COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGES OF STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES
POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM) MODULE 2

Applicant: River Pointe Logistics Center, LLC

Project Site Name: River Pointe Logistics Center

Surface Water Name(s): UNT to Delaware River via surface waters (DP-001) & via MS4 (DP-004)

Surface Water Use(s): CWF, MF (DP-001 & DP-004)

PCSM PLAN INFORMATION

1. Identify all structural and non-structural PCSM BMPs that have been selected and provide the information requested.

Discharge Point(s)	BMP ID	BMP Name	BMP Manual	Latitude	Longitude	DA Treated (ac)
001	1	Capture & Reuse (Spray Field & Detention Basin) (Basin 1)	6.5.2 / 6.6.3	40.903479	-75.091918	45.15
001	2	Capture & Reuse (Spray Field & Detention Basin) (Basin 2A)	6.5.2 / 6.6.3	40.903479	-75.091918	16.52
004	3	Capture & Reuse (Spray Field & Detention Basin) (Basin 2B)	6.5.2 / 6.6.3	40.903479	-75.091918	17.81
001	4	Capture & Reuse (Spray Field & Detention Basin) (Basin 6)	6.5.2 / 6.6.3	40.903479	-75.091918	27.76
001	5	Capture & Reuse (Spray Field & Detention Basin) (Basin 8C)	6.5.2 / 6.6.3	40.903479	-75.091918	37.42
001	6	Water Quality Filters & Hydrodynamic Devices (to BMP 7)	6.6.4	40.903479	-75.091918	10.60
001	7	Dry Extended Detention Basin (Basin 2)	6.6.3	40.903479	-75.091918	0.00*
004	8	Water Quality Filters & Hydrodynamic Devices (to BMP 9)	6.6.4	40.903479	-75.091918	10.11
004	9	Dry Extended Detention Basin (Basin 8/9)	6.6.3	40.903479	-75.091918	0.00*
004	10	Water Quality Filters & Hydrodynamic Devices (to BMP 11)	6.6.4	40.903479	-75.091918	12.64
004	11	Dry Extended Detention Basin (Basin 3C)	6.6.3	40.903479	-75.091918	0.00*
001	12	Subsurface Seepage Bed 2A (from BMP 2)	6.4.3	40.903479	-75.091918	0.00*
004	13	Subsurface Seepage Bed 2B (from BMP 2)	6.4.3	40.903479	-75.091918	0.00*

Undetained Areas: 0 acre(s)

☐ The Project Qualifies as a Site Restoration Project (25 Pa. Code §102.8(n))

2. Describe the sequence of PCSM BMP implementation in relation to earth disturbance activities and a schedule of inspections for the critical stages of PCSM BMP installation.

Critical stages and general sequencing for PCSM BMP implementation is as follows (Refer to Sheet PC-19):

The critical stages of PCSM Plan implementation are the following: the installation of the aboveground and subsurface detention basins, the installation of the capture and reuse (spray irrigation) systems and all associated components, installation of the subsurface seepage beds, installation of the water quality devices/snouts, and permanent site stabilization/restoration . All listed BMPs shall be constructed with oversight by a licensed professional or their designee.

* Includes drainage area treated from prior BMP.

3. ☐ Plan drawings have been developed for the project and will be available on-site.

4. ☒ Plan drawings have been developed for the project and are attached to the NOI/application.

5. ☒ Recycling and proper disposal of materials associated with PCSM BMPs are addressed as part of long-term operation and maintenance of the PCSM BMPs.

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

No adverse soil conditions or potential for contamination identified. Soil limitations and resolutions for the soil types found on-site are listed on the accompanying plans, refer to sheet PC-19

7. Identify whether the potential exists for thermal impacts to surface waters from post-construction stormwater. If such potential exists, identify BMPs that will be implemented to avoid, minimize, or mitigate potential thermal impacts.

