



February 2, 2023

Mark Hiester, Manager  
Penn Township  
97 North Penryn Road  
Manheim, PA 17545

RE: Sweetbriar Creek (Phases 1 and 2)  
Punch List & As-Built Review  
Project No. 13-104-08

Dear Mark:

On January 9, 2023, Casey Kerschner (Becker), James Kinney (Becker), Jennifer Tulonen (Township Planner), Daryl Lefever (Township Roadmaster), Mark Hiester (Township Manager), Alex Kicas (Keystone), Bill Briegel (Keystone), and Dave McGough (Keystone) observed portions of Phases 1 & 2 of the Sweetbriar Creek Development, to identify items that remain unaddressed. The purpose of that meeting was to create a punch-list of the items to be completed so that the Developer can reach the end goal of street dedication. Based on that observation, follow-up Zoom calls with Keystone, email correspondence with the Township and Keystone, a revised T&E study for Phases 1 and 2 submitted to the Township, etc., we offer the following comments as they relate to the site.

*Note: "As-Built Review Comments" are also included in this letter. It shall be understood that certain comments under the "As-Built Review Comments" section of this letter could potentially lead to additional "punch-list" obligations, pending confirmation and future review of omitted information.*

### **PHASE 1: PUNCH-LIST**

1. The Basin A Outlet Structure (I-D5) shall be converted to its final configuration per the Phase 1 Plans (Sheet 43), Phase 2 additional notes (Sheet 48), and May 2004 PCSM Calculations that were approved as part of the NPDES Permit. I-D5 was still in a temporary E&S condition at the time of observation.
  - a. At the time of observation, Basin A was not dewatering, however it appeared that one of the temporary orifices were blocked, therefore Becker has reduced concern relative to its ability to dewater within 72-hours.
2. The Basin B Outlet Structure (I-O1) shall be converted to its final configuration per the Phase 1 Plans (Sheet 43), Phase 2 additional notes (Sheet 48), and May 2004 PCSM Calculations that were approved as part of the NPDES Permit. I-O1 was still in a temporary E&S condition at the time of observation.

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3. All endwalls/headwalls shall be ensured to have grouted connections, adequate rip-rap dispersions (many of which need cleaned, redone, or amended appropriately) and be reasonably cleared of all trees, scrub brush, trash, etc., for future maintenance. Multiple structures were hidden by overgrowth, were inaccessible, etc.
4. Trash racks shall be removed from all endwalls. (Sheet 44, Detail 3)
5. Trash racks shall be installed on all headwalls. (Sheet 44, Detail 3)
6. The pipe connection on the back-side of EW-A shall be properly grouted and the pipe backfilled appropriately. Currently the pipe has no cover and there is a gap between the top of the pipe and endwall.
7. The following signs were observed to be missing at the time of the Observation.
  - a. Missing "No Parking" Sign at approximately Sta. 64+90 (Lots 90 & 91). (Sheet 22)
  - b. Missing "Speed Limit" Sign at Sta. 59+10 (Lot 143), appears to have been mistaken for W16-2R. (Sheet 20)
  - c. "Speed Limit" Sign installed instead of W16-2R at Lot 80 (Sheet 20)
  - d. Missing "End of Path" Sign between Lots 92 & 93 (Sheet 22)
8. A paved turn-around at the termination point of the 4' pedestrian path between Lots 92 & 93 shall be provided. Becker believes that it may be there, but has been covered by soil, scrub brush, etc. (Sheet 22)
9. Inlet I-A15 (between Lots 156 & 157) shall be properly backfilled. Based on observation, soil backfill directly adjacent to the inlet, has subsided.

