



May 31, 2023

Heidelberg Materials Northeast, LLC
7660 Imperial Way
Allentown, PA 18195-1040

Re: Technical Deficiencies
Application No. 7974SM1C12
NPDES Permit No. PA0594121
Rock Hill Quarry Operation
East Rockhill Township, Bucks County

RECEIVED

JUN - 5 2023

East Rockhill Township

Dear Operator:

The Department has reviewed your application and has determined that the following significant deficiencies exist:

The following are questions concerning the NPDES Permit Revision Application:

1. Map Corrections:
 - a. Map view of Area – Please correct the data portrayed on the submitted Map View of Area dated 1/3/2022 and on the Site Plan: NPDES Permit Notification Application
 - i. Please correct the culvert nomenclature portrayed on Map View of the Area as it does not match the culvert nomenclature on the E & S Site Plan Map submitted 2/02/2018 or the Exhibit 9- Operations Map submitted 2/20/2018 and revised 5/21/2018 and 7/18/2018. *25 Pa. Code §77.104(c)*
 - ii. Please correct the NPDES Discharge Point Modification Report to reflect the proper culvert nomenclature (see Table 1 Downstream Constrictions, Table 2 Stream Stats Flood Flows, and Stream Stats Mean Annual Flow. *25 Pa. Code §77.104(c)*
2. Please update the E & S Site Plan Map dated 2/20/2018 to reflect existing conditions at the Rock Hill Quarry Site.
 - a. Please correct the E & S Site Plan Map dated 2/02/2018 as it does not include Sediment Trap 2 or Sediment Trap 3. *25 Pa. Code §77.454(a)(6)*
 - b. Please correct the drawing of Sediment Basin 2 as it does not appear to reflect the “As built” configuration. *25 Pa. Code §77.454(a)(6)*
 - c. Please review and correct if necessary, the drainage areas flowing to Sediment Basins 1 and 2, and Sediment Traps 1, 2 and 3 and indicate where discharges from Sediment Traps 1, 2 and 3 flow. *25 Pa. Code §77.454(a)(6)*
 - d. Please indicate the locations and sizes of any existing culverts in the SEPTA rail line that may influence the flow of water to the Unnamed Tributary to Tohickon Creek. *25 Pa. Code §77.454(a)(6)*

3. Please recalculate the flood flow data for Hydraulic Capacity Assessment for the downstream Rich Hill Crossing Culvert.
 - a. Please correct the flood flow calculations for the Rich Hill Road Crossing culvert as they did not include the contributions of Sediment Basins 1 and 2 as well as Sediment Trap 2. Per the Pond Certifications submitted 6/20/2018, there could be as much as 44 acres of surface runoff unaccounted for in the calculations. *25 Pa. Code §§77.406(a), 77.406(b)(2)*
 - b. Please correct the Stream Stats analysis performed for the Hydraulic Capacity Assessment as it did not include the surface runoff from support area and the results from the submitted analyses need to include the complete contributing drainage area(s) in order to evaluate the total flow downstream. *25 Pa. Code §§77.406(a), 77.406(b)(2)*
4. Please run a new PNDI for the Rock Hill Quarry and the revision of the NPDES permit. Per U.S. Army Corps of Engineers Special Public Notice 23-17 dated March 31, 2023, PNDI's must be rerun. *25 Pa. Code §77.401*
5. Please describe the protocol that would be used to decide to suspend discharge from the Rock Hill Quarry Clarifying Pond in advance of a 2-year 24 hr. storm.
 - a. Per the Hydraulic Capacity Analysis, the maximum flow that the Rich Hill Road Crossing can handle is 4.89 CFS. How will flow from the clarifying pond be adjusted for those times when Sediment Basins 1 and 2 and Sediment Trap 2 are discharging during the days after a 2-year 24 hr. storm event? Will pumped discharge from the Clarifying Pond be suspended until these discharges cease completely? *25 Pa. Code §77.457(b)(1)*
6. Please make the following corrections to the Application for Individual Permit Associated with Mining Activities:
 - a. Section A. General Applicant Information
 - i. Question 9: Production Qualifications – Please make sure this information is consistent throughout the application. *25 Pa. Code §77.104(c)*
 - ii. Question 13: Please correct the Map View of Area (see Technical Deficiency 1. above). *25 Pa. Code §77.104(c)*
 - b. Section B. Erosion and Sedimentation (E & S) Plan
 - i. Question 18: Please update and submit a revised E & S Plan (See Technical Deficiency 2. above) *25 Pa. Code §77.458*
 - ii. Please review the designs of the Sediment Basins 1 and 2 and Sediment Trap 2 as these designs must be adequate for an Exceptional Value (EV) Watershed. *25 Pa. Code §77.458*
 - iii. Please provide projected average and design flow rates for Sediment Basins 1 and 2. *25 Pa. Code §77.458*
 - iv. Sediment Traps 1 and 3 may discharge to the Three Mile Run watershed. Please determine the watershed these traps discharge to and address these discharges in the NPDES Application. *25 Pa. Code §77.458*