Thermal impacts will be minimized and mitigated in the Construction (E&S) Phase by filtering runoff through natural vegetation, and Erosion and Sediment Controls prior to discharging off-site. Cooling will take place in the Construction (E&S) Phase because the ground will naturally cool stormwater during construction as pavement will be limited and bare/stripped earth will be cooler during construction.

Thermal impacts will be minimized and mitigated in the Post Construction condition via utilization of white roofed buildings and the utilization of the proposed aboveground and subsurface detention basins. The proposed capture and reuse system has been designed in accordance with the PA BMP Manual recommendations to provide groundwater recharge, water quality and peak flow rates reduction benefits for the contributing drainage area. Thermal impacts will be minimized by the capture and reuse system, which will capture and reuse (spray irrigate) the initial runoff (which has the highest temperature).

8. ☒ The PCSM Plan has been planned, designed, and will be implemented to be consistent with the E&S Plan.

9. ☒ A pre-development site characterization has been performed.

STORMWATER ANALYSIS – RUNOFF VOLUME

Surface Water Name: UNT to Delaware River via surface waters (DP-001) & UNT to Delaware River via MS4 (DP-004) **Discharge Point(s):** DP-001 & DP-004

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: 3.3 inches Source of precipitation data: NOAA Atlas 14
6. Stormwater Runoff Volume, Pre-Construction Conditions: CF ☒ Calculations attached
7. Stormwater Runoff Volume, Post-Construction Conditions: CF ☒ Calculations attached
8. Net Change (Post-Construction – Pre-Construction Volumes): CF
9. Identify all selected structural PCSM BMPs and provide the information requested. ☒ Calculations attached

DP No.	BMP ID	Series	Vol. Routed to BMP (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):

Non-Structural BMP Volume Credits (CF) (Attach Calculations):

Managed Release Credits (CF) (Attach MRC Design Summary):

Volume Required to Reduce/Manage (CF):

Total Credits (CF):

INFILTRATION INFORMATION	
BMP ID: DP-001 / BMP 1 (Zone 1.1)	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 10	
2. Method(s) used for infiltration testing: double ring infiltrometer	
3. Test Pit Identifiers (from PCSM Plan Drawings): TP 6-10 & INF-100-INF-104	
4. Avg Infiltration Rate: 1.91 in/hr	5. FOS: 2 : 1
6. Infiltration rate used for design: 0.96 in/hr	
7. Separation distance between the BMP bottom and bedrock: >2 feet (not encountered)	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	
BMP ID: DP-001 / BMP 1 (Zone 1.2)	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 8	
2. Method(s) used for infiltration testing: double ring infiltrometer	
3. Test Pit Identifiers (from PCSM Plan Drawings): TP 11-14 & INF-105-INF-109	
4. Avg Infiltration Rate: 1.77 in/hr	5. FOS: 2 : 1
6. Infiltration Rate Used for Design: 0.89 in/hr	
7. Separation distance between the BMP bottom and bedrock: >2 feet (not encountered)	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	
BMP ID: DP-001 / BMP 2 (Zone 1.3)	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 7	
2. Method(s) used for infiltration testing: double ring infiltrometer	
3. Test Pit Identifiers (from PCSM Plan Drawings): INF-110-INF-116	
4. Avg Infiltration Rate: 1.04 in/hr	5. FOS: 2 : 1
6. Infiltration Rate Used for Design: 0.52 in/hr	
7. Separation distance between the BMP bottom and bedrock: >2 feet (not encountered)	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	