## **PHASE 2: PUNCH-LIST**

1. The 6" High Berm/Bio-Filtration Area #2 has not been installed per the PCSM Plan Supplemental for Major Modification, and Amended NPDES permit.
2. As noted in prior correspondence from the Township Solicitor from January 19, 2021, an updated Storm Water Management Agreement was to be recorded for the updated facilities in Phase 2, as part of the Major and Minor NPDES Modifications. It is Becker's understanding that Fox Clearing, LLC, signed the Amendment to Storm Water Management Agreement and Declaration of Easement on December 19, 2022, and submitted the form to the Township.
  - a. That future agreement shall be recorded with an Exhibit to include both the "PCSM Plan Supplemental for Major Modification" and "NPDES Minor Amendment Elevations."
  - b. As noted in the Township Solicitor's email, the recorded documents are in black and white, not color. Therefore, any exhibit attachments shall be clearly legible in greyscale format.
3. No Wooden Barricades were installed at the termination points of Wildberry Ave and Blackberry Ave. Based on field discussions, the Township would be satisfied with the

installations of three OM1-3 Yellow Reflective Object Markers, 5' in height, at the ends of these streets, in lieu-of the Wooden Barricades. (Sheet 19 & 20)

4. The following signs were observed to be missing at the time of the observation on January 9, 2023.
  - a. Missing "No Parking" Sign at Sta. 15+40 (Lot 20) (Sheet 21)
  - b. Missing "End of Path" Sign between Lots 27 & 28 (Sheet 21)
5. The existing pine tree, that was discussed and highlighted in the field, located in the pedestrian easement, located in the water easement, and intruding the pedestrian path along the rear of Lot 27, shall be removed.
  - a. Based on correspondence from the Township on February 1, 2023, the Township has requested that the lot owner is notified by the Developer or their contractor, prior to removal.
6. All endwalls/headwalls shall be ensured to have grouted connections, adequate rip-rap dispersions (many of which need cleaned, redone, or amended appropriately) and be reasonably cleared of all trees, scrub brush, trash, etc., for future maintenance. Multiple structures were hidden by overgrowth, inaccessible, etc. The wooden boards that were observed in the vicinity of EW-K shall be removed.
7. There is no Split Rail Fencing behind Lots 77 & 78. The fencing shall be installed, unless the HOA confirms it is unwanted, or unneeded. (Sheet 21 & Sheet 47)
8. The 24" pipe between HW-P and EW-P is partially blocked, only allowing 10" of vertical clearance. The obstruction shall be removed to restore full flow capacity.
9. There appears to be some sort of concrete panels/pieces that were placed in the vicinity of the stream bank next to HW-P and EW-P. Those concrete panels/pieces shall be removed from the site.
10. All inlets shall be reasonably cleared of all trees, scrub brush, trash, etc., for future maintenance. Multiple structures were hidden by overgrowth, inaccessible, etc., and specifically includes Inlet I-G1, which is completely covered.
11. Trash racks shall be removed from all endwalls. (Sheet 49, Detail 3)
12. Trash racks shall be installed on all headwalls. (Sheet 49, Detail 3)
13. The dead tree hanging over the pedestrian path, adjacent to Basin C, and in the vicinity of the northern connection point to Bayberry Avenue, shall be removed.
14. The silt sock surrounding Basin D and the Outlet Structure (I-Q1) shall be removed, once the basin is vegetated.
15. The Basin C Spillway P-300 matting shall be fully stabilized with vegetation. Becker typically recommends that additional top-soil and seed be installed over the matting to promote prompt growth.

16. Swale M shall be established per plan, the erosion channel repaired, and constructed to a condition that can be maintainable. Based on the As-Built cross-sections, there are multiple areas that have no bottom width, widths half as wide as designed, and depths significantly less than designed.
17. Swale V shall be established to the correct cross-section, and constructed to be maintainable. Based on the surveyed contours, there appears to be an area of minimal depth near the area of discharge, likely less than that of cross-section V2, which confirmed a depth of 0.56' and bottom width of 3.5'. The swale was designed to have a depth of 1.2' and bottom width of 4'.

