


 COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 BUREAU OF CLEAN WATER

Discharges of Stormwater Associated with Construction Activities Post-Construction Stormwater Management (PCSM) Module 2

Applicant: **M & G Realty, Inc.**Project Site Name: **Rutters Huntingdon Store #93**

Pre-Development Site Characterization

1. Was a pre-development site characterization completed for this project? ☒ Yes ☐ No

If Yes, describe the activities undertaken.

Keller Engineers, Inc. (KEI) completed a Wetland Delineation on 7/14/2021, 8/4/2021, and 8/31/2022. One (1) wetland was identified within the project area during the investigation. Aquatic resources and wetland delineations were conducted using the protocols and procedures specified in the Regional Supplement to the Army Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) dated April 2012. Additionally, a desktop evaluation was conducted for soils, National Wetland Inventory (NWI) wetlands, National Hydrography Dataset (NHD) streams, and Federal Emergency Management Agency (FEMA) floodplains that may be located onsite.

ECS Mid-Atlantic, LLC conducted subsurface exploration and geotechnical engineering analyses in general accordance with Proposal No. 18:7838-GP, dated March 31, 2021, Proposal No. 18:10531-GP-REV, dated October 24, 2024, and Proposal No. 18:10653-GP, dated January 13, 2025.

2. No. Test Pits completed: 7 No. Boreholes completed: 15

3. Number of Infiltration Tests completed: 7 Method(s): Double Ring

4. Project Site Area: 8.39 acres Area investigated for infiltration capabilities: 7.76 acres

5. DEP's Pre-Development Site Characterization Spreadsheet has been completed and is attached. ☒ Yes ☐ No

6. The infiltration potential of the site is: ☐ Limited ☐ Marginal ☐ Feasible ☒ Not Recommended

7. If the infiltration potential of the site is limited or is otherwise not advised, explain the limitations.

Pyritic shale was encountered during site excavation and temporary stabilization was implemented. Infiltration is not recommended due to the potential to cause pollution. The site has been redesigned using the Manage Release Concept (MRC) and all infiltration BMP's and SCM's have been removed.

8. Is the project site located in an area with known karst features? ☐ Yes ☒ No

If Yes, was a subsurface geotechnical investigation conducted and is a report attached? ☒ Yes ☐ No

9. Are there natural stormwater features on-site that will be protected? ☐ Yes ☒ No

If Yes, describe the features and any increase or decrease in stormwater runoff volume to the features.

[illegible]

PCSM SCM Inventory							
1. Identify all PCSM SCMs planned for the project site and provide the information requested.							
SCM ID	SCM Name	Latitude	Longitude	DA Treated (acres)	Infiltration?	Factor of Safety	Design Infiltration Rate or Ksat (in/hr)
1	Rain Garden	40.4898	78.0381	0.92	☐	NA	NA
2	Rain Garden	40.4892	78.0369	2.37	☐	NA	NA
3	Rain Garden	40.4889	78.0365	2.74	☐	NA	NA
4	Water Quality Inlet Insert	40.4900	78.0364	0.15	☐	NA	NA
5	Water Quality Inlet Insert	40.4899	78.0361	0.29	☐	NA	NA
6	Water Quality Inlet Insert	40.4898	78.0358	0.35	☐	NA	NA
7	Water Quality Inlet Insert	40.4896	78.0359	0.19	☐	NA	NA
8	Water Quality Inlet Insert	40.4895	78.0356	0.37	☐	NA	NA
9	Water Quality Inlet Insert	40.4893	78.0358	0.22	☐	NA	NA
10	Water Quality Inlet Insert	40.4891	78.0359	0.11	☐	NA	NA
11	Water Quality Inlet Insert	40.4890	78.0361	0.14	☐	NA	NA
12	Water Quality Inlet Insert	40.4891	78.0363	0.10	☐	NA	NA
13	Water Quality Inlet Insert	40.4902	78.0370	0.98	☐	NA	NA
14	Water Quality Inlet Insert	40.4897	78.0374	0.20	☐	NA	NA
15	Water Quality Inlet Insert	40.4895	78.0376	0.51	☐	NA	NA
16	Water Quality Inlet Insert	40.4894	78.0370	0.04	☐	NA	NA
17	Water Quality Inlet Insert	40.4893	78.0367	0.18	☐	NA	NA
18	Water Quality Inlet Insert	40.4894	78.0372	0.10	☐	NA	NA
19	Water Quality Inlet Insert	40.4903	78.0374	0.27	☐	NA	NA
20	Water Quality Inlet Insert	40.4900	78.0377	0.10	☐	NA	NA
21	Water Quality Inlet Insert	40.4900	78.0377	0.19	☐	NA	NA
					☐		
					☐		
					☐		
2. Area not treated by an SCM, Earth Disturbance Area (acres): 1.36 Area not treated by an SCM, Project Site Area (acres): 1.36							
3. ☐ One or more SCMs will be located off-site. SCM IDs:							