INFILTRATION INFORMATION	
BMP ID: DP-001 / BMP 2 (Zone 2.1)	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 19	
2. Method(s) used for infiltration testing: double ring infiltrometer	
3. Test Pit Identifiers (from PCSM Plan Drawings): TP 47-54 & INF-117-INF-127	
4. Avg Infiltration Rate: 1.75 in/hr	5. FOS: 2 : 1
6. Infiltration rate used for design: 0.88 in/hr	
7. Separation distance between the BMP bottom and bedrock: >2 feet (not encountered)	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	
BMP ID: DP-004 / BMP 3 (Zone 2.2)	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 11	
2. Method(s) used for infiltration testing: double ring infiltrometer	
3. Test Pit Identifiers (from PCSM Plan Drawings): TP 41-46 & INF-128-INF-132	
4. Avg Infiltration Rate: 2.02 in/hr	5. FOS: 2 : 1
6. Infiltration Rate Used for Design: 1.01 in/hr	
7. Separation distance between the BMP bottom and bedrock: >2 feet (not encountered)	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	
BMP ID: DP-001 / BMP 4 (Zone 6.1)	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 9	
2. Method(s) used for infiltration testing: double ring infiltrometer	
3. Test Pit Identifiers (from PCSM Plan Drawings): TP 77-78 & INF-138-INF-144	
4. Avg Infiltration Rate: 0.62 in/hr	5. FOS: 2 : 1
6. Infiltration Rate Used for Design: 0.31 in/hr	
7. Separation distance between the BMP bottom and bedrock: >2 feet (not encountered)	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	

INFILTRATION INFORMATION	
BMP ID: DP-001 / BMP 4 (Zone 6.2)	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 13	
2. Method(s) used for infiltration testing: double ring infiltrometer	
3. Test Pit Identifiers (from PCSM Plan Drawings): TP 79-82 & INF-145-INF-153	
4. Avg Infiltration Rate: 1.21 in/hr	5. FOS: 2 : 1
6. Infiltration rate used for design: 0.61 in/hr	
7. Separation distance between the BMP bottom and bedrock: >2 feet (not encountered)	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	
BMP ID: DP-001 / BMP 5 (Zone 8.1)	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 10	
2. Method(s) used for infiltration testing: double ring infiltrometer	
3. Test Pit Identifiers (from PCSM Plan Drawings): TP 37-40 & INF-154-INF-159	
4. Avg Infiltration Rate: 0.67 in/hr	5. FOS: 2 : 1
6. Infiltration Rate Used for Design: 0.34 in/hr	
7. Separation distance between the BMP bottom and bedrock: >2 feet (not encountered)	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	
BMP ID: DP-001 / BMP 5 (Zone 8.2)	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 12	
2. Method(s) used for infiltration testing:	
3. Test Pit Identifiers (from PCSM Plan Drawings): TP 35-36 & INF-162-INF-171	
4. Avg Infiltration Rate: 1.11 in/hr	5. FOS: 2 : 1
6. Infiltration Rate Used for Design: 0.56 in/hr	
7. Separation distance between the BMP bottom and bedrock: >2 feet (not encountered)	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	

INFILTRATION INFORMATION	
BMP ID: DP-001 / BMP 12 (Seepage Bed 2A)	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 4	
2. Method(s) used for infiltration testing: double ring infiltrometer	
3. Test Pit Identifiers (from PCSM Plan Drawings): TP 202-205	
4. Avg Infiltration Rate: 1.71 in/hr	5. FOS: 2 : 1
6. Infiltration rate used for design: 0..86 in/hr	
7. Separation distance between the BMP bottom and bedrock: >2 feet (not encountered)	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	
BMP ID: DP-004 / BMP 13 (Seepage Bed 2B)	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 4	
2. Method(s) used for infiltration testing: double ring infiltrometer	
3. Test Pit Identifiers (from PCSM Plan Drawings): TP 206-209	
4. Avg Infiltration Rate: 2.79 in/hr	5. FOS: 2 : 1
6. Infiltration Rate Used for Design: 1.40 in/hr	
7. Separation distance between the BMP bottom and bedrock: >2 feet (not encountered)	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	
BMP ID:	☐ Soil/geologic test results are attached.
1. No. of infiltration tests completed:	
2. Method(s) used for infiltration testing:	
3. Test Pit Identifiers (from PCSM Plan Drawings):	
4. Avg Infiltration Rate: in/hr	5. FOS: : 1
6. Infiltration Rate Used for Design: in/hr	
7. Separation distance between the BMP bottom and bedrock: feet	
8. Separation distance between the BMP bottom and seasonal high-water table: feet	
9. Comments:	

