*
	w.	**Middlesex site:**

		i. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4. **ii. The calculations on PCSM Standard Worksheet #5 utilize an infiltration time of 12 hours. Provide justification for use of an infiltration time of 12 hours versus the recommended infiltration time of 2 hours or the Time of Concentration (whichever is greater) from Chapter 6 of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)** **iii. The calculations on PCSM Standard Worksheet #5 identify a pipe diameter of 24 in.; however, the Infiltration Trench Detail on the PCSM Plan drawings identifies an 18 in. diameter. Clarify this discrepancy. 25 Pa Code §102.8(f)(6) & §102.8(f)(9)** **iv. Verify the naming convention for the Post with BMPs hydrographs.** **v. The project is proposing an increase in impervious/gravel area, which will increase the runoff; however, the calculations show a reduction in runoff rate without implementing the PCSM BMPs. Provide discussion as to how the runoff rate is being reduced without the use of PCSM BMPs. 25 Pa Code §102.8(f)(15)** **vi. Provide all hydrographs and information for all regulatory storm events in all conditions. Make all revisions necessary.**
	SPLP Response:	*The Middlesex site has been renamed "W. Trindle Road" as part of these responses. The calculations have been revised to show separate CN values for HSG C and D soils on PCSM Standard Worksheet and the Hydraflow rate calculations. The revised calculations no longer utilize an assumed infiltration time for the time of concentration adjustment. The infiltration trench storage pipe diameter has been revised in the PCSM calculations and the plan drawing detail. Naming conventions have been revised to be consistent. The revised calculations show an increase in runoff volume due to the addition of gravel. All hydrographs have been revised to show consistency with naming conventions and to include all regulatory storm events.*
	x.	**Arcona Road site:**
		i. PCSM Standard Worksheet #4 uses soils with a Hydrologic Soil Group (HSG) C; however, the contributing drainage area worksheet uses a HSG of B. Clarify this discrepancy. **ii. The calculations on PCSM Standard Worksheet #5 utilize an infiltration time of 12 hours. Provide justification for use of an infiltration time of 12 hours versus the recommended infiltration time of 2 hours or the Time of Concentration (whichever is greater) from Chapter 6 of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The HSG discrepancy has been resolved as part of the revised PCSM design analysis. The correct HSG for the contributory drainage area soils and the soils within the managed site area is B. The infiltration time has been revised to match the recommended time period of 2 hours as it is greater than the time of concentration to the BMP.*
	y.	**Middletown Junction Valves 1 & 2 site:**

	1.	**i. DA-1:** **1. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4.** **2. The predevelopment drainage area analyzed does not match the total post development drainage area analyzed. Clarify this discrepancy and make all revisions necessary.** **3. The Post With BMPs identifies an increase of 0.02 cfs, 0.16 cfs, 0.89 cfs & 1.18 cfs in the runoff rate for the 2-, 10-, 50- & 100-year/24-hour storm events, respectively. These increases do not meet 25 Pa Code § 102.8(g)(3). Provide the demonstration of an alternative design standard per 25 Pa Code § 102.8(g)(3)(iii).** **ii. DA-2:** **1. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4.** **2. The predevelopment drainage area analyzed does not match the total post development drainage area analyzed. Clarify this discrepancy and make all revisions necessary.** **3. The Post With BMPs identifies an increase of 0.03 cfs & 0.05 cfs in the runoff rate for 50- & 100-year/24-hour storm events, respectively. These increases do not meet 25 Pa Code § 102.8(g)(3). Provide the demonstration of an alternative design standard per 25 Pa Code § 102.8(g)(3)(iii).**
	SPLP Response:	*The Middletown Junction site has been renamed "N. Union Street" as part of these responses. The CN for forest/woods land use has been revised to reflect woods in "good" condition which results in a lower CN as compared to meadow condition. The pre and post development calculations for the N Union Street site have been updated based on other design comments. The revised calculations no longer identify an increase in the runoff rate for any of the post storm events, therefore, a demonstration of an alternative design standard is not required. The drainage area maps, land use figures, and calculations have been revised and made consistent.*
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	z.	**Gates Road site:**
		i. Conewago Township does not have a MS4 Permit. Revise PCSM Standard Worksheet #1 and all other document accordingly. 25 Pa Code §102.8(g)(1) **ii. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4.** **iii. The calculations on PCSM Standard Worksheet #5 utilize an infiltration time of 12 hours. Provide justification for use of an infiltration time of 12 hours versus the recommended infiltration time of 2 hours or the Time of Concentration (whichever is greater) from Chapter 6 of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)**

	SPLP Response:	*Standard Worksheet #1 has been revised to show that Conewago Township does not have an MS4 permit. The CN for forest/woods land use has been revised to reflect woods in "good" condition which results in a lower CN as compared to meadow condition. The pre and post development calculations for the Gates Road site have been updated based on other design comments. The updated calculations do not utilize the infiltration time for volume abstraction in the time of concentration adjustment method.*
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	aa.	**Schaeffer Road/Obie Road site:**
	i.	**Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4.**
	SPLP Response:	*The CN for forest/woods land use has been revised to reflect woods in "good" condition which results in a lower CN as compared to meadow condition.*
	bb.	**Schaefferstown Tie In site:**
		i. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4. **ii. The calculations on PCSM Standard Worksheet #5 utilize an infiltration time of 12 hours. Provide justification for use of an infiltration time of 12 hours versus the recommended infiltration time of 2 hours or the Time of Concentration (whichever is greater) from Chapter 6 of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The Schaefferstown Tie-In site has been renamed "Sinclair Road" as part of these responses. The CN for forest/woods land use has been revised to reflect woods in "good" condition which results in a lower CN as compared to meadow condition. The pre and post development calculations for the Sinclair Road site have been updated based on other design comments. The updated calculations do not utilize the infiltration time for volume abstraction in the time of concentration adjustment method.*
	cc.	**Hopeland Road site:**
		i. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4. **ii. The calculations on PCSM Standard Worksheet #5 utilize an infiltration time of 12 hours. Provide justification for use of an infiltration time of 12 hours versus the recommended infiltration time of 2 hours or the Time of Concentration (whichever is greater) from Chapter 6 of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102 .11 (b)** **iii. Provide consistency in the naming conventions for the drainage areas between the maps and hydrographs. The maps identify DA-1 as undetained, DA-2 as detained and DA-3 as detained; however, the hydrographs utilized Detained 1 and Detained 2.**

	SPLP Response:	*The CN for forest/woods land use has been revised to reflect woods in "good" condition which results in a lower CN as compared to meadow condition. The pre and post development calculations for the Hopeland Road site have been updated based on other design comments. The updated calculations do not utilize the infiltration time for volume abstraction in the time of concentration adjustment method. The revised figures, drawings, and calculations have been revised to have consistent naming conventions.*
	dd.	**Blainsport site:**
		i. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4. **ii. Identify why the soil amendment is not listed on the table on PCSM Standard Worksheet #5. Provide justification for use of an infiltration time of 12 hours versus the recommended infiltration time of 2 hours or the Time of Concentration (whichever is greater) from Chapter 6 of the PCSM Manual. §102.11(a)(2) & §102.11(b)** **iii. PCSM Standard Worksheet #5 appears to show volume reduction for the Infiltration Berm; however, the testing resulted in an infiltration rate of zero. Identify how the Infiltration Berm will reduce runoff volume.** **iv. Verify the naming convention for the Post with BMPs hydrographs.** **v. Verify that the correct Time of Concentrations with adjustment were used for the Post with BMPs hydrographs.** **vi. The Post with BMPs identifies an increase of 0.02 cfs, 0.89 cfs & 1.18 cfs in the runoff rate for 10-, 50- & 100-year/24-hour storm events, respectively. These increases do not meet 25 Pa Code § 102.8(g)(3). Provide the demonstration of an alternative design standard per 25 Pa Code §102.8(g)(3)(iii).**
	SPLP Response:	*The Blainsport block valve site will now be colocated with the pump station in an effort to minimize the addition of impervious cover to the maximum extent practicable. The valve settings will fit within the existing footprint of the Blainsport pump station. The limit of disturbance has been revised in this area to accommodate the revision. As a result of these changes, the comments regarding post-construction stormwater management at the Blainsport block valve site no longer apply.*
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	ee.	**Montello site:**
		i. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4. **ii. PCSM Standard Worksheet #5 appears to show volume reduction for the Infiltration Berm; however, the testing resulted in an infiltration rate of zero for the smaller infiltration berm. Identify how the smaller infiltration berm will reduce runoff volume.** **iii. If the site is proposing two separate PCSM BMPs, identify why the two separate BMPs were not analyzed separately in the hydrographs (like all other sites).** **iv. Verify the naming convention for the Post with BMPs hydrographs.** **v. Provide all hydrographs and information for all regulatory storm events in all conditions. Make all revisions necessary.**

	SPLP Response:	*The CN for forest/woods land use has been revised to reflect woods in "good" condition which results in a lower CN as compared to meadow condition. The pre and post development calculations for the Montello Road site have been updated based on other design comments and additional infiltration testing has taken place. An infiltration berm is no longer proposed in the area of the area of zero infiltration. The separate PCSM BMPs have been modeled separately and are no longer combined. The naming convention has been updated to be consistent for all hydrograph outputs. All hydrographs and information for all regulatory storm events have been provided.*
	ff.	**Wyomissing site:**
		i. Provide the justification for using a higher CN for the forest/woods condition as compared to the meadow condition in PCSM Standard Worksheet #4. **ii. PCSM Standard Worksheet #5 appears to show volume reduction for the Infiltration Berm; however, the testing resulted in an infiltration rate of zero for the smaller infiltration berm. Identify how the smaller infiltration berm will reduce runoff volume.** **iii. If the site is proposing two separate PCSM BMPs, identify why the two separate BMPs were not analyzed separately in the hydrographs (like all other sites).** **iv. Verify the naming convention for the Post with BMPs hydrographs.** **v. Provide all hydrographs and information for all regulatory storm events in all conditions. Make all revisions necessary.**
	SPLP Response:	*The referenced block valve site is no longer proposed as an impervious surface. Due to various site constraints, it was not feasible to accommodate stormwater management BMPs within the project area. The access road and block valve will be graded as shown on the plan, and geoweb will provide structural support and maintain void space. The geoweb will be filled with soil and vegetated to a meadow in good condition, thereby eliminating the necessity to perform stormwater management calculations.*
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33.	**DEP**	**The following technical deficiencies are associated with Attachment 5: 25 Pa Code §102.8(g)(1)**
	a.	**Table 1 only provides for 18 site locations, and there are an additional 7 site locations provide in the table after the certification. Clarify the number of site locations versus the identified number of site locations throughout the narrative.**
	SPLP Response:	*Table 1 summarizes 18 sites along Construction Spreads 3, 4, 5 and 6 where work was completed by Tetra Tech NUS of Pittsburgh, PA and certified by Tim S. Evans on May 26, 2016. An additional 17 sites along the same Construction Spreads was completed by Tetra Tech EMI of Newark, DE and certified by Ralph Boedeker on May 26, 2016. Table 1 will be updated based on work performed in Fall 2016 and recommended infiltration rates will reflect appropriate results from both 2015 and 2016 infiltration testing.*
	b.	**There appear to be at least three sites identified on Table 1 for which no infiltration testing was performed at the site or at the BMP. The provided discussion is not an adequate demonstration of appropriate infiltration and geologic studies. Provide the demonstration that the predevelopment site characterization and assessment of soil and geology is adequate.**

	SPLP Response:	*Based on Table 1 and the additional table, infiltration testing was performed at all sites. Infiltration testing results were determined to be invalid at the Creek Road site and therefore, no recommended rate was provided. As observed in these tables, some infiltration tests performed were outside of BMP areas and were therefore not considered in the Sites recommended rate. Detailed discussions pertaining to infiltration testing and geological conditions of the sites are provided in the Trip Reports for each site. Based on these reports, the predevelopment site characterization and assessment of soil and geology is adequate.*
	c.	**Identify why some Soil Types are identified as "N/A" in Table 1.**
	SPLP Response:	*The following summarizes the rationale for using "NA" for Soil Type in Table 1 - 1) For Creek Road, there was no soil, only rock; 2) For Middlesex Road, test pitting was completed at IT-1, IT-2 and IT-3 and given close proximity to IT-4 and IT-5, soils were assumed to be consistent; 3) For Valley Forge Road, NA at IT-02 should be Silt Loam as in IT-01 based on the Boring Log completed July 14, 2015; 4) For Glenn Mills, two representative borings were completed (IT-3 and between IT-2 and IT-4) for the site and based on consistent soils and proximity to IT-1, IT-5 and IT-6, Silt Loam can be applied to these locations as well (though these locations are outside of the BMP area and recommendations are not completed).*
	d.	**Identify how the Safety Factor was determined for use in Table 1. If the utilized Safety Factor is not within the recommendations of Appendix C of the PCSM Manual; then provide an adequate demonstration of an alternative BMP and design standard. 25 Pa Code §102.8(f)(8), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Determination of the Safety Factor is provided in the Notes (page 3 of 3) where a FS of 2 is assumed for soils coarser than loam and a FS of 3 is assumed for finer grained soils. Both FS are in accordance with Appendix C of the PCSM Manual and within the recommended ranges of 2 to 10.*
	e.	**On Table 1 for Schaeffer Road, testing IT-01 through 04 & 06 were identified. Identify if a test location of IT-05 was performed. If so, provide those testing results. Provide the detailed information for IT-06.**
	SPLP Response:	*Based on the Trip Report for Schaeffer Road, IT-06 is a typographical error. It should be IT-05.*
	f.	**The table provided after the certification appears to include sites located outside of the South-central Region. Revise the table to only include sites that are covered by the ESCGP-02 Permit application.**
	SPLP Response:	*Table 1 is being revised based on infiltration testing performed in Fall of 2015 and 2016. Only sites present within the ESCGP-02 permit will be included.*
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	g.	**Table 1 identifies that tests IT-01 & 02 are with or near the BMP; however, the PCSM Plan drawings identify the testing outside of the BMP. Clarify this discrepancy.**

	SPLP Response:	*There are numerous infiltration tests that are noted to be either within or near (outside) the BMP areas. Only infiltration tests from 2015 and 2016 within the BMP or 25 feet of the BMP will be utilized to determine an appropriate recommended rate in the updated Table 1.*
	h.	**Provide additional information related to the elevations of the identified limiting zones (e.g. bedrock, weathered bedrock, groundwater, regularly occurring seasonally high water table, etc.).**
	SPLP Response:	*Based on the comment, it is unclear which site (or sites) the comment refers to. Generally, the information cited in the comment are provided in the Trip Reports.*
	i.	**There appear to be numerous sites which propose to infiltrate stormwater with less than a 2-ft. separation from a limiting zone (e.g. bedrock, weathered bedrock, groundwater, regularly occurring seasonally high water table, etc.) or the Soil Logs ended before 2-ft. below the proposed infiltration elevation. Provide discussion as to how the stormwater is being infiltrated properly. If the 2-ft. separation is not provided, then provide the alternative BMP and design standard demonstration. 25 Pa Code §91.51(a), §102.8(f)(15), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*As with the previous comment, it is unclear which site (or sites) the comments refers to. Details pertaining to whether bedrock (or weathered bedrock), mottling, and groundwater/seasonal high groundwater were encountered are provided in the Trip Reports. Additionally, if conditions prevented attaining these details, explanations and appropriate interpretations are provided. As noted in previous responses, Table 1 is being revised based on infiltration testing performed in the Fall of 2015 and 2016.*
	j.	**Provide more appropriate soil color descriptions (e.g. from the Munsell Soil Color Charts).**
	SPLP Response:	*The soil color descriptions provided as part of the infiltration testing are standard representations of the methodology used by the professional geologists overseeing the tests. The Munsell Soil color does not add further value to the infiltration rate determined at the test site. However, Munsell Soil colors will be utilized during infiltration testing performed in the Fall 2016 field work. Additionally, if no new infiltration tests will be performed at previously tested sites in Fall 2016, Munsell Soil colors only will be obtained from previously tested sites (Fall 2015).*
	k.	**There appear to be numerous locations where two infiltration tests were performed, but only one soil log was recorded. Provide a discussion as to why this is appropriate and also provide an adequate predevelopment site characterization and assessment of soil and geology.**
	SPLP Response:	*At many sites where at least two infiltration tests were performed, infiltration testing locations were approximately 50 feet or less from each other and occurred in the same topographical setting/feature. When this occurred, a single soil boring (or test pit) was completed to represent the typical conditions that occur within this area. Overall, a soil boring (or test pit) was completed in each unique topographical setting where infiltration testing occurred to ensure that the subsurface was adequately characterized.* *For each site where soil borings or test pits represented more than one infiltration test, the text will be edited to clarify the representative nature of the soil borings collected.*

	l.	**Valley Forge site: Provide the location of the July 12, 2015 auger.**
	SPLP Response:	*Coordinates are provided on the Test Boring Log (page 10 of 23) in trip report, which are 40° 24' 16.45"N, 78° 29' 37.94"W. The location will added to the site map (near IT-2). The Trip Report has been updated.*
	m.	**Locke Mountain Road site: Clearly identify if any redoximorphic (redox.) features were observed in the Soil Log.**
	SPLP Response:	*The following sentence was added in Section 3.1 to clarify that no mottling (redoximorphic) features were observed - "Additionally, no mottling (redoximorphic) was observed at either location." The Trip Report has been updated.*
	n.	**Juniata River West site: Provide additional discussion related to the identified redoximorphic (redox.) features, and what the relationship is to the top and bottom being dry.**
	SPLP Response:	*Based on the soil log, clays were more prevalent between 12 and 18 inches, where mottling was potentially noted. It is likely that water/moisture is retained (or trapped) in this zone due to the less permeable clays present as compared to the soil above and below, which contain sands and silts which more effectively drain (or transport) water/moisture. Section 3.1 will be updated to reflect this observation and interpretation. The Trip Report has been updated.*
	o.	**Juniata River East site:**
		i. Clearly identify if groundwater was/was not encountered during the assessment of soil and geology. **ii. It does not appear that IT-2 reached a stabilized rate or that eight consecutive readings were taken; provide discussion as to why a stabilize rate or eight consecutive readings were not recorded. Identify how the "Average Stabilized Rate" was determined. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The text and soil boring will be updated to clarify that groundwater was not encountered. While it does not appear that IT-2 reached stabilization, nine consecutive readings were collected at 10-minute intervals between 1220 and 1350, one more than the required minimum of eight readings. The Average Stabilized Rate was determined from an average of the final four readings and standardized into an hourly rate.*
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	p.	**Raystown Lake West site:**
		i. Section 3.1 discusses assuming a weathered rock elevation. Provide additional information as to how the weathered rock elevation was assumed (i.e. what information was evaluated to reach the determination) and identify how this is an adequate and appropriate predevelopment site characterization and assessment of soil and geology. **ii. Identify where the Boring Log and Soil Log were taken, as it appears that tests IT-01 & 02 were far apart from each other.**

