



July 12, 2019

Ms. Dana Drake
Pennsylvania Department of Environmental Protection
Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222

Re: Response to Technical Deficiency Letter for Permit No. PAD630034 for the Beech Hollow Energy Project

Dear Ms. Drake:

Burns & McDonnell Engineering Company, Inc., on behalf of Robinson Power Company, LLC, submits the enclosed and revised Notice of Intent, E&S Plan, and PCSM Plan for the Beech Hollow Energy Project (Permit No. PAD630034) in response to the Technical Deficiency Letter received on May 2, 2019. Please see the below responses to each deficiency. Please contact me at (816) 363-7275 or sgilstrap@burnsmcd.com if you have any questions.

E&S COMMENTS:

1. **§102.4(b)(5)(ix): Phased drawings should be provided to show E&S BMPs that are to be installed with the initial disturbance. Currently, the drawings provided only show E&S BMPs at final buildout.**

E&S drawings CS205A, CS205B, and CS205C show those BMPs to be installed during the initial phase of disturbance. E&S drawings CS206, CS207, and CS208 show those BMPs which will be installed during the latter phases of disturbance.

2. **§102.11(a)(1): Label/number all compost filter sock (CFS) shown on the plan drawings.**

Compost filter socks are now labeled on E&S Drawings CS206 through CS208 to correspond to Worksheet #1 in Appendix C of the E&S Plan.

3. **§102.4(b)(5)(ix): It is unclear what the short sections of filter sock located upslope of the access road are protecting.**

The compost filter sock located upslope of the access road will be installed to control and treat stormwater runoff during installation of the overhead distribution line structures.

4. **§102.11(a)(1): Label/number all channels shown on the plan drawings.**

The proposed channels on E&S drawings CS206 through CS208 are now labeled.

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5. **§102.11(a)(1): Compost filter socks cross contours in several locations throughout the plan. Sediment barriers should be installed at existing level grade. Ex. From SR980 upslope along the access road & along the potable water line.**

E&S Drawings CS205(A-C) through CS208 have been updated to show the placement of compost filter sock along topographic contours.

6. **§102.11(a)(1): Label/number the rock filters on the plan drawings.**

Rock filters on E&S Drawings CS206 through CS208 are now labeled to match Worksheet #8 in Appendix C of the E&S Plan.

7. **§102.4(b)(5)(viii): Only 8 filter socks are noted on Worksheet #1, the plan drawings show many sections of filter sock. These need to be shown on the worksheet and labeled on the plan drawings.**

E&S Drawings CS206 through CS208 and Worksheet #1 have been updated so that the compost filter socks labeled on the drawings match those included on Worksheet #1.

8. **§102.11(a)(1): No E&S BMPs are shown below the grading for the sediment trap.**

The sediment trap on the western slope of the power block is no longer proposed for construction. Following slope stabilization work, the western slope will be restored to pre-construction contours, and no additional stormwater volume will drain to this area.

9. **§102.11(a)(1): Consider utilizing channels to convey runoff to sediment trap.**

The sediment trap on the western slope of the power block is no longer proposed for construction.

10. **§102.11(a)(1): Does the South Basin discharge to a natural drainage course? A flow path is shown; however, it is unclear if this is a drainage course.**

The South Basin currently and will continue to drain through Outlet 1 to a ditch located on the north/east side of the existing access road. This ditch drains directly into the unnamed tributary to Little Raccoon Run. The South Basin will be improved to meet Ch. 102 requirements.

11. **§102.11(a)(1): Will the discharges from the North & South Basins and sediment trap outfalls create an erosion issue? Provide supporting evidence that the discharges from these facilities will not cause accelerated erosion below the outlet.**

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The sediment trap is no longer proposed for site construction. Discharges from the North and South Basins will not cause accelerated erosion below the outlets as discussed on page 3-2 and in Section 3.2 on pages 3-3 and 3-4 of the E&S Plan narrative. A level spreader will be installed downstream of the North Basin outlet to disperse stormwater flow to the receiving wetland (W-KR-19A).

12. **§102.11(a)(1): Outlet aprons should be shown on the plan drawings for all proposed outfalls.**

Outlet aprons are now shown on E&S Drawings CS206 through CS208 at all proposed outfalls, including Outfall 1 at the South Basin and Outfalls 2 and 4 at the North Basin.