STORMWATER ANALYSIS – PEAK RATE

Surface Water Name: UNT to Delaware River via surface waters (DP-001) & UNT to Delaware River via MS4 (DP-004) **Discharge Point(s):** DP-001 & DP-004

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. ☒ A printout of DEP's PCSM Spreadsheet – Rate Worksheet is attached.
5. ☒ Alternative rate calculations are attached.
6. Identify precipitation amounts. Source of precipitation data: NOAA Atlas 14

2-Year/24-Hour Storm:	3.3 in	10-Year/24-Hour Storm	4.82 in.
50-Year/24-Hour Storm:	6.78 in.	100-Year/24-Hour Storm	7.82 in.

7. Report peak discharge rates, pre- and post-construction (without BMPs), based on a time of concentration analysis.

Design Storm	Pre-Construction Peak Rate (cfs)	Post-Construction Peak Rate (cfs)	Difference (cfs)
2-Year/24-Hour	246.79	535.31	288.52
10-Year/24-Hour	684.58	1,092.41	407.83
50-Year/24-Hour	1,379.25	1,90.81	528.56
100-Year/24-Hour	1,806.81	2,370.04	563.23

8. Identify all BMPs used to mitigate peak rate differences and provide the requested information.

BMP ID	Inflow to BMP (cfs)				Outflow from BMP (cfs)			
	2-Yr	10-Yr	50-Yr	100-Yr	2-Yr	10-Yr	50-Yr	100-Yr
See Next Page.								

9. Report peak rates for pre-construction and post-construction with BMPs and identify the differences.

Design Storm	Pre-Construction Peak Rate (cfs)	Post-Construction Peak Rate (with BMPs) (cfs)	Difference (cfs)
2-Year/24-Hour	246.79	240.90	-5.89
10-Year/24-Hour	684.58	581.64	-102.94
50-Year/24-Hour	1,379.25	1,148.76	-230.49
100-Year/24-Hour	1,806.81	1,526.88	-279.93

8. Identify all BMPs used to mitigate peak rate differences and provide the requested information								
BMP ID	**Inflow to BMP (cfs)**				**Outflow from BMP (cfs)**			
	2-Yr	**10-Yr**	**50-Yr**	**100-Yr**	**2-Yr**	**10-Yr**	**50-Yr**	**100-Yr**
BMP 1	108.160	200.720	327.020	419.040	0.000	3.304	20.990	58.410
BMP 2	66.740	102.500	148.010	171.970	0.000	2.501	29.730	63.790
BMP 3	69.570	113.700	170.300	200.100	0.000	2.593	29.410	67.960
BMP 4	143.130	230.830	342.990	402.000	0.000	6.769	17.540	30.710
BMP 5	20.270	70.170	150.390	197.340	0.000	1.698	8.886	14.750
BMP 6/7	30.250	53.090	83.120	99.050	2.752	3.364	10.050	32.350
BMP 8/9	18.240	52.650	106.570	138.220	2.223	3.200	4.045	8.496
BMP 10/11	20.390	46.740	85.400	107.720	2.494	3.316	4.135	6.688

STORMWATER ANALYSIS – WATER QUALITY

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

LONG-TERM O&M

Describe the long-term operation and maintenance (O&M) requirements for each selected PCSM BMP.

