

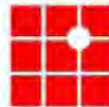
Stormwater Summary The Shoppes at Concord Concord, PA

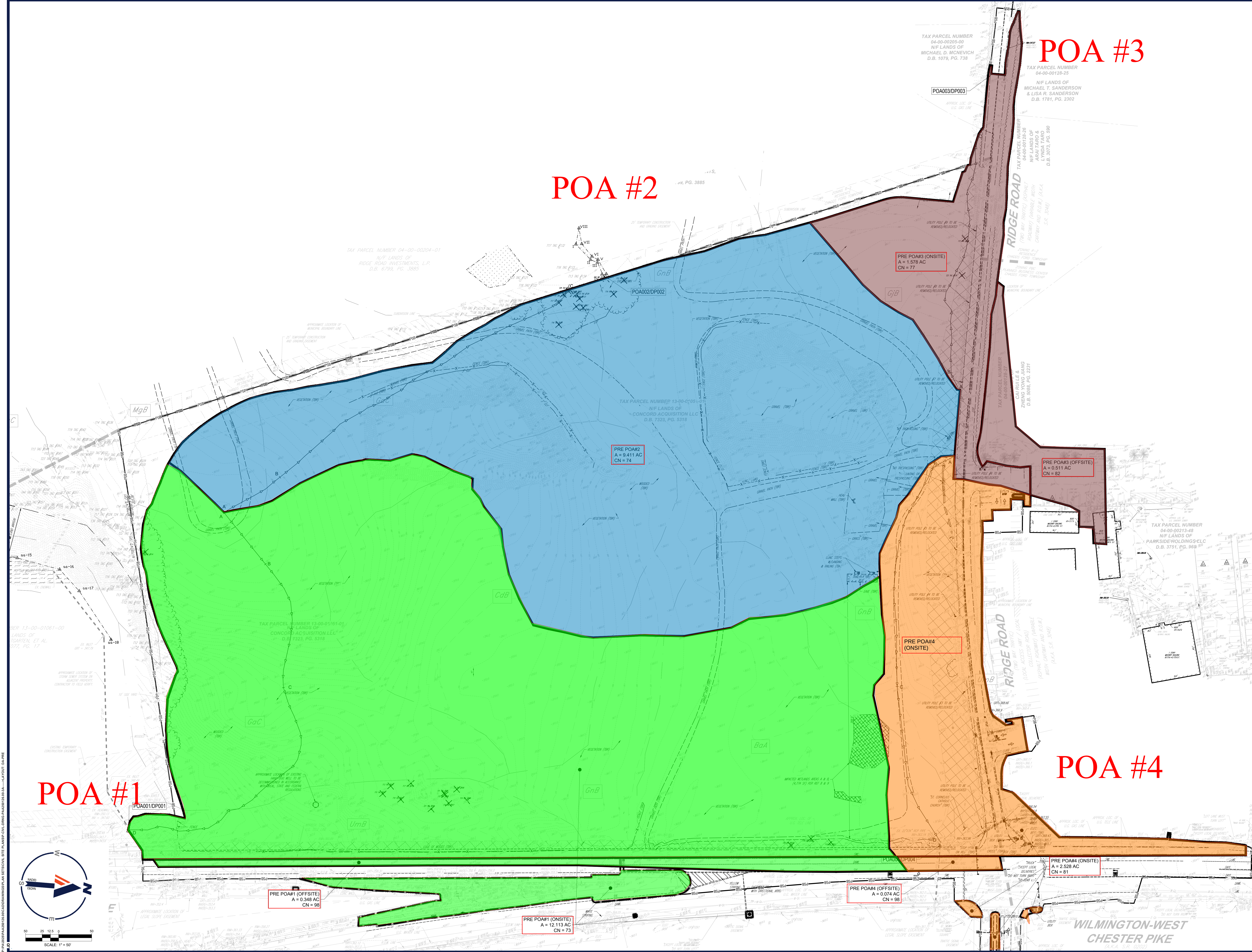
7.17.2026

updated 7-26-2026 and
8-11-2026 (reformatting charts)
adding percent reduction
from predevelopment/existing
conditions