	SPLP Response:	*Based on the frequency and size of rock fragments observed from 30 to 37 inches below ground surface, it was assumed that this was indicative of weathered rock. This cannot be confirmed due to the boring method (hand auger). Section 3.1 text will be updated to reflect this evaluation. The boring log/soil log was completed at a location approximately mid-way between IT-01 and IT-02 since site conditions were similar at both locations (along and within wooded area with minor underbrush). Section 2.0 text was updated to reflect in installation of a single boring/auger location.*
	q.	**Happy Hills site:**
		Clarify why there are Site Geology Maps provided for Site 1 and Site 2.
	SPLP Response:	*Two geologic maps are provided since the site is located along a boundary between two geologic units - the Pocono or Maunch Chunk Formations. Section 3.1 states that the site may lie in either of these formations, therefore, no changes to the text are required.*
	r.	**PA 655 site: Identify what the second Boring Log and Soil Log are for.**
	SPLP Response:	*As summarized in Section 2, one hand auger location was completed near the mid-point between IT-1 and IT-2 and another near IT-3 (since IT-3 was located > 50 feet from IT-1 and IT-2). No changes to the text are required.*
	s.	**Shade Valley Highway site: Clarify why there are Site Geology Maps provided for Site 1 and Site 2.**
	SPLP Response:	*Two geologic maps are provided since the site is located along a boundary between two geologic units - the Keyser through Mifflintown Formations or the Onondage and Old Port Formations. Section 3.1 states that the site may lie in either of these formations, therefore, no changes to the text are required.*
	t.	**Creek Road site:**
		iii. Section 2.0 identified that the testing was performed in accordance with the recommendations of the PCSM Manual. Protocol 1, Step 3.b in Appendix C of the PCSM Manual identified that the prepared hole should have a uniformed diameter of 6 to 10 inches; however, IT #1 identifies the hole being a conical oblong with a maximum width of 20 inches and IT #2 identified the hole being conical with a varying diameter of 8-12 inches. Because the testing was not done in accordance with the recommendations of the PCSM Manual, provide the demonstration of alternative BMP and design standard. 25 Pa Code §102.11(a)(2) & §102.11(b) **iv. Provide the Reduction Factor calculations. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*Comment acknowledged. The material at the site at the ground surface was fissile shale which fractured in an uncontrollable manner. While it is unlikely that the slight oblong nature of the percolation holes would significantly impact the infiltration results, it is acknowledged that the percolation holes are not uniform in diameter. Infiltration testing will be performed in 2016 and modifications based on these results will be utilized to design the appropriate BMP structure. The infiltration data provided in the 2015 Trip Report will not be used in the BMP design. As such, the Reduction Factor calculations are not provided (the formula is presented in Appendix C of the PCSM Manual - Page 9 - and input data is provided in the Infiltration Test Data Sheets of the 2015 Trip Report).*

	u.	**Wolf Bridge Road A & B site:**
		i. Identify why there are only three Soil Logs for four infiltration test locations. Identify why one Soil Log is for IT #1 and another Soil Log is for IT #1/3. **ii. Oxidation in the shale is identified. Provide discussion as to what the oxidation is from.** **iii. It appears that weathered rock is not being identified as a limiting zone. Provide discussion as to why weathered rock was not included in the recommended 2 ft. separation between infiltration and rock.**
	SPLP Response:	*Due to the uniform topography and surface conditions across the site, initially, one boring was completed mid-point between IT-1 and IT-3 and another boring at the mid-point of IT-2 and IT-4. Based on the different response observed in the Infiltration test at IT-1 compared to the other locations, a third boring was performed near IT-1 to further evaluate specific soil conditions. Section 3.1 will be updated to reflect that the oxidation that occurred on the shale was in the form of iron oxidation (rust) based on the dark reddish staining observed. It is assumed that the weathered rock would not inhibit infiltration of water since the boring and soil logs show that it was easily broken and exhibited evidence of weathering (iron oxidation). Based on all of the presence of shallow bedrock, it unlikely that a BMP infiltration design will be employed at this site.*
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	v.	**Middletown Junction Valves 1 & 2 site:**
	i.	**Provide additional discussion as to why the single-ring falling head infiltration test is an appropriate testing methodology for this site. This type of testing methodology is not identified as a recommended test in Protocol 1, Step 3 of Appendix C of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Appendix C of the PCSM Manual does not dictate methods to be used, but provides example Methodologies and further discusses the double-ring methodology. The Manual also lists other testing methods and standards and indicates that list is "not limited to". The single-ring falling head test is ASTM approved (ASTM D5126) and is commonly used in determination of infiltration rates.*
	ii.	**Provide the information from and the location of the Standard Penetration Test.**
	SPLP Response:	*As indicated in the report, the intended method for infiltration testing was the double-ring constant head test; however, the field water truck used to supply water for testing could not access test locations within reasonable water hauling distance. Therefore, the method used to conduct infiltration testing was the single-ring falling head test. This commonly accepted test method utilizes a considerable amount less water, and the water was reasonably hauled to the test locations with buckets.*
	iii.	**Identify what the underlying geology is for the site.**
	SPLP Response:	*As indicated in the fourth paragraph of the report, the site is underlain by the Gettysburg Formation. The location of the Standard Penetration Test is approximately 130 feet northeast of the infiltration test locations and did not encounter bedrock to 25 feet below ground surface. Figure 1 has been updated in the Trip Report to show the location of the boring and the boring log has been provided in Attachment 2.*

	w.	**Gates Road site:**
	i.	**Provide additional discussion as to why the double-ring constant head infiltration test in an appropriate testing methodology for this site. This type of testing methodology is not identified as a recommended test in Protocol 1, Step3 of Appendix C of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Appendix C of the PCSM Manual does not dictate methods to be used, but provides example Methodologies and further discusses the double-ring methodology. The Manual also lists other testing methods and standards and indicates that list is "not limited to". The double-ring constant head test is ASTM approved (ASTM D3385) and is commonly used in determination of infiltration rates.*
	ii.	**For IT-01, 17 of the 20 trials identified zero movement for the inner ring. Provide discussion as to how infiltration is adequate and appropriate for this site. Identify how the average rate of 0.1012 in./hr. was determined, as the inner ring average appears to be 0.0805 in./hr. §102.8(f)(8)**
	SPLP Response:	*For IT-01 and IT-02, the average rate summarized in Table 1 (represented to two significant figures) was determined by taking the average of the second, third, fourth and fifth hourly averages from the test data. Based on the locations of the Infiltration Tests with respect to the proposed BMP, an appropriate recommended value is provided, which includes incorporation of a Factor of Safety.*
	iii.	**For IT-02, identify how the average rate of 1.6862 in./hr. was determined. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*For IT-01 and IT-02, the average rate summarized in Table 1 (represented to two significant figures) was determined by taking the average of the second, third, fourth and fifth hourly averages from the test data. Based on the locations of the Infiltration Tests with respect to the proposed BMP, an appropriate recommended value is provided, which includes incorporation of a Factor of Safety.*
	iv.	**Identify what the underlying geology is for the site.**
	SPLP Response:	The underlying geology is the Hammer Creek Formation, a reddish-brown Triassic coarse-grained sandstone with interbed of red shale and quartz-pebble conglomerates. The following text has been inserted after the third sentence of the third paragraph on page 1 of the 2015 Trip Report, "The underlying geology is the amber Creek Formation, a reddish-brown Triassic coarse-grained sandstone with interbed of red shale and quartz-pebble conglomerates."
	x.	**Schaeffer Road/Obie Road site: The Schaeffer Road #5 summary does not match the Infiltration Test Data Sheet; the drop time at 1430 is reported differently. Clearly identify if a stabilized rate or that eight consecutive readings were taken.**
	SPLP Response:	*The summary sheet for Schaeffer Road IT-5 is incorrect for the 1430 time. As observed in the Infiltration Test Data Sheet, the drop should have been 1.5 inches, not 1.0 inches. This correction has been made to the sheet and updated in the 2015 Trip Report. Based on this corrected value, stabilization has been reached in accordance with Appendix C of the PCSM Manual.*

	y.	**Schaefferstown Tie In site:**
	i.	**Provide additional discussion as to why the double-ring constant head infiltration test is an appropriate testing methodology for this site. This type of testing methodology is not identified as a recommended test in Protocol 1, Step 3 of Appendix C of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Appendix C of the PCSM Manual does not dictate methods to be used, but provides example Methodologies and further discusses the double-ring methodology. The Manual also lists other testing methods and standards and indicates that list is "not limited to". The double-ring constant head test is ASTM approved (ASTM D3385) and is commonly used in determination of infiltration rates.*
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	ii.	**Identify what the underlying geology is for the site.**
	SPLP Response:	*The underlying geology is the undifferentiated Limestone fanglomerate, Triassic limestone and dolomite pebbles and fragments in a red, very fine grained quartz matrix. The following text has been inserted after the third sentence of the third paragraph on page 1 of the 2015 Trip Report, "The underlying geology is the an undifferentiated Limestone fanglomerate, Triassic limestone and dolomite pebbles and fragments in a red, very fine grained quartz matrix"*
	z.	**Hopeland Road site:**
	i.	**Provide additional discussion as to why the double-ring constant head infiltration test is an appropriate testing methodology for this site. This type of testing methodology is not identified as a recommended test in Protocol 1, Step 3 of Appendix C of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Appendix C of the PCSM Manual does not dictate methods to be used, but provides example Methodologies and further discusses the double-ring methodology. The Manual also lists other testing methods and standards and indicates that list is "not limited to". The double-ring constant head test is ASTM approved (ASTM D3385) and is commonly used in determination of infiltration rates.*
	ii.	**For IT-01, 17 of the 20 trials identified zero movement for the inner ring. Provide discussion as to how infiltration is adequate and appropriate for this site.**
	SPLP Response:	*For IT-02 (where 17 of the 20 readings identify zero movement), the average rate summarized in Table 1 (represented to two significant figures) was determined by taking the average of the second, third, fourth and fifth hourly averages from the test data. Based on the locations of the Infiltration Tests with respect to the proposed BMP, an appropriate recommended value is provided, which includes incorporation of a Factor of Safety.*
	iii.	**Identify what the underlying geology is for the site.**
	SPLP Response:	*The underlying geology is the Hammer Creek conglomerate, a very coarse quartz conglomerate with abundant pebbles and cobbles of gray quartzite. The following text has been inserted after the third sentence of the third paragraph on page 1 of the 2015 Trip Report, "The underlying geology is the Hammer Creek conglomerate, a very coarse quartz conglomerate with abundant pebbles and cobbles of gray quartzite."*

	aa.	**Blainsport site:**
	i.	**Provide additional discussion as to why the single-ring falling head infiltration test is an appropriate testing methodology for this site. This type of testing methodology is not identified as a recommended test in Protocol 1, Step 3 of Appendix C of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	Appendix C of the PCSM Manual does not dictate methods to be used, but provides example Methodologies and further discusses the double-ring methodology. The Manual also lists other testing methods and standards and indicates that list is "not limited to". The single-ring falling head test is ASTM approved (ASTM D5126) and is commonly used in determination of infiltration rates.
	ii.	**Provide the information from and the location of the Standard Penetration Test.**
	SPLP Response:	*As indicated in the report, the intended method for infiltration testing was the double-ring constant head test; however, the field water truck used to supply water for testing could not access test locations within reasonable distance because of steep grades and fencing along the access route around the existing Blainsport Station. Therefore, the method used to conduct infiltration testing was the single-ring falling head test. This commonly accepted test method utilizes a considerable amount less water, and the water was reasonably hauled to the test locations with buckets.* *The Standard Penetration Tests did not encounter bedrock to 20 or 25 feet below ground surface. Figure 1 has been updated in the Trip Report to show the locations of the borings and the boring logs have been provided in Attachment 2.*
	iii.	**Identify what the underlying geology is for the site.**
	SPLP Response:	*The underlying geology is the Hammer Creek Formation, a reddish-brown Triassic coarse-grained sandstone with interbed of red shale and quartz-pebble conglomerates. The following text has been inserted after the sixth sentence of the third paragraph on page 1 of the 2015 Trip Report, "The underlying geology is the Hammer Creek Formation, a reddish-brown Triassic coarse-grained sandstone with interbed of red shale and quartz-pebble conglomerates."*
	bb.	**Montello site:**
	i.	**Provide additional discussion as to why the single-ring falling head infiltration test is an appropriate testing methodology for this she. This type of testing methodology is not identified as a recommended test in Protocol 1, Step 3 of Appendix C of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Appendix C of the PCSM Manual does not dictate methods to be used, but provides example Methodologies and further discusses the double-ring methodology. The Manual also lists other testing methods and standards and indicates that list is "not limited to". The single-ring falling head test is ASTM approved (ASTM D5126) and is commonly used in determination of infiltration rates.*
	ii.	**Table 1 identifies the test depth for IT-05 as 0.5 in.; however the Double Ring Infiltration Test results identify a test depth of 0.5 ft. Clarify this discrepancy.**

	SPLP Response:	*As discussed in the report, the intended method for infiltration testing was the double-ring constant head test, and was performed at three of the five test locations (IT-03, IT-04, and IT-05). At two of the locations (IT-01, IT-02), the field water truck used to supply water for testing could not access test locations within reasonable distance because of their locations within a corn field (water truck would have destroyed crop along access route). Therefore, the method used to conduct infiltration testing at IT-01 and IT-02 was the single-ring falling head test. This commonly accepted test method utilizes a considerable amount less water, and the water was reasonably hauled to the test locations with buckets.*
	iii.	**For IT-04, 14 of the 20 trials identified zero movement for the inner ring. Provide discussion as to how infiltration is adequate and appropriate for this site.**
	SPLP Response:	*IT-05 was performed at 0.5 feet. Table 1 has been updated to reflect this change. For IT-04 and IT-05, the average rate summarized in Table 1 (represented to two significant figures) was determined by taking the average of the second, third, fourth and fifth hourly averages from the test data. Based on the locations of the infiltration Tests with respect to the proposed BMP, an appropriate recommended value is provided, which includes incorporation of a Factor of Safety.*
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	iv.	**For IT-05, 19 of the 20 trials identified zero movement for the inner ring. Provide discussion as to how infiltration is adequate and appropriate for this site.**
	SPLP Response:	*IT-05 was performed at 0.5 feet. Table 1 has been updated to reflect this change. For IT-04 and IT-05, the average rate summarized in Table 1 (represented to two significant figures) was determined by taking the average of the second, third, fourth and fifth hourly averages from the test data. Based on the locations of the Infiltration Tests with respect to the proposed BMP, an appropriate recommended value is provided, which includes incorporation of a Factor of Safety.*
	v.	**Identify, what the underlying geology is for the site.**
	SPLP Response:	*The underlying geology is the Millbach Formation, a pinkish gray and medium gray Cambrian laminated limestone with interbeds of dolomite. The following text has been inserted after the third sentence of the third paragraph on page 1 of the 2015 Trip Report, "The underlying geology is the Millbach Formation, a pinkish gray and medium gray Cambrian laminated limestone with interbeds of dolomite."*
	cc.	**Wyomissing site:**
	i.	**Provide additional discussion as to why the single-ring falling head infiltration test is an appropriate testing methodology for this site. This type of testing methodology is not identified as a recommended test in Protocol 1, Step 3 of Appendix C of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Appendix C of the PCSM Manual does not dictate methods to be used, but provides example Methodologies and further discusses the double-ring methodology. The Manual also lists other testing methods and standards and indicates that list is "not limited to". The single-ring falling head test is ASTM approved (ASTM D5126) and is commonly used in determination of infiltration rates.*
	ii.	**Identify what the underlying geology is for the site.**

	SPLP Response:	*The underlying geology is the Hammer Creek conglomerate, a very coarse quartz conglomerate with abundant pebbles and cobbles of gray quartzite. The following text has been inserted after the third sentence of the third paragraph on page 1 of the 2015 Trip Report, "The underlying geology is the Hammer Creek conglomerate, a very coarse quartz conglomerate with abundant pebbles and cobbles of gray quartzite."*
34.	**DEP**	**DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings in Attachment 6), to avoid confusion and potential inconsistencies. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*Comment acknowledged.*
PCSM Narrative Mount Union Valves		
1.		**Section 1.0 on Page 1 identifies that this Post Construction Stormwater Management (PCSM) Plan is incorporated in the project's Erosion and Sediment Control (E&S) Plan. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The referenced sentence was removed.*
2.		**Section 2.0 on Page 2 does not include discussion related to any proposed PCSM best management practices (BMPs). Ensure that the Site Description properly identifies and includes the PCSM BMPs. 25 Pa Code §102.8(f)(3) & §102.8(f)(6)**
	SPLP Response:	*The PCSM BMPs are described in section 4.0 of the report. For clarification, the title of section 2.0 was revised to "Existing Site Description" and Section 1.0 was updated to clarify what is discussed in each section.*
3.		**Section 2.2 on Page 3 provides for resolution if high groundwater is encountered; however, the resolution is only related to during earth disturbance activities. Provide appropriate resolution for this soil limitation for the post construction condition and how the project was designed to address the limitation for the PCSM BMPs. 25 Pa Code §102.8(f)(12) & §102.8(g)(5)**
	SPLP Response:	*The following paragraph was added to section 4.4 of the PCSM report: "Groundwater was not encountered in the test pits that were dug during infiltration testing. If groundwater is encountered during construction of the BMP, the certifying engineer should be consulted to determine what measures, if any, need to be taken to ensure that groundwater will not interfere with proper functioning of the BMP."*
4.		**Section 2.3 on Page 4 identifies "This E&SC plan..." This is the narrative for the PCSM Plan for the Mount Union Valves site. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The reference was changed from E&SC to PCSM.*

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5.		**The following technical deficiencies are associated with Section 3.1 starting on Page 5: 25 Pa Code § 102.8(f)(7)**
	a.	**The first sentence identifies to reference the E&S plan drawings for the PCSM BMPs. This does not meet regulation. The PCSM Plan is the document to reference for the PCSM BMPs. Make all revisions necessary.**
	SPLP Response:	*The PCSM plan has been revised to reference the correct PCSM BMPs.*
	b.	**It is identified that "It is not intended that the drawings and this report show detailed information on methods and materials." This statement does not meet regulations. The E&S and PCSM Plans shall be final for construction, and the information, details and provide methods and materials to properly construct and implement the Plans, including the BMPs, as part of the construction sequences associated with these Plans. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The statement quoted was in reference to "methods and materials" needed for the construction of the structural equipment on site and not the PCSM BMPs. To eliminate confusion, the statement has been removed.*
	c.	**The narrative identifies that the contractor can deviate from the authorized E&S and PCSM Plans based upon field conditions. A deviation from the authorized plans may be necessary; however, the appropriate county conservation district and DEP have to approve any deviation to the authorized plans. Make all revisions necessary to clearly identify this requirement.**
	SPLP Response:	*Section 3.1 of the PCSM has been updated to state that any deviation from the proposed PCSM plan shall be approved by the county conservation district and the DEP before any action commences.*
	d.	**Provide a schedule of inspections for critical stages of PCSM BMP installation with the construction sequence.**
	SPLP Response:	*Section 3.8 of the PCSM narrative has been updated to include a schedule of inspections, and Section 3.1 of the PCSM narrative has been updated to reference which critical stages a licensed professional shall oversee.*
	e.	**The specific construction sequence for the infiltration filter appears to be written for more of an actual constructed filter with a soil mixture, as opposed to the designed and detailed BMP of an infiltration trench. Ensure that the type of PCSM BMP is properly identified, and ensure that the construction sequence is written for the BMP that is designed.**
	SPLP Response:	*The construction sequence for the infiltration filter has been updated to reflect the installation of the correct PCSM BMP.*
	f.	**Step 2 references reinforced concrete boxes; however, the PCSM Plan does not appear to identify concrete boxes as part of the design. Ensure that the construction sequence is written for the BMP that is designed.**

	SPLP Response:	*The infiltration filter installation sequence has been updated to reflect the installation of the correct PCSM BMP.*
	g.	**More information is required in Step 3 related to how to properly excavate for the infiltration trench. Identify how the trench will be constructed (Will the trench be excavated from the sides? If not, how will the heavy equipment be used so that the underlying soil is not compacted? Etc.). Identify how the contractor will lightly compact the stone without compacting the underlying soil.**
	SPLP Response:	*The sequence in section 3.1 for the underground storage pipes was revised to indicate that heavy equipment shall not enter the trench and that stone will be spread and self-compacted under its own weight instead of compaction with equipment.*
	h.	**Steps 3 & 4 are confusing, as these seem to be more design related components of the BMP and not part of the construction sequence. Step 4 identifies that infiltration filter to be underlain by a layer of permeable non-woven-geotextile; if the design is to have a geotextile fabric, in the construction sequence clearly identify that the geotextile fabric is to be placed. Make all revisions necessary.**
	SPLP Response:	*Steps 3 & 4 in Section 3.1 have been updated to clearly state the steps that will be taken when installing the infiltration trench.*
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	i.	**Step 5 identifies to place the underlying stone in minimum 6 inch lifts; however, the details on the plan drawings identify the underlying stone depth as 6 in. Ensure that the construction sequence is written for the BMP that is designed.**
	SPLP Response:	*The word "underlying" was removed to indicate that all gravel shall be placed in 6 inch lifts.*
	j.	**Step 10 appears to be more design related than construction related. Revise this step as necessary so that this step is more related to the construction sequence of the BMP.**
	SPLP Response:	*Step 10 has been removed as it does not apply to the construction of the designed infiltration filter.*
6.		**Section 3.5 on Page 11 is not sufficient as it does not provide for procedures which ensure that the proper measures for recycling or disposal of materials associated with or from the PCSM BMPs are in accordance with Department laws, regulations and requirements. 25 Pa Code §102.8(f)(11)**
	SPLP Response:	*Section 3.5 in the PCSM narrative states that the "operator will remove from the site, recycle, or dispose of all building materials and wastes in accordance with PADEP's solid waste management regulations at 25 PA Code 260.1 et seq., 271.1 et seq., and 287.1 et seq". The following additional waste management procedures were added to the narrative in section 3.5: "The operator will first characterize the waste materials as municipal, residual or hazardous waste. Before the waste material is hauled away, the material will be stored and labeled in accordance with the applicable management procedures, if any, under the Solid Waste Management Act regulations. The operator will then hire a licensed and insured waste hauler to transport the waste material to a properly permitted waste disposal facility."*

7.		**Section 3.6 on Page 11 is not sufficient as there is no clear demonstration that the thermal impacts will be mitigated by the minimized clearing during construction and by permanent stabilization as soon as practicable. This thermal impact analysis appears to be more for the E&S Plan than for the PCSM Plan. Provide an appropriate thermal impact analysis specific to the PCSM Plan for this location. 25 Pa Code §102.8(f)(13)**
	SPLP Response:	*Section 3.6 of the PCSM narrative has been updated to address how the proposed post-construction stormwater BMPs will minimize thermal impacts to receiving waters.*
8.		**The following technical deficiencies are associated with Section 3.8 starting on Page 11: 25 Pa Code §102.8(f)(10)**
	a.	**It appears that information related to the E&S Plan and activities during construction are included in this narrative. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*Section 3.8 of the PCSM narrative has been updated to only address the designed PCSM BMPs.*
	b.	**The long-term operation and maintenance schedule appears to be written for more of an actual constructed filter with a soil mixture, as opposed to the designed and detailed BMP of an infiltration trench. Ensure that the long-term operation and maintenance schedule is written for the BMP that is designed.**
	SPLP Response:	*The long-term operation and maintenance schedule has been revised to reflect the designed BMP.*
	c.	**Provide a demonstration that inspecting the infiltration only 4 times per year is sufficient to ensure proper function and operation. The PCSM Manual recommends inspecting the storm sewer system associated with an infiltration trench; provide this as part of the schedule. There is no inspection identified to ensure that the infiltration trench is dewatering properly (in accordance with the designed dewatering time); ensure that this critical inspection is clearly identified and that proper repair, replacement and other routine maintenance is identified.**
	SPLP Response:	*The quarterly inspection frequency also includes inspections after major storm events. Major storms are the most likely cause of BMP failures and inspection after storm events allows for troubleshooting while the BMP is functioning. Section 3.8 of the PCSM narrative has been updated to address how the storm sewer associated with the infiltration filter will be inspected and maintained. Also, Section 3.8 now addresses considerations that need to be taken when inspecting the infiltration filter to ensure that it is operating properly.*
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	d.	**Ensure that appropriate long-term operation and maintenance schedules are provided for all PCSM BMPs (including any and all PCSM BMPs utilized on PCSM Standard Worksheet #10).**
	SPLP Response:	*Long-term operation and maintenance information has been provided for all designed PCSM BMPs.*