BMP ID	O&M Requirements
1	Refer to O&M Notes on PCSM Plan, Sheet PC-19
2	Refer to O&M Notes on PCSM Plan, Sheet PC-19
3	Refer to O&M Notes on PCSM Plan, Sheet PC-19
4	Refer to O&M Notes on PCSM Plan, Sheet PC-19
5	Refer to O&M Notes on PCSM Plan, Sheet PC-19
6	Refer to O&M Notes on PCSM Plan, Sheet PC-19
7	Refer to O&M Notes on PCSM Plan, Sheet PC-19
8	Refer to O&M Notes on PCSM Plan, Sheet PC-19
9	Refer to O&M Notes on PCSM Plan, Sheet PC-19
10	Refer to O&M Notes on PCSM Plan, Sheet PC-19
11	Refer to O&M Notes on PCSM Plan, Sheet PC-19
12	Refer to O&M Notes on PCSM Plan, Sheet PC-19
13	Refer to O&M Notes on PCSM Plan, Sheet PC-19

PCSM PLAN DEVELOPER

☐ I am trained and experienced in PCSM methods. ☒ I am a licensed professional.

Name:	Steve M. Walsh, P.E.	Title:	Branch Manager
Company:	Dynamic Engineering Consultants, PC	Phone No.:	610-598-4400
Address:	95 Highland Avenue, Suite 170	Email:	swalsh@dynamicec.com
City, State, ZIP:	Bethlehem, PA 18017	License No.:	PE089856
License Type:	Professional Engineer	Exp. Date	9/30/2023

PCSM Plan Developer Signature

4/1/2023

Date

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGES OF STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES
POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM) MODULE 2

Applicant: River Pointe Logistics Center, LLC

Project Site Name: River Pointe Logistics Center

Surface Water Name(s): UNT to Allegheny Creek (No DP/ Site Restoration)

Surface Water Use(s): CWF, MF (DP-002)

PCSM PLAN INFORMATION

1. Identify all structural and non-structural PCSM BMPs that have been selected and provide the information requested.

Discharge Point(s)	BMP ID	BMP Name	BMP Manual	Latitude	Longitude	DA Treated (ac)

Undetained Areas: acre(s)

☒ The Project Qualifies as a Site Restoration Project (25 Pa. Code §102.8(n))

2. Describe the sequence of PCSM BMP implementation in relation to earth disturbance activities and a schedule of inspections for the critical stages of PCSM BMP installation.

N/A - Site Restoration Only

3. ☐ Plan drawings have been developed for the project and will be available on-site.

4. ☒ Plan drawings have been developed for the project and are attached to the NOI/application.

5. ☒ Recycling and proper disposal of materials associated with PCSM BMPs are addressed as part of long-term operation and maintenance of the PCSM BMPs.

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

No adverse soil conditions or potential for contamination identified. Soil limitations and resolutions for the soil types found on-site are listed on the accompanying plans, refer to sheet PC-19.

7. Identify whether the potential exists for thermal impacts to surface waters from post-construction stormwater. If such potential exists, identify BMPs that will be implemented to avoid, minimize, or mitigate potential thermal impacts.

Site Restoration will re-establish portions of the project area back to approximate existing natural conditions, thus, no impacts will occur.

8. ☒ The PCSM Plan has been planned, designed, and will be implemented to be consistent with the E&S Plan.

9. ☒ A pre-development site characterization has been performed.

STORMWATER ANALYSIS – RUNOFF VOLUME

Surface Water Name: UNT to Allegheny Creek **Discharge Point(s):** DP-002 (N/A Site Restoration)

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: inches Source of precipitation data:
6. Stormwater Runoff Volume, Pre-Construction Conditions: CF ☐ Calculations attached
7. Stormwater Runoff Volume, Post-Construction Conditions: CF ☐ Calculations attached
8. Net Change (Post-Construction – Pre-Construction Volumes): CF
9. Identify all selected structural PCSM BMPs and provide the information requested. ☐ Calculations attached

DP No.	BMP ID	Series	Vol. Routed to BMP (CF)	Inf. Area (SF)	Inf. Rate (in/hr)	Inf. Period (hrs)	Veg?	Media Depth (ft)	Storage Vol. (CF)	Inf. Credit (CF)	ET Credit (CF)
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							☐				
							☐				
							☐				