BOHLER //

hct design group

 **Retail Sites** LLC



REVISIONS				
REV	DATE	COMMENT	BY	CHK
1	09/08/2025	GENERAL REVISIONS	JED	EAB
2	05/08/2025	GENERAL REVISIONS	JED	EAB
3	06/17/2025	PER DCCD COMMENTS	JED	EAB

ATTENTION ALL CONTRACTORS:
 LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREIN HAVE BEEN OBTAINED FROM UTILITY COMPANY RECORDS AND/OR FIELD SURVEY. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO ANY CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES. CONTRACTOR SHALL MAINTAIN ADEQUATE RECORDS OF ALL UTILITIES AND FACILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND FACILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND FACILITIES.

ISSUED FOR MUNICIPAL & AGENCY REVIEW & APPROVAL

PROJECT No.: PAA250126 00-3A
 DRAWN BY: JED
 CHECKED BY: EAB
 DATE: 08/22/2025
 CAD I.D.: P-CIVL-DRNG

PRELIMINARY / FINAL LAND DEVELOPMENT PLANS

FOR
CONCORD ACQUISITION LLC
 PROPOSED DEVELOPMENT
 "THE SHOPPES AT CONCORD"
 WILMINGTON-WEST CHESTER PIKE & RIDGE ROAD
 GLEN MILLS, PA 19342
 CONCORD TOWNSHIP
 DELAWARE COUNTY

BOHLER
 1600 MANOR DRIVE, SUITE 200
 CHALFONT, PA 18914
 Phone: (215) 996-9100
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 www.BohlerEngineering.com

E.A. BRITZ
 PROFESSIONAL ENGINEER
 PENNSYLVANIA LICENSE No. PE074843

SHEET TITLE:
PRE DEVELOPMENT DRAINAGE AREA PLAN
 SHEET NUMBER:
1
 OF 73
 REVISION 3 - 06/17/2026

Project: The Shoppes at Concord

Summary of Peak Flow Rates - Rev 4 dated 7/24/26

Note that the 1 & 2 Year Storms Represent +/- 95% of all stormwater in a given year**
(Flows noted in Cubic Feet/Second (CFS))

POA-1 - Runoff Rates On-Site (cfs) - Beaver Creek (Brandywine Creek Watershed)

Storm Frequency	1 yr	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Pre Development POA #1 (Onsite)	9.11	14.29	23.15	31.15	43.31	54.11	66.09
Infiltration Bed (SCM-1)	--	0.40	1.47	3.48	8.53	10.87	12.61
Subsurface Dry Extended Detention Basin 1 (SCM-3)	--	0.79	0.92	1.02	1.15	1.26	1.38
Post POA#1 Bypass (Onsite)	--	6.86	9.57	11.86	15.17	18.01	21.08
Post POA #1 (Total) - Link 23L	--	7.54	10.35	12.73	19.35	27.01	32.54
Overall Post-Development POA #1 Allowed (Concord)*	--	9.11	23.15	31.15	43.31	54.11	66.09
Overall Post-Development POA #1 Allowed (Chadds Ford)*	--	9.11	11.58	15.58	21.66	27.06	33.05
Overall Post-Development Proposed POA#1	--	7.54	10.35	12.73	19.35	27.01	32.54

REDUCTION FROM CONCORD REQUIREMENT	-17.3%	-55.3%	-59.1%	-55.3%	-50.1%	-50.8%
REDUCTION FROM CHADDS FORD REQUIREMENT	-17.3%	-10.6%	-18.3%	-10.7%	-0.2%	-1.5%
REDUCTION FROM EXISTING CONDITION	-47.3%	-55.3%	-59.1%	-55.3%	-50.1%	-50.8%

POA-2 - Runoff Rates On-Site (cfs) - TRIB 00031 to Harvey Run (Brandywine Creek Watershed)