9.		**Section 3.9 on Page 13 identifies that the receiving surface water is impaired for siltation. Identify how this determination was made, as it appears that the receiving surface water for the Mount Union Valves is attaining its Designated Use (i.e. it is not impaired). 25 Pa Code §102.8(f)(5)**
	SPLP Response:	*Section 3.9 of the PCSM narrative has been updated to reflect that the receiving waters are classified as Trout Stock Fisheries (TSF) with a designated use of attaining.*
10.		**If an antidegradation analysis has to be completed, the information provided in Section 3.9 is not sufficient. The narrative identifies that non-discharge alternatives were evaluated; however, there is no discussion related to show what was evaluated. It appears that the discussion is focused on the E&S Plan and during the earth disturbance activities; provide an antidegradation analysis for the PCSM Plan. 25 Pa Code §102.8(d), §102.8(f)(6) & §102.8(h)**
	SPLP Response:	*Section 3.9 has been updated to discuss which non-discharge alternatives were evaluated and to only provide an Antidegradation analysis for the PCSM plan.*
11.		**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. Section 3.10 on Page 13). 25 Pa Code §102.8(g)(2) & §102.8(g)(3)**
	SPLP Response:	*The storm events in Section 3.10 and Section 4.1 were revised to be labeled as 24-hour events.*
12.		**Section 3.10 on Page 14 identifies that a single PCSM BMP will manage the runoff volume and rate for the 2-year storm. Provide discussion related to what PCSM BMPs will manage the runoff rate for the large storm events. Provide discussion in Section 3.10 related to how the runoff water quality is being managed. 25 Pa Code §102.8(f)(6) & §102.8(f)(15)**
	SPLP Response:	*All discussion of how PCSM BMPs control runoff volume and water quality is found in section 4.0 of the PCSM report. This section was intended to be a summary of section 4.0 and was deleted entirely since it contained no additional information.*
13.		**Section 4.1 on Page 14 identifies that the PCSM Plan is designed to comply with the Township of Shirley Subdivision and Land Development Ordinance and the Huntingdon County Stormwater Management Plan. Attachment V to the NOI identifies that there is no approval date for the Huntingdon County Stormwater Plan. The post construction stormwater shall be managed as specified in an applicable Department approved and current Act 167 stormwater management plan, as identified in the regulations (25 Pa Code §102.8(g)(2) & §102.8(g)(3)), or to an alternative design standard (per 25 Pa Code §102.8(g)(2)(iv) & §102.8(g)(3)(iii)). Clearly identify the design standards used for this PCSM Plan. If an alternative design standard was utilized, ensure that all required information is provided to make the alternative design demonstration. Make all revisions necessary throughout all of the application documents.**

	SPLP Response:	*The introduction paragraph of section 4.1 was revised as follows: "This plan has been prepared to comply with the Township of Shirley Subdivision and Land Development Ordinance, the Township of Shirley Stormwater Management Plan, and the Pennsylvania Stormwater Best Management Practices Manual. The Township of Shirley Stormwater Management Plan was created under authority of the Pennsylvania Storm Water Management Act (Act 167)."*
14.		**It is not clear how the rainfall depths were determined, as identified in Section 4.1 on Page 14. 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 provide a demonstration which identifies how the alternative BMP and design standard will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §102.8(f)(8), §1018(f)(15), §102.8(g)(2), §102.8(g)(3), §102.8(g)(4), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*SPLP utilized the rainfall depths from the Township of Shirley Stormwater Management Plan to complete Section 4.1 of the PCSM narrative because the Township's data is more conservative (i.e., higher rainfall for every event) than the data from NOAA Atlas 14.*
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15.		**Section 4.1 on Page 14 identifies that the PCSM BMPs have been designed to comply with quality and quantity management requirements where possible. Clearly identify the areas where the PCSM design does not comply with the regulations. Ensure that proper information is provided demonstrating compliance with all regulatory requirements. 25 Pa Code §102.8(f)(6) & §102.8(f)(15)**
	SPLP Response:	*"Where possible" was removed from the sentence in Section 4.1 on page 14.*
16.		**Provide additional information/calculations to clarify how the volumes were calculated in Table 4.3 on Page 16. 25 Pa Code §102.8(f)(8) & §102.8(f)(15)**
	SPLP Response:	*Footnotes were added to Table 4.3 to clarify how the storage volumes were calculated for pipe storage. The table rows were also inverted to correspond to the input for the pond elevation/volume table for PondPack in Appendix E.*
17.		**Identify if a Safety Factor was utilized in the infiltrate rate for design purposes (in Section 4.4 on Page 17). If a Safety Factor was utilized, identify the Safety Factor and identify how it was determined. If a Safety Factor was not utilized, provide discussion as to why a Safety Factor was not utilized (as recommended on Page 19 of Appendix C of the PCSM Manual). Make all revisions necessary. 25 Pa Code §102.8(f)(8), §102.8(g)(2), §102.8(g)(3), §102.8(g)(4), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*A safety factor of 3 was used as described in section 4.4 and the new Trip Report in Appendix B.*

18.		**Section 4.5 on Page 17 identifies that E&S details are included in the land development plans; however, this is not in accordance with the regulations. For the ESCGP-2 Permit, provide the regulatory required information in the E&S Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5), §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The E&S details are provided in the E&S Plan. The reference to the E&S details in the PCSM Plan has been removed.*
19.		**Section 5.0 on Page 18 references the Pennsylvania Stormwater Best Management Practices Manual Draft, Pennsylvania Department of Environmental Protection, Bureau of Watershed Management, October, 2009. This referenced manual is not the current PCSM Manual. The current PCSM Manual is dated December 30, 2006 with DEP Document No. 363-0300-002. Identify the DEP Document Number for the referenced manual. If the PCSM Plan and BMPs were not designed to the current version of the PCSM Manual, then all designs will be considered an alternative BMP and design standard. Provide all required information and make all revisions necessary. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The published date was incorrect and revised to be December 2006. The document number was also added. The December 2006 document was used for all designs.*
20.		**The following technical deficiencies are associated with the Trip Report in Appendix B:**
	a.	**Section 3.1 on Page 2 identifies that mottling (or redoximorphic (redox.) features) were recorded from 4 to 30 inches, that redox. May be an indication of seasonal high water table and that groundwater was not observed in the test pits. This discussion is not sufficient, as it does not identify what the redox. features indicate; for example the redox. features may indicate that a soil layer that is limiting downward movement of the water or that the redox. feature exists due to a regularly occurring seasonally high water table. Provide more information related to the redox. features, including an identification whether infiltration is appropriate and will meet all regulatory requirements (e.g. Protocol 2.1.a in Appendix C of the PCSM Manual). 25 Pa Code §91.51(a), §102.8(g)(1), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*A new Trip Report was prepared for the new infiltration test locations required by comment #24f below. Mottling in the new Trip Report is attributed to a perched or slow infiltration zone and not the seasonally high groundwater table.*
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	b.	**Figure 1 is not a sufficient location map for the testing. Provide and identify the test locations on the PCSM Plan drawings, so that DEP can evaluate their location versus the location of the PCSM BMPs. 25 Pa Code §102.8(f)(9) & §102.8(g)(1)**
	SPLP Response:	*The infiltration test locations have been shown on the plan drawings.*
	c.	**The following technical deficiencies are associated with the Soil Log: 25 Pa Code §102.8(g)(1)**
	i.	**Provide a separate log for each Test Pit.**

	SPLP Response:	*Soil color descriptions were provided for the new test locations. Older test locations are not valid and were discarded.*
	ii.	**Provide more appropriate soil color descriptions (e.g. from the Munsell Soil Color Charts).**
	SPLP Response:	*Soil color descriptions were provided for the new test locations. Older test locations are not valid and were discarded.*
	iii.	**Provide more description as to what the 'mixed' color patterns represent. Do the redox. features stop at 30 inches?**
	SPLP Response:	*Mottling in the new Trip Report is attributed to a perched or slow infiltration zone and not the seasonally high groundwater table.*
	d.	**The Infiltration Test Data Sheet for IT-1 appears to identify a raw/tested infiltration rate of 4.69 in./hr.; which is different from the identified tested rate in Section 4.4 on Page 17. Clarify this discrepancy and make all revisions necessary. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*Infiltration testing was redone in the area of the proposed BMP at the proper depths. A new Trip Report was added to Appendix B.*
	e.	**It does not appear that a stabilized rate was achieved for IT-2. Protocol 1, Step 3.a in Appendix C of the PCSM Manual recommends taking readings for 8 readings or until a stabilized rate is obtained. If 8 readings or a stabilized rate where not obtained, provide the demonstration of an alternative BMP and design standard. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Infiltration testing was redone in the area of the proposed BMP at the proper depths. A new Trip Report was added to Appendix B.*
21.		**The following technical deficiencies are associated with Appendix C:**
	a.	**Figure No. C-1 is not of sufficient detail/scale/contour information to delineate the drainage area. Provide a more accurate/appropriate drainage area map. 25 Pa Code §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The scale of the figure was increased and existing surveyed contours and proposed grading were added to show a more accurate depiction of the drainage area.*
	b.	**Figure No. C-2 is titled "Post-Construction Drainage Area Map"; however, Appendix C is identified as "Pre-Development Runoff Map". Provide an accurate/appropriate pre-development drainage area map, including contours. 25 Pa Code §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The figure was changed to show the pre-construction drainage area. The scale of the figure was increased and the aerial photo was updated. The drainage area was delineated using the Drainage Area Map.*

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22.		**Figure No. D-1 in Appendix D is not of sufficient detail/scale/contour information to delineate the drainage area. Provide an accurate/appropriate post-development drainage area map, including contours, and identify the Time of Concentration Path. 25 Pa Code §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The scale of the figure was increased, the aerial photo was updated, and proposed grading were added to show a more accurate depiction of the drainage area. The time of concentration is not shown because it is very short and the minimum Tc was used.*
23.		**The following technical deficiencies are associated with Appendix E:**
	a.	**Provide the hydrographs and routings for all regulatory storm events. In the hydrographs identify the drainage area, Curve Number (CN), Time of Concentration (Tc), etc. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*The hydrographs and routings for all storm events were added to the PondPack report in Appendix E.*
	b.	**Identify the invert elevation for Culvert-1. The calculations identify a slope of 2.0% and a length of 50 ft.; however, the PCSM Plan drawings identify a slope of less than 1% and a length of approx. 104 ft. Clarify these discrepancies. 25 Pa Code §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The calculation was revised to show a pipe length that matches the drawing.*
24.		**The following technical deficiencies are associated with Appendix F:**
	a.	**Section 3.9 on Page 13 identifies the receiving surface water to be impaired; however, PCSM Standard Worksheet #1 does not identify the receiving surface water as impaired. Clarify this discrepancy. 25 Pa Code §102.8(f)(5) & §102.8(g)(1)**
	SPLP Response:	*Section 3.9 of the PCSM narrative has been updated to reflect that the receiving waters are classified as Trout Stock Fisheries (TSF) with a designated use of attaining.*
	b.	**PCSM Standard Worksheet #2 identifies existing natural sensitive resources, but does not identify their Total Area. If an existing natural sensitive resource is mapped, then identify its Total Area. 25 Pa Code §102.8(f)(3) & §102.8(g)(1)**
	SPLP Response:	*The total area was added to Worksheet #2 for the mapped wetland.*
	c.	**The following technical deficiencies are associated with PCSM Standard Worksheet #4:**
	i.	**The Managed Site Area is identified as 2.83 ac.; however, only 0.632 ac. was analyzed. Clarify this discrepancy. 25 Pa Code §102.8(f)(8), §102.8(g)(2) & §102.8(g)(4)**

	SPLP Response:	*The LOD was used as the managed site area. The drainage area of 0.63 acres is what is controlled by the PCSM BMP. The land cover outside of the 0.63 acres is not changed between the pre-development and post-development condition; therefore, including it in the analysis would have no effect on the volume increased calculation.*
	ii.	**Hydrologic Soil Groups (HSG) C & D utilize different CNs for all types of ground cover, except impervious. Provide discussion as to why HSGs C & D were combined. 25 Pa Code §102.8(f)(8), §102.8(f)(15), §102.8(g)(2) & §102.8(g)(4)**
	SPLP Response:	*The soils in the analyzed area include Blairton silt loam. This soil type has a HSG rating of C/D according to the NRCS Web Soil Survey. The CN for C/D soils was calculated by assuming half C soils and half D soils for each type of land cover.*
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	iii.	**Identify how the CNs of 85 & 90 were determined for the gravel areas for HSGs B & C/D. PCSM Plan drawing C-3 appears to identify, the gravel pad as PennDOT #2A stone; which is a highly compactable stone and will act like an impervious surface. Provide discussion as to why a PennDOT #2A stone was not modeled as an impervious surface. 25 Pa Code §102.8(0(8), §102.8(f)(15), §102.8(g)(2) & §102.8(g)(4)**
	SPLP Response:	*All proposed gravel areas were re-assigned a CN of 98 in the calculations.*
	d.	**Utilize the latest version of the PCSM Standard Worksheet #5. Identify/provide calculations as to how the volume to be permanently reduced was calculated. Provide the Area for the PCSM BMP. 25 Pa Code §102.8(f)(8), §102.8(f)(15), §102.8(g)(2) & §102.8(g)(4)**
	SPLP Response:	*The latest version of the PCSM standard Worksheet #5 was used as the template for the worksheet. The volume reduced is equal to the volume contained below the lowest orifice that allows discharge through the riser (0.142 ac-ft as shown in Table 4.3 of the PCSM Report). The area of the PCSM BMP was provided as well.*
	e.	**PCSM Standard Worksheet #10 identifies PCSM BMPs to be utilized; however, there is little to no information related to these PCSM BMPs provided throughout the PCSM Plan. Provide the regulatory required information for each PCSM BMP utilized in the design (e.g. narrative discussion, long-term operation and maintenance schedule, plan location, etc.). 25 Pa Code §102.8(f)(6), §102.8(f)(7), §102.8(f)(9) & §102.8(f)(10)**
	SPLP Response:	*Information was added to Sections 3.1 and 3.8 of the PCSM Report on the BMPs included in Worksheet #10.*
	f.	**The following technical deficiencies are associated with Stormwater BMP Information Chart 5.B:**
	i.	**It is identified that a Safety Factor of 2 was utilized; however, the calculations do not appear to have utilized a Safety Factor. Clarify this discrepancy. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*A safety factor of 3 was used and added to the calculations in section 4.4 of the PCSM Report.*

	ii.	**Identify how the dewatering time was calculated. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*The following note was added to Chart 5.B: "The dewatering time was calculated using the following formula: (MAXIMUM WATER SURFACE ELEVATION IN BMP FROM 2YR STORM) – (INFILTRATION ELEVATION BOTTOM OF BED) * (12 IN/FT) / (DESIGN INFILTRATION RATE)"*
	iii.	**The additional information provided to justify the exceeded recommended loading ratios is not sufficient. Provide more information to clearly demonstrate that the proposed loading ratios will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §102.8(f)(15), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The area of the BMP was increased to achieve the required loading ratios.*
	iv.	**It appears that the infiltration testing was performed 3 ft. below the proposed bottom elevation of the infiltration trench. Provide discussion as to how the proposed testing is an adequate and appropriate predevelopment site characterization, as Protocol 1, Step 3 of Appendix C of the PCSM Manual recommends testing at the proposed bottom elevation of an infiltration BMP. 25 Pa Code §102.8(g)(1), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Infiltration testing was redone. A new Trip Report is included in Appendix B. The new test locations were at the proposed bottom elevation of the BMP.*
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25.		**DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings in Appendix G), to avoid confusion and potential inconsistencies. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*Reduced scale drawings have been removed from the submittal. Only one set of full scale drawings has been provided.*
PCSM Narrative Doylesburg Station/Valves		
1.		**Section 1.0 on Page 4 identifies that this Post Construction Stormwater Management (PCSM) Plan is incorporated in the project's Erosion and Sediment Control (E&S) Plan. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The reference to the Erosion and Sediment Control plan has been removed.*
2.		**Section 2.0 on Page 5 does not include discussion related to any proposed PCSM best management practices (BMPs). Ensure that the Site Description properly identifies and includes the PCSM BMPs. 25 Pa Code §102.8(f)(3) & §102.8(f)(6)**
	SPLP Response:	*A note was added to section 2.0 regarding the proposed PCSM BMPs.*

3.		**Section 2.2 on Pages 5-6 provides for soil resolutions, but does not identify the site specific soils or their limitations. Provide the site specific soils, limitations and appropriate resolution for this soil limitation for the post construction condition and how the project was designed to address the limitation for the PCSM BMPs. 25 Pa Code §102.8(f)(2), §102.8(f)(12) & §102.8(g)(5)**
	SPLP Response:	*Section 2.2 of the PCSM narrative has been updated to include site specific soil information and limitations.*
4.		**Section 2.3 on Page 6 identifies the waters are designated as attained, supporting recreation, but fails to identify that the water is also attained, supporting aquatic life. Update accordingly. 25 Pa Code §102.8(f)(5)**
	SPLP Response:	*A note was added to Section 2.3 regarding the identified water supporting aquatic life.*
5.		**Section 2.3 on Page 6 identifies "This E&SC plan..." This is the narrative for the PCSM Plan for the Doylesburg Station site. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The reference to the Erosion and Sediment Control plan has been removed.*
6.		**The following technical deficiencies are associated with Section 3.1 starting on Page 7: 25 Pa Code §102.8(f)(7)**
	a.	**The first sentence references the E&S plan drawings for the PCSM BMPs. This does not meet regulation. The PCSM Plan must be the document referenced for the PCSM BMPs. Make all revisions necessary.**
	SPLP Response:	*The reference to the Erosion and Sediment Control plan has been removed.*
	b.	**It is identified that "It is not intended that the drawings and this report show detailed information on methods and materials." This statement does not meet regulations. The E&S and PCSM Plans shall be final for construction, and the information, details and provide the methods and materials to properly construct and implement the Plans, including the BMPs, as part of the construction sequences associated with these Plans. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The statement quoted was in reference to "methods and materials" needed for the construction of the structural equipment on site and not the PCSM BMPs. To eliminate confusion, the statement has been removed.*
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	c.	**The narrative identifies that the contractor can deviate from the authorized E&S and PCSM Plans based upon field conditions. A deviation from the authorized plans may be necessary; however, the appropriate county conservation district and DEP have to approve any deviation to the authorized plans. Make all revisions necessary to clearly identify this requirement.**

	SPLP Response:	*The statement has been adjusted to require approval from PCCD and PADEP prior to plan deviation.*
	d.	**Provide a schedule of inspections for critical stages of PCSM BMP installation with the construction sequence.**
	SPLP Response:	*Section 3.1 of the PCSM narrative has been updated to address that licensed professional shall oversee all inspection and testing of the proposed BMPs. For specific operation and maintenance schedules please reference Section 3.8 of the PCSM narrative.*
	e.	**The specific construction sequence for the Level Spreader Installation need to be specific to the site design and details. The sequence indicates to protect the lip and for permanent installations the material shall be a non-erodible material, such as pressure-treated timbers or concrete curbing. The Detail on the plan does not reflect this. Clarify if the level spreader is permanent and ensure the detail on the plan matches the construction sequence.**
	SPLP Response:	*The installation sequence in section 3.1 of the PCSM Plan was revised to be specific and indicate a permanent installation with a concrete curb.*
	f.	**Step 2 in construction sequence for the Underground Storage Pipe Installation references reinforced concrete boxes; however, the PCSM Plan does not appear to identify concrete boxes as part of the design. Ensure that the construction sequence is written for the BMP that is designed.**
	SPLP Response:	*Reinforced concrete boxes will not be used at the Doylesburg Station for the Underground Storage Pipes. Section 3.1 of the PCSM has been updated to reflect this.*
	g.	**More information is required in Step 3 in construction sequence for the Underground Storage Pipe Installation related to how to properly excavate for the infiltration trench. Identify how the trench will be constructed (Will the trench be excavated from the sides? If not, how will the heavy equipment be used so that the underlying soil is not compacted? Etc.). Identify how the contractor will lightly compact the stone without compacting the underlying soil.**
	SPLP Response:	*The sequence in Section 3.1 for the underground storage pipes was revised to indicate that heavy equipment shall not enter the trench and that stone will be spread and self-compacted under its own weight instead of compaction with equipment.*
7.		**Section 3.5 on Page 13 is not sufficient as it does not provide for procedures which ensure that the proper measures for recycling or disposal of materials associated with or from the PCSM BMPs are in accordance with Department laws, regulations and requirements. 25 Pa Code §102.8(f)(11)**

	SPLP Response:	*Section 3.5 in the PCSM narrative states that the "operator will remove from the site, recycle, or dispose of all building materials and wastes in accordance with PADEP's solid waste management regulations at 25 PA Code 260.1 et seq., 271.1 et seq., and 287.1 et seq ". The following additional waste management procedures were added to the narrative in section 3.5: "The operator will first characterize the waste materials as municipal, residual or hazardous waste. Before the waste material is hauled away, the material will be stored and labeled in accordance with the applicable management procedures, if any, under the Solid Waste Management Act regulations. The operator will then hire a licensed and insured waste hauler to transport the waste material to a properly permitted waste disposal facility."*
8.		**Section 3.6 on Page 14 is not sufficient as there is no clear demonstration that the thermal impacts will be mitigated by the minimized clearing during construction and by permanent stabilization as soon as practicable. This thermal impact analysis appears to be more for the E&S Plan than for the PCSM Plan. Provide an appropriate thermal impact analysis specific to the PCSM Plan for this location. 25 Pa Code §102.8(f)(13)**
	SPLP Response:	*Section 3.6 of the PCSM narrative has been updated to address how the proposed post-construction stormwater BMPs will minimize pollution to receiving waters due to thermal impact.*
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9.		**The following technical deficiencies are associated with Section 3.8 starting on Page 14: 25 Pa Code §102.8(f)(10)**
	a.	**It appears that information related to the E&S Plan and activities during construction are included in this narrative. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The PCSM narrative has been updated to only address post-construction stormwater BMPs and their associated installation, operation, and maintenance. All information regarding E&S controls can be found in the E&SC narrative*
	b.	**The long-term operation and maintenance schedule indicates the Stormwater BMPs can be altered or removed only after approval by the municipality. Stormwater BMPs can only be altered or removed after approval by DEP as well. Update accordingly.**
	SPLP Response:	*Section 3.8 of the PCSM has been updated to address that BMPs may only be altered or removed after approval from the municipality and the Department of Environmental Protection.*
	c.	**The maintenance schedule for the level spreader indicates to inspect the channel to the level spreader annually. Provide a demonstration to verify that only an annual inspection is appropriate to ensure proper function and operation. Since the conveyance channel is critical to the PCSM design, it needs to be included as a PCSM BMP and have proper operation and maintenance. Provide for repair, replacement and other routine maintenance for the channels.**