- c. Section C. Outfall Information
- i. Question 21: Discrete Outfalls
 1. Please provide an average rate of discharge from Sediment Basins 1 and 2 (Proposed Outfalls 002 and 003) *25 Pa. Code §77.458*
 - ii. Please include a discussion of Sediment Trap 2 and describe how discharge from this trap will be addressed in the NPDES permit and Anti-Degradation Supplement. *25 Pa. Code §77.458*
 - iii. Please include a discussion of discharges from Sediment Traps 1 and 3 and explain why these are not treated as stormwater outfalls to Three Mile Run. *25 Pa. Code §77.458*
 - iv. Please revise the flow diagram (Attachment C21) to include all discharges from sediment ponds and/or sediment traps. *25 Pa. Code §77.458*
 - v. Question 22: Evaluation of Thermal Impacts
 1. Please explain why thermal impacts from Sediment basins 1 and 2 and Sediment Trap 2 are not anticipated. *25 Pa. Code §77.458*
- d. Section D. Effluent Characterization -List of exemptions-Please provide specific data from the cited references supporting the decisions in requesting exemptions to testing for various pollutants. *25 Pa. Code §92a.44*
- i. Question 24: Common Parameters/Pollutants –
 1. Please provide a demonstration is made that information adequate to support issuance of the permit can be obtained through less stringent reporting requirements for COD, BOD, TOC and NH₃. *25 Pa. Code §92a.44*
 2. Please provide details of why a waiver is justified. *25 Pa. Code §92a.44*
 - ii. Question 26: Organic Toxic Pollutants
 1. Please correct the entry checked for Outfalls 002 and 003. On page 1 of the application, Question 9, this noncoal operation production will be at least \$100,000. In Question 26, for Outfalls 002 and 003, an operation with gross sales of less than \$100,00 is checked. These entries should agree. *25 Pa. Code §92a.44*
 2. Please explain why Organic Toxic Pollutants are not expected to be present. *25 Pa. Code §92a.44*
 - iii. Question 27: Other Toxic Pollutants
 1. For every pollutant expected to be discharged in concentrations of 10 ppb or greater the applicant must report quantitative data. 40 CFR 122.21 (g)(7)(vi)(B)] *25 Pa. Code §92a.44*
 2. Please provide data for Antimony, Beryllium, Silver, Thallium, Cyanide and Phenols or explain in detail why these are not expected to be present and exempt from testing. 40 CFR 122.21 (g)(7)(vi)(B)] *25 Pa. Code §92a.44*
 - iv. Question 28: Conventional and Nonconventional Pollutant
 1. Please provide specific data from the cited references supporting the decisions in requesting exemptions to testing for various pollutants. *25 Pa. Code §92a.44*
 - v. Question 29: Toxic Pollutants and Hazardous Substances

1. Please provide all existing data for asbestos testing in water from the Rock Hill Quarry. 40 CFR 122.21 (g)(7)(vi)(B)] *25 Pa. Code §92a.44*
 2. Please provide asbestos testing in discharges from Sediment Basin 1 and sediment Basin 2. 40 CFR 122.21 (g)(7)(vi)(B)] *25 Pa. Code §92a.44*
- e. Section F: Preparedness, Prevention and Contingency (PPC) Plan:
- i. Please complete section F-3. Inventory of the Preparedness, Prevention and Contingency Plan. *25 Pa. Code §92a.41(a)(8)*
 - ii. Please explain why certain areas of the quarry operation are excluded as Potential Pollution Locations (Section F5.) *25 Pa. Code §92a.41(a)(8)*
7. Application Supplement - Anti-Degradation:
- a. Please complete Section 2 of the Supplement
 - i. Please ensure that all plans described in this supplement correlate directly with Erosion and Sedimentation Control, Operation and Reclamation plans in the permit application. *25 Pa. Code §92a.41(a)(8)*
 - ii. Please review the 2018 Module 12: Erosion and Sedimentation Plans and Module 13: Impoundments for Best Management Practices for an Exceptional Value (EV) watershed and correct to EV watershed standards. *25 Pa. Code §92a.46(1)*
 - b. Please show how the antidegradation requirements set forth in the water quality regulations of the Delaware River Basin Commission (DRBC) will be met. *25 Pa. Code §92a.46(1)*
 - c. Please show how the increased and additional discharges will not degrade the Unnamed Tributary to Tohickon Creek. See Water Quality Anti-Degradation Implementation Guidance (391-0300-002) Chapter 8. *25 Pa. Code §92a.46(1)*
 - i. Please provide additional data for existing water quality for the Unnamed Tributary to the Tohickon Creek. "The minimum data set that can be used for this purpose is 24 samples collected over a 12-month period (see Chapter 5). However, data collected over multiple years at a lower sampling frequency can be used if DEP is assured that the complete stream hydrograph is represented and that adequate quality assurance measures were applied to collection and analysis of samples". *25 Pa. Code §92a.44*
 - ii. Please develop instream goals protective of existing quality using a steady state model at a specified design stream flow condition. DEP uses the harmonic mean flow (QHM) condition to evaluate water quality characteristics representative of long-term average conditions over the range of natural flow variations. *25 Pa. Code §92a.44*
 - d. Please evaluate all non-discharge alternatives including but not limited to:
 - i. Land application of wastewater
 - ii. Alternative discharge locations
 - iii. Holding Facilities and wastewater hauling
 - iv. Constructed Treatment Wetlands
 - v. Please conduct and submit a complete non-discharge alternative analysis as outlined in Chapter 7 of PA DEP's Water Quality Anti-Degradation Implementation Guidance (391-0300-002). *25 Pa. Code §92a.44*