PCSM SCM Inventory

4. For each infiltration-based SCM identified in Question #1, provide the information requested or attach separate sheets with this information.

SCM ID:

☐ **Separate sheets attached**[illegible]

[illegible]

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Stormwater Analysis – Runoff Volume											
Surface Water Name: Wetlands Tributray to UNT to the Juniata River								POA(s): 001 & 002			
1. ☐ The design standard is based on volume management requirements in an Act 167 Plan approved by DEP within the past five years.											
2. ☒ The design standard is based on managing the net change for storms up to and including the 2-year/24-hour storm.											
3. ☐ An alternative design standard is being used.											
4. ☒ A printout of DEP's PCSM Spreadsheet – Volume Worksheet is attached.											
5. 2-Year/24-Hour Storm Event: 2.8 inches Source of precipitation data: NOAA											
6. Stormwater Runoff Volume @ 2-Year/24-Hour Storm, Pre-Construction: 26522 CF											
7. Stormwater Runoff Volume @ 2-Year/24-Hour Storm, Post-Construction: 51718 CF											
8. Net Change (Post-Construction – Pre-Construction Volumes): 25196 CF											
9. Identify all selected structural PCSM SCMs and provide the information requested. ☒ Calculations attached											
SCM ID	Series	MRC	Vol. Routed to SCM (CF)	Inf. Area (SF)	Inf. Rate (in/hr)	Inf. Period (hrs)	Veg?	Media Depth (ft)	Storage Vol. (CF)	Inf. Credit (CF)	ET Credit (CF)
		☐					☐				
		☐					☐				
		☐					☐				
		☐					☐				
		☐					☐				
		☐					☐				
		☐					☐				
		☐					☐				
		☐					☐				

Total Infiltration & ET Credits (CF):

Other Credits (CF) (Attach Calculations):

Managed Release Credits (CF) (Attach MRC Spreadsheet):

Volume Required to Manage (CF):

Total Credits (CF):

Stormwater Analysis – Peak Rate

Surface Water Name: Wetlands Tributary to UNT to the Juniata River **POA(s):** 002

1. ☐ The design standard is based on rate requirements in an Act 167 Plan approved by DEP within the past five years.
2. ☒ The design standard is based on managing the net change for 2-, 10-, 50-, and 100-year/24-hour storms.
3. ☐ An alternative design standard is being used.
4. ☒ DEP's PCSM Spreadsheet – Rate Worksheet was used for peak rate calculations and is attached.
5. ☒ Alternative rate calculations are attached.

6. Identify precipitation amounts. Source of precipitation data: NOAA

2-Year/24-Hour Storm:	2.80	10-Year/24-Hour Storm	3.84
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50-Year/24-Hour Storm:	5.25	100-Year/24-Hour Storm	5.93
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7. Identify all SCMs used to mitigate peak rate differences and provide the requested information.

[illegible]

8. Report peak rates for pre-construction and post-construction with SCMs and identify the differences.

Design Storm	Pre-Construction Peak Rate (cfs)	Post-Construction Peak Rate (cfs)	Post-Construction Peak Rate with SCMs (cfs)	Difference (cfs)
2-Year/24-Hour	4.23	9.61	1.93	-2.30
10-Year/24-Hour	8.67	14.11	3.45	-5.22
50-Year/24-Hour	14.58	19.45	5.32	-9.26
100-Year/24-Hour	17.54	22.01	6.22	-11.32

Stormwater Analysis – Water Quality

- ☒ A printout of DEP's PCSM Spreadsheet – Quality Worksheet is attached for all surface waters receiving discharges.