	SPLP Response:	*Section 3.8 of the PCSM narrative states that the Level Spreader shall be inspected quarterly for the first two years following installation, and then on a semiannual basis thereafter. The conveyance channel shall be inspected annually and within 48 hours after every major storm event (>1 inch rainfall depth).The vegetated channel operation and maintenance information has been included in Section 3.8 of the PCSM narrative.*
	d.	**The maintenance schedule for the level spreader indicates to remove sediment and debris removal when build up occurs in the clean out. Clarify if/where are the proposed clean outs associated with the level spreaders.**
	SPLP Response:	*The Level Spreader does not have any proposed clean outs. Section 3.8 of the CSM narrative has been updated to reflect this.*
	e.	**Provide a measure to inspect the infiltration facility to ensure proper function and operation. The PCSM Manual recommends inspecting the storm sewer system associated with an infiltration trench; provide this as part of the schedule. There is no inspection identified to ensure that the infiltration bed (underground storage pipe system) is dewatering properly (in accordance with the designed dewatering time); ensure that this critical inspection is clearly identified and that proper repair, replacement and other routine maintenance is provided for.**
	SPLP Response:	*Inspection of cleanouts was added in the inspection schedule for the Underground Storage Pipes, including measuring drawdown time, if possible during inspections. For more detail regarding long-term operation and maintenance information, please reference Section 3.8 of the PCSM narrative.*
	f.	**Ensure that appropriate long-term operation and maintenance schedules are provided for all PCSM BMPs (including any and all PCSM BMPs utilized on PCSM Standard Worksheet #10).**
	SPLP Response:	*Long-term operation and maintenance schedule has been provided in Section 3.8 of the PCSM narrative, including Worksheet #10 items.*
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10.		**Section 3.9 on Page 16 identifies that the receiving surface water is impaired for siltation. Identify how this determination was made, as it appears that the receiving surface water for the Doylesburg Station is attaining its Designated Uses (i.e. it is not impaired). 25 Pa Code §102.8(f)(5)**
	SPLP Response:	*The receiving waters are designated as attained, and Section 3.9 of the PCSM narrative has been updated to reflect that.*

11.		**If an antidegradation analysis has to be completed, the information provided in Section 3.9 is not sufficient. The narrative identifies that non-discharge alternatives were evaluated; however, there is no discussion related to show what was evaluated. It appears that the discussion is focused on the E&S Plan and during the earth disturbance activities; provide an antidegradation analysis for the PCSM Plan. 25 Pa Code §102.8(d), §102.8(f)(6) & 102.8(h)**
	SPLP Response:	*Section 3.9 of the PCSM narrative was updated to show how the development will comply with antidegradation requirements. Also, it is expected that minimal degradation will occur post-construction and that the main concern for degradation is during earth disturbance activities, thus this is what the section addresses.*
12.		**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. Section 3.10 on Page 17). 25 Pa Code §102.8(g)(2) & §102.8(g)(3)**
	SPLP Response:	*The storm events were labeled as 24-hour events in section 3.10 and section 4.1.*
13.		**Section 3.10 on Page 14 identifies that a single PCSM BMP will manage the runoff volume and rate for the 2-year storm. Provide discussion related to what PCSM BMPs will manage the runoff rate for the large storm events. Provide discussion in Section 3.10 related to how the runoff water quality is being managed. 25 Pa Code §102.8(f)(6) & §102.8(f)(15)**
	SPLP Response:	*All discussion of how PCSM BMPs control runoff volume and water quality is found in Section 4.0 of the PCSM report. Section 3.10 was intended to be a summary of section 4.0 and will be deleted entirely since it contains no additional information.*
14.		**Section 3.10 identifies the BMP as an infiltration filter with perforated piping for additional storage. However the BMP is referenced differently within the narrative and on the PCSM plan. In accordance with the PCSM Manual, the BMP appears to be a subsurface infiltration bed. Ensure that the type of PCSM BMP is properly identified and all the necessary information is provided within the PCSM plan. 25 Pa Code §102.8(f)(6) & §102.8(f)(10)**
	SPLP Response:	*All discussion of how PCSM BMPs control runoff volume and water quality is found in Section 4.0 of the PCSM report. Section 3.10 was intended to be a summary of section 4.0 and will be deleted entirely since it contains no additional information*

15.		**Section 4.1 on Page 18 identifies that the PCSM Plan is designed to comply with the Perry County SWM Plan and the state regulations. Worksheet #1 in Appendix F indicates that there is an approved Act 167 Plan. Attachment V to the NOI identifies that there is no approved Countywide Act 167 Plan, but identifies the adopted plan as Terry County Subdivision and Land Development Ordinance w/ Stormwater Requirements' which is indicated to be approved in 2008. Clarify if there is an adopted Act 167 Plan, as this chart seems to imply that the 'Perry County Subdivision and Land Development Ordinance w/ Stormwater Requirements' is an adopted Act 167 Plan. The post construction stormwater shall be managed as specified in an applicable Department approved and current Act 167 stormwater management plan, as identified in the regulations (25 Pa Code §102.8(g)(2) & §102.8(g)(3)), or to all alternative design standard (per 25 Pa Code §102.8(g)(2)(iv) & §102.8(g)(3)(iii)). Clearly identify the design standards used for this PCSM Plan. If an alternative design standard was utilized, ensure that all required information is provided to make the alternative design demonstration. Make all revisions necessary throughout all of the application documents.**
	SPLP Response:	*The introduction paragraph of section 4.1 was revised as follows: "This plan has been prepared to comply with the Pennsylvania Stormwater Best Management Practices Manual." The Township/County Act 167 plan is not approved and was not used in the design. Worksheet #1 was revised to indicate that the Act 167 Plan is not approved.*
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16.		**It is not clear how the rainfall depths were determined, as identified in Section 4.1 on Page 18. 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 provide a demonstration which identifies how the alternative BMP and design standard will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §102.8(f)(8), §102.8(f)(15), §102.8(g)(2), §102.8(g)(3), §102.8(g)(4), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The NOAA Atlas 14 rainfall data was added to Appendix E. Section 4.1 of the PCSM narrative was edited to clarify this as the source of the rainfall data.*
17.		**Provide additional information/calculations to clarify how the volumes were calculated in Table 2 starting on Page 19. 25 Pa Code §102.8(f)(8) & §102.8(f)(15)**
	SPLP Response:	*Footnotes were added to Table 2 to clarify how the storage volumes were calculated for pipe storage. The table rows were also inverted to correspond to the input for the pond elevation/volume table for PondPack in Appendix E.*
18.		**Section 4.3, Table 3 is labeled as `BMP-4 Routing Summary POI-2 Basin'. The report indicates there is only 1 POI and there is no 'basin' proposed. Clarify the discrepancy. 25 Pa Code §102.8(f)(8) & §102.8(f)(15)**
	SPLP Response:	*The title of the table was revised to indicate only one BMP that is not a basin.*

19.		**Identify if a Safety Factor was utilized in the infiltrate rate for design purposes (in Section 4.4 on Starting on Page 20). If a Safety Factor was utilized, identify the Safety Factor and identify how it was determined. If a Safety Factor was not utilized, provide discussion as to why a Safety Factor was not utilized (as recommended on Page 19 of Appendix C of the PCSM Manual). Make all revisions necessary. 25 Pa Code §102.8(f)(8), §102.8(g)(2), §102.8(g)(3), §102.8(g)(4), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The infiltration rate was determined to be zero so no safety factor was required.*
20.		**Section 4.4, based on the results of the infiltration testing, no infiltration was achieved at on test point and an extremely low infiltration rate was achieved at the other test point. Provide a demonstration or additional data to support that infiltration is appropriate at the proposed location and depth of the infiltration BMP. 25 Pa Code §102.8(g)(1)**
	SPLP Response:	*Infiltration testing was redone in approximately the same location as previous infiltration testing. The results again indicated that there was little to no infiltration in the underlying soils. Because of the low infiltration rates in the underlying soil, SPLP redesigned the infiltration BMP to provide for the installation of a slow release underdrain to ensure that the 2-year control volume is released over a 24 to 72 hour period.*
21.		**Section 4.5 on Page 21 identifies that E&S details are included in the land development plans; however, this is not in accordance with the regulations. For the ESCGP-2 Permit, provide the regulatory required information in the E&S Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5), §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*Section 4.5 in the PCSM narrative has been updated to only provide information pertinent to the PCSM Plan. All regulatory required information for the ESCGP-2 permit can be found in the E&S narrative and plan drawings.*
22.		**Section 5.0 on Page 23 references the Pennsylvania Storrs water Best Management Practices Manual Draft, Pennsylvania Department of Environmental Protection, Bureau of Watershed Management, October, 2009. This referenced manual is not the current PCSM Manual. The current PCSM Manual is dated December 30, 2006 with DEP Document No. 363-0300-002. Identify the DEP Document Number for the referenced manual. If the PCSM Plan and BMPs were not designed to the current version of the PCSM Manual, then all designs will be considered an alternative 13MP and design standard. Provide all required information and make all revisions necessary. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The publication date was incorrect and revised to be December 2006. The document number was also added. The December 2006 document was used for all designs.*
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23.		**Since the channels are critical to the PCSM design, they are considered PCSM BMPs.**
	a.	**Provide associated operation and maintenance schedule and calculations. 25 Pa Code §102.8(f)(8) & §102.8(f)(10)**

	SPLP Response:	*An operation and maintenance schedule has been provided in Section 3.8 of the PCSM narrative.*
	b.	**Demonstrate that the proposed bypass channels can safely bypass the flow from a 100 year storm event to allow the other BMPs to function as designed. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*Worksheet #11 has been filled out for the proposed channels and included in the E&S Report. Channel A and Channel B proposed for E&S control will become permanent after construction.*
	c.	**Provide calculations for the existing channel and ensure that the additional flow will be stable and the channel will function as designed. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*The calculation for the existing channel was included on Worksheet #11 in the E&S Report.*
24.		**The following technical deficiencies are associated with the Trip Report in Appendix B:**
	a.	**Figure 1 is not a sufficient location map for the testing. Provide and identify the test locations on the PCSM Plan drawings, so that DEP can evaluate their location versus the location of the PCSM BMPs. 25 Pa Code §102.8(f)(9) & §102.8(g)(1)**
	SPLP Response:	*Figure 1 was revised for the new test locations. Older test locations are not valid and were discarded.*
	b.	**Provide more appropriate soil color descriptions (e.g. from the Munsell Soil Color Charts) in the Soil Log. 25 Pa Code §102.8(g)(1)**
	SPLP Response:	*Soil color descriptions were provided for the new test locations. Older test locations are not valid and were discarded.*
	c.	**The trip report indicates that the infiltration test depths were at 18 inches from surface for TP-1 and 12 inches from the surface for TP-2). It also indicates that test pits were completed to two feet below the target infiltration test depths. The soil logs appear to only go to 28" below the surface. Clarify the discrepancy and provide documentation to ensure that is 2 feet separation from the proposed bottom of the infiltration facility. 25 Pa Code §102.8(g)(1) & §102.11(a)(2)**
	SPLP Response:	*Infiltration testing was redone in the area of the proposed BMP at the proper depths. A new Trip Report was added to the Appendix B.*
25.		**Figure No. C-1 in Appendix C, is not of sufficient detail/scale/contour information to delineate the drainage area. Provide a more accurate/appropriate drainage area map. 25 Pa Code §102.8(f)(8) & §102.8(f)(9)**

	SPLP Response:	*The figure was revised to include more detailed topography and grading to better show the drainage area delineation.*
26.		**Figure No. D-1 in Appendix D is not of sufficient detail/scale/contour information to delineate the drainage area. Provide an accurate/appropriate post-development drainage area map, including contours and identify the Time of Concentration Path. 25 Pa Code §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The figure was revised to include more detailed topography and grading to better show the drainage area delineation.*
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27.		**The following technical deficiencies are associated with Appendix E:**
	a.	**Provide the hydrographs and routings for all regulatory storm events. Provide the drainage area, Curve Number (CN), Time of Concentration (Tc), etc. with the hydrographs. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*The hydrographs and routings for all storm events were added to the PondPack report in Appendix E.*
	b.	**The pond elevation and pond volume table on page 5 of 10, does not correlate to the Cumulative storage volume table on pages 19-20 of the PCSM narrative. Clarify the discrepancy.**
	SPLP Response:	*The table in the PCSM narrative was revised and notes were added that clarify how the elevations match what was used in the PondPack calculations.*
	c.	**The outlet pipe data indicates that the outlet input data indicates that the culvert 1 is 20 feet, but the plan shows the outlet pipe at approximately 75 linear feet. Clarify the discrepancy. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*The calculation was revised to show a pipe length that matches the drawing.*
	d.	**Clarify the existing type of gravel on the site if 20% of the existing impervious area to be disturbed has been considered meadow in good condition. 25 Pa Code §102.8(g)(2)(i)**
	SPLP Response:	*20% of the existing impervious area was changed to meadow in good condition in the PondPack model.*
28		**The following technical deficiencies are associated with Appendix F:**
	a.	**The following technical deficiencies are associated with PCSM Standard Worksheet #4:**
	i.	**The Managed Site Area is identified as 1.68 ac.; however, 8.17 acres were analyzed. Clarify this discrepancy. 25 Pa Code §102.8(f)(8), §102.8(g)(2) & §102.8(g)(4)**

	SPLP Response:	*The LOD was used as the managed site area. The drainage area of 8.17 acres is what is controlled by the PCSM BMP. The land cover outside of the LOD (now 1.80 acres) is not changed between the pre-development and post-development condition; therefore, including it in the analysis would have no effect on the volume increased calculation.*
	ii.	**Identify how the CNs of 85 was determined for the gravel areas for HSGs B. PCSM Plan drawing C-3 appears to identify the gravel pad as PennDOT #2A stone; which is a highly compactable stone and will act like an impervious surface. Provide discussion as to why a PennDOT #2A stone was not modeled as an impervious surface. 25 Pa Code §102.8(f)(8), §102.8(f)(15), §102.8(g)(2) & §102.8(g)(4)**
	SPLP Response:	*All proposed gravel areas were re-assigned a CN of 98 in the calculations.*
	b.	**Provide the latest version of the PCSM Standard Worksheet #5. Identify/provide calculations as to how the volume to be permanently reduced was calculated. Provide the Area for the PCSM BMP. 25 Pa Code §102.8(f)(8), §102.8(f)(15), §102.8(g)(2) & §102.8(g)(4)**
	SPLP Response:	*The latest version of the PCSM standard Worksheet #5 was used as the template for the worksheet. The volume reduces is equal to the volume contained below the lowest orifice that allows discharge through the riser (0.114 ac-ft as shown in Table 2 of the PCSM Report). The area of the PCSM BMP was provided.*
	c.	**PCSM Standard Worksheet #10 identifies PCSM BMPs to be utilized; however, there is little to no information related to these PCSM BMPs provided throughout the PCSM Plan. Provide the regulatory required information for each PCSM BMP utilized in the design (e.g. narrative discussion, long-term operation and maintenance schedule, plan location, etc.). 25 Pa Code §102.8(f)(6), §102.8(f)(7), §102.8(f)(9) & §102.8(f)(10)**
	SPLP Response:	*Narrative discussion and long-term operation and maintenance information was added to Sections 3.1 and 3.8 of the PCSM Report on the BMPs included in Worksheet #10.*
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	d.	**The following technical deficiencies are associated with Stormwater BMP Information Chart 5.B:**
	i.	**It is identified that a Safety Factor of 2 was utilized; however, the calculations do not appear to have utilized a Safety Factor. Clarify this discrepancy. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*Upon retesting, the infiltration rate was determined to be effectively zero; therefore, a safety factor was not applied. A slow release underdrain will be used to dewater the BMP at an acceptable rate.*
	ii.	**Identify how the dewatering time was calculated. The PCSM Manual identifies that that the stormwater volume should dewater within a maximum of 72 hours after the design storm. Revise the design accordingly. 25 Pa Code §102.8(f)(8) & §102.11(a)(2)**
	SPLP Response:	*The dewatering time is based on a calculation added to Appendix E for the underdrain. This was noted on Table 5b.*

	iii.	**The additional information provided to justify the exceeded recommended loading ratios is not sufficient. Provide more information to clearly demonstrate that the proposed loading ratios will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §102.8(f)(15), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The area of the BMP was increased to achieve the required loading ratios.*
	iv.	**It appears that the infiltration testing was performed 3 ft. above the proposed bottom elevation of the infiltration facility. Provide discussion as to how the proposed testing is an adequate and appropriate predevelopment site characterization, as Protocol 1, Step 3 of Appendix C of the PCSM Manual recommends testing at the proposed bottom elevation of an infiltration BMP (ensure that the soil profiles have been investigated at least 2 feet below the bottom of the infiltration BMP). 25 Pa Code §102.8(g)(1), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Infiltration testing was redone. A new Trip Report is included in Appendix B. The new test locations were at the proposed bottom elevation of the BMP.*
29.		**DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings in Appendix G), to avoid confusion and potential inconsistencies. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*Reduced scale drawings have been removed from the submittal. Only one set of full scale drawings has been provided.*
PCSM Narrative Middletown Pump Station		
1.		**Identify to what standards the PCSM Plan was designed and planned (i.e. Act 167 Plan, 25 Pa Code §102.8(g)(2) & §102.8(g)(3), or an alternative design standard per 25 Pa Code §102.8(g)(2)(iv) & §102.8(g)(3)(iii)).**
	SPLP Response:	*The PCSM plan was designed to meet the Londonderry Township SALDO and the PA Stormwater BMP Manual. See Section 2.0 of the PCSM Report*
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2.		**Section 2.0 indicates that the Worksheets # 4 & 5 are included in Appendix D, but the Worksheets are located in Appendix E. Clarify the discrepancy. 25 Pa Code §102.8(f)(3) & §102.8(f)(6)**
	SPLP Response:	*The worksheets have been moved to Appendix D.*
3.		**It is not clear how the rainfall depths were determined, as identified in Section 2.0. Clearly identify how the utilized rainfall depths were determined. 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 provide a demonstration which identifies how the alternative BMP and design standard will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §102.8(f)(8), §102.8(f)(15), 102.8(g)(2), 102.8(g)(3), §102.8(g)(4), §102.11(a)(2) & §102.11(b)**

	SPLP Response:	*SPLP revised the PCSM calculations to utilize the rainfall data from the NOAA Atlas 14.*
4.		**Section 3.0 indicates that the pre-development has a single point of discharge. However, based on the existing contours, surface waters and assumed property lines shown on the plan, there needs to be at least 3 points of discharge: (1) Draining to the North to an UNT to Swatara Creek, (2) draining to a wetland from a central portion of the access drive, and (3) draining to the south to an UNT to Swatara Creek. Reevaluate the points of the discharge and update the application accordingly. 25 Pa Code §102.8(f)(4)**
	SPLP Response:	*The plans and reports have been revised to include three, pre-developed points of interest, as recommended. For that reason, several additional BMPs have been added to the PCSM design.*
5.		**Clearly identify the drainage areas and delineate the boundaries on the pre-development and post-development drainage area maps. While the maps are provided, the drainage areas are not clear. 25 Pa Code §102.8(f)(4) & §102.8(f)(9)**
	SPLP Response:	*Drainage area lines have been updated to clearly delineate the boundaries.*
6.		**Provide documentation to support the CN utilized in the analysis, including identifying the specific soils Hydraulic Soil Group (HSG) and the input data and calculations used to achieve the weighted CN values. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*The majority of the soils on site and within the disturbed area are considered Lewisberry gravelly sandy loam, which are classified as HSG "B" type soils. Additional data and calculations to determine the weighted CN values are included within the PondPack report, Appendix C and D.*
7.		**Provide documentation to support the Time of Concentration utilized in the analysis. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*Assumed pre-developed Tc flow paths have been added to the drainage area maps, for time periods over 5 minutes. Tc calculations are also shown in the PondPack report. For all post developed drainage areas, a Tc of 5 minutes was assumed for the calculations, therefore a Tc flow path was not shown on the plan.*
8.		**The pre-development and post-development runoff calculations, utilized at 96-hour storm duration for each of the storm events. The regulations required utilizing a 24-hour duration for each storm event. Update the calculations accordingly. 25 Pa Code §102.8(g)(3)**
	SPLP Response:	*The PondPack model was revised to utilize a 24 hour time duration. The 96 hour time period shown in the previous report is the time span used to achieve full volume for the hydrograph, not the storm duration. Each peak flow is calculated based on the 24 hour storm rainfall depth. Changing the time span to 24 hours does not affect the peak flow.*

9.		**The post-developed drainage areas (area and CN values) explained in Section 3.0, do not correlate directly with the Post-Development Hydrology calculations in Appendix D. Clarify the discrepancy and clearly explain the drainage areas and analysis. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*The PCSM report was modified to correct any discrepancies between the narrative in Section 3.0 and Appendix D.*
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10.		**Sections 3.0 & 4.0 reference post-development calculations are located in Appendix C, but Appendix C only contains the pre-development calculations. Clarify the discrepancy. 25 Pa Code §102.8(f)**
	SPLP Response:	*The PCSM narrative was revised to include the language "Appendix C and D". Pre-Developed information is shown in Appendix C, post-developed information is shown in Appendix D.*
11.		**The invert elevation (for the 2-inch orifice and overflow for infiltration bed #1 do not correlate to the plans. Clarify the discrepancy and ensure the calculations are consistent. 25 Pa Code §102.8(f)(6), §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The 2" orifice was associated with Basin #1, not Infiltration Bed #1.*
12.		**The spillway elevation (354) for Infiltration Bern #2 does not correlate to the detail on the plan (355). Clarify the discrepancy and ensure the calculations are consistent. 25 Pa Code §102.8(f)(6), §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*Infiltration Berm #2 was revised to a SRC basin. The details for SRC Basin #2 are shown on Sheet 9.*
13.		**Section 5.0 identifies that E&S details are included in the land development plans; however, this is not in accordance with the regulations. For the ESCGP-2 Permit, provide the regulatory required information in the E&S Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5), §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The PCSM report was revised to remove the language "included in the Land Development Plans". The E & S details are included within the E & S Plans.*
14.		**Section 5.0 fails to identify all of the PCSM BMPs, including Detention Basin 1. Make all revisions necessary. 25 Pa Code §102.8(f)(6)**
	SPLP Response:	*Section 5.0 was revised to include SRC Detention Basin #1 and #2, SRC Berm #1, and Detention/Infiltration Beds #1 and #2.*
15.		**In Section 5.0, the infiltration rates identified do not correlate with the infiltration testing provided in Appendix F. Clarify the discrepancy. 25 Pa Code §102.8(f)(6) & §102.8(g)(1)**