13. **§102.4(b)(5)(vii): The construction sequence should call out the compost filter sock installation in details.**

The construction sequence on E&S Drawing CS209 has been updated to include compost filter sock installation details.

14. **§102.11(a)(1): Match lines should be provided on all E&S plan sheets.**

The E&S drawings in Appendix B of the E&S Plan have been updated to show appropriate match lines.

15. **§102.11(a)(1): Channels shown on the west side of sheet CS205 appear to just end. It is unclear where these channels discharge.**

E&S Drawings CS206 and CS207 have been updated to show the flow path of the new channels into the existing swale that eventually drains into the existing South basin. Drainage areas and stormwater calculations have been revised to reflect this drainage path.

16. **§102.11(a)(1): The construction sequence notes catch basins to be removed, these should be called out on the plan drawings.**

Catch basins TB-1 and TB-2 will be removed prior to stabilization of the power block area. Appropriate callouts have been added to E&S Drawing CS207.

17. **§102.11(a)(1): A details for a rumble pad at the rock exit is shown in the details, this should be clearly noted in the plans.**

A note has been added to E&S Drawings CS205B to callout the optional use of a rumble pad at the access road entrance/exit instead of a rock construction entrance depending on contractor preference.

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18. **§102.4(b)(5)(iv): Drainage area maps for the temporary sediment basins should be provided.**

Drainage area maps were provided as EX001 through EX006. During a conference call with Matt Golden from the Washington County Conservation District on June 4, 2019, it was determined that no additional information is required. Drainage area maps have been updated per PCSM comments and are now EX001 through EX008.

19. **§102.11(a)(1): The North & Middle drainage swales outlined in the construction sequence are not shown on the plan drawings. Show these swales on the E&S Plans.**

The North and Middle drainage swales are post-construction stormwater management BMPs and will not be included during the construction phase. The E&S construction sequence on Drawing CS209 has been updated.

20. **§102.4(b)(3): The plan preparer's phone number needs to be included with the plan drawings.**

The plan preparer's phone number has been added to Drawing CS200 of the E&S Plan and Drawing CS300 of the PCSM Plan.

21. **§102.11(a)(1): The temporary lined condition of channel DL-1 & DL-3 should be provided with Worksheet #11.**

These channels have been removed from the design.

22. **§102.11(a)(1): The location for pump water filter bag implementation should be noted on the drawings at the stream crossing location.**

E&S Drawing CS208 has been updated to note the location for pumped water filter bag implementation during stream crossing activities.

23. **§102.11(a)(1): Review the embankment spillway width. Spillway should be 2 x ac or 2 x h whichever is greater. It appears that 2 x h would be greater.**

The spillway height is equal to 2 x ac as the embankments for the North and South basins are 6 and 8 feet, respectively. The disturbed area drainage to the North and South basins is 8.27 and 13.86 acres, respectively, and the widths of the spillways are 18 and 27 feet.

24. **§102.11(a)(1): Clearly show where access will be provided to the sediment trap for maintenance.**

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As previously discussed, the sediment trap on the western slope of the power block is no longer proposed for site construction.

25. **§102.11(a)(1): Review Worksheet #12 South Basin. The minimum required dewatering zone is 3600 cubic feet per acre. Worksheet #12 shows volume reductions in the dewatering zone below 3600 cubic feet.**

The minimum volume reduction of the South Basin has been updated to equal 3,600 cubic feet per acre. See updated Worksheet #12 in Appendix C of the E&S Plan.

26. **§102.11(a)(1): Complete Worksheet #15, footnote #2 for both the North and South basin.**

Footnote #2 on Worksheet #15 has been completed for both the North and South basins. Worksheet #15 is provided in Appendix C of the E&S Plan.

27. **§102.11(a)(1): Include all rock filters on standard Worksheet #8.**

All rock filters shown on E&S Drawings C206 through CS208 are included in Worksheet #8 in Appendix C of the E&S Plan.

28. **§102.11(a)(1): Review the shear stress noted for channel E-1, M-2 & N-2. The calculated shear stress appears to exceed the max allowable shear stress for the proposed lining noted in the worksheet.**

Appropriate revisions have been made to meet the shear stress criteria for the proposed channel lining.