Total Infiltration & ET Credits (CF):

Non-Structural BMP Volume Credits (CF) (Attach Calculations):

Managed Release Credits (CF) (Attach MRC Design Summary):

Volume Required to Reduce/Manage (CF):

Total Credits (CF):

INFILTRATION INFORMATION	
BMP ID:	☐ Soil/geologic test results are attached.
1. No. of infiltration tests completed:	
2. Method(s) used for infiltration testing:	
3. Test Pit Identifiers (from PCSM Plan Drawings):	
4. Avg Infiltration Rate: in/hr	5. FOS: : 1
6. Infiltration rate used for design: in/hr	
7. Separation distance between the BMP bottom and bedrock: feet	
8. Separation distance between the BMP bottom and seasonal high-water table: feet	
9. Comments:	
BMP ID:	☐ Soil/geologic test results are attached.
1. No. of infiltration tests completed:	
2. Method(s) used for infiltration testing:	
3. Test Pit Identifiers (from PCSM Plan Drawings):	
4. Avg Infiltration Rate: in/hr	5. FOS: : 1
6. Infiltration Rate Used for Design: in/hr	
7. Separation distance between the BMP bottom and bedrock: feet	
8. Separation distance between the BMP bottom and seasonal high-water table: feet	
9. Comments:	
BMP ID:	☐ Soil/geologic test results are attached.
1. No. of infiltration tests completed:	
2. Method(s) used for infiltration testing:	
3. Test Pit Identifiers (from PCSM Plan Drawings):	
4. Avg Infiltration Rate: in/hr	5. FOS: : 1
6. Infiltration Rate Used for Design: in/hr	
7. Separation distance between the BMP bottom and bedrock: feet	
8. Separation distance between the BMP bottom and seasonal high-water table: feet	
9. Comments:	

STORMWATER ANALYSIS – PEAK RATE

Surface Water Name: UNT to Allegheny Creek **Discharge Point(s):** DP-002 (N/A Site Restoration)

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. ☐ A printout of DEP's PCSM Spreadsheet – Rate Worksheet is attached.
5. ☐ Alternative rate calculations are attached.
6. Identify precipitation amounts. Source of precipitation data:

2-Year/24-Hour Storm: 10-Year/24-Hour Storm

50-Year/24-Hour Storm: 100-Year/24-Hour Storm

7. Report peak discharge rates, pre- and post-construction (without BMPs), based on a time of concentration analysis.

Design Storm	Pre-Construction Peak Rate (cfs)	Post-Construction Peak Rate (cfs)	Difference (cfs)
2-Year/24-Hour			
10-Year/24-Hour			
50-Year/24-Hour			
100-Year/24-Hour			

8. Identify all BMPs used to mitigate peak rate differences and provide the requested information.

BMP ID	Inflow to BMP (cfs)				Outflow from BMP (cfs)			
	2-Yr	10-Yr	50-Yr	100-Yr	2-Yr	10-Yr	50-Yr	100-Yr

9. Report peak rates for pre-construction and post-construction with BMPs and identify the differences.

Design Storm	Pre-Construction Peak Rate (cfs)	Post-Construction Peak Rate (with BMPs) (cfs)	Difference (cfs)
2-Year/24-Hour			
10-Year/24-Hour			
50-Year/24-Hour			
100-Year/24-Hour			

STORMWATER ANALYSIS – WATER QUALITY

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

LONG-TERM O&M

Describe the long-term operation and maintenance (O&M) requirements for each selected PCSM BMP.

BMP ID	O&M Requirements

PCSM PLAN DEVELOPER

☐ I am trained and experienced in PCSM methods.

☒ I am a licensed professional.