The following are questions concerning the 2023 GPE Addendum:

8. 1.1 Planned Dewatering of Quarry Pit

- a. The Addendum states that the pumping and the on-site conveyance system was evaluated to ensure existing capacity to pump at 4.61 cfs as described in the NPDES Discharge Point Modification Report. Also, The NPDES Modification states a discharge rate of 2.98 mgd.
 - i. Please explain why the NPDES monthly average discharge rate is greater than the predicted pumping rate under long term average conditions provided in the 2023 GPE Addendum (0.074 mgd or 0.114 cfs). *25 Pa. Code §77.406(b)(2)*

9. 2.1 Quarry Drain & Layer Adjustments

- a. The Addendum states the Perkasio Borough Authority (PBA) previously commented that drawdown in the Quarry should be shown at 130 ft (460 ft MSL) across the entire open pit. *25 Pa. Code §77.405(a)(1)*
- b. The Addendum explains that sloping topography within the pit caused the model to show the Quarry bottom and drain feature at 460 ft MSL to be split between both model layer 2 & 3. ERG adjusted the layering in the Quarry area so that the quarry bottom and resulting drawdown would be shown in Layer 2. The adjustment did not significantly affect Quarry pumping rate (0.074 v. 0.07 mgd). The 2018 GPE states streams were input as drain and river boundaries and the Quarry was input as a river boundary condition with a head stage of 600 ft MSL.
 - i. Please explain why the Addendum drawdown map looks very similar to the 2018 map. It also does not show drawdown of 130 ft over the entire open pit. *25 Pa. Code §77.410(a)(6)*
 - ii. Table 1-Quarry Drain Properties
 - a) The drain Conductance is given as 0.01 ft²/day/ft². The 2018 Model used 1 ft/day/ft. The Addendum does not discuss this change. Please provide an explanation. *25 Pa. Code §77.405(a)(3)*
 - b) Are the units given for conductance correct (ft²/day/ft²)?
 - 1) The equation for conductance (2018 GPE) is given as hydraulic conductivity (K)*width/thickness.
Units: ft/day * ft/ft = ft²/day/ft = ft/day. *25 Pa. Code §77.405(a)(3)*
 - c) Bottom elevations are given in units of ft. Are the units supposed to be ft. MSL? *25 Pa. Code §77.405(a)(1)*
 - 1) If it is ft. then the bottom of Layer 1 would be ~135 ft. MSL and ~85 ft. MSL for Drains 1 & 2 respectively, and ~35 ft. MSL for Drain 3. If so, then the weathered rock depth of Layer 1 in the model is well below the actual depth of weathered rock and below the proposed depth of mining of 464 ft. MSL (2018 GPE). Please explain. *25 Pa. Code §77.405(b)*

- 2) If it is ft. MSL then the bottom elevations of Layer 1 (464 & 514 ft. MSL) are at a lower bottom elevation than Layer 2 (564 ft. MSL). This would then conflict with the 2018 GPE model diagrams of Layers 1, 2 & 3 in which Layer 1 represents the weathered surface and Layers 2 & 3 represent the diabase and the Brunswick / Lockatong bedrock. Please explain. *25 Pa. Code §77.405(b)*
- d) Additional Question concerning the 2018 Model Diagram of Layers 1, 2 & 3 (Aquifer Parameter Zones):
 - 1) Please explain the deep “v” shape of higher hydraulic conductivity (K) 2.0+ in the Layer 1 to the “West” (it is Northwest) of the Quarry. *25 Pa. Code §77.405(b)*
 - 2) An area of lower K is depicted just south of the Quarry perpendicular to the V shape. What does this represent? *25 Pa. Code §77.405(b)*

10. 2.2 UNT Adjustment

- a. The Addendum states a more detailed evaluation of flow was completed for UNT to Tohickon Creek at SW3 after completion of the onsite stormwater management system. New flow measurements collected at SW3 in 2022 were compared to flow data from USGS stream gages on nearby Tohickon and Neshaminy Creeks to determine which SW3 measurement likely represented baseflow conditions based on 2-year baseflow data published for the USGS gages. The 6/8/22 measurement of 0.4 cfs was indicated to best represent baseflow, although, it is higher than the 10-year baseflow of 0.21 cfs indicated by Streamstats which was used in the 2018 model as a calibration target.
 - i. 2018 GPE states that at the time of stream measurements (May 2018), Bucks Co precipitation was above average (> 75th percentile) and streamflow was expected to be above values representative of baseflow. The 2018 flow measurement at SW3 was 53 gpm or 0.118 cfs. The Addendum states the model was adjusted using 0.4 cfs for baseflow. However, the adjusted baseflow is higher than the value used in the 2018 model (0.21 cfs) and higher than the measured flow in May 2018 (0.118 cfs). Please explain? *25 Pa. Code §77.406(b)(2)*
 - ii. Why is baseflow increased at SW3 in the updated model but not evaluated at SW1 or 2? *25 Pa. Code §77.406(b)(2)*
- b. The Addendum states that the drain bottom elevation of the UNT to Tohickon has been updated using 2 ft contour data in order to be more precise with elevation nodes in the model.
 - i. Please provide the drain bottom elevations used in the 2018 and 2023 models. *25 Pa. Code §77.405(a)(1)*