PCSM COMMENTS:

1. **§102.6(a)(1): The Access Road POI(s) #1-3 are stated to discharge to a PennDOT owned MS4 system. There is a reported increase in volume in this area. As such, a letter from the MS4 owner (PennDOT) must be provided which clearly states that they are accepting the volume of stormwater increase into their system.**

An approval letter from PennDOT will be provided to the DEP upon PennDOT's approval of the proposed stormwater discharge to its MS4 system.

2. **§102.6(a)(1): Please follow the instructions of Section D.4 in the NOI to list the volume for rate and volume/water quality that is treated. From the instructions, two separate volumes are needed. Note that this volume must be representative of an inflow BMP volume that is shown in the routing calculations.**



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Section D.4 of the NOI has been updated to list both the volume captured for rate control and the volume treated for water quality, where applicable.

3. **§102.6(a)(1): Please describe if the Act 537 approved plan from 1995 needs modified or revised for the proposed activities.**

The Act 537 plan approved in 1995 does not require revision. The Act 537 plan proposed an activated sludge system for the treatment of sanitary wastewater, which is the proposed treatment system for the Project as stated in the Fact Sheet of NPDES Permit No. 0252808.

4. **§102.6(a)(1): Provide two copies of the P.E. sealed PCSM Report and Plans. Only one PCSM Report and Plan Set were submitted to the Department.**

Please see the enclosed two copies of the sealed PCSM Report and Plans.

5. **§102.6(a)(1): Please provide a letter from the stated public water supplier within the GIF, which states they have the capacity for, and will serve your proposed project.**

Please see the enclosed approval letter from PA American Water, which will provide potable water to the generation facility.

6. **§102.6(a)(1): Please explain why the POIs are represented how they are? A POI is the point where stormwater runoff leaves the site. If a smaller POI is within a larger POI, it should all be included as one POI. It appears from looking at the NOI and from the discussion that there are 2 POIs (Power Block POI which includes Power Block 1-3, Entrance Road 4 and Waterline 1-2. There is also the Main Entrance POI which includes the access road 1-3.) Include in the explanation why some are lumped such as Entrance Roads POI 1-3? Breaking out POIs into smaller POIs will increase permitting review timeframes due to the need to manually calculate for our record of decision.**

As discussed with Jim Sommer with the DEP on May 16, 2019, the PCSM drawings, calculations, and worksheets have been updated to represent three overall POIs for the generation facility site. POI-1 is for the North Basin that drains to the existing wetland/stream that leads to the unnamed tributary to Little Raccoon Run. POI-2 is located at the unnamed tributary to Little Raccoon Run and combines runoff from the South Basin and the water pipeline area. POI-3 is located at the PennDOT MS4 inlet near the main access road entrance and includes runoff from the access road and highway entrance area.

7. **§102.6(a)(1): Please revise the NOI to address the following:**

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- a. **The volume reduced as shown in the NOI POIs for Box #7 cannot be greater than the amount of volume that flows into the BMP. For example, POI #1 & #3 of the Power Block Area show significantly higher reduced volumes than total post construction stormwater volume for the POI drainage area.**

The POIs, including associated drainage drawings, calculations, and PCSM Worksheets, have been consolidated following a conference call with Jim Sommer with the DEP. POI-1 includes the North Basin that drains to the existing wetland/stream to the west that leads to the unnamed tributary to Little Raccoon Run. POI-2 is at the unnamed tributary to Little Raccoon Run and includes drainage from the South Basin and along the water pipeline. POI-3 is at the PennDOT MS4 inlet near the main access road entrance. Section D.3 of the NOI has been updated accordingly.

- b. **Revise Box #8 per the instructions are the signage is reversed.**

Section D.3 of the NOI has been updated for each POI.

- c. **Section D.3 for Entrance Roads POI 1-3 shows 2,784 cubic feet of volume reduction in Box #7. In Section D.4, volume and water quality control are not checked. Please explain how a volume reduction is claimed in Box #7 if there is no volume control or water quality control BMPs listed.**

As previously stated, the POIs identified in the original submittal have been consolidated to better represent stormwater discharge points from the Project site. Sections D.3 and D.4 in the NOI have been updated accordingly.