Name:	Steve M. Walsh, P.E.	Title:	Branch Manager
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4/1/2023

Date

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGES OF STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES
POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM) MODULE 2

Applicant: River Pointe Logistics Center, LLC

Project Site Name: River Pointe Logistics Center

Surface Water Name(s): UNT to Delaware River via non-surface waters

Surface Water Use(s): CWF, MF (DP-003)

PCSM PLAN INFORMATION

1. Identify all structural and non-structural PCSM BMPs that have been selected and provide the information requested.

Discharge Point(s)	BMP ID	BMP Name	BMP Manual	Latitude	Longitude	DA Treated (ac)
003	14	Capture & Reuse (Spray Field & Detention Basin) (Basin 4C)	6.5.2 / 6.6.3	40.892752	-75.106274	10.09

Undetained Areas: 9.15 acre(s)

☐ The Project Qualifies as a Site Restoration Project (25 Pa. Code §102.8(n))

2. Describe the sequence of PCSM BMP implementation in relation to earth disturbance activities and a schedule of inspections for the critical stages of PCSM BMP installation.

Critical stages and general sequencing for PCSM BMP implementation is as follows (Refer to Sheet PC-19):

The critical stages of PCSM Plan implementation are the following: the installation of the aboveground and subsurface detention basins, the installation of the capture and reuse (spray irrigation) systems and all associated components, installation of the subsurface level spreaders, and installation of any water quality devices/snouts. All listed BMPs shall be constructed with oversight by a licensed professional or their designee.

3. ☐ Plan drawings have been developed for the project and will be available on-site.

4. ☒ Plan drawings have been developed for the project and are attached to the NOI/application.

5. ☒ Recycling and proper disposal of materials associated with PCSM BMPs are addressed as part of long-term operation and maintenance of the PCSM BMPs.

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

No adverse soil conditions or potential for contamination identified. Soil limitations and resolutions for the soil types found on-site are listed on the accompanying plans, refer to sheet PC-19.

7. Identify whether the potential exists for thermal impacts to surface waters from post-construction stormwater. If such potential exists, identify BMPs that will be implemented to avoid, minimize, or mitigate potential thermal impacts.

Thermal impacts will be minimized and mitigated in the Construction (E&S) Phase by filtering runoff through natural vegetation, and Erosion and Sediment Controls prior to discharging off-site. Cooling will take place in the Construction (E&S) Phase because the ground will naturally cool stormwater during construction as pavement will be limited and bare/stripped earth will be cooler during construction.

Thermal impacts will be minimized and mitigated in the Post Construction condition via utilization of white roofed buildings and the utilization of the proposed aboveground and subsurface detention basins. The proposed capture and reuse system has been designed in accordance with the PA BMP Manual recommendations to provide groundwater recharge, water quality and peak flow rates reduction benefits for the contributing drainage area. Thermal impacts will be minimized by the capture and reuse system, which will capture and reuse (spray irrigate) the initial runoff (which has the highest temperature).

8. ☒ The PCSM Plan has been planned, designed, and will be implemented to be consistent with the E&S Plan.

9. ☒ A pre-development site characterization has been performed.

STORMWATER ANALYSIS – RUNOFF VOLUME

Surface Water Name: UNT to Delaware River via non-surface waters **Discharge Point(s):** DP-003

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: inches Source of precipitation data:
6. Stormwater Runoff Volume, Pre-Construction Conditions: CF ☒ Calculations attached
7. Stormwater Runoff Volume, Post-Construction Conditions: CF ☒ Calculations attached
8. Net Change (Post-Construction – Pre-Construction Volumes): CF
9. Identify all selected structural PCSM BMPs and provide the information requested. ☒ Calculations attached

DP No.	BMP ID	Series	Vol. Routed to BMP (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):

Non-Structural BMP Volume Credits (CF) (Attach Calculations):

Managed Release Credits (CF) (Attach MRC Design Summary):

Volume Required to Reduce/Manage (CF):

Total Credits (CF):