	SPLP Response:	*The infiltration rates in Section 5.0 were corrected. Please note that the infiltration test data sheets shows the volume of water added between each cycle, which is not the actual infiltration rate (in/hr).*
16.		**In Section 5.0, the volume reduction identified does not correlate to Worksheet #5 or the NOI. Clarify the discrepancy. 25 Pa Code §102.8(f)(6) & §102.8(f)(8)**
	SPLP Response:	*The volume reduction shown in Section 5.0 was corrected to match the new design for the infiltration beds and the two SRC Basins.*
17.		**Section 7.0, Provide specific long-term operation and maintenance schedules for all PCSM BMPs. The schedule which needs to provide for inspection, needs to include, repair, replacement and other routine maintenance of the PCSM BMPs to ensure proper function and operation. The program must 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. Refer the PCSM Manual for reference for the operation and maintenance for each type of PCSM BMP. 25 Pa Code §102.8(f)(10)**
	SPLP Response:	*Section 7.0 was revised to include additional long term O & M schedules for all BMPs. Additional information was also added to address repair and replacement of BMPs and the proper DEP Form to complete for all site inspections.*
18.		**In Section 8.0 and on the PCSM Plans, clarify when the basin is to be constructed within the Construction Sequence. Ensure to include the installation of the outlet structure, specifically, the anti-seep collar as a critical stages of PCSM BMP installation. 25 Pa Code §102.8(f)(7)**
	SPLP Response:	*The construction sequence was revised to include the basin construction. Section 8.0 was revised to include additional critical stages for Professional oversight. The sequence was expanded to include the construction of SRC Basins, Beds and SRC Berms.*
19.		**Delineate the site location on the location map in Appendix A. 25 Pa Code §102.8(f)(1)**
	SPLP Response:	*The site boundary has been added to the location map in Appendix A.*
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20.		**In Appendix D, provide a schematic to explain the runoff analysis, including the nodes, links and outlet structures. 25 Pa Code §102.8(f)(8) & §102.8(g)(3)**
	SPLP Response:	*Appendix C and D were revised to include a PondPack node schematic.*
21.		**In Appendix D, clarify that the weir lengths are accurate for both Outlet Structure 3 &4, which appears to be associated with infiltration Bemis 1 & 2. It indicates the weir length is 10 feet, but that does not appear to correlate with the yard drain size shown on the plans. 25 Pa Code §102.8(f)(6) & §102.8(f)(8)**

	SPLP Response:	*The weir length of 10' is accurate for SRC Berm #1. Note that the 2' x 2' yard drain top of grate elevation is at 355.0, which is 12" above the spillway crest of 354.0. There will be no flow through the top of the 2' x 2' drain. All outflow of this berm is assumed to travel through either the spillway or slowly released through the 4" ball valve and outlet pipe. See Appendix D.*
22.		**The following comments relate to the Trip Report in Appendix F:**
	a.	**Section 1.0 indicates single and double ring tests were conducted. Section 2.0 indicates that only double ring testing was performed. Clarify the discrepancy. 25 Pa Code §102.8(g)(1)**
	SPLP Response:	*The tests completed in October, 2015 (TP-1 through TP-5) utilized the double ring method. Section 1.0 of the Trip Report was modified to remove the term "Single ring". The previous report for ME1 completed in March, 2015 utilized the single ring method. The ME1 Geotechnical Report is also included within the PCSM narrative, Appendix F.*
	b.	**Figure 1 is not a sufficient location map for the testing. Provide and identify the test locations on the PCSM Plan drawings, so that DEP can evaluate their location versus the location of the PCSM BMPs. 25 Pa Code §102.8(f)(9) & §102.8(g)(1)**
	SPLP Response:	*All of the infiltration tests completed for this site are shown on Sheet 2 of the PCSM Plans.*
c.		**Provide a table to demonstrate the infiltration test elevation, the proposed elevation at the bottom of the infiltration facility and the depth of the soil log to in order to correlate the testing with the proposed design. 25 Pa Code §102.8(g)(1)**
	SPLP Response:	*A soil testing summary table depicting infiltration rate, surface elevation, test depth and elevation and the corresponding infiltration facility elevation is included within Appendix F.*
	d.	**The infiltration testing results do not appear to be related with the proposed PCSM BMP design calculations. For instance the Infiltration Test Data Sheet for IT-5 appears to correlate to the location of the infiltration bed #1 Infiltration Test Data Sheet for IT-5 identifies a raw/tested infiltration rate of 0.3 in./hr.; however an infiltration rate of 1.15 in/hr was used in the infiltration facilities design on Worksheet #4. Clarify the discrepancies and ensure the PCSM BMP design calculations reflect the infiltration testing. 25 Pa Code §102.8(f)(8), §102.8(g)(1) & §102.8(g)(2)**
	SPLP Response:	*The infiltration test data sheets show the volume of water added between each cycle, which is not the actual infiltration rate. The actual infiltration rate used is correct for each area and a safety factor of "2" was also utilized.*
	e.	**Clarify if infiltration is appropriate at Infiltration Berm #1. It appears the testing in that vicinity resulted in no infiltration. 25 Pa Code §102.8(f)(8), §102.8(g)(1) & §102.8(g)(2)**

	SPLP Response:	*SRC Berm #1 has been modified to include a 4" valve in the outlet structure, so that the Berm can be slowly dewatered if necessary.*
23.		**The following technical deficiencies are associated with Appendix E:**
	a.	**Provide the latest version of the PCSM Standard Worksheet #5. Identify/provide calculations as to how the volume to be permanently reduced was calculated. Provide the Area for the PCSM BMP. 25 Pa Code §102.8(f)(8), §102.8(f)(15), §102.8(g)(2) & §102.8(g)(4)**
	SPLP Response:	*The latest version of Worksheet #5 (8/2016) has been utilized. Additional calculations have been provided for the volume removed.*
	b.	**The Volumes of Stormwater treated from each BMP on Worksheet #5 does not correlate with the Volume of Stormwater treated in Section D.4 of the Notice of Intent. Clarify the discrepancies. 25 Pa Code §102.8(f)(8) & §102.6(a)(1)**
	SPLP Response:	*The NOI has been modified to match the revised design for this site.*
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24.		**DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings after Appendix F in the narrative), to avoid confusion and potential inconsistencies. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*All reduced size plans were removed from Appendix F. All soil test locations are shown on the PCSM Plans, Sheet 2.*
25.		**Clarify if the infiltration calculations for the PCSM BMPs account the time of concentration or 2 hours as the infiltration Period. If the infiltration period exceeds the time of concentration or 2 hours as recommended in the PCSM Manual, provide a discussion of how the proposed infiltration period will achieve the same regulatory standards as the recommendations of the PCSM Manual 25 Pa Code §102.8(f)(8), §102.8(g)(2) & §102.11(a)(2)**
	SPLP Response:	*A 12 hour infiltration period was utilized for Infiltration Beds #1 and #2, since the orifice is raised above the bottom of the bed and there is no outflow through the orifice for at least 12 hours. The SRC Basins and the SRC Berm did not utilize an infiltration period.*
26.		**Clarify how the conveyance facilities (i.e. pipes and swales) are designed. Will they convey the 100 year storm event or was the overflow/bypass accounted for in the design. Provide conveyance calculations for any stormwater conveyance features which are critical to the PCSM BMP design. For instance if the stormwater up to the 100 year storm event is to be managed by a PCSM BMP and the stormwater only reaches the PCSM BMP by being conveyed to the PCSM BMP through a conveyance feature, calculations demonstrating the conveyance facility can convey the 100-year storm to the PCSM BMP are required. The conveyance feature needs to be identified as a PCSM BMP and have associated Operation and Maintenance. 25 Pa Code §102.8(f)(8) & §102.8(f)(15)**

	SPLP Response:	*All pipes and swales were re-designed to convey the 100 year storm. There is no bypass for any of the diversion or collector channels. All proposed storm pipes have sufficient capacity to convey the 100 year storm.*
27.		**Provide procedures which ensure the proper measures for recycling or disposal of materials associated with or from the PCSM BMPs in accordance with Department laws, regulations and requirements. 25 Pa Code §102.8(f)(11)**
	SPLP Response:	*Recycling measures are included within the Construction Sequence, Inspection and Maintenance of Control Facilities, Section 8.0 of the PCSM Report.*
28.		**Provide the proposed loading ratios (total and impervious) and associated calculations for each infiltration PCSM BMP. If the loading ratios exceed the recommendations in the PCSM Manual, provide a discussion of how the proposed loading ratios will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §102.8(f)(15), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Table 5B is included in Appendix E. Loading ratios are met for all BMPs except Infiltration Bed #2, which is discharging into another infiltration bed under an existing paved area.*
29.		**Provide a thermal impact analysis for the project. 25 Pa Code §102.8(f)(13)**
	SPLP Response:	*A Thermal Impact Analysis is included within the PCSM report, Section 5.0.*
30.		**Provide Worksheets #1-3 for the project. 25 Pa Code §102.6(a)(1), §102.8(g)(1) & §102.8(g)(2)**
	SPLP Response:	*Worksheets #1 -3 are included in the PCSM report, see Appendix E.*
31.		**Provide an analysis to demonstrate the PCSM BMPs will meet the water quality requirements (i.e. Worksheet #10 and/or Worksheets #11-13). Refer to the Water Quality Process Flow chart on page 40 in Chapter 8 of the PCSM Manual for additional information. 25 Pa Code §102.8(g)(2) & §102.11(a)(2)**
	SPLP Response:	*Worksheet #10 has been added to the report. If needed, worksheets #11 -#13 have also be completed.*
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32.		**Clarify if an antidegradation analysis has to be completed. If so, provide an antidegradation analysis for the PCSM Plan. 25 Pa Code §102.8(d), §102.8(f)(6) & §102.8(h)**
	SPLP Response:	*An anti-degradation analysis is not required due the project not being within a high quality or exceptional value watershed.*

33.		**Provide additional information/calculations to clarify how the volumes were calculated for the infiltration basin and berm(s) in Worksheet #5. 25 Pa Code §102.8(f)(8) & §102.8(f)(15)**
	SPLP Response:	*The additional information describing how the volume reduction was achieved is shown on Worksheet #4 for the three BMP areas. See Appendix E.*
34.		**Identify if a Safety Factor was utilized in the infiltrate rate for design purposes. If a Safety Factor was utilized, identify the Safety Factor and identify how it was determined. If a Safety Factor was not utilized, provide discussion as to why a Safety Factor was not utilized (as recommended on Page 19 of Appendix C of the PCSM Manual). Make all revisions necessary. 25 Pa Code §102.8(f)(8), §102.8(g)(2), §102.8(g)(3), §102.8(g)(4), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*A safety factor of 2 was utilized for the infiltration rate, based on the recommended minimum value allowed in the PA Stormwater BMP Manual.*
35.		**Provide dewatering time calculations of the proposed PCSM BMPs. §102.8(f)(8) & §102.11(a)(2)**
	SPLP Response:	*Dewatering time calculations are shown in Chart 5B, located in Appendix E.*
36.		**Clarify if the Diversion Channels 1 & 2 will bypass the upstream drainage area from the project site. If so, provide calculations supporting that the channels will be able to convey the 100-year storm event and bypass the project site. 25 Pa Code §102.8(f)(4) & §102.8(f)(8)**
	SPLP Response:	*Diversion Channel #1 bypasses upstream flows away from the access roadway and discharges into Level Lip Spreader #1. Diversion Channel #2 bypasses upstream flows away from the access roadway and the SRC Basin #2 area. All channels and pipes were sized for the 100 year storm event.*
37.		**Provide calculations for the design of the level spreader. Ensure the design is in accordance with the PCSM Manual or provide the required information related to the alterative BMP and design standard. 25 Pa Code §102.8(f)(8), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The level spreaders were designed in accordance with the 2012 Erosion and Sediment Pollution Control Program Manual, Chapter 9. The Manual recommendations a design guideline of providing 5 l.f./acre of drainage area, or 1 foot of length for every 1 cfs of discharge. Both proposed level spreaders are 20' in length for a drainage area of approximately 1.0 acre in size each. The level spreaders are oversized for the expected flow. Channel #1 was designed for a 100 year flow of 2.77 cfs and Channel #4 was sized for a 100 year flow of 2.49 cfs. Both level spreaders are approximately 15' longer than the design guidelines require, to insure the diverted runoff is returned to a sheet flow condition.*

PCSM Narrative Beckersville Pump Station		
1.		**Section 1.0 indicates that the project area drains via an unnamed tributary (UNT) to Muddy Creek, however the location map indicates the project site drains to an UNT to Rock Run and/or an UNT Alleghany Creek. Clarify the discrepancy. 25 Pa Code §102.8(f)(5)**
	SPLP Response:	*The correct tributary is Muddy Creek. The location map was corrected within the report.*
2.		**Identify to what standards the PCSM Plan was designed and planned (i.e. Act 167 Plan, 25 Pa Code §102.8(g)(2) & §102.8(g)(3), or an alternative design standard per 25 Pa Code §102.8(g)(2)(iv) & §102.8(g)(3)(iii)). Section 2.0 identifies that the PCSM Plan is designed to comply with the Brecknock Township's Subdivision and Land Development Ordinance. Please note that the Conestoga River Watershed Act 167 plan is not current. Clearly identify the design standards used for this PCSM Plan. If an alternative design standard was utilized, ensure that all required information is provided to make the alternative design demonstration. Make all revisions necessary throughout all of the application documents.**
	SPLP Response:	*The PCSM plan was designed to meet the Township SALDO and the PA Stormwater BMP Manual. This has been added to page 1 of the PCSM report.*
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3.		**It is not clear how the rainfall depths were determined, as identified in Section 2.0. Clearly identify how the utilized rainfall depths were determined. Chapter 8 (Page 6) of the PCSM Manual recommends utilizing the rainfall data from the NOAA Atlas 14. If the recommendations of the PCSM Manual are not followed, then provide a demonstration which identifies how the alternative BMP and design standard will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §102.8(f)(8), §102.8(f)(15), §102.8(g)(2), §102.8(g)(3), §102.8(g)(4), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*SPLP revised the PCSM calculations to utilize the rainfall data from the NOAA Atlas 14.*
4.		**In Section 3.0, the narrative indicates that drainage area 1 is routed to a basin and drainage area 2 is undetained. This description of the post developed site conditions is not consistent with what is shown on the PCSM plans. Clarify the discrepancy. 25 Pa Code §102.8(f)(6) & §102.8(f)(8)**
	SPLP Response:	*The labeling for the pre and post developed drainage areas has been corrected on the PCSM plans and report.*
5.		**Section 3.0 indicates that the pre-development has a single point of interest. However, based on the existing contours and assumed property lines shown on the plan, there needs to be at least 2 points of discharge in order to compare the post development condition. Reevaluate the points of the discharge and update the application accordingly. 25 Pa Code §102.8(f)(4) & §102.8(f)(9)**

	SPLP Response:	*Since the new basin has been moved south, there is one pre-developed point of interest.*
6.		**The peak flowrates in the report do not correlate to the flowrates in the Notice of Intent (NOI). Clarify the discrepancy. 25 Pa Code §102.6(a)(1) & §102.8(g)(3)**
	SPLP Response:	*The peak flow rates in the NOI have been revised to match the peak flow rates in the PCSM narrative.*
7.		**Provide documentation to support the CN utilized in the analysis, including identifying the specific soils Hydraulic Soil Group (HSG) and the input data and calculations used to achieve the weighted CN values. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*The majority of the soils on site and within the disturbed area are considered Joanna loam, which are classified as HSG "B" type soils. Additional data and calculations to determine the weighted CN values are included within the PondPack report. A spreadsheet showing weighted CN calculations are shown on sheet 22 of the report.*
8.		**Provide documentation to support the Time of Concentration utilized in the analysis. Show/Identify the Time of Concentration paths on the drainage area maps. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*Time of concentration flow paths have been added to the plans.*
9.		**The pre-development and post-development runoff calculations, utilized at 72-hour storm duration for each of the storm events. The regulations required utilizing a 24-hour duration for each storm event. Update the calculations accordingly. 25 Pa Code §102.8(g)(3)**
	SPLP Response:	*The 72 hour time period shown in the report is the time span used to achieve full volume for the hydrograph, not the storm duration. Each peak flow is calculated based on the 24 hour storm rainfall depth. Changing the time span to 24 hours does not affect the peak flow.*
10.		**The following technical deficiencies are associated with Section 5.0:**
	a.	**The Section indicates that a 12" forebay is proposed within the bottom of the detention basin and will promote infiltration and evaporation of runoff and improve water quality. However, the intent of a forebay is to collect sediment and as such is not an appropriate infiltration area. Clarify the discrepancy. 25 Pa Code §102.8(f)(6)**
	SPLP Response:	*Basin #2 was redesigned and is now functioning as a detention/infiltration basin, based on the latest infiltration tests completed in 2016.The forebay was removed.*
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	b.	**Section 5.0 identifies that E&S details are included in the land development plans; however, this is not in accordance with the regulations. For the ESCGP-2 Permit, provide the regulatory required information in the E&S Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5), §102.4(b)(5)(xiv) & §102.8(d)**

	SPLP Response:	*Section 5.0 has been revised to remove the reference to "land development plans".*
	c.	**Clarify how the project will meet the volume reduction and water quality requirements in accordance with 25 Pa Code §102. 25 Pa Code §102.8(g)(2)**
	SPLP Response:	*The site was redesigned to include an infiltration/detention basin, based on the soil testing completed in 2016. Volume reduction is achieved by the infiltration basin. See page 377-378 of the PCSM Report. Minimized disturbance, protecting existing drainage features and constructing vegetated swales all combine to achieve water quality requirements. See Worksheet #10.*
11.		**The following technical deficiencies are associated with the Operation and Maintenance Program in Section 7.0: 25 Pa Code §102.8(f)(10)**
	a.	**Item 2 needs to indicate that DEP will need to approve any deviation to the approved PCSM plans. Make all revisions necessary to clearly identify this requirement.**
	SPLP Response:	*In Section 7.0 of the PCSM narrative, the language was revised to include DEP as the approving authority for PCSM plan revisions.*
	b.	**Expand the schedule to include repair, replacement and other routine maintenance to ensure proper function and operation of each PCSM BMP. Refer the PCSM Manual for reference for the operation and maintenance for each type of PCSM BMP.**
	SPLP Response:	*The schedule was revised to include repair, replacement and maintenance for each BMP.*
	c.	**Specify what is meant by the 'significant storm event' within the inspection schedule as the term is subjective.**
	SPLP Response:	*SPLP revised "significant storm event" to "all storms over 1" in depth".*
	d.	**Expand the schedule to include monitoring the dewatering of the infiltration PCSM BMPs.**
	SPLP Response:	*The schedule was revised to include monitoring the dewatering of the basin within 72 hours after a 1" rainfall event.*
	e.	**The program must 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.**
	SPLP Response:	*Notes were added to the construction sequence in the report and on the plans, which require completion of DEP Form 3150-FM-BWEW0083, dated 2/2012 for all site inspections.*

12.		**In Section 8.0 and on the PCSM Plans, clarify in the construction sequence how the detention basin will be protected from sediment during construction or what measures are proposed so the basin will infiltrate as designed in post developed conditions. 25 Pa Code §102.8(f)(7)**
	SPLP Response:	*The sequence has been revised to include only excavating to 12" above final grade during construction in order to avoid disturbing the infiltration capabilities of the basin. After construction is complete, any sediment will be removed and the remainder of the basin will be excavated to plan grades.*
13.		**In Section 8.0, ensure to include the installation of the outlet structure, specifically, the anti-seep collar as a critical stages of PCSM BMP installation. 25 Pa Code §102.8(f)(7)**
	SPLP Response:	*The critical stages have been revised to include the basin outlet and anti-seep collar.*
14.		**The table in the narrative with the inlet and pipe information (i.e. TG, INV, Length, etc.) and the 'Proposed Storm Pipe Table' on PCSM plan sheet 3 is not consistent with the detail on the PCSM plan sheet 8 for the slope of pipe, P-2. Clarify the discrepancy. 25 Pa Code §102.8(f)(6) & §102.8(f)(8)**
	SPLP Response:	*The pipe slope discrepancy was revised for P-2.*
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15.		**Appendix A, the PNDI receipt indicates an avoidance measure, which can be implemented and would require no further coordination. The avoidance measure indicates to not conduct this project/activity within 50 feet of any stream, rivers, creeks or tributaries and is signed indicating it will be implemented. However, the plans show the `LOD' within 50 feet of un-named tributary #62107. Revise the design to implement the avoidance measure or provide evidence of clearance from U.S. Fish and Wildlife Service. 25 Pa Code §102.6(a)(2)**
	SPLP Response:	*The LOD line was revised and is not within 50' of any streams. The riprap apron and outfall storm pipe were constructed under the ME1 phase of work.*
16.		**In Appendix D, provide a schematic to explain the runoff analysis, including the nodes, links and outlet structures. 25 Pa Code §102.8(f)(8) & §102.8(g)(3)**
	SPLP Response:	*A schematic of the nodes, links and outlet structure were added to Appendix D, Page 131.*
17.		**In Appendix D, provide the outlet structure input parameters for the basin. 25 Pa Code §102.8(f)(8) & §102.8(g)(3)**
	SPLP Response:	*The outlet structure input data was added on Page 140 of Appendix D or Page 276 of the entire report.*