### **GENERAL**

1. All Critical Stage Observation Reports from the Design Professional, conducted as part of the NPDES obligations, shall be forwarded to Becker and the Township.
2. Becker and the Township shall receive verification, and the Critical Stage Observation Reports, confirming that the Amended Soils were installed on Lot 79 as required by the PCSM Plan Supplemental for Major Modification and NPDES permit.
3. Becker and the Township shall receive verification that the bottom of Basin D was planted with an ERNST Seed Mix 180-1, as required by the PCSM Plan Supplemental for Major Modification, and NPDES permit.
4. A Notice of Termination (NOT) for the NPDES permit shall be submitted and approved by the Lancaster County Conservation District (LCCD).
  - a. The LCCD shall confirm the NPDES permitting process and the status of all underdrains (open vs. closed).
5. As previously noted in the October 10, 2021, As-Built Review Letter, A letter from a Professional Surveyor shall be submitted to the Township, certifying that all Pins & Monuments in Phases 1 & 2 have been properly set.
6. At the time of this letter issuance, Keystone had submitted the revised Signage T&E Study to the Township for review, submitted by Keystone on January 26, 2023. It is Becker's understanding that it is under review by the Township and Township Transportation Engineer.
7. All temporary orange construction fencing throughout the site, scrub brush areas, etc., shall be removed.

### **AS-BUILT REVIEW COMMENTS**

On November 15, 2022, Landworks Civil Design, LLC, submitted Phase 1 & 2 Storm Record Drawings, Swale and SWM Basin As-Built Plans, and a SWM Basin Volume Summary. Based on review of the site and the As-Built Plans, we offer the following comments:

1. No As-Built information or volumes were submitted for Bio-Infiltration Area #1.
2. No As-Built information or volumes were submitted for Bio-Infiltration Area #2.
3. No As-Built Routings were submitted for Basin A.
4. No As-Built Routings were submitted for Basin B.
5. No As-Built Routings were submitted for Basin C.
6. No As-Built Routings were submitted for Basin D.
7. The Phase 1 Storm Record Drawings shall be overlaid on the most recent set of plans. The last revision that was recorded was revision level 4 from November 10, 2005. The As-Built plans are overlaid on a Phase 1 plan that was not revised, dated August 13, 2004, and includes structures that were changed, removed, etc., and is not applicable. Secondly, the certification statement notes that the As-Built are "Consistent with the approved design plans," but appear to be only referencing the first submission of Phase 1 plans, which weren't approved. Becker reserves the right to comment upon receipt of updated information.
8. Since the last time that Becker reviewed the Phase 2 As-Built Plans and provided the October 10, 2021, Review Letter, the Phase 2 As-Built plans have changed, and now are overlaid on an outdated plan. The Phase 2 Record Plans shall be overlaid on the most current set of plans. During the past review, the As-Built info was overlaid on Revision Level 8, Phase 2 Plans. This recent submission was overlaid on Revision Level 2, Phase 2 Plans. Secondly, the certification statement notes that the As-Built are "Consistent with the approved design plans," but appear to only referencing the second submission of Phase 2 plans, which weren't approved. Becker reserves the right to comment upon receipt of updated information.
9. The As-Built elevations and sizes of the Basin A Outlet Structure shall be confirmed. Based on field measurements, the field measurements differ from the As-Built information that is being certified as being consistent with the approved design drawings. The Professional Engineer shall confirm why field measured sizes differ from those that are certified as correct on the plans. For instance, Becker measured an approximate 9" circular orifice, but the Record Drawings certify that a 7" x 14" rectangular orifice exists and is built per plan.
10. The As-Built elevations and sizes of the Basin B Outlet Structure shall be confirmed. Based on field measurements, the field measurements differ from the As-Built information that is being certified as being consistent with the approved design drawings. The Professional Engineer shall confirm why field measured sizes differ from those that are certified as correct on the plans. For instance, Becker measured an approximate 6 1/2" wide x 7 1/2" high orifice, but the Record Drawings note a 7" wide x 12" high orifice, and the design plans, and PCSM calcs call for a 5" circular orifice.
11. Inlet I-J2 on Sheet 43 of 58 on the Phase 2 Storm Record Drawings references "Inv. In = NA Big Box." The verbiage shall be confirmed.