11. 2.3 Updated Groundwater Level Calibration Targets

c. Table 4: Model Calibration Head Residuals

- i. MP-14 is listed in the table but is not apparent on any of the Addendum figures and is not included in Module 8. Please explain. *25 Pa. Code §77.403(b)*

d. Model Calibration Statistics Table (below Table 4)

- ii. Please explain the RMSE/change in head equation result and the value that was used for change in head. *25 Pa. Code §77.403(b)*
 - a) When back calculated based on the information in the table, change in head = $13.20/0.098 = 134.69$, however change in the Residual Head = -22.97 and the absolute change in Residual Head = 177.55 . Why was 134.69 used? *25 Pa. Code §77.403(b)*
- iii. Please explain the Absolute Value of Median Residual Head / change in head equation result and the value that was used for change in head. *25 Pa. Code §77.403(b)*
 - a) When back calculated based on the information in the table, change in head = $11.84/0.088 = 134.54$, however change in the Residual Head = -22.97 and the absolute change in Residual Head = 177.55 . Why was 134.54 used? *25 Pa. Code §77.403(b)*

12. 2.4 Model Sensitivity Analysis and Sensitivity Analysis Plots

- a. The Addendum states sensitivity analysis was completed to evaluate the effect of K, recharge and conductance on head and flow by adjusting each one from 20% to 300% of their calibrated values.
 - i. On the three sensitivity analysis plots, the y-axis, i.e. RMSE (ft. MSL), ranges between 0-140, 0-80 and 0-25. Given the values of the scale and since RMSE is based on the difference of the observed and computed heads, it would seem the appropriate unit is ft. Please explain. *25 Pa. Code §77.403(b)*
 - ii. The GPE addendum states that stream flow is moderately sensitive to hydraulic conductivity and highly sensitive to recharge and conductance, however, the conductance plot indicates the smallest change in stream flow of ~2000 cfd as compared to ~5000 cfd for K and ~99,000 cfd for recharge. Please explain. *25 Pa. Code §77.403(b)*

13. 2.5 Simulated Drawdown

- a. The Addendum states that the 10 ft drawdown contour on Figure 1 does not extend more than 500 ft beyond the property boundary to the north or south. The permit boundary is shown on Figure 1 but not the property boundaries.
 - i. Please show the property boundaries on Figure 1 and evaluate the extent of the 10 ft. drawdown according to the show property boundaries. *25 Pa. Code §77.410(a)(1)*
 - ii. Table 5: Simulated Quarry Pumping Drawdown
 - a) Pre-Quarry Water Levels often differ from the median values provided in Module 8 and the Observed Heads presented in Table 4 of the Addendum. Please explain. *25 Pa. Code §77.403(b)*

14. 3.0 Evaluation of Ridge Run PFAS HSCA Site (Ridge Run)


- a. The Addendum states that DEP has installed and maintains point of entry treatment systems on impacted residential wells near the Ridge Run property and permeable reactive barrier technology for remediation of the Ride Run property.
 - i. Please indicate which potable wells are being treated by DEP on Figures 3A & B, 4A & B, and 5 A & B. *25 Pa. Code §77.405(a)(3)*
- b. The Addendum states that PFAS in exceedance of 70 ng/L (EPA HAL) were detected in PWS wells NPWA-74 & 73 in 2016.
 - i. These wells should be colored red on Figures 3A & B. Please update the figures. *25 Pa. Code §77.410(a)(5)*
 - ii. Please provide the average and upper pumping rates at these wells before they were closed. *25 Pa. Code §77.405(a)(3)*
- c. The Addendum states that Ridge Run Property wells had combined PFOA/PFOS concentrations up to 27,700 ng/L and that 156 potable wells were sampled in vicinity of Ridge Run between 2017-2019 to develop a baseline survey of PFAS impacted wells. Results are included on Figure 3A & B.
 - i. Please indicate the method detection limit and/or reporting limit in the legend on Figures 3A & B for samples in which ND was reported. *25 Pa. Code §77.405(a)(3)*
 - ii. Please indicate any wells on Figures 3A & B that exceed PADEP MCLs for PFOA or PFOS. *25 Pa. Code §77.405(a)(3)*
 - iii. Are PFAS known to be present in wells N, E, & W of the Quarry? If so, please provide this information. *25 Pa. Code §77.405(a)(3)*
- d. The Addendum states DEP sampled Quarry well MW-4 (2/2018) and ERG sampled Quarry pit and clarifying pond discharge (4/2022). Both results are below EPA HAL and PA Act 2 groundwater cleanup standard of 70 ng/L, PA MCLs for drinking water of 14 ng/L (PFOA) and 18 ng/L (PFOS), and EPA aquatic life ambient water quality criteria of 940 µg/L (PFOA) and 8.4 µg/L (PFOS)
 - i. The EPA aquatic life criteria provided for PFOA is incorrect. The EPA aquatic life criteria is 94 µg/L according to the Federal Register dated 5/3/22. Please correct. *25 Pa. Code §77.104(c)*
 - ii. In the EPA HAL discussion please include the EPA's Interim Lifetime Drinking Water Health Advisory standards for PFOA, PFOS and PFBS published in the Federal Register Vol. 87 on 6/21/22. These values are well below the 2016 HAL of 70 ng/L. *25 Pa. Code §77.104(c)*
 - iii. Please add to and color code the DEP and ERG PFAS results from sampling at the Quarry to Figures 3A & B. *25 Pa. Code §77.104(c)*
 - iv. Have PFAS in baseline wells, treated wells, quarry monitoring wells and quarry surface water been resampled since the information provided in the Addendum? Have any increased? Please provide analysis of any additional PFAS sample data. *25 Pa. Code §77.405(a)(3)*
 - v. Please provide sample results of PFOA, PFOS and PFBS for all Quarry monitoring wells and surface monitoring points. *25 Pa. Code §77.405(a)(3)*