- d. **Please revise Section D.2 to list option C. Option A can only be checked if there is a current AND approved Act 167 Plan. The Act 167 Plan noted is not approved as it is greater than 5 years old. As currently presented, you are not adhering to Option B as volume control is not being met in POIs shown within Section D.3. Option C must be checked, and a justification must be provided to how regulation 102.8(g)(2)(iv) & 102.8(g)(3)(iii) are being met. This must be within the PCSM Report.**

Option A is still selected in Section D.2 of the NOI, and the adopted date of the Act 167 Plan has been corrected. According to a letter from the Township engineer regarding the Act 167 stormwater consistency review of the Project plans, the Robinson Township Stormwater Management Ordinance was adopted on July 13, 2015.

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- e. **Section F must be sealed by the Professional Engineer overseeing the application, Robert Owens.**

Please see added seal in Section F of the NOI.

- f. **Please revise Section H to list any possible Storage Tank permits, from our discussion within the Chapter 105 Joint Permit Completeness Review. Please list the Air Quality Permit.**

The Air Quality Permit is listed as Major Facility Plan Approval - New Facility Review - PSD (Plan Approval No. 63-00922D). Section H of the NOI has been revised to include the required Storage Tank installation and operating permits.

- g. **Please revise Section C and Worksheet #1 of the NOI to list the Raccoon Creek Watershed TMDL. The TMDL shows a cause list of Metals, pH, siltation and TSS. Note that due to siltation, ABACT BMPs must be utilized within 150 linear feet of a watercourse.**

Section C and Worksheet #1 of the NOI have been updated based on the Raccoon Creek Watershed TMDL.

- h. **Please explain why the NOI shows only 1.59 acres of existing impervious area where Page 2-1 of the PCSM Report states 4.3 acres of existing impervious area.**

The existing impervious area noted in the NOI and on page 2-1 of the PCSM Plan narrative are now consistent.

- i. **Worksheet #4 appears to not include the existing 20% impervious rule. Please explain.**

Based on further guidance from Jim Sommer on May 16, 2019, the generation facility site is not required to comply with the existing 20% impervious rule because infiltration restrictions are imposed onsite.

- j. **Worksheet #12 lists a disturbed acreage of 31.04 acres which does not match with the NOI reported disturbed acreage of 58.5 acres of the NOI Worksheet #4 disturbed acreage of 38.3 acres. There are currently three differences. Please note that water quality must be met for each POI, and not cumulatively for the project. Worksheets #10-13 are listed once for the entire**

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cumulative project. As 90% is controlled by a BMP, TP and TSS are assumed to be met. Only Worksheet #10 must be provided for nitrate control for each POI to meet regulatory requirements. Please provide Worksheet #10 which provides the required amount of primary and/or secondary BMPs. Alternatively, discuss Chapter 102.8(g)(2)(iv) for each POI where this is not met.

Worksheet #10 is included in Appendix C of the PCSM Plan for each POI. Because at least two primary BMPs will be implemented in each POI, Worksheets #12 and 13 are no longer required.

8. **§102.8(g): Please revise the PCSM Report to address the following:**
- a. **The PCSM Plan shows sediment basin storage data in multiple locations. Please revise as these are PCSM BMPs. Note from previous comments that the 2-year volume reduction is not counted as the total storage of a basin, but the inflow to the basin, under the overflow orifices.**

Storage data has been updated and reworded to address the permanent “detention” basins and not the “sediment” basins to be used only during construction.

- b. **Provide the page location of the PCSM routing calculations which provide the volume reduction and rate quantities that are shown in Section D.3 and D.4 of the NOI as they are not easily or not seen within the report.**

The PCSM calculations have been updated and are better organized for review. The PCSM routing calculations are provided in Appendix E of the PCSM Plan.

- c. **Please revise the calculations to be in cubic feet to coincide with the NOI and Worksheets. Otherwise, the permit review timeline will be extended as the reviewer will have to convert all the calculations manually.**

All volume calculations have been converted to cubic feet to coincide with the NOI and PCSM Worksheets.

- d. **The dewatering time is needed for the two PCSM Basins and the PCSM underground detention basin. Currently, sediment basin dewatering times greater than 72 hours are given in the PCSM report. Note that dewatering times for PCSM BMPs should adhere to a dewatering time of 24-72 hours.**

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Dewatering calculations are provided as hydrograph tables in Appendix E of the PCSM Plan.