12. Sheet AB 2.1 shall identify the spillway widths each of the Basins. Currently, Sheet 48 of 58 details the top of berm, spillway elevation, and other details, but not the spillway width, which will need to be included in the future As-Built calculations.
13. The Basin B Outlet Structure (I-O1) (442.60) is 8" higher than the design elevation (441.95) and higher than the emergency spillway, which is inconsistent with the original design. As part of the future routings calculations that were previously requested, but not provided, the basins and their outlet structures may require modifications.
14. The Basin D Outlet Structure (I-Q1) (443.47) is 10 ½" higher than the NPDES Minor Amendment design elevation (442.60) and higher than the emergency spillway, which is inconsistent with the original design. As part of the future routings calculations that were previously requested, but not provided, the basins and their outlet structures may require modifications.
15. The Basin D As-Built information is overlaid on the wrong plan. The As-Built information shall be overlaid on the NPDES Minor Amendment Elevations Plan, which redesigned the basin elevations and Amended the NPDES permit. Currently, the As-Built information is overlaid on the original Phase 2 Basin D design elevations.
16. The Top of Berm elevation for Basin C is noted as 470.40 and the Spillway 469.30. Additional survey spot elevations shall be taken along the basements and windows of the Lots 75 & 76, since their vertical elevations would seem in similar proximity to possible maximum water levels within the basin. For instance, the designed basement floor elevation of Lot 75 is 470.30, with is about an inch lower than the top of berm (470.40) for Basin C.
17. Basin A is approximately 8% smaller in calculated volume, and Basins B and C are both approximately 7% smaller in volume, than designed. As part of the future routings, that were previously requested, but not provided, the basins and their outlet structures may require modifications depending on the calculated peak flow rates.
18. All Record Drawing Sheets shall be signed and sealed by the Design Professional.
19. Additional elevation information shall be provided around Inlet I-J13. Based on the design plans, the inlet was supposed to have a top grate of 483.05, and based on the looping contour of 484, a sump greater than 1'. Based on the As-Built information Inlet I-J13 has a top grate of 483.34 and has a looping contour of 484. This is a critical sump, because any flows from Swale V that do not flow into Inlet I-J13 either bypass the structure and go directly towards the natural stream channel, or the Lot 193 back yard. The flows are intended to go to Basin D for flow attenuation.
20. Since other on-site swales were surveyed, but As-Built cross-sections were not provided, the professional certifying the design shall provide a statement noting that the other on-site swales are consistent with the plan. In cases like Swale P, where the swale is now a "V" shaped channel instead of a trapezoidal swale, the professional certifying the As-Built shall confirm that the As-Built conditions are capable of handling the intended flows since the volumes have been compromised and flow depths increased.

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Please contact me if you have any questions or need additional clarity regarding the comments above.

Sincerely,

A handwritten signature in black ink, reading "Casey Kerschner". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Casey Kerschner

Enclosed:

Sweetbriar Creek images from January 9, 2023

Cc: Josele Cleary, Township Solicitor  
Jennifer Tulonen, Township Planner  
Daryl Lefever, Township Roadmaster  
Matt Reeser, Township Zoning Officer  
Brent Lied, P.E., Becker Engineering  
Rob Hallman, Becker Engineering  
Alex Kicas, Keystone Custom Homes  
Dave McGough, Keystone Custom Homes  
Sarah Young, Keystone Custom Homes  
Bill Briegel, Keystone Custom Homes  
Jeff Rutt, Keystone Custom Homes  
Joshua George, P.E., Lancaster Civil Design, LLC  
Adam Stern, Lancaster County Conservation District