- e. The Addendum states Figure 4B shows the simulated groundwater flow paths under future pumping conditions.
 - i. Please specify the future pumping conditions, i.e. rate of pumping and pit floor elevation. *25 Pa. Code §77.457(1)*
 - ii. Why are groundwater flow paths not consistently present from the Southwest within the area delineating groundwater flow during Quarry pumping? *25 Pa. Code §77.405(b)*
 - iii. Why do groundwater flow paths from the southwest appear to me more concentrated as well as shifted on Figure 5B than in Figure 4B? *25 Pa. Code §77.405(a)(1)*
 - iv. Please delineate Bog Run on the Figure 4B. *25 Pa. Code §77.410(a)(5)*
 - v. Please include the PFAS concentration layer and potable wells being treated by DEP on Figure 4B. *25 Pa. Code §77.405(a)(3)*
 - f. Figures 5 A & B
 - i. Please delineate and label the UNT to Bog Run & Bog Run on Figures 5 A & B and all other figures. *25 Pa. Code §77.410(a)(10)*
 - g. The Addendum states that the groundwater captured by the Quarry is deep groundwater from the ridge that flows naturally toward the Unnamed Tributary.
 - i. Has the deep groundwater been sampled by DEP? What were the PFAS concentrations of this water? *25 Pa. Code §77.405(a)(1)*
 - ii. Within the DEP HSCA evaluation area, which tends to have a higher concentration of PFAS, shallow groundwater or deep groundwater? *25 Pa. Code §77.405(a)(1)*
 - h. The Addendum states that “Quarry pumping may capture a small portion of groundwater that would otherwise discharge naturally to Bog Run or Three Mile Run. This pumped water will be discharged back to surface water via NPDES 001 and flow to Bog Run where it would eventually discharge naturally in the absence of Quarry pumping.”
 - i. While this may be true, PFAS in groundwater captured by Quarry pumping and discharged to streams will impact the existing hydrologic balance. PFAS may accumulate in the stream more quickly and the concentration of PFAS may increase. Please discuss. *25 Pa. Code §77.405(a)(3)*
 - i. The Addendum states, “Quarry pumping...will not direct PFAS toward potable wells or streams that are not currently in the flow path of PFAS”
 - i. Will Quarry pumping direct PFAS toward potable wells or streams that are currently in the flow path of PFAS? *25 Pa. Code §77.405(b)*
 - j. Please provide particle and groundwater flow modeling from the Rock Ridge Property to pumping centers to determine if overlap of particle and groundwater flow may occur with Rock Hill Quarry dewatering. *25 Pa. Code §77.403*
15. Please provide any pertinent explanations and analysis that may be derived from the above comments. *25 Pa. Code §77.403*

16. Please address the comments submitted by the East Rockhill Township in their letter dated May 5, 2023. (see attached) 25 Pa. Code §77.122

Should you have any questions regarding the identified deficiencies, please contact me to discuss your concerns or to schedule a meeting. If you believe the stated deficiencies are not significant, you have the option of declining and asking the Department to make a decision based on the information you have already made available. Please keep in mind that if you ignore this request or fail to respond to all of the deficiencies listed above by July 6, 2023, your application may be denied. Also, please note that due to the application deficiencies noted above, the Permit Decision Guarantee timeframes are no longer applicable.