Other Information

- | | | |
|----|-------------------------------------|---|
| 1. | ☒ | A long-term operation and maintenance (O&M) plan has been prepared for each SCM. |
| 2. | ☒ | A long-term O&M plan will be recorded with a legal instrument for each property containing an SCM. |
| 3. | ☒ | PCSM Plan Drawings have been developed for the project and are attached to the NOI/application. |
| 4. | ☒ | The PCSM Plan has been planned, designed, and will be implemented to be consistent with the E&S Plan. |
| 5. | ☒ | Recycling and proper disposal of materials associated with PCSM SCMs are addressed as part of long-term operation and maintenance of the PCSM SCMs. |
| 6. | ☒ | There are pre-construction stormwater discharges to wetlands from the project site. |

[illegible]

7. Describe the sequence of PCSM SCM implementation in relation to earth disturbance activities.

PCSM SCMs cannot be completed until all areas tributary to them have achieved the required level of stabilization. The locations for the proposed PCSM SCM's should be protected from compaction during earthmoving activity. Licensed professional oversight is required for construction of the structural PCSM SCMs

8. Identify naturally occurring geologic formations or soil conditions that may have the potential to cause pollution after earth disturbance activities are completed and PCSM SCMs are operational and the applicant's plan to avoid or minimize potential pollution and its impacts.

The site is underlain by Hamilton Group geology which is known to contain pyritic shale. The Geotechnical Engineering Report documents testing revealed pyritic sulfur bedrock could be encountered in the area proposed for the underground fuel tanks. The Geotechnical engineer will be present during excavation to evaluate soil conditions encountered in the field and determine the need for further testing. See Sheets ES4 and PCSM 3 for more detailed recommendations.

Pyritic shale was encountered during site excavation and temporary stabilization was implemented. The site has been redesigned using the Manage Release Concept (MRC) and all infiltration BMP's and SCM's have been removed.

9. Thermal Impacts: check the appropriate box(es) if any of the following (a. – c.) are true: ☒ Not Applicable

- ☐ a. One or more peak rate control SCMs are proposed that will receive stormwater from a drainage area containing more than 25% impervious surface.

i. Drainage Area of SCM: acres

ii. Drainage Area of Surface Water at POA of SCM: _____ acres

iii. Ratio of SCM Drainage Area : Surface Water Drainage Area: %

<i>If the value reported for a.iii. exceeds 10%, attach a quantitative thermal impact analysis.</i>	
☐	b. A Wet Basin or Engineered Stormwater Treatment Wetland is proposed that does not include shading and/or a reversed slope outlet pipe <i>(if true, attach a quantitative thermal impact analysis)</i> .
☐	c. There will be post-construction undetained areas, within the limit of disturbance, that contain impervious surface.
i.	Undetained Impervious Area: acres
ii.	Drainage Area of Surface Water Receiving Stormwater from Undetained Impervious: acres
iii.	Ratio of Undetained Impervious: Surface Water Drainage Area: %
<i>If the value reported for c.iii. exceeds 10%, attach a quantitative thermal impact analysis.</i>	
☐	d. A quantitative thermal impact analysis is not required.

[illegible]

- 1 Enter the impervious area as presented on PCSM Plan Drawings.
- 2 Report the maximum allowable impervious on the lot according to the stormwater analysis and SCM design.
- 3 List the maximum allowable impervious on the lot to meet requirements of a local ordinance, if applicable.
- 4 Check the box if either 1) Maximum Allowable Impervious, As Designed is at least 110% of Planned Impervious or 2) Planned Impervious is equal to Maximum Allowable Impervious, Per Ordinance. If the box is checked and the maximum impervious area for the lot is recorded, the permittee will not be responsible for identifying new impervious added to a lot on record drawings after a lot is sold during the term of permit coverage.

PCSM Plan Preparer

☒ I am trained and experienced in PCSM methods.

☒ I am a licensed professional.

No. years of experience preparing PCSM Plans: 20+

Name: Benjamin S. Piper

Title: PE, Senior Designer

Company: Keller Engineers, Inc.