- e. **Please discuss the subsurface dry extended detention basin in the access road POIs within Pages 4-2 & 4-3 as it is not mentioned.**

A discussion of the subsurface dry extended detention basin in the access road is provided on pages 3-3 and 3-4 of the PCSM Plan.

- f. **Within the PCSM narrative, provide summary tables for each POI within the NOI which pulls out the quantities from the routing calculations for volume and rate. These summary tables should adhere to Sections D.3. If the volumes are different due to a differing methodology, state this and state the difference. Please include a discussion of the POIs and if any are included within a larger POI. (Example: Access Road POIs 1-4 and Waterline POIs 1-2 are really one POI leaving the site through PennDOT's MS4 system, etc.)**

The requested discussion has been added to Section 3.2 on pages 3-4 and 3-5 of the PCSM narrative.

- g. **There are a set of pages (unnumbered) at the beginning of Appendix E before the Bentley PondPack sets. Please described what these refer to and their value as I am unsure what they represent. The areas do not match with Section D.3 of the NOI. The worksheets state a volume for the 2-year storm event of 1,542 cubic feet, which is less than the required 1,700 cubic feet. You will need to show a routing analysis (similar to HydroCAD) for the Access Route POIs 1-3 combined. Include within this routing analysis a watershed schematic model. This routing will need to include the proposed detention system with elevations and outlet orifices included. You cannot simply piece meal calculations for different orifices and pipes and arrive at a cumulative overall rate for that POI to the MS4 system.**

As previously mentioned, and at the request of the DEP, the POIs have been revised to more accurately depict stormwater drainage onsite. A new routing analysis has been completed using the HydroCAD model, and the results are provided in Appendix E of the PCSM Plan.

- h. **Similar to HydroCAD, provide an overall watershed schematic diagram for each POI showing links and nodes which illustrates how the routing**

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calculations are performed to better understand the stormwater calculation routing steps taken. Currently, what is submitted is very difficult to follow.

As requested, an overall schematic diagram for each POI is provided in Appendix E of the PCSM Plan.

- i. The hand-written paragraph within the calculations does not agree with Chapter 102 regulations. The rate requirements for Chapter 102 NPDES permits is that the post construction rate for 2, 10, 50 & 100-year 24-hour storm events cannot exceed the pre-construction rate for the 2, 10, 50 & 100-year 24-year storm event.**

Please review the updated calculations provided in Appendix E of the PCSM Plan.

- j. Pages 424-429 are missing from the routing calculations for Power Block Area POI #1. Please submit or explain the reason for omission.**

A new routing analysis has been completed and is included in Appendix E of the PCSM Plan.

- k. Please justify the warnings presented within the Bentley PondPack software.**

Updated calculations are provided in Appendix E of the PCSM Plan, which were completed using the HydroCAD modeling program.

- l. You will need to provide an overall routing analysis for the Power Block POIs, waterline POIs and access road #4 as they all drain to the UNT before leaving off-site. If not, each will have to include a routing analysis separately. Currently, only POI #1 and #3 of the Power Block are provided.**

An updated routing analysis is provided in Appendix E of the PCSM Plan.

- m. The PCSM Report calculations do not include the 2.5" orifice weirs in the manhole for the underground detention basin. Please revise to include in the routing analysis. The current water surface elevation of 1106.86' is for an unobstructed flow. With the weir and orifices, the elevation will be revised.**

The updated routing analysis in Appendix E of the PCSM Plan includes the 2.5-inch orifice weirs in the manhole for the underground detention basin.

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- n. Please explain why there is an existing pond in and out in the pre-conditions of the calculations (For example, see Page 7 of 429.) Is there an existing pond in this area? The pre-conditions are the undisturbed project site.**

Both the North and South basins currently exist today. They were built in 2006/2007 for another power generation project that was never completed. The Project will modify these existing basins as shown. The enclosed drawings and calculations reflect these basins both in the existing and post-construction conditions.

- o. The elevations on Page 7 and 8 of 429 do not match with the plan sheet elevations.**

The elevations provided in the calculations in Appendix E now match the elevations shown on the PCSM drawings in Appendix D.

- p. The curve numbers and acreage for each soil type condition do not match with the values on Worksheet #4. (Example of one of these differences is Page 69 of 429.)**

The calculations in Appendix E and the PCSM Worksheets in Appendix C have been updated and are consistent with one another.