Sincerely,



Richard E. Tallman P.E.
Environmental Engineer
Bureau of District Mining Operations



Michele A. Hamlin
Geoscientist
Bureau of District Mining Operations

Enclosures

cc: Michael P. Kutney, P.G., EGM
Amiee M. Bollinger, SMCIS
Darren Henry, SMCI
EarthRes Group, Inc., Consultant
Tickler: 7/6/23
File
MS1-RockHill (5-23)

RET:MAH:cmb

EAST ROCKHILL TOWNSHIP



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May 5, 2023

Via Electronic Mail

Michael Kutney, P.G.
Permits Chief
Department of Environmental Protection
Pottsville District Mining Office
5 West Laurel Boulevard
Pottsville, PA 17901

Re: NPDES Permit Renewal/Modification Application: Rock Hill Quarry

Dear Mr. Kutney:

On behalf of East Rockhill Township ("Township"), this office and other Township consultants have reviewed an application dated January 23, 2023 (the "Application"), submitted by Heidelberg Materials Northeast LLC ("Heidelberg"), formerly named Hanson Aggregates Pennsylvania LLC, requesting to renew and modify National Pollutant Discharge Elimination System Permit No. PA0594121 (the "NPDES Permit") for the Rock Hill Quarry in East Rockhill Township, PA (the "Site"). Please accept the following comments on the Application. These do not necessarily reflect all of the Township's comments on the Application, and the Township may submit additional comments in the future.

1. The Application Was Untimely

The NPDES Permit has an expiration date of July 19, 2023. Condition 3 of the NPDES Permit states, consistent with 25 Pa. Code § 92a.75, that a "complete application for renewal or reissuance of this permit . . . must be submitted to DEP at least 180 days prior to the above expiration date (unless permission has been granted by DEP for submission at a later date)." The Application was therefore due on January 20, 2023.

On January 19, 2023, Heidelberg submitted an incomplete application that did not include an Anti-Degradation Application Supplement, which is required because the receiving water is classified as Exceptional Value ("EV"). The Anti-Degradation Application Supplement states: "Section 1 must be completed prior to a formal submission of the mining permit application. . . . Pre-application discussions are required. Submission of a mining permit without adequate pre-application information will result in the permit application being returned to you as incomplete."

On January 23, 2023, Heidelberg submitted the Application, which included the Anti-Degradation Application Supplement. Section 1 was completed, and Section 2 was left blank. The Application was untimely submitted, and it continues to be incomplete at least until Heidelberg completes Section 2 of the Anti-Degradation Application Supplement. If the renewal of the NPDES Permit is not issued by July 19, 2023, the terms and conditions of the NPDES Permit would expire and would not automatically continue under 25 Pa. Code § 92a.7.

2. Anti-Degradation Application Supplement

Section A.16 of the Application and Section 1.B of the Anti-Degradation Application Supplement state that the receiving water, an unnamed tributary to Tohickon Creek, referred to as Bog Run, has been "petitioned" for reclassification, which is not accurate. After the Department issued the renewal of the NPDES Permit in 2018, the Township appealed the NPDES Permit to the Environmental Hearing Board in January 2019 (the "NPDES Permit Appeal") and raised as an objection that the Department did not evaluate the existing use of Bog Run (and its associated Quakertown Swamp) in the issuance of the NPDES Permit. Four months later, in May 2019, the Department initiated an evaluation of the reclassification of Bog Run, according to the Department's Ongoing Stream Redesignation Evaluations list (last updated 2/3/2023). The Department initiated that evaluation in the context of the renewal of the NPDES Permit, after the NPDES Permit was issued. The Department's draft Water Quality Standards Review Stream Evaluation Report for Bog Run, dated 2021, states that the Department conducted an evaluation of Bog Run "in response to a National Pollutant Discharge Elimination System (NPDES) permit (PA0594121) renewal for the Rockhill Quarry (aka Hanson Quarry) located within the UNT to Tohickon Creek basin."

Given that the existing use of Bog Run is EV, the Department's regulations require Heidelberg to evaluate non-discharge alternatives. 25 Pa. Code § 93.4c(b)(1)(i)(A). The Department's Anti-Degradation Application Supplement states: "Every effort must be made to achieve total non-discharge or partial non-discharge." In Section 1.C of the Anti-Degradation Application Supplement (the "Non-Discharge Alternatives Evaluation"), Heidelberg identified only two of the ten listed non-discharge alternatives as alternatives "to be used" and proceeded to evaluate only those two alternatives in a narrative attached to the Anti-Degradation Application Supplement. Those two alternatives are: (1) limiting disturbed area (vertically or horizontally), extent and/or duration of mining; and (2) recycling/reuse of water onsite. Chapter 7 of the Department's Water Quality Antidegradation Implementation Guidance (the "Antidegradation Guidance") provides detailed instructions on how to evaluate non-discharge alternatives. Heidelberg should be required to follow that process, analyze all possible non-discharge alternatives, and provide its evaluation to the Department.