INFILTRATION INFORMATION	
BMP ID: DP-003/BMP 14	☒ Soil/geologic test results are attached.
1. No. of infiltration tests completed: 7	
2. Method(s) used for infiltration testing: double ring infiltrometer	
3. Test Pit Identifiers (from PCSM Plan Drawings): TP-93 & 94 & INF-133-INF-137	
4. Avg Infiltration Rate: 1.77 in/hr	5. FOS: 2 : 1
6. Infiltration rate used for design: 0.89 in/hr	
7. Separation distance between the BMP bottom and bedrock: 2 feet	
8. Separation distance between the BMP bottom and seasonal high-water table: >2 feet (not encountered)	
9. Comments:	
BMP ID:	☐ Soil/geologic test results are attached.
1. No. of infiltration tests completed:	
2. Method(s) used for infiltration testing:	
3. Test Pit Identifiers (from PCSM Plan Drawings):	
4. Avg Infiltration Rate: in/hr	5. FOS: : 1
6. Infiltration Rate Used for Design: in/hr	
7. Separation distance between the BMP bottom and bedrock: feet	
8. Separation distance between the BMP bottom and seasonal high-water table: feet	
9. Comments:	
BMP ID:	☐ Soil/geologic test results are attached.
1. No. of infiltration tests completed:	
2. Method(s) used for infiltration testing:	
3. Test Pit Identifiers (from PCSM Plan Drawings):	
4. Avg Infiltration Rate: in/hr	5. FOS: : 1
6. Infiltration Rate Used for Design: in/hr	
7. Separation distance between the BMP bottom and bedrock: feet	
8. Separation distance between the BMP bottom and seasonal high-water table: feet	
9. Comments:	

STORMWATER ANALYSIS – PEAK RATE

Surface Water Name: UNT to Delaware River via non-surface waters **Discharge Point(s):** DP-003

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. ☒ A printout of DEP's PCSM Spreadsheet – Rate Worksheet is attached.
5. ☒ Alternative rate calculations are attached.
6. Identify precipitation amounts. Source of precipitation data: NOAA Atlas 14

2-Year/24-Hour Storm:	3.3 in.	10-Year/24-Hour Storm	4.82 in.
50-Year/24-Hour Storm:	6.78 in.	100-Year/24-Hour Storm	7.82 in.

7. Report peak discharge rates, pre- and post-construction (without BMPs), based on a time of concentration analysis.

Design Storm	Pre-Construction Peak Rate (cfs)	Post-Construction Peak Rate (cfs)	Difference (cfs)
2-Year/24-Hour	53.13	58.65	3.52
10-Year/24-Hour	114.33	120.80	6.47
50-Year/24-Hour	198.18	208.54	10.36
100-Year/24-Hour	244.20	257.12	12.92

8. Identify all BMPs used to mitigate peak rate differences and provide the requested information.

BMP ID	Inflow to BMP (cfs)				Outflow from BMP (cfs)			
	2-Yr	10-Yr	50-Yr	100-Yr	2-Yr	10-Yr	50-Yr	100-Yr
14	21.93	43.08	73.36	89.84	0.00	1.360	8.579	12.30

9. Report peak rates for pre-construction and post-construction with BMPs and identify the differences.

Design Storm	Pre-Construction Peak Rate (cfs)	Post-Construction Peak Rate (with BMPs) (cfs)	Difference (cfs)
2-Year/24-Hour	53.13	44.28	-10.85
10-Year/24-Hour	114.33	91.15	-23.18
50-Year/24-Hour	198.18	165.59	-32.59
100-Year/24-Hour	244.20	206.07	-38.13

STORMWATER ANALYSIS – WATER QUALITY

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

LONG-TERM O&M

Describe the long-term operation and maintenance (O&M) requirements for each selected PCSM BMP.

BMP ID	O&M Requirements
14	Refer to O&M Notes on PCSM Plan, Sheet PC-19

PCSM PLAN DEVELOPER

☐ I am trained and experienced in PCSM methods.

☒ I am a licensed professional.

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4/1/2023

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