18.		**In Appendix D, the infiltration rate utilized (0.08 in/hr) does not correlate with the infiltration testing provided in Appendix G. Clarify the discrepancy. 25 Pa Code §102.8(f)(6) & §102.8(g)(1)**
	SPLP Response:	*The basin was moved to the area that was tested in 2016. The new infiltration rates are utilized for this new basin design.*
19.		**The following technical deficiencies are associated with Appendix E:**
	a.	**The CN utilized in Worksheet #4 are associated with HSG B, but the calculations at the end of the narrative associated with the outlet channel to the stream, indicate the entire area is in HSG C. Clarify the discrepancy. 25 Pa Code §102.8(f)(8) & §102.8(g)(1)**
	SPLP Response:	*The calculations have been revised using HSG "B" for the existing channel analysis. The existing flow to the stream was reduced by using HSG "B" soils.*
	b.	**Identify how the CNs of 85 was determined for the gravel area in the calculations. PCSM Plan sheet 6 identifies the gravel pad as PennDOT #2A stone; which is a highly compactable stone and will act like an impervious surface. Revise the calculations or provide discussion as to why a PennDOT #2A stone was not modeled as an impervious surface. 25 Pa Code §102.8(f)(8), §102.8(f)(15), §102.8(g)(2) & §102.8(g)(4)**
	SPLP Response:	*The Township Engineer allowed the value of CN=85 for gravel areas, during the ME1 phase. All calculations have been revised to utilize a CN=98 for gravel areas.*
	c.	**Provide the justification for using a higher CN for the grass condition as compared to the meadow condition in PCSM Standard Worksheet #4. 25 Pa Code §102.8(g)(2)(i) & §102.8(g)(2)(iv)**
	SPLP Response:	*The CN values for grass (CN=61) and meadow (CN=58) have been revised on Worksheet #4.*
	d.	**Clarify if 20% of the existing impervious area to be disturbed has been considered meadow in good condition on Worksheet #4. 25 Pa Code §102.8(g)(2)(i)**
	SPLP Response:	*Within Worksheet #4, 20% of the existing impervious surface within the LOD has been modeled as "meadow, good condition". See page 374 of the PCSM report.*
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	e.	**Provide a drainage area delineation to the infiltration berm, so that the calculations demonstrating that the 2-year volume reaching the berm can be confirmed 25 Pa Code §102.8(f)(8) & §102.8(g)(2)**
	SPLP Response:	*The infiltration berm was removed and replaced with Basin #2; which will function as a detention/infiltration basin as demonstrated by the latest infiltration tests completed in 2016.*

	f.	**Provide the latest version of the PCSM Standard Worksheet #5. Identify/provide calculations as to how the volume to be permanently reduced was calculated. Provide the Area for the PCSM BMP. 25 Pa Code §102.8(f)(8), §102.8(f)(15), §102.8(g)(2) & §102.8(g)(4)**
	SPLP Response:	*Standard Worksheet #5 is included within the report. Additional calculations to support the values in WS #5 are included in the report, pages 374-379.*
	g.	**Provide a calculation to support the Volume of Stormwater treated on Worksheet #5. 25 Pa Code §102.8(f)(8) & §102.8(g)(2)**
	SPLP Response:	*Standard Worksheet #5 is included within the report. Additional calculations to support the values in WS #5 are included in the report, pages 374-379.*
20.		**The following comments relate to the Trip Report in Appendix F:**
	a.	**Provide additional discussion as to why the single-ring falling head infiltration test is an appropriate testing methodology for this site. This type of testing methodology is not identified as a recommended test in Protocol 1, Step 3 of Appendix C of the PCSM Manual. 25 Pa Code §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The soils testing report from 2016 for the revised basin area utilized the double ring method.*
	b.	**Figure 1 is not a sufficient location map for the testing. Provide and identify the test locations on the PCSM Plan drawings, so that DEP can evaluate their location versus the location of the PCSM BMPs. 25 Pa Code §102.8(f)(9) & §102.8(g)(1)**
	SPLP Response:	*Test locations have been added to the PCSM Plans.*
	c.	**Provide a table to demonstrate the infiltration test elevation, the proposed elevation at the bottom of the infiltration facility and the depth of the soil log in order to correlate the testing with the proposed design. 25 Pa Code §102.8(g)(1)**
	SPLP Response:	*SPLP revised the Trip Report to provide a table demonstrating the infiltration test elevation, the proposed elevation at the bottom of the infiltration facility and the depth of the soil log.*
	d.	**Clarify if infiltration is appropriate at Infiltration Berm. It appears the testing in that vicinity resulted in no infiltration or infiltration less than the recommended infiltration range in Appendix C of the PCSM Manual. 25 Pa Code §102.8(f)(8), §102.8(g)(1) & §102.8(g)(2)**
	SPLP Response:	*The 2016 testing that was completed for Basin #2 resulted in adequate infiltration rates.*

21.		**DEP recommends only providing one copy of the plan drawings per application set (do not provide reduced scale drawings after Appendix F in the narrative), to avoid confusion and potential inconsistencies. 25 Pa Code §102.4(b)(5)(ix)**
	SPLP Response:	*All reduced sized plans were removed from the Infiltration Testing report.*
22.		**Clarify if the infiltration calculations for the PCSM BMP account the time of concentration or 2 hours as the infiltration Period. If the infiltration period exceeds the time of concentration or 2 hours as recommended in the PCSM Manual, provide a discussion of how the proposed infiltration period will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §102.8(f)(8), §102.8(g)(2), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Basin #2 has a surface area of 13,718 square feet at elevation 686.0. Since the orifice is set at elevation 686.25, there is no outflow during the 2 year storm event. An average infiltration rate for the Basin area was found to be 1.75 in/hr (design rate = .875 in/hr). For the 2 year storm event, the PondPack dewatering calculation shows the basin to fully dewater within 38 hours. Please see page 361 of the report.*
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23.		**Identify if a Safety Factor was utilized in the infiltrate rate for design purposes. If a Safety Factor was utilized, identify the Safety Factor and identify how it was determined. If a Safety Factor was not utilized, provide discussion as to why a Safety Factor was not utilized (as recommended on Page 19 of Appendix C of the PCSM Manual). Make all revisions necessary. 25 Pa Code §102.8(f)(8), §102.8(g)(2), §102.8(g)(3), §102.8(g)(4), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*A safety factor of "2" was utilized for the infiltration rate, based on the recommended minimum value allowed in the PA Stormwater BMP Manual.*
24.		**Clarify how the conveyance facilities (i.e. pipes and swales) are designed. Will they convey the 100 year storm event or was the overflow/bypass accounted for in the design. Provide conveyance calculations for any stormwater conveyance features which are critical to the PCSM BMP design. For instance if the stormwater up to the 100 year storm event is to be managed by a PCSM BMP and the stormwater only reaches the PCSM BMP by being conveyed to the PCSM BMP through a conveyance feature, calculations demonstrating the conveyance facility can convey the 100-year storm to the PCSM BMP are required. The conveyance feature needs to be identified as a PCSM BMP and have associated Operation and Maintenance. 25 Pa Code §102.8(f)(8) & §102.8(f)(15)**
	SPLP Response:	*All pipes and swales were sized for the 100 year storm event, since they carry flows to a PCSM BMP. The O & M schedule was updated to include the swales and pipes as PCSM BMPs. See page 7 of the PCSM plans.*
25.		**Provide procedures which ensure the proper measures for recycling or disposal of materials associated with or from the PCSM BMPs in accordance with Department laws, regulations and requirements. 25 Pa Code §102.8(f)(11)**

	SPLP Response:	*Please see Inspection and Maintenance of Control Facilities, part 5, for recycling of construction materials. Wherever possible, recycling of excess materials is preferred, rather than disposal.*
26.		**Provide the proposed loading ratios (total and impervious) and associated calculations for each infiltration PCSM BMP. If the loading ratios exceed the recommendations in the PCSM Manual, provide a discussion of how the proposed loading ratios will achieve the same regulatory standards as the recommendations of the PCSM Manual. 25 Pa Code §102.8(f)(15), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The impervious loading ratio of 5:1 is met for the infiltration basin. The actual impervious/infiltration area ratio is 2:1. The total area/infiltration area is equal to 11:1. In order to meet the ratio for the total drainage area, (8:1) the existing wooded area west of the house would have to be diverted around the basin. We do not believe this is a prudent solution, since diverting the flow would create additional disturbed areas, remove additional tree cover near the basin and create an additional point discharge from a diversion pipe. We believe the PCSM Manual standards have been exceeded for the revised basin design. See chart 5B in Appendix E page 379 of the report.*
27.		**Provide a thermal impact analysis for the project. 25 Pa Code §102.8(f)(13)**
	SPLP Response:	*The thermal impact analysis was added to Section 5.0 of the PCSM Report.*
28.		**Provide Worksheets #1-3 for the project. 25 Pa Code §102.6(a)(1), §102.8(g)(1) & §102.8(g)(2)**
	SPLP Response:	*Worksheets #1 through #5 are located in Appendix E, Pages 368-372.*
29.		**Provide an analysis to demonstrate the PCSM BMPs will meet the water quality requirements (i.e. Worksheet #10 and/or Worksheets #11-13). Refer to the Water Quality Process Flow chart on page 40 in Chapter 8 of the PCSM Manual for additional information. 25 Pa Code §102.8(g)(2) & §102.11(a)(2)**
	SPLP Response:	*Worksheet #10 was completed and is located in Appendix E, Page 373.*
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30.		**Clarify if an antidegradation analysis has to be completed. If so, provide an antidegradation analysis for the PCSM Plan. 25 Pa Code §102.8(d), §102.8(f)(6) & §102.8(h)**
	SPLP Response:	*An antidegradation analysis was added to the PCSM Report, Section 4.0.*
31.		**Provide additional information/calculations to clarify how the volumes were calculated for the infiltration basin and berm in Worksheet #5. 25 Pa Code §102.8(f)(8) & §102.8(f)(15)**

	SPLP Response:	*Additional volume reduction calculations are provided in the PCSM report, pages 374-379.*
32.		**Provide dewatering time calculations of the proposed PCSM BMPs. 25 Pa Code §102.8(f)(8) & §102.11(a)(2)**
	SPLP Response:	*The basin dewatering time calculation is shown in the PCSM report. See Appendix D, Pages 360-366.*
PCSM Plan Drawings - Block Valve		
1.		**The following technical deficiencies are associated with Sheet PCS-0.01 (for all Spreads):**
	a.	**Note 1 appears to indicate that the sites have not been field surveyed for contour information; which is not adequate for a final design. Provide the existing topographic features of the project site and immediate surrounding area. 25 Pa Code §102.8(f)(1) & §102.8(f)(9)**
	SPLP Response:	*Topographic surveys were performed to generate an accurate site grading plan for the block valve sites which will minimize cut and fill slopes. The extent of the survey did not extend through the entire drainage area at each block valve site. Therefore, it would be difficult to show the surveyed topography for only a portion of the analyzed drainage area because existing grades would not tie in to PASDA Lidar seamlessly. Note 1 has been revised to provide clarification.*
	b.	**Note 2 identifies the project as being in Dauphin County. While this is partially correct, as part of the project is within Dauphin County; provide the full identification of where the project is located. If there are different plan sets for each Spread, then identify those counties which are covered by that particular set of drawings for each Spread. 25 Pa Code §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*Note 2 has been revised to be specific to each Spread.*
	c.	**Notes 6, 7 & 11 appear to be related to E&S and not PCSM. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*Notes 6 and 7 have been removed because they are not applicable. Note 11 has been revised to state that the Site Restoration/Post-Construction Stormwater Management Plan shall be onsite.*
	d.	**The plan set is identified as PCSM; however, a Site Restoration Schedule and Site Restoration notes are provided. Clarify if this plan set includes any areas covered by site restoration. 25 Pa Code §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*The site restoration schedule and notes have been removed from the plan set. The drawings within the Erosion and Sediment Control Plan address site restoration.*
	e.	**The following technical deficiencies are associated with the construction sequence in Section 3.1 starting on Page 7: 25 Pa Code §102.8(f)(7)**

	i.	**It is identified that "It is not intended that the drawings and this report show detailed information on methods and materials." This statement does not meet regulations. The E&S and PCSM Plans shall be final for construction. Provide the information, details, methods and materials to properly construct and implement the Plans, including the BMPs, within the construction sequences associated with these Plans. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The referenced statement has been removed from the construction sequence.*
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	ii.	**It is identified that the contractor can deviate from the authorized E&S and PCSM Plans based upon field conditions. A deviation from the authorized plans may be necessary; however, the appropriate county conservation district and DEP have to approve any deviation to the authorized plans. Make all revisions necessary to clearly identify this requirement.**
	SPLP Response:	*Clarification has been added to the construction sequence to specify that the appropriate county conservation district and DEP have to approve any deviation to the authorized plans.*
	iii.	**Provide a schedule of inspections for critical stages of PCSM BMP installation with the construction sequence.**
	SPLP Response:	*An operation and maintenance schedule for the PCSM BMPs has been added to the plan set.*
	f.	**The Long Term Inspections and Maintenance for Site Restoration and PCSM Controls notes are not sufficient. Refer to the technical deficiencies identified within the corresponding Site Restoration and PCSM Plan narrative and make all revisions necessary. 25 Pa Code §102.8(f)(10)**
	SPLP Response:	*The long term operation and maintenance section has been revised for consistency with the edits made throughout the narrative.*
2.		**The following technical deficiencies are associated with Sheet PCS-0.02 (for all Spreads):**
	a.	**The notes and information provided on this plan sheet appear to be related to E&S Plan and not the Site Restoration and PCSM Plans (the plan sheet in Spread 4 is titled "Erosion & Sediment Control Notes" and the plan sheet in Spread 5 is titled "Post Construction Stormwater Management Plan Erosion & Sediment Control Notes"). The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*The referenced E&S notes have been removed from the PCSM plan drawings.*
3.		**The following technical deficiencies are associated with Sheet PCS-0.03 (for all Spreads):**

	a.	**Refer to the technical deficiencies identified within the corresponding Site Restoration and PCSM Plan narrative related to the seeding information and make all revisions necessary. 25 Pa Code §102.8(f)(6)**
	SPLP Response:	*The seeding schedule has been revised for consistency within the plan narrative.*
4.		**The following technical deficiencies are associated with Sheet PCS-0.04 (for all Spreads):**
	a.	**Identify why details for E&S BMPs have been provided. The PCSM Plan shall be separate from the E&S Plan and the E&S Plan shall be separate from the PCSM Plan. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(xiv) & §102.8(d)**
	SPLP Response:	*Details for E&S BMPs have been removed from the drawings because they are not applicable.*
	b.	**Provide a detail or information for the stone/gravel for the sites included within these plan sets. 25 Pa Code §102.8(f)(6)**
	SPLP Response:	*A detail showing the stone to be used for the block valve sites and associated permanent access roads has been added.*
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	c.	**The following technical deficiencies are associated with the Soil Amendment Detail: 25 Pa Code §102.8(f)(6)**
	i.	**Note 3 identifies that on-site soils with at least 5% organic content can be a substitute for the compost. Design Consideration 1.e on Page 224 in Chapter 6 of the PCSM Manual recommends that on-site soils with an organic content of at least 5% can be properly stockpiled and re-used. Identify if the existing on-site soils have been tested. Identify how the on-site soils will be properly stockpiled. Identify that it will be determined if the on-site soils have at least a 5% organic content. Identify if the 5% organic content is by weight or by volume. 25 Pa Code §102.8(g)(1), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The soil amendment detail has been revised to remove a portion of Note 3 to indicate that on-site soils will no longer be used as a substitute for compost.*
	ii.	**Provide sufficient information to identify how the soil amendments will be accomplished (by tilling, by excavation, mixing and placement, etc.).**
	SPLP Response:	*Information has been added to the detail to identify how the soil amendments will be accomplished.*
	d.	**The following technical deficiencies are associated with the Infiltration Berm Detail: 25 Pa Code §102.8(f)(6)**
	i.	**The shape of the berm is not per the recommendations of the PCSM Manual. The PCSM Manual recommends that the crest of the berm is smoothly convex, the toes of the berm are smoothly concave and that the crest of the bean should be located near the downstream end of the berm rather than in the middle. Revise the design or provide the required information for the alternative BMP and design standard. 25 Pa Code §102.11(a)(2) & §102.11(b)**

	SPLP Response:	*The shape of the infiltration berm detail has been revised to be consistent with the recommendations of the PADEP PCSM Manual.*
	ii.	**Note 1 appears to indicate that all berms will have soil amendments in ponded area behind the berms. If that is the case, provide the soil amendment as part of the Infiltration Berm Detail.**
	SPLP Response:	*Note 1 concerning the use of soil amendments at all infiltration berms has been removed.*
	e.	**The following technical deficiencies are associated with the Infiltration Trench Detail: 25 Pa Code §102.8(f)(6)**
	i.	**Identify the stone to be used for the trench.**
	SPLP Response:	*The infiltration trench detail has been updated to show that AASHTO No. 3 stone will be used for the trench.*
	ii.	**Provide additional information related to the nonwoven geotextile fabric (strength, overlap, etc.).**
	SPLP Response:	*Additional information on the nonwoven geotextitle has been added to the detail.*
	iii.	**Identify the required pipe size for the trench; it is not appropriate to identify a minimum pipe size.**
	SPLP Response:	*Inspection and maintenance language has been added to the plan drawings.*
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	iv.	**Identify how the infiltration trench will be inspected for proper function and operation, including full dewatering to the bottom of the trench. 25 Pa Code §102.8(f)(10)**
	SPLP Response:	*Additionally, the detail has been revised to show a HDPE cleanout to be installed in the trench for observation and maintenance.*
	v.	**Identify if an infiltration trench proposed for Spread 5. If an infiltration trench is not proposed for Spread 5, then remove the detail and information related to the trench from the Spread 5 plan set. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*An infiltration trench is proposed at the Montello site so the infiltration trench detail remain in the Spread 5 plan set.*
5.		**The following technical deficiencies are general technical deficiencies that appear on most or all of the individual site plan sheets:**
	a.	**There is different shading/coloring used on the plan drawings that does not match what is provided in the Legend. Provide consistency between the plan drawings and the Legend. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The legend and plan drawings have been revised to be consistent.*

	b.	**The existing contours are lost on the plan views due to the shading/coloring. Provide legible existing contour information. 25 Pa Code §102.8(f)(1), §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*The existing contours have been revised to be clearly visible through the shading/coloring.*
	c.	**Provide the ESCGP-2 Permit Boundary, identify the soil types and their locations, and provide additional contour labels (existing and proposed). 25 Pa Code §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*The ESCGP-2 permit boundary, soil types and their limits, and additional contour labels for existing and proposed contours have been added to the plan drawings.*
	d.	**Correctly show the grading for the infiltration berms, including the 2 ft. berm height, the 3:1 side slopes and the 2 ft. wide top of berm. Identify how runoff will be fully captured behind the berms; without any up-turns at the end of the berms runoff will flow around the ends and bypass the berms. 25 Pa Code §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*Grading for the proposed infiltration berms is now provided to be consistent with the detail.*
	e.	**Ensure that all proposed grading is clearly shown, and ensure that all proposed grading ties back into the existing contour lines. 25 Pa Code §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*Proposed grading has been revised to be clear and to ensure that grading ties in with existing contour lines.*
	f.	**Provide the existing grade in the Section cuts. 25 Pa Code §102.8(f)(1), §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*Existing grade is now provided in section cuts.*
	g.	**Identify how the proposed underdrain will be able to convey the runoff to the infiltration berm as shown on the plan. It appears that there would be some surface runoff that does not percolate through the stone to the underdrain, and that there would be flow along the bottom of the stone/gravel pad that could bypass the underdrain all together (especially if the underdrain is not installed at the very bottom of the stone/gavel). Provide calculations showing that the underdrain system can convey the entire 100-year/24-hour storm event for each site where it is proposed. Provide additional information for the underdrain detail to ensure that the system is properly installed. 25 Pa Code §102.8(b), §102.8(f)(3), §102.8(f)(6), §102.8(f)(8) & §102.8(f)(9)**