For the alternative of limiting disturbed area (vertically or horizontally), extent and/or duration of mining, Heidelberg explained that it actually does not intend to limit any disturbed areas because the areas have already been disturbed. Heidelberg also explained that it does not intend to limit the duration of mining and in fact indicate that they intend for mining to "last for decades," long after the next five-year NPDES permit renewal cycle that is the subject of the Application. Heidelberg states that it might reclaim highwalls after mining is completed but does not explain how that would have any impact on the quantity of Heidelberg's discharge, particularly over the next five years. Notably absent from the analysis is any discussion about limiting the extent of mining. Heidelberg could eliminate its proposed discharge by limiting the extent of mining and not mining within the mine pit (and thus not dewatering the mine pit).

For the alternative of recycling/reuse of water onsite, Heidelberg states that it will use a "portion of water collected in the Quarry sump" to supply a water truck for dust suppression and "to water down stockpiles and in the future may be used the processing plant." Heidelberg's reference to a future "processing plant" is the only reference to a processing plant in the Application and is not otherwise accounted for in the Application. The Township requests additional information on the nature of the processing plant referred to in the Application.

As mentioned above, Section 2 of the Anti-Degradation Application Supplement is incomplete, and the Township is reserving additional comments on the Anti-Degradation Application Supplement until Heidelberg submits a complete Section 2 to the Department.

3. NPDES Discharge Point Modification Report

In Heidelberg's NPDES Discharge Point Modification Report attached to the Application as Attachment C-21, Heidelberg identified the partially filled culvert under Rich Hill Road as a limiting factor for flow. Heidelberg's calculations indicate that the Rich Hill Road culvert can only pass 4.89 cubic feet per second (cfs) and has an annual flow of 0.2773 cfs. Heidelberg proposes a pumping rate of 4.61 cfs, which will max out the capacity of the Rich Hill Road culvert on an annual basis, meaning that the Rich Hill Road culvert would be overloaded during every rain event. However, Heidelberg proposes stopping pumping only when rainfall exceeds the two-year rainfall event, which they calculated to be 94 cfs. Based on Heidelberg's calculations, no pumping should be permitted during rain events.

4. The Application is Inconsistent with Heidelberg's Erosion and Sedimentation Plan and Fails to Account for Discharges to Three Mile Run.

In the Section B.18 of the Application, Hanson indicated that rather than include a separate erosion and sedimentation ("E&S") plan in the Application, Heidelberg was incorporating by reference the E&S plan that is included in Module 12 of Heidelberg's mining permit. The Application proposes three outfalls that would ultimately drain to a single location near the northern property boundary of the Site and discharge to Bog Run. The E&S plan that is incorporated into the Application, however, shows that sediment traps have been installed to the south of the main entrance to the Site for discharges of water which follow a drainage ditch and drain to the south to Three Mile Run. Such discharges are neither covered by nor authorized by the NPDES Permit and are not accounted for in the Application. Notwithstanding that the Township raised this concern in 2019 in the NPDES Permit Appeal, Heidelberg still did not address discharges to the south to Three Mile Run in the Application.

In addition, there are a number of differences between Figure 1 in the Application and the E&S Site Plan that is included in Module 12 of Heidelberg's mining permit. The Application proposes three monitored outfalls that ultimately drain to Bog Run, whereas the E&S Site Plan only identifies one monitored outfall at the north property boundary. Sediment

Basin No. 2 also appears to be designed differently in the Application and in the E&S Site Plan. The Application also proposes a clarifying pond for water withdraws from the mine pit in place of what is identified in the E&S Site Plan as a processing plant treatment pond. Also, the channel identified near the western property boundary appears to follow a different path in Figure 1 of the Application and in the E&S Site Plan, and the culverts are designed and named differently.

The Application should account for discharges to the south to Three Mile Run, and Heidelberg should be required to align its E&S Site Plan with its proposed modifications in the Application.

5. Effluent Characterization Study

In the Application, Heidelberg is seeking a waiver from sampling requirements for organic toxic pollutants based on the assertion in Section D.26 that operations of the Rockhill Quarry represent gross sales of less than \$100,000 per year (1980 dollars). However, this information is contradicted elsewhere in the Application (Section A.9) where Heidelberg indicated that production will be at least \$100,000 (1980 dollars) per year. This same discrepancy appeared in Heidelberg's prior application for a renewal of the NPDES Permit in 2018. In the NPDES Permit Appeal, the Township objected and stated that the Department should either limit production to less than \$100,000 (1980 dollars) per year as a condition to the NPDES Permit or else require monitoring for organic toxic pollutants.

The Township has the following comments on the waiver requests included in Heidelberg's Effluent Characterization Summary (Attachment D-1 of the Application):