Phone No.: 814-696-7430

Address: PO Box 61

Email: bpiper@keller-engineers.com

City, State, ZIP: Hollidaysburg, PA 16648

License No.: PE086344

License Type: Registered Profesional Engineer

Exp. Date 9/30/26



04/17/26

PCSM Plan Preparer Signature

Date

Identify those who assisted the individual identified above in preparing the PCSM Plan:

Name	Company	Field	LP?	License Type
Haylee Bearer	Keller Engineers, Inc.	Environmental Scientist	☐	
			☐	
			☐	
			☐	
			☐	

CHAPTER 102 PRE-DEVELOPMENT SITE CHARACTERIZATION SPREADSHEET

Project Site Name: **Huntingdon Rutters Store #93**

Project Site Area: **7.76** acres Applicant: **M & G Realty, Inc.**

Will PCSM requirements for the project be satisfied entirely by stormwater capture and use or riparian forest buffer SCMs or can the entire project be considered a site restoration activity?

☐ Yes ☒ No

Is the project site located in an area of known karst terrain?

☐ Yes ☒ No

☐ **Areas Excluded for Infiltration SCMs (attach map(s))**

☒ **Soils Investigation**

Investigation method(s): ☒ Test pits ☒ Soil borings ☐ Other:

Provide an explanation for completing soil borings in lieu of or in addition to test pits:

Soil borings were completed for the purpose of testing for pyritic materials

Name(s) of professional(s) overseeing soils investigation:

Name	Company	License/Certification
Margaret Dunkelberger	ECS, Inc.	Other License/Certification

☒ **Test Pit / Soil Boring Log** No. Test Locations: **22**

Test Location ID	Investigation Method	Total Depth Investigated (ft)	Limiting Zone Elevation (ft)	Limiting Zone Description	Infiltration Test(s) Completed?
TP-05	Test Pit	5	662	Compact Fill	Yes
TP-06	Test Pit	8	662	Compact Fill	Yes
B-01	Soil Boring	6	672	Bedrock	No
B-01	Soil Boring	8	672	Bedrock	No
B-02	Soil Boring	6	662.5	Bedrock	No
B-02	Soil Boring	8	662.5	Bedrock	No
B-08	Soil Boring	17.5	665	Bedrock	No
B-14	Soil Boring	10	677	Bedrock	No
B-18	Soil Boring	15	674	Bedrock	No
B-19	Soil Boring	10	675	Bedrock	No
B-20	Soil Boring	15	669.5	Bedrock	No
B-22	Soil Boring	15	674.5	Bedrock	No
B-23	Soil Boring	15	672	Bedrock	No
B-24	Soil Boring	15	667	Bedrock	No
B-25	Soil Boring	20	667.5	Bedrock	No
B-26	Soil Boring	20	668	Bedrock	No

B-29	Soil Boring	20	666	Bedrock	No
TP-1	Test Pit	1	655	Compact Fill	Yes
TP-2	Test Pit	1	658.5	Compact Fill	Yes
TP-3	Test Pit	2.5	567	Compact Fill	Yes
TP-4	Test Pit	1.5	661	Compact Fill	Yes
TP-7	Test Pit	8	663	Compact Fill	Yes

☒ **Infiltration Test Results** No. Infiltration Tests: 7

Test Location ID	Infiltration Test ID	Infiltration Test Elevation (ft)	Infiltration Test Method	Field Ksat (in/hr)	Temp (°F)	Adjusted Ksat (in/hr)
TP-1	1	657	Double Ring	0.48	40	0.720
TP-2	2	660.5	Double Ring	0.23	40	0.345
TP-3	3	659	Double Ring	0.63	40	0.945
TP-4	4	662	Double Ring	0.11	40	0.165
TP-5	5	664	Double Ring	0.16	40	0.240
TP-6	6	665	Double Ring	3.42	40	5.130
TP-7	7	677	Double Ring	0.2	40	0.300

Recommended infiltration test location frequency: 1 test / 40,000 square feet (4 minimum)

Actual infiltration test location frequency: 0.83 test(s) / 40,000 square feet

The coefficient of variation (CV) for infiltration test results is moderate to high (1.6). Additional infiltration tests are recommended.