	SPLP Response:	*Underdrains have been proposed at certain block valve sites where sheet flow from the pad will not naturally reach the BMP. The underdrains have been sized to convey the runoff to the downstream BMP. To enhance functionality of the underdrain and to increase the conveyance capacity, a diversion berm has been added downslope of the underdrain as shown in the revised detail. This diversion berm will capture runoff that does not percolate through the stone and into the underdrain. The overall slope of the diversion berm follows that of the underdrain so that runoff is conveyed to the same point.*
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	h.	**There are numerous sites where the infiltration BMP is proposed directly or partially over the proposed mainline, which will be backfilled and compacted as part of the mainline construction. 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. 25 Pa Code §102.8(f)(15), §102.8(g)(1), §102.8(g)(2), §102.8(g)(3), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Infiltration BMPs that were previously proposed directly or partially over the proposed mainline as well as existing pipelines have been revaluated and relocated to avoid ponding on the pipeline locations. Additional infiltration testing, where needed, has been taken place for the relocated infiltration BMPs.*
	i.	**The ponding area for many of the infiltration berms is shown to be within the grading for, and in some instances within, the stone/gravel pad. 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. 25 Pa Code §102.8(f)(15), §102.8(g)(1), §102.8(g)(2), §102.8(g)(3), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*The locations of the proposed infiltration PCSM BMPs have been revised as to not infiltrate on compacted fill.*
	j.	**Orange construction fence is identified to be installed. Clearly identify the function of the orange construction fence. If the function is to protect the ponding area during construction, then identify how the stone/gravel sites will be able to be properly constructed; as the orange construction fence is shown with the grading and area for the stone/gravel site. 25 Pa Code §102.8(f)(3), §102.8(f)(6), §102.8(f)(7) & §102.8(f)(9)**
	SPLP Response:	*The orange construction fence to be used on site is no longer shown on the PCSM plan drawings, instead the fence is shown on the E&S plan drawings.*

	k.	**Verify the drainage area delineations. There are numerous areas where the drainage area delineation is not perpendicular to the contours. Ensure that adequate plan information is provided (including any necessary calculations) to properly construct the site and drainage area divides. 25 Pa Code §102.8(f)(3), §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The drainage area delineations have been verified and updated per design revision and other technical comments.*
	l.	**Verify the Time of Concentration calculations match the flow paths shown on the corresponding plan sheets. An example is for the Middlesex site (Sheet PCS-4.04): the Time of Concentration flow path for the Detained Area is shown on the plan as approx. 65 ft.; however, the calculations utilize a flow path of 465 ft. The sheet flow condition across the roadway appears to be 22 ft. from the plan view; however, the calculations utilized an impervious sheet flow length of 45 ft. Clarify these discrepancies. Make all revisions necessary to all Time of Concentration flow paths and calculations. 25 Pa Code §102.8(f)(8), §102.8(f)(9), §102.8(g)(3) & §102.8(g)(4) .**
	SPLP Response:	*The time of concentration flow path has been updated and have been verified in the calculations.*
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6.		**On Sheet PCS-3.01 the shading/coloring shown for the existing driveway is narrower than the existing width of the drive shown by the line type. Clarify this discrepancy. 25 Pa Code §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*PCS-3.01 and PCS-3.02 have been revised with a reduced overall drainage area which no longer includes an existing driveway within the limits of the drainage area.*
7.		**The following technical deficiencies are associated with Sheet PCS-3.04**
		The Juniata River East site has been renamed "High Street" as part of these responses and can now be found on revised sheets PCS 3.09 and PCS-3.10
	a.	**Identify the location for infiltration test IT-01. Infiltration test IT-03 is shown within the BMP area; however, Table 1 in Attachment 5 of the Plan narrative identifies this test outside of the BMP area; clarify this discrepancy. 25 Pa Code §102.8(f)(9) & §102.8(g)(1)**
	SPLP Response:	*All infiltration test locations have been added to the plan drawings.*
	b.	**Identify how the runoff will be forced into the infiltration trench. 25 Pa Code §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*An infiltration trench is no longer proposed for the High Street site due to site and design constraints. The revised design utilizes an infiltration berm which is supported by additional infiltration testing.*

	c.	**Provide an adequate representation of the proposed infiltration trench on Section A-A (including the 6 in minimum soil on top of the stone, the perforated pipe is not shown, etc.). Provide the existing and proposed contours/grading and the stone/gravel site on Section A-A. 25 Pa Code §102.8(f)(3), §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*An infiltration trench is no longer proposed for the High Street site due to site and design constraints. The revised design utilizes an infiltration berm which is supported by additional infiltration testing.*
	d.	**The limits of the infiltration trench are difficult to discern. Properly identify the limits of the infiltration trench, including the required trench length. 25 Pa Code §102.8(f)(3), §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*An infiltration trench is no longer proposed for the High Street site due to site and design constraints. The revised design utilizes an infiltration berm which is supported by additional infiltration testing.*
	e.	**Based upon the contour information, it appears that the infiltration trench will constructed with a top elevation that varies. Identify if the infiltration trench's bottom will be constructed at a constant elevation (if so, identify that elevation). If the infiltration trench will be constructed with a sloping bottom, ensure that any and all calculations for the trench properly account for the sloping bottom (i.e. reduced capacity). 25 Pa Code §102.8(f)(3), §102.8(f)(6), §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*An infiltration trench is no longer proposed for the High Street site due to site and design constraints. The revised design utilizes an infiltration berm which is supported by additional infiltration testing.*
	f.	**Identify the existing PennDOT right-of-way. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The existing road right-of-way has been added to the plan drawings.*
8.		**The following technical deficiencies are associated with Sheet PCS-3.05**
		The Raystown Road site is not shown on plan drawings PCS-3.11 and PCS-3.12
	a.	**The top of berm is identified as 822.90; however, a contour line for elevation 823 is shown at the top of the berm. Clarify this discrepancy. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The proposed berm top elevations have been corrected to show the correct elevations labeled.*
	b.	**Identify the existing PennDOT right-of-way. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The existing road right-of-way has been added to the plan drawings.*
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9.		**The following technical deficiencies are associated with Sheet PCS-3.06**
		The Raystown Lake West site has been renamed "Seven Points Loop" as a part of these responses. The site can now be found on sheet PCS-3.13

	a.	**It appears that the flow direction arrow for SM54 is backwards. Clarify this discrepancy. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*As a result of the redesign and resheeting, S-M54 no longer appears on the plan drawing.*
	b.	**Identify the hatching shown at the POI and the receiving surface water. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*As surrounding drainage area for the purposes of PCSM calculations is no longer shown as the site will be in meadow post condition with no proposed impervious surfaces.*
10.		**Based upon the existing and proposed contours on Sheet PCS-3.07, the drainage area delineation and Time of Concentration flow path for the Detained Area are not shown correctly. As it appears that the runoff would be directed towards the road and not across the stone/gravel site and down the embankment to the BMP. Clarify this discrepancy. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The Raystown Lake East Site Has been renamed "Happy Hills Road" as part of these responses. This site can now be found on sheets PCS-3.1 4 and PCS-3.15. A water deflector has been added to the proposed driveway to divert flow downslope to the PCSM BMP and to prevent runoff from flowing towards Happy Hills Road.*
11.		**Identify if the waterbars shown on Sheet P.CS-3.08 are permanent and will remain after construction. If the waterbars are permanent and will remain, then properly account for them in the drainage area delineations and the Time of Concentration flow paths. Make all revisions necessary. 25 Pa Code §102.8(f)(3), §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The PA 655 site has been renamed "Hares Valley Road" as part of these responses and can now be found on sheets PCS-3.16 and 3.17*
12.		**The following technical deficiencies are associated with Sheet PCS-3.09**
	a.	**Clarify why the proposed stone drive for the site is not shown connecting to the existing drive. 25 Pa Code §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*The design for the Shade Valley Road block valve site has been modified. With this new design, the proposed gravel access road is shown connecting to the existing driveway.*
	b.	**Correct the overlapping text. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The overlapping text has been corrected.*
13.		**The following technical deficiencies are associated with Sheet PCS-4.01**
		The Plainfield block valve site will now be collocated with the pump station in an effort to minimize the addition of impervious cover to the maximum extent practicable. The valve settings will fit within the existing footprint of the Plainfield pump station. The limit of disturbance has been revised in this area to accommodate the revision. As a result of these changes, the comments regarding post-construction stormwater management at the Plainfield block valve site no longer apply.

	a.	**The top of berm is labeled as 563.00; however, a contour line for elevation 568 is shown at the top of the berm. Clarify this discrepancy. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The Plainfield block valve site will now be collocated with the pump station in an effort to minimize the addition of impervious cover to the maximum extent practicable. The valve settings will fit within the existing footprint of the Plainfield pump station. The limit of disturbance has been revised in this area to accommodate the revision. As a result of these changes, the comments regarding post-construction stormwater management at the Plainfield block valve site no longer apply.*
	b.	**Identify if infiltration testing and soil probes were performed for Infiltration Berm A. 25 Pa Code §102.8(f)(9) & §102.8(g)(1)**
	SPLP Response:	*The Plainfield block valve site will now be collocated with the pump station in an effort to minimize the addition of impervious cover to the maximum extent practicable. The valve settings will fit within the existing footprint of the Plainfield pump station. The limit of disturbance has been revised in this area to accommodate the revision. As a result of these changes, the comments regarding post-construction stormwater management at the Plainfield block valve site no longer apply.*
	c.	**It appears that the Infiltration Berms have separate points of discharge to a receiving surface water; however, the runoff rate calculations were performed for a single point of interest. Clarify this discrepancy. 25 Pa Code §102.8(f)(4), §102.8(f)(8), §102.8(f)(9), §102.8(g)(3) & §102.8(g)(4)**
	SPLP Response:	*The Plainfield block valve site will now be collocated with the pump station in an effort to minimize the addition of impervious cover to the maximum extent practicable. The valve settings will fit within the existing footprint of the Plainfield pump station. The limit of disturbance has been revised in this area to accommodate the revision. As a result of these changes, the comments regarding post-construction stormwater management at the Plainfield block valve site no longer apply.*
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14.		**The following technical deficiencies are associated with Sheet PCS-4.02**
	a.	**The grading for the infiltration berm does not show the top elevation of 434.00. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*Due to site constraints associated with the previously proposed site, the Creek Road site has been relocated as a part of these responses. The limit of disturbance has been revised in this area to accommodate the revision. Additional infiltration testing was performed on the newly proposed location and the PCSM design has been updated to address the appropriate stormwater requirements. Plan drawings can be found on sheets PCS-4.01 and PCS-4.02*
	b.	**It appears that the infiltration testing for the infiltration berm is not located near the berm's proposed location. Provide the demonstration that this testing is an adequate predevelopment site characterization and assessment of soil and geology for the proposed PCSM BMP. 25 Pa Code §102.8(f)(9) & §102.8(g)(1)**

	SPLP Response:	*Due to site constraints associated with the previously proposed site, the Creek Road site has been relocated as a part of these responses. The limit of disturbance has been revised in this area to accommodate the revision. Additional infiltration testing was performed on the newly proposed location and the PCSM design has been updated to address the appropriate stormwater requirements. Plan drawings can be found on sheets PCS-4.01 and PCS-4.02*
	c.	**Identify how the offsite runoff will be safely and appropriately conveyed across the proposed access drive and onto and across the existing roadway. 25 Pa Code §102.8(f)(15)**
	SPLP Response:	*Due to site constraints associated with the previously proposed site, the Creek Road site has been relocated as a part of these responses. The limit of disturbance has been revised in this area to accommodate the revision. Additional infiltration testing was performed on the newly proposed location and the PCSM design has been updated to address the appropriate stormwater requirements. Plan drawings can be found on sheets PCS-4.01 and PCS-4.02*
15.		**The following technical deficiencies are associated with Sheet PCS-4.03**
	a.	**Identify the rectangular feature in the middle of the stone/gravel site. 25 Pa Code §120.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*The rectangular feature previously shown was a proposed conventional bore pit location. The bore pit has been removed from the PCSM drawing.*
	b.	**Based upon the Section cut arrows, it appears that the Sections are shown backwards. Clarify this discrepancy. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The section cut arrows have been corrected.*
	c.	**Infiltration Tests IT-01, 03 & 04 are shown outside the BMP area; however, Table 1 in Attachment 5 of the Plan narrative identifies these tests are within the BMP area; clarify this discrepancy. Provide discussion as to infiltration test IT-01 is appropriate for testing for Infiltration Berm A, as it is located more than 25 ft. away from the BMP (Protocol 1, Step 2 in Appendix C of the PCSM Manual recommends testing within 25 ft. of a BMP). 25 Pa Code §102.8(f)(9), §102.8(g)(1), §102.11(a)(2) & §102.11(b)**
	SPLP Response:	*Additional infiltration testing was conducted on the existing site which determined that the site soils were not suitable for infiltration BMPs. As a result, a slow release concept PCSM BMP has been proposed.*
	d.	**There appears to be a discrepancy between the Time of Concentration flow path for the Undetained Area to POI B versus the flow path shown from Infiltration Berm B. The flow paths are shown to be crossing each other, which would not happen. Clearly identify the flow paths and make all revisions necessary. 25 Pa Code §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The time of concentration flow path has been updated to reflect the new proposed site conditions.*
16.		**The following technical deficiencies are associated with Sheet PCS-4.04**
	a.	**Identify if there is any proposed contour at this location, or if the site will be returned to existing grade. 25 Pa Code §102.8(f)(9)**

	SPLP Response:	*The Middlesex site has been renamed "W. Trindle Road" as part of these responses and can be found on sheets PCS-4.05and PCS-4.06.*
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	b.	**Identify how the runoff will be forced into the infiltration trench. 25 Pa Code §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*Runoff along the proposed access road will be directed to the infiltration trench using a diversion berm. Similarly, runoff from the proposed pad area will also be directed to the infiltration trench and berm using a diversion berm.*
	c.	**Provide an adequate representation of the proposed infiltration trench on Section A-A (including the 6 in. minimum soil on top of the stone, the perforated pipe is not shown, etc.). Provide the existing and proposed contours/grading and the stone/gravel site on Section A-A. 25 Pa Code §102.8(f)(3), §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*The infiltration trench section and detail have been updated to show an adequate representation of the proposed fence including the minimum soil on top of the stone, the perforated pipe, and other details. The section has been updated to show existing grade.*
	d.	**The limits of the infiltration trench are difficult to discern. Properly identify the limits of the infiltration trench, including the required trench length. 25 Pa Code §102.8(f)(3), §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*The limits of the infiltration trench have been clarified.*
	e.	**Identify if the infiltration trench's bottom will be constructed at a constant elevation (if so, identify that elevation). If the infiltration trench will be constructed with a sloping bottom, ensure that any and all calculations for the trench properly account for the sloping bottom (i.e. reduced capacity). 25 Pa Code §102.8(f)(3), §102.8(f)(6), §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The proposed infiltration trenches will be constructed with a constant elevation trench bottom.*
17.		**The following technical deficiencies are associated with Sheet PCS-4.05**
		The Arcona Road site can now be found on sheets PCS-4.07 and PCS-08.
	a.	**It appears that the proposed contours are lost due to the shading/coloring. Clarify this discrepancy. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The proposed contours have been revised to be clearly visible through the shading/coloring.*
	b.	**Clearly identify the extents of the existing drive, as it is difficult to discern what is existing versus what is proposed. 25 Pa Code §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*The extents of the existing driveway have been clarified.*

18.		**The following technical deficiencies are associated with Sheet PCS-4.06**
		The Old York site can now be found on sheet PCS-4.09.
	a.	**Identify the infiltration test and soil probe locations. 25 Pa Code §102.8(f)(9) & §102.8(g)(1)**
	SPLP Response:	*All infiltration test locations have been added to the plan drawings.*
	b.	**Identify if the waterbars shown are permanent and to remain after construction. If the waterbars are permanent and will remain, then properly account for them in the drainage area delineations and the Time of Concentration flow paths. Make all revisions necessary. 25 Pa Code §102.8(f)(3), §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The permanent waterbars that will remain after construction are now shown on the plan drawings.*
19.		**The following technical deficiencies are associated with Sheet PCS-4.06**
		The Middletown Junction site has been renamed "N. Union Street" as part of these responses and can now be found on sheets PCS-4.10 and PCS-4.11.
	a.	**Provide the drainage area delineation between POIs A & B. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The drainage area delineation between the two POIs are now shown.*
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	b.	**Identify if the GEOWEB drive is accounted for in the detained drainage area to Infiltration Berm A or in the undetained drainage area to POI A. If the GEOWEB drive is included in the detained drainage area to Infiltration Berm A, then provide a demonstration of how the runoff is conveyed to the BMP. 25 Pa Code §102.8(f)(3), §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The use of GEOWEB is no longer proposed for this location.*
20.		**The following technical deficiencies are associated with Sheet PCS-5.01**
	a.	**Identify the location for infiltration tests IT-01, 02 & 03. 25 Pa Code §102.8(f)(9) & §102.8(g)(1)**
	SPLP Response:	*The locations of infiltration tests IT-01, 02, and 03 have been added to the plan drawings.*
	b.	**Correctly identify the drainage area divide between Snitz Creek - Quittapahilla Creek & Hammer Creek, as the line shown does not align with the contour information provided. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The drainage area divide between Snitz Creek - Quittapahilla Creek and Hammer Creek has been revised to be correctly identified.*
	c.	**Correct the spelling of Quittapahilla Creek. 25 Pa Code §102.8(f)(9)**

	SPLP Response:	*The spelling of Quittapahilla Creek has been corrected.*
21.		**The following technical deficiencies are associated with Sheet PCS-5.02**
		The Schaefferstown Tie-In site has been renamed "Sinclair Road" as part of these responses and can now be found on sheets PCS-5.03 and PCS-5.04.
	a.	**Identify if the waterbars shown are permanent and to remain after construction. If the waterbars are permanent and will remain, then properly account for them in the drainage area delineations and the Time of Concentration flow paths. Make all revisions necessary. 25 Pa Code §102.8(f)(3), §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The permanent waterbars that will remain after construction are now shown on the plan drawings.*
	b.	**Identify the existing road right-of-way. 25 Pa Code §1.02.8(f)(9)**
	SPLP Response:	*The existing road right-of-way has been added to the plan drawings.*
	c.	**It appears that E&S BMPs are shown on these PCSM Plan drawings. Make all revisions necessary. 25 Pa Code §102.4(b)(5)(xiv), §102.8(d) & §102.8(f)(9)**
	SPLP Response:	*The E&S BMPs have been removed from the revised plan drawings.*
22.		**On Sheet PCS-5.03, identify if the waterbars shown are permanent and to remain after construction. If the waterbars are permanent and will remain, then properly account for them in the drainage area delineations and the Time of Concentration flow paths. Make all revisions necessary. 25 Pa Code §102.8(f)(3), §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The Hopeland Road site is now shown on PCS-5.05 and PCS-5.06. The permanent waterbars that will remain after construction are now shown on the plan drawings.*
23.		**On Sheet PCS-5.04, it appears that the Pre/Undetained Time of Concentration flow path is shown flowing in the wrong direction. Clarify this discrepancy. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The Blainsport block valve site will now be collocated with the pump station in an effort to minimize the addition of impervious cover to the maximum extent practicable. The valve settings will fit within the existing footprint of the Blainsport pump station. The limit of disturbance has been revised in this area to accommodate the revision. As a result of these changes, the comments regarding post-construction stormwater management at the Blainsport block valve site no longer apply.*
24.		**On Sheet PCS-5.05 two separate infiltration berms are shown; however, the hydrograph calculations only modeled one BMP. Provide discussion as to how the modeling is appropriate and adequate. 25 Pa Code §102.8(f)(8), §102.8(f)(9), §102.8(g)(3) & §102.8(g)(4)**

	SPLP Response:	*Sheet PCS-5.05 was originally for the Montello block valve site. This site is now located on sheets PCS-5.07 and PCS-5.08. The site now has two berms and an infiltration trench. All three BMPs have been modeled separately using Hydraflow.*
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25.		**The following technical deficiencies are associated with Sheet PCS-5.06**
		The Wyomissing block valve site, which was previously located on sheet PCS-5.06, is now located on sheet PCS-5.09.
	a.	**Identify the locations for infiltration tests. 25 Pa Code §102.8(f)(9) & §102.8(g)(1)**
	SPLP Response:	*Infiltration test locations have been added to the plan sheet.*
	b.	**Identify the existing road right-of-way. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The existing road right-of-way has been added to the plan drawings.*
	c.	**Identify how the channelized runoff from the proposed drive will be safely and appropriately conveyed onto and along the existing roadway. 25 Pa Code §102.8(f)(15)**
	SPLP Response:	*The Wyomissing block valve site is now proposed to be vegetated. Therefore, there will no longer be channelized runoff from the proposed drive.*
PCSM Drawings Mount Union Valves		
1.		**The Note on the Cover Sheet refers to a Geotechnical Report which is being prepared separately from the PCSM Plan and that the certifying engineer for the PCSM Plan does not certify the geotechnical features. Identify how this note meets the regulatory requirements for the PCSM Plan. Identify what information is contained in this additional geotechnical report and identify how this other report affects the design and planning of the PCSM Plan. 25 Pa Code §102.8(f)(2), §102.8(f)(12), §102.8(g)(1) & §102.8(g)(5)**
	SPLP Response:	*The additional geotechnical report was prepared for the design of foundations at the facility. The report also provides information related to embankment fill and slope construction. The note is not intended to meet any specific regulatory requirements for the E&S Plan. The note on the plan is included to clarify that the foundations, embankment fill and slope construction are not certified by the PCSM / E&S engineer. Please reference Section 2.2 Geology and Soils and Attachment 4 for the types, depths, slopes, locations, and limitations of the soils present at the site*
2.		**The following technical deficiencies are associated with Sheet C-1:**
	a.	**Notes 1, 4 & 6 make it appear that the existing site has not been field surveyed for existing conditions and existing contour/grades. Clarify if the existing conditions shown on the plan are field survey. If they are not, identify how the information shown meets the regulatory requirements. 25 Pa Code §102.8(f)(1), §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*The drawing notes were clarified as follows: "1. Existing topography and features compiled from www.pasda.psu.edu and Trico Surveying and Mapping, Inc. 2. Property lines from Trico Surveying and Mapping, Inc."*

	b.	**Provide a full and complete Legend. There are numerous lines types on Sheet C-2 which are not provided for in the Legend. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The legend has been updated to show all symbols used.*
3.		**The following technical deficiencies are associated with Sheet C-2:**
	a.	**The information shown on the plan is confusing. It appears that the existing valve station is shown as proposed on this PCSM Plan. If there is an existing station/site features, identify those as existing (including existing contours/grades). 25 Pa Code §102.8(f)(1), §102.8(f)(3) & §102.8(f)(9)**
	SPLP Response:	*The existing station/site features have been labeled as such.*
	b.	**Identify the ESCGP-2 Permit Boundary. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The plan sheets have been updated to identify the ESCGP-2 permit boundary.*
	c.	**Provide the proposed grading with contour lines or spot elevations. Identify how the berm ends will be constructed to prevent runoff from flowing around the ends (i.e. will the ends be up-turned?). 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*Berm ends do not need to be upturned because the grade is away from berm ends to the berm center where an inlet collects the runoff. Spot elevations were added for clarity.*
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	d.	**The proposed pipe from Drop Inlet #1 to the 24" Tee is designed with a slope of 0.3%. Provide calculations that show this pipe will be able to convey the 100-year/24-hour event to the infiltration trench. 25 Pa Code §102.8(f)(8)**
	SPLP Response:	*A calculation has been added to Appendix E showing that this pipe (DI-1 to BMP) can convey the 100-year peak flow.*
	e.	**Provide additional contour labels. 25 Pa Code §102.8(f)(1) & §102.8(f)(9)**
	SPLP Response:	*More contour labels have been added to the plans.*
	f.	**The proposed infiltration BMP appears to be located centrally within the pad. Clarify how the pad will function. Will the infiltration area be protected from vehicular traffic? Are any other measures proposed to ensure the BMP will function properly? 25 Pa Code §102.8(f)(6)**
	SPLP Response:	*The BMP is located to the south of the pad, not on the pad. The piping shown in the middle of the pad is existing. Existing feature line types revised to be lighter, thus improving legibility of the plans.*