- q. Is the stormwater that is not entering the detention basin systems accounted for within the routing calculations?**

All stormwater drainage on the Project site is accounted for in the routing calculations in Appendix E of the PCSM Plan.

- r. The northern and southern detention basins must account for the volume change within the 3 Power Block POIs, the 2 Waterline POIs and the Access Road #4 POI as they all flow to the same point before leaving the site.**

The POIs have been updated to more clearly describe and depict stormwater drainage onsite. The volume change within POIs 1-3 are depicted on the PCSM drawings in Appendix D, and supporting calculations are provided in Appendix E.

- 9. §102.8(f)(9): Please revise the PCSM Plan Drawings to address the following:**

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- a. The PCSM Plans state long-term Operation and Maintenance TBD. This must be stated who will be responsible for long-term maintenance of the proposed BMPs.**

PCSM Drawing CS300 has been updated to include the entity responsible for long-term operation and maintenance of the PCSM BMPs.

- b. The landowner note is not signed on the cover page of the PCSM Plan.**

Champion Processing has signed the cover page of the PCSM Plan.

- c. Place the POI points and major contour elevations on Plan Sheet CS302.**

POI points and major contour elevations have been added to Plan Sheet CS302.

- d. Provide an access road to the northern detention basin BMP.**

An access path to the northern detention basin has been added and is depicted on E&S Drawing CS207 and PCSM Drawing CS305.

- e. Provide an overall Drainage Area POI Map showing the acreage and curve numbers which correspond to Worksheet #4 and the PCSM Report for pre and post conditions.**

The requested information is provided on EX001 through EX008.

- f. Revise the plan sheet tables to list cubic feet of volume. Currently, acre-feet are listed and the acre-feet converted to cubic feet do not match Section D.3 of the NOI and are in cases roughly 5,000 cubic feet different.**

The plan sheet tables on Drawings CS304, CS305, and EX001 through EX008 have been updated to provide volume measurements in cubic feet.

- g. If the waterline is being restored as stated on Page 3-5, why is there an increase in the volume within Section D.3 for these POIs?**

The waterline right-of-way will be restored to pre-construction conditions. The increase in volume is due to surfacing the existing crushed rock access road with asphalt. Section 3.3.1 on page 3-6 of the PCSM Plan addresses the proposed access road improvements.

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h. Provide the property lines on the close-up sheets.

Property lines are shown as requested.

i. Per the PCSM Manual, detention basins should provide a forebay or equivalent pre-treatment device. Evaluate a forebay installation for the northern detention basin.

A forebay was added for the pretreatment of stormwater runoff prior to downstream discharge to the north detention basin. See Drawing CS305.

j. The emergency spillway is not shown on the plan sheets or details. Please provide.

The emergency spillways for the North and South detention basins are shown on Drawing CS305, and details are provided on Drawing CS307.

k. Is there an existing channel from the northern detention basin to the existing wetlands for the proposed discharge?

The North basin is existing and has an outlet structure that discharges stormwater to the existing wetland (W-KR-19A). This basin will be improved to meet Ch. 102 requirements, and a riprap channel will be installed at the basin outlet to control the drainage rate to the wetland to avoid erosion and scouring. A level spreader will be installed at the point where stormwater runoff will leave the Project site.

l. Evaluate the stability of the northern detention basin as the PCSM manual states to not construct on steep slopes.

The North basin is existing, although not a regulated BMP. It is not used for mining activities but was constructed over 10 years ago during site preparation of the power block area for a proposed power generation facility that was never constructed. The existing North basin will be modified during Project construction to meet current Chapter 102 regulations.

m. POI #2 shows a proposed basin on the PCSM Plans. Explain as the narrative states revegetating and grading to pre-existing conditions, which is not shown. There is an 8' deep basin shown without an outlet structure?

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The site design has been modified to remove the proposed sediment trap on the western slope of the power block area. Following slope stabilization activities, this area will be restored to pre-construction conditions and will not receive additional runoff volume following site construction.

- n. Please revise Sheet CS306, sequence #14 to add the installation of permanent water quality filter devices.**

Water quality filters were removed from design as street sweeping will be implemented as a water quality BMP.