- **Asbestos:** Sampling conducted by Heidelberg shows that asbestos is present in surface water discharged to Bog Run. Heidelberg states in the Application, however, that, while asbestos is expected to be present in discharges, the levels of asbestos are "not anticipated . . . to present any risk." Notwithstanding that the sampling referred to by Heidelberg was conducted while mining activities were dormant and is not representative of levels of asbestos if full-scale mining activities (including drilling and blasting) were to occur as contemplated in the Application, whether Heidelberg believes that the levels of asbestos in discharges will or will not present a risk is irrelevant for effluent characterization. Asbestos is expected to be present in the discharge, and therefore a waiver should not be granted. The Township raised this concern in the NPDES Permit Appeal and requested that asbestos-related conditions be included in the NPDES Permit.
- **Common Parameters/Pollutants:** The Application states that organic compounds are not expected in the discharge, but there is a reasonable basis to expect them based on the anticipated use of fuels, oils, lubricants, solvents, and other materials associated with the equipment storage and maintenance areas, potential use of explosives, and other activities at the Site. Heidelberg should therefore not be granted a waiver for chemical oxygen demand, biochemical oxygen demand, ammonia, total organic carbon, and conductivity.
- **Organic Toxic Pollutants:** The Application states that organic toxic pollutants are not expected in the discharge, but there is a reasonable basis to expect them based on the anticipated use of fuels, oils, lubricants, solvents, and other materials associated with the equipment storage and maintenance areas, potential use of explosives, and other activities at the Site. Heidelberg should therefore not be granted a waiver for organic toxic pollutants.
- **Other Toxic Pollutants:** Antimony, Beryllium, Thallium, Cobalt, and Magnesium are present in the geology at the Site and would be expected to be present in the discharges at the Site, and therefore Heidelberg should not be granted a waiver for these parameters.
- **Conventional and Nonconventional Pollutants:** Total organic nitrogen and nitrate/nitrite would reasonably be expected in Heidelberg's discharge based on the use of explosives at the Site during blasting, which is contemplated in the Application. In addition, fuels and solvents used (or to be used) at the Site have the potential to be carried off-site in discharges to Bog Run. The Township raised this concern in the NPDES Permit Appeal and requested that the Department establish effluent limitations for oil and grease and acidity in the NPDES Permit. Furthermore, the PPC plan included in the Application appears to incorrectly state that no chemicals will be stored at the Site. Also, surfactants might be used in maintenance areas. The Application states that bromide is expected to be present in discharges but

attempts to avoid conditions relating to be bromide, claiming that bromide is not used at the Site, which is not relevant. Heidelberg should therefore not be granted a waiver of these parameters.

- **PFAS:** Surface water and groundwater sample results indicate that PFAS will be present in discharges at the Site, and therefore Heidelberg should be required to monitor for per- and polyfluoroalkyl substances ("PFAS") in its discharges.

6. **PFAS**

Based on sample results reported in 2018 and 2022, concentrations of PFAS are present in groundwater at the Site and in the mine pit and the clarifying pit. In 2018, PFOA was detected in groundwater at a concentration of 4 ppt. In 2022, PFOA was detected at higher concentrations of 6.18 ppt and 5.58 ppt in the mine pit and clarifying pond, respectively. There were also detections of PFOS (1.57 ppt and 3.01 ppt) and PFBS (0.54 ppt and 0.51 ppt) in the mine pit and clarifying pond, respectively. To put these concentrations in context, the U.S. Environmental Protection Agency ("EPA") recently proposed a maximum contaminant level ("MCL") of 4 ppt for PFOA and PFOS.

In the NPDES Permit Appeal, the Township objected that the NPDES Permit does not contain any specific conditions to address the impact that pumping groundwater from the mine pit will have on water supply wells in proximity to the Site and on a PFAS plume in proximity to the Site. The Township also objected that the NPDES Permit does not address how groundwater from the mine pit is to be treated if the PFAS plume is drawn into the mine pit. Heidelberg's Application includes a Groundwater Pumping Evaluation Addendum (Attachment G). The Township continues to review this document and will likely submit comments on this document in the future. The Township, however, initially notes that there is no discussion of the time period used for particle tracking or how that time period is related to the duration of dewatering or hydraulic conductivity. Also, there is no explanation for the selection of the location within the Diabase Ridge as the particle source and why the PFAS source area was not selected.

7. **Additional Comments**

- In Section C.21 of the Application, Heidelberg did not include an average flow rate or a design flow rate for discharges from the sediment basins, which should be included.
- In Section C.21 of the application submitted in 2018, Heidelberg stated that the flow would be continuous, but now Heidelberg is stating in Section C.21 of the Application that flow will only be intermittent and/or precipitation based. Heidelberg should explain this discrepancy.
- Section C.22 requires Heidelberg to describe how thermal impacts were evaluated and, if necessary, how they will be mitigated. Without describing how thermal impacts were evaluated, Heidelberg simply states that thermal impacts "are not anticipated." Then, in Section D.24, Heidelberg states that the temperature of the discharge water will vary with the season. Heidelberg should be required to evaluate thermal impacts and describe that evaluation, as required by the Department's application.
- In Section F.3 of the Application, Heidelberg did not list any of the chemicals that would be used and stored on the Site. Heidelberg's failure to list any chemicals in Section F.3 is at odds with its statement in Section F.8 that chemicals will be removed or secured in locked structures during any shutdowns. Heidelberg should be required to provide the list of chemicals that it anticipates using and storing at the Site based on the mining activities that are contemplated in the Application.

Thank you for your consideration of these comments.

Sincerely,



Steven Baluh P.E.
Township Engineer

Michael Kutney, P.G. (via electronic mail)

Subject: NPDES Permit Renewal/Modification Application; Rock Hill Quarry

May 5, 2023

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