4.		**The following technical deficiencies are associated with Sheet C-3:**
	a.	**If the infiltration trench will be constructed with AASHTO #57 stone on top of the AASHTO #57 stone for the trench (as shown on Infiltration Filter-Section C), then identify the cap of AASHTO #57 with a different style of hatching that the undisturbed soil below and to the sides of the trench. Make all revisions necessary to accurately and consistently identify how the infiltration trench will be constructed. 25 Pa Code §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*The details were revised to clarify how to construct the BMP on sheet C-3 and sheet C-4 of the PCSM Plan.*
	b.	**The Berm Detail identifies a height of 2 ft.; however, Section 4.3 on Page 15 of the PCSM Plan narrative identifies the height as 1 ft. Clarify this discrepancy and make all revisions necessary. 25 Pa Code §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*The text in section 4.3 of the PCSM Plan was corrected to indicate a 2 foot berm.*
	c.	**The Drop Inlet Detail shows that there will be a sump condition created by the PVC Drain Basin. Identify how this area was designed or will be managed to avoid a condition of continuous standing water in the sump. 25 Pa Code §102.8(f)(6), §102.8(f)(9) & §102.8(f)(15)**
	SPLP Response:	*The sump is considered beneficial in that it provides pretreatment for the BMP by removing grit and sediment for smaller storm events. The sump will be checked as part of the routine maintenance schedule and sediment removed as necessary.*
	d.	**The details for the infiltration trench are not sufficient to be able to construct the BMP. Provide additional detail information, including the necessary manifolds, fittings, etc. Ensure that all pipe joints are identified to be water tight. 25 Pa Code §102.8(f)(6), §102.8(f)(9) & §102.8(f)(15)**
	SPLP Response:	*More details were added to the plans to clarify how stormwater BMPs will be installed.*
	e.	**Identify how the infiltration trench will be inspected to ensure that it is properly and completely dewatering. The Cleanout Detail can only be inspected to the bottom of the perforated pipe. Provide a way to inspect the bottom of the infiltration trench to ensure proper dewatering. 25 Pa Code §102.8(f)(6), §102.8(f)(9) & §102.8(f)(10)**
	SPLP Response:	*The lowest outlet of the BMP is a 6 inch orifice at elevation 603.00'. The bottom of the BMP is at elevation 601.00'. The cleanout can be inspected to an elevation of 601.50' An observation of the water level over time between elevation 603.00' and 601.50' can provide an accurate estimate of the functional infiltration rate. It can be safely assumed that if the BMP is dewatering properly between elevations 603.00' and 601.50', the BMP will dewater properly to elevation 601.00'.*

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	f.	**The following technical deficiencies are related to the Manhole Detail: 25 Pa Code §102.8(f)(6) & §102.8(f)(9)**
	i.	**Identify the cover elevation.**
	SPLP Response:	*Top of grate elevations were added to the inlet callouts on sheet C-2 of the PCSM drawings.*
	ii.	**Identify how the weir structure will be constructed, including how it will be attached and sealed to the inside of the manhole and of what material the weir structure is to be made.**
	SPLP Response:	*The following note has been added to the plan: "The weir structure shall be constructed of the same material as the PVC drain basin and shall be pre-ordered as installed by the manufacturer."*
PCSM Drawings Doylesburg Station		
1.		**The Note on the Cover Sheet refers to a Geotechnical Report which is being prepared separately from the PCSM Plan and that the certifying engineer for the PCSM Plan does not certify the geotechnical features. Identify how this note meets the regulatory requirements for the PCSM Plan. Identify what information is contained in this additional geotechnical report and identify how this other report affects the design and planning of the PCSM Plan. 25 Pa Code §102.8(F)(2), §102.8(F)(12), 102.8(g)(1) & 102.8(g)(5)**
	SPLP Response:	*The additional geotechnical report was prepared for the design of foundations at the facility. The report also provides information related to embankment fill and slope construction. The note is not intended to meet any specific regulatory requirements for the E&S Plan. The note on the plan is included to clarify that the foundations, embankment fill and slope construction are not certified by the PCSM / E&S engineer. Please reference Section 2.2 Geology and Soils and Attachment 4 for the types, depths, slopes, locations, and limitations of the soils present at the site.*
2.		**On Sheet C-1, provide a full and complete Legend. There are numerous lines types on Sheet C-2 which are not provided for in the Legend. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The legend has been updated to show all symbols used.*
3.		**The following technical deficiencies are associated with Sheet C-2:**
	a.	**The information shown on the plan is confusing. It appears that the existing valve station is shown as proposed on this PCSM Plan. If there is an existing station/site features, identify those as existing (including existing contours/grades). 25 Pa Code §102.8(f)(1), §102.8(f)(3) & 102.8(f)(9)**
	SPLP Response:	*An existing plan sheet has been added and existing features have been made to be represented by a grey line for clarity.*
	b.	**Identify the ESCGP-2 Penult Boundary. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The PCSM Plan drawings have been updated to show the ESCGP-2 permit boundary.*

	c.	**Provide the proposed grading with contour lines or spot elevations. Identify how the berm ends will be constructed to prevent runoff from flowing around the ends (i.e. will the ends be up-turned?) 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The berm end at the stormwater inlet was up-turned to collect runoff.*
	d.	**Identify the dimensions/elevations of the existing and proposed features, such as length of the pipes, pipe inverts, and length of the stone trench. Clarify the limits of the ASSHTO 57 and 2A aggregate.**
	SPLP Response:	*The details were revised to clarify the dimensions/elevations how to construct the BMP.*
	e.	**Provide additional contour labels. 25 Pa Code §102.8(f)(1) & §102.8(f)(9)**
	SPLP Response:	*Additional contour labels have been added to the plan.*
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4.		**The following technical deficiencies are associated with Sheet C-3:**
	a.	**The Drop Inlet Detail shows that there will be a sump condition created by the PVC Drain Basin. Identify how this area was designed or will be managed to avoid a condition of continuous standing water in the sump. 25 Pa Code §102.8(f)(6), §102.8(f)(9) & §102.8(f)(15)**
	SPLP Response:	*The sump is considered beneficial in that it provides pretreatment for the BMP by removing grit and sediment for smaller storm events. The sump will be checked as part of the routine maintenance schedule and sediment removed as necessary.*
	b.	**The details for the underground storage pipe/infiltration BMP are not sufficient to be able to construct the BMP. Provide additional detail information, including the pipe lengths necessary manifolds, fittings, etc. Ensure that all pipe joints are identified to be water tight. 25 Pa Code §102.8(f)(6), §102.8(f)(9) & §102.8(f)(15)**
	SPLP Response:	*More details were added to the plans to clarify how stormwater BMPs will be installed and additional steps included to ensure all pipe joints are water tight.*
	c.	**The details for the level spreader are not sufficient to be able to construct the BMP. Provide additional detail information, including the dimensions, materials, specifying the Erosion Control blanket and if it is temporary or permanent, etc. The construction sequence in the Narrative indicates using pre-treated timbers or concrete curbing. Ensure the detail is consistent. 25 Pa Code §102.8(f)(6), §102.8(f)(9) & §102.8(f)(15)**
	SPLP Response:	*The details were revised to clarify how to construct the level spreader on sheet C-3 of the PCSM plan.*

	d.	**The channel detail indicates both channel have a bottom width of 0 feet, but the contours on the plan show a bottom width. Clarify the discrepancy. 25 Pa Code §102.8(f)(6), §102.8(f)(9) & §102.8(f)(15)**
	SPLP Response:	*The channel contours have been revised. The grading for Channel A flares out near the end of the channel into a wider bottom, but the analysis was done more conservatively using a bottom width of 0.*
	e.	**Identify how the infiltration BMP will be inspected to ensure that it is properly and completely dewatering. The Cleanout Detail can only be inspected to the bottom of the perforated pipe. Provide a way to inspect the bottom of the infiltration trench to ensure proper dewatering. 25 Pa Code §102.8(f)(6), §102.8(f)(9) & §102.8(f)(10)**
	SPLP Response:	*The lowest outlet of the BMP is a 6 inch orifice at elevation 926.00'. The bottom of the BMP is at elevation 925.00'. The cleanout can be inspected to an elevation of 925.50' An observation of the water level over time between elevation 926.00' and 925.50' can provide an accurate estimate of the functional infiltration rate. It can be safely assumed that if the BMP is dewatering properly between elevations 926.00' and 925.50', the BMP will dewater properly to elevation 925.00'. In addition, the underdrain can be observed at the outlet to determine if it is functioning properly.*
	f.	**The following technical deficiencies are related to the Manhole Detail: 25 Pa Code §102.8(f)(6) & §102.8(f)(9)**
	i.	**Identify the cover elevation.**
	SPLP Response:	*Top of grate elevations were added to the inlet callouts on sheet C-2 of the PCSM drawings.*
	ii.	**Identify how the weir structure will be constructed, including how it will be attached and sealed to the inside of the manhole and of what material the weir structure is to be.**
	SPLP Response:	*The following note was added to the plan: "The weir structure shall be constructed of the same material as the PVC drain basin and shall be pre-ordered installed by the manufacturer."*
PCSM Drawings Middletown Pump Station		
1.		**Provide a full and complete Legend. There are numerous lines types shown which are not identified or provided for in the Legend. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The legend has been revised to show all symbols used.*
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2.		**Identify the ESCGP-2 Permit Boundary. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The ESCGP-2 permit boundary has been added.*
3.		**On Sheet 2, expand on the proposed construction techniques or special considerations to address the limitation of piping. Ensure all stormwater inlets and pipes are watertight. 25 Pa Code §102.8(f)(2) & §102.8(g)(5)**

	SPLP Response:	*The soil limitations resolutions have been expanded to include soil piping. All storm pipes are backfilled with select material, and all proposed storm pipes will have watertight connections. All pipe to inlet connections will also be grouted to remain watertight. Embankments for the detention basin will be compacted to 95% density. See Sheet 2 notes on the PCSM Plans for additional information.*
4.		**On Sheet 5, the plan and table indicate the top rim of the basin outlet is at an elevation of 342.00, however, the detail on Sheet 8 indicates a top elevation of 340. Clarify the discrepancy and ensure the plans are consistent with the calculations. 25 Pa Code §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The detail on Sheet 8 has been corrected. The pipe table on Sheet 5 has been revised.*
5.		**On Sheet 5, in the Proposed Storm Pipe Table, clarify Inlet 3 top of grade elevation. 25 Pa Code §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*The pipe table on Sheet 5 has been revised.*
6.		**On Sheet 3, clarify the symbol shown on the plans, which are located at the end of diversion channel #1 and at the end of diversion channel #4. Ensure to provide associated details, if applicable. 25 Pa Code §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*The symbol is an earthen level lip spreader. The symbol was added to the legend on Sheet 1.*
7.		**Diversion Channels 2-3 are directed into the Infiltration Berm#1. Are the diversion channels supposed to be directed to the infiltration bean or diverted around the project site? The drainage area to the infiltration berm is not clear, so it cannot be confirmed if these contributing areas were included in the Berm analysis. Clarify the function of the diversion channels. 25 Pa Code §102.8(f)(4) & §102.8(f)(6)**
	SPLP Response:	*The Infiltration Berm was removed and replaced with a SRC Basin #2. The upstream flows from Diversion Channels #2 and #3 are now bypassing the basin due to loading ratio concerns. The diversion channels were included to bypass upstream flows around the work area.*
8.		**Channel 10 appears to now direct stormwater to an existing infiltration bed. Provide a demonstration to show that the existing infiltration bed can handle the additional water and will function as designed. 25 Pa Code §102.8(f)(4), §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*An additional infiltration/detention bed #2 has been added to collect flows from Channel #10. There will be no increase in flows to the existing infiltration bed in the paved cul-de-sac. Calculations are included in the PCSM report to confirm the BMP will function as intended.*
9.		**Clarify if geotextile fabric is proposed to be wrapped around all of the stone in the infiltration**

	SPLP Response:	*Class 1 geotextile will be wrapped around the entire infiltration bed, with a 12" minimum overlay on the top of the bed. See the detail on Sheet 6.*
10.		**The Infiltration berm details show the outlet structures as '2 foot by 2 inch precast yard drain' and the plans indicate a 2 foot by 2 foot yard drain. Clarify the discrepancy. 25 Pa Code §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*The typographical error for the yard drain (2' x 2') was corrected on Sheet 6.*
11.		**Provide additional information for the infiltration berms, including providing dimensions and specifying the E&S blanket, to ensure they are constructed per the design. 25 Pa Code §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*The dimensions for the SRC Berm are shown on Sheet 5. Sheet 6 was revised to include the language "S-150 E & S Blankets on all slopes".*
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12.		**Identify how the infiltration bed will be inspected to ensure that it is properly and completely dewatered. Provide a way to inspect the bottom of the infiltration trench to ensure proper dewatering. 25 Pa Code §102.8(f)(6), §102.8(f)(9) & §102.8(f)(10)**
	SPLP Response:	*There are PADOT Type M storm inlets proposed on either end of the infiltration pipe/bed. This will allow access to the bottom of the pipe to complete inspections and to monitor dewatering.*
13.		**Clarify if the Compost Sock Washout Installation will be a permanent feature or only used during construction. If it is not permanent, remove it from the PCSM Plan. 25 Pa Code §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*The compost sock washout is a temporary feature and has been removed from the PCSM plans.*
14.		**The details for the level spreader are not sufficient to be able to construct the BMP. Provide additional detail information, including the dimensions, materials, specifying the Erosion Control blanket and if it is temporary or permanent, etc. 25 Pa Code §102.8(f)(6), §102.8(f)(9) & 102.8(f)(15)**
	SPLP Response:	*The two proposed level spreaders will be permanent measures. Additional details, dimensions and elevations have been added to Sheet 7.*
15.		**The following comments relate to the long-term operation and maintenance (O&M) schedules for PCSM BMPs: 25 Pa Code §102.8(f)(10) & §102.8(f)(9)**
	a.	**Expand on the Detention Basin schedule to include measures to repair and replace to ensure proper function and operation.**
	SPLP Response:	*Additional O & M details for repair and replacement measures for the proposed SRC detention basins are shown on Sheet 9.* .

	b.	**Expand on the Infiltration berm schedule to include measures to repair and replace to ensure proper function and operation. Additionally specify 'major storm events' as it is a subjective phrase. This specification will also ensure the applicant is aware of the required inspection schedule.**
	SPLP Response:	*A repair and replacement schedule has been added to Sheet 9 for the SRC Berm.*
	c.	**Provide a schedule for the infiltration bed.**
	SPLP Response:	*A repair and replacement schedule has been added to Sheet 9 for the Infiltration Bed.*
	d.	**Expand on the rip rap apron schedule to include replacement.**
	SPLP Response:	*The repair and replacement schedule has been expanded to include the riprap aprons.*
	e.	**Provide O&M schedule for the Fabco storm basin inserts. Clarify what cartridges are required in the detail.**
	SPLP Response:	*An O & M Schedule for the Fabco stormbasin inserts has been added to Sheet 10. Note 7 of the Fabco storm basin detail states "use fabco replaceable media cartridges only".*
	f.	**Provide a schedule for the Fabco Connector pipe screen or incorporate it into the overall PCSM BMP schedule.**
	SPLP Response:	*A maintenance schedule for the CPS screen is shown on Sheet 8.*
	g.	**Provide a schedule for inspecting the vegetated channels.**
	SPLP Response:	*A maintenance schedule for channel inspection is shown in the modified detail on Sheet 7.*
	h.	**Provide a schedule for the level spreader.**
	SPLP Response:	*A maintenance schedule for the level spreaders is shown in the modified detail on Sheet 7.*
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16.		**Provide the water bar details and associated operation and maintenance schedule that is associated with the Corrective Action Plan (CAP) on the PCSM Plan. 25 Pa Code §102.8(f)(6), §102.8(f)(9) & §102.8(f)(10)**
	SPLP Response:	*The water bar details from the CAP has been added to Sheet 10.*

PCSM Drawings Beckersville Pump Station		
1.		**Provide a frill and complete Legend. There are numerous lines types shown which are not identified or provided for in the Legend. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The legend has been revised to show all symbols used.*
2.		**Identify the ESCGP-2 Permit Boundary. 25 Pa Code §102.8(f)(9)**
	SPLP Response:	*The ESCGP-2 permit boundary has been added.*
3.		**On Sheet 2, provide the depth and slope of the on-site soils and geology. Expand on the proposed construction techniques or special considerations to address the limitation of piping. Ensure all stormwater inlets and pipes are watertight. 25 Pa Code §102.8(f)(2) & §102.8(g)(5)**
	SPLP Response:	*The notes for existing soils on sheet 2 of the plans have been revised to include depth to bedrock and slope. The soil limitations resolutions have been expanded to include piping. All storm pipes are backfilled with select material, and all proposed storm pipes will have watertight connections. All pipe to inlet connections will also be grouted to remain watertight. Embankments for the detention basin will be compacted to 95% density.*
4.		**On Sheet 4, clearly identify the drainage areas and delineate the boundaries on the pre-development and post-development drainage area maps. While the maps are provided, the drainage areas are not clear. 25 Pa Code §102.8(f)(4) & §102.8(f)(9)**
	SPLP Response:	*The drainage area boundaries have been revised to stand out on the drawings.*
5.		**On Sheet 3, the plan shows the basin outlet structure connecting to MH #2, however, the detail on Sheet 5 shows the basin outlet structure connecting to MH #3. Clarify the discrepancy. 25 Pa Code §102.8(f)(8) & §102.8(f)(9)**
	SPLP Response:	*With the re-designed site, the outlet structure pipe connects to proposed manhole #3*
6.		**Provide additional contour labels to clarify the proposed site grading. 25 Pa Code §102.8(f)(7) & §102.8(f)(9)**
	SPLP Response:	*Additional contour labels have been added to clarify the proposed site grading.*
7.		**The proposed contours associated with the infiltration berm do not tie into existing contours. Clarify how this area is to be graded. 25 Pa Code §102.8(f)(7) & §102.8(f)(9)**
	SPLP Response:	*The berm was removed and basin #2 was relocated to this area. All proposed contours tie into existing contours.*

8.		**Clarify on the plan if there is any associated work proposed on the plan for the existing riprap apron, EX RRA, or if it currently meets the design and associated detail. The plan is not clear, but includes this area within the Limit of Disturbance (LOD). 25 Pa Code §102.8(f)(6) &, §102.8(f)(9)**
	SPLP Response:	*There is no work planned for the existing riprap apron constructed during ME1. Calculations are provided that prove the RRA is adequate for the total pipe flow from both basins. The LOD line has been revised to remove this area from the LOD boundary.*
9.		**Provide additional information for the infiltration berms to ensure proper construction, including providing dimensions and specifying the E&S blanket. 25 Pa Code §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*The infiltration berm was deleted. The slopes will be lined with NA Green S-150 erosion control blankets. Additional dimensions for the basin are shown on Sheet #4.*
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10.		**Clarify if the Compost Sock Washout Installation will be a permanent feature or only used during construction. If it is not permanent, remove it from the PCSM Plan. 25 Pa Code §102.8(f)(6) & §102.8(f)(9)**
	SPLP Response:	*The washout is not a permanent feature, and therefore was removed from the PCSM Plan.*
11.		**The following comments relate to the long-term operation and maintenance (O&M) schedules for PCSM BMPs: 25 Pa Code §102.8(f)(10) & §102.8(f)(9)**
	a.	**Expand on the Detention Basin schedule to include measures to repair and replace to ensure proper function and operation.**
	SPLP Response:	*The O & M schedule for the detention/infiltration basin was revised to include repair and replacement.*
	b.	**Provide a schedule for the infiltration berm.**
	SPLP Response:	*The schedule was revised to include the infiltration basin.*
	c.	**Expand on the rip rap apron schedule to include replacement.**
	SPLP Response:	*The schedule was revised to include replacement of the riprap aprons.*
The following are comments, not technical deficiencies, provided regarding the design of the E&S and PCSM Plans that DEP and the Districts would like Sunoco Logistics, L.P. and their consultant team to consider.		
A.		**The Lebanon County Conservation District recommends utilizing Jute Matting for the stabilization of the areas adjacent to flowing surface waters. Jute Matting appears to have better performance and stability for flowing water versus other 'standard' erosion control blankets.**

	SPLP Response:	*Jute Matting is recognized as a good product to stabilize hillsides and stream banks, however, it is also felt that other types of Erosion Control Blankets (ECB) will also perform satisfactorily. The contractor may elect to use any of the acceptable ECBs which meet the requirements in Erosion and Sediment Control Plan narrative depending on availability.*
B.		**It is recommended to consider placing waterbars at the ends of the rock construction entrances, to avoid concentrated runoff leaving the site via the rock construction entrance (e.g. Stations 10950+60, 11035+00 & 11048+50)**
	SPLP Response:	*Diversions will be provided for all Rock Construction Entrances that are sloped toward roadways. The water will be diverted with a water deflector near the up-gradient end of the rock construction entrance. The general detail for the water deflector is already included in the drawing sets (ES-0.10) and the plan location of the deflector has been shown on the plan sheets.*
C.		**It appears that erosion control matting/blankets may be used in areas where livestock will be present. The use of certain types of erosion control matting/blankets may be harmful to livestock. Consideration should be given to using erosion control matting/blankets that are not harmful to livestock, in the areas where livestock will be present after construction.**
	SPLP Response:	*In areas where livestock are located an alternative Erosion Control Blanket is proposed. Contractors are to use North American Green BioNet-SC150BN in these areas. Bio-Net-SC150BN is made of combination of straw and coconut fiber.*
D.		**Crownvetch is an invasive species. Consideration should be given to removing any invasive species from the E&S and PCSM Plans.**
	SPLP Response:	*Crown-vetch was replaced in the seed mixtures with Big Bluestem. Big Bluestem is a native alternative recommended in the DCNR's Invasive Plant Fact Sheet (referenced in the E&S report) for Crown-vetch.*

Attached are two copies of the revised documents for your review and approval. A CD with the updated sections is provided with this submission. SPLP appreciates your timely review of this application. Please contact Rob Simcik of Tetra Tech, Inc. with any questions at 412-921-8163, or email Robert.simcik@tetratech.com.

Sincerely,

Robert F. Simcik, P.E.
Project Manager
Tetra Tech, Inc.

RFS/clm

Enclosures: Attachments

cc:

File 112IC05958
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