- o. The dry extended detention basins should have vegetation planted per the Manual to promote water quality detention. Having no proposed amended soil mix or vegetation will not promote water quality reduction unless a forebay is utilized.**

As discussed with Jim Sommer on May 16, 2019, the Project site will implement street sweeping along the access roads and in the power block area to reduce onsite pollutants. The Project will not plant vegetation within the lined basins. The Project design manages at least 90 percent of the stormwater volume to meet the water quality requirements for total suspended solids and total phosphorus.

- p. The note on CS306 should also read without written approval from the Department.**

The note on CS306 has been updated as requested.

- q. Can quarterly street sweeping be added to the access roads and power block area to additional water quality treatment to meet nitrate reduction for Worksheet #10 for the two overall POIs?**

Street sweeping has been added to the proposed long-term water quality treatment procedures to meet nitrate reduction requirements for the access roads and power block area. Additional details are provided in Section 4.3.2.3 on page 4-3 of the PCSM Plan narrative, and PCSM Worksheet #10 in Appendix C of the PCSM Plan has been updated.

- r. Please revise the details on Sheet CS307 to include the following:**
 - i. Inlet elevation**
 - ii. 2.5" orifice elevation**

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- iii. Elevations and dimensions as they are not given or seen within the table.
- iv. Elevations of the 1" diameter holes within the outlet structure. (This should be modeled within the routing analysis.)
- v. Height of the spillway.

The above listed items have been added to the details on PCSM Drawing CS307.

- s. **Remove the E&S details such as #7-14 & #7-18 as they should not be within the PCSM Plan Set.**

E&S Details #7-14 and #7-18 have been removed from PCSM Drawing CS307.

- t. **Please number and/or call-out the channels on the plan sheets to correspond to the channel calculations or worksheets.**

The channels on the PCSM plan drawings have been labeled to correspond with Worksheet #11 in Appendix C and the channel calculations in Appendix E of the PCSM Plan.

- u. **The elevations on CS310 should match with the elevations on CS307 and the routing calculations. Currently, they do not.**

The elevations on CS310 and CS307 and the routing calculations in Appendix E are now consistent.

- v. **If the southern detention basin has an elevation change at the basin and the outlet is located on the higher end, there will be a permanent pool of 1-foot due to the liner. Please revise or state the reasoning for the 1-foot elevation change and permanent pool.**

The outlet elevation is at 1110 feet which is the same elevation as the lowest part of the basin.

- w. **Please provide a detail showing the transition of the forebay to the basin. (What type of rock is being provided on the inlet and outlet side? How is the stormwater entering the basin from the forebay, etc.?) The forebay transition should not be an earthen berm as it will potentially wash away and/or erode.**

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A detail showing the transition of the forebay to the basin is included on plan drawing CS307.

- x. Provide a detail of the underground detention basin which shows the layout of the pipes, rock to be place, liner, elevations, etc. A detail has not been provided for the underground detention basin. Is a cleanout provided for the system? Water quality must be met prior to getting to the system as water quality will not take place within the system.**

A detail of the underground detention basin is provided on plan drawing CS311. A manhole is provided for system access and cleanout, as needed.

- y. Explain the table on CS311. It states a 2-year volume of 1,542 cubic feet and then a volume requirement of 1,700 cubic feet. If only 1,542 cubic feet enter the system during the 2-year storm event, how are you managing or controlling 1,700 cubic feet of stormwater?**

The table on CS311 has been removed.

- z. The existing conditions plan sheet does not match with Worksheet #4 acreages.**

Worksheet #4 and plan drawings have been updated.

- aa. Sheet EX001 does not include the entire limit of disturbance. Please explain.**

Drawings have been updated to show the entire limits of disturbance.

- bb. Sheet CS310 detail of the northern detention basin should include the two swales inletting to the system.**

The detail of the North basin on PCSM Drawing CS310 includes a section through the swale, and the forebay is shown entering the North basin. The second swale was eliminated when the forebay was added to the PCSM Plan.



Ms. Dana Drake
July 12, 2019
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Sincerely,

A handwritten signature in cursive script that reads "Sarah Gilstrap".

Sarah Gilstrap, CPESC
Senior Environmental Scientist

cc: Vernon Wranosky, Burns & McDonnell
Tom Graves, Burns & McDonnell
Tim Barton, Burns & McDonnell
Robert Owens, Burns & McDonnell
Raymond Bologna, Robinson Power