Storm Frequency	1 yr	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Pre POA #2	9.08	13.92	22.13	29.46	40.55	50.33	61.17
Infiltration Basin 1 (SCM-2)	--	2.23	6.41	10.51	14.58	17.29	29.64
Post POA#2 Bypass	--	1.31	2.03	2.66	3.62	4.45	5.37
Post POA #2 Total - Link 24L	--	2.29	6.59	10.84	15.06	18.40	30.52
Overall Post-Development POA #2 Allowed (Concord)*	--	9.08	22.13	29.46	40.55	50.33	61.17
Overall Post-Development POA #2 Allowed (Chadds Ford)*	--	9.08	11.07	14.73	20.28	25.17	30.58
Overall Post-Development Proposed POA#2	--	2.29	6.59	10.84	15.06	18.40	30.52

REDUCTION FROM CONCORD REQUIREMENT	-74.8%	-70.2%	-63.2%	-62.9%	-63.4%	-50.1%
REDUCTION FROM CHADDS FORD REQUIREMENT	-74.8%	-40.4%	-26.4%	-25.7%	-26.9%	-0.2%
REDUCTION FROM EXISTING CONDITION	-83.6%	-70.2%	-63.2%	-62.9%	-63.4%	-50.1%

Project: The Shoppes at Concord

Summary of Peak Flow Rates - Rev 4 dated 7/24/26

Note that the 1 & 2 Year Storms Represent +/- 95% of all stormwater in a given year**
(Flows noted in Cubic Feet/Second (CFS))

POA-3 - Runoff Rates On-Site (cfs) - TRIB 00031 to Harvey Run (Brandywine Creek Watershed)

Storm Frequency	1 yr	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Pre POA #3 (Onsite)	1.86	2.73	4.17	5.44	7.34	9.00	10.83
Post POA #3 Bypass	--	1.45	2.07	2.61	3.39	4.06	4.79
Overall Post-Development POA #3 Allowed (Concord)*	--	1.86	4.17	5.44	7.34	9.00	10.83
Overall Post-Development POA #3 Allowed (Chadds Ford)*	--	1.86	2.09	2.72	3.67	4.50	5.42
Overall Post-Development Proposed POA#3	--	1.45	2.07	2.61	3.39	4.06	4.79

REDUCTION FROM CONCORD REQUIREMENT	-22.0%	-50.4%	-52.0%	-53.8%	-54.9%	-55.8%
REDUCTION FROM CHADDS FORD REQUIREMENT	-22.0%	-0.7%	-4.0%	-7.6%	-9.8%	-11.5%
REDUCTION FROM EXISTING CONDITION	-46.9%	-50.4%	-52.0%	-53.8%	-54.9%	-55.8%

POA-4 - Runoff Rates On-Site (cfs) - TRIB 00568 of West Branch Chester Creek (Webb Creek) (Chester Creek Watershed)

Storm Frequency	1 yr	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Pre POA #4 (Onsite)	5.38	7.52	10.96	13.93	18.30	22.07	26.19
Post POA #4 Bypass	--	2.29	2.99	3.57	4.41	5.11	5.88
Overall Post-Development POA #4 Allowed (Concord)*	--	3.76	5.48	6.97	9.15	11.04	13.10
Overall Post-Development POA #4 Allowed (Chadds Ford)*	--	3.76	5.48	6.97	9.15	11.04	13.10
Overall Post-Development Proposed POA#4	--	2.29	2.99	3.57	4.41	5.11	5.88

REDUCTION FROM CONCORD REQUIREMENT	-39.0%	-45.4%	-48.7%	-51.8%	-53.7%	-55.1%
REDUCTION FROM CHADDS FORD REQUIREMENT	-39.0%	-45.4%	-48.7%	-51.8%	-53.7%	-55.1%
REDUCTION FROM EXISTING CONDITION	-69.5%	-72.7%	-74.4%	-75.9%	-76.8%	-77.5%

Project: The Shoppes at Concord

Summary of Peak Flow Rates - Rev 4 dated 7/24/26

Note that the 1 & 2 Year Storms Represent +/- 95% of all stormwater in a given year**
(Flows noted in Cubic Feet/Second (CFS))

* - Permitted post-development peak rates are based on the requirements of the Concord Township and Chadds Ford Township Stormwater Management Ordinances.

Peak Rate Reductions shown above are based upon disturbed (onsite) areas only.

Peak Rate Control Requirements in the Brandywine and Chester Creek Watersheds are as follows:

Concord Township Control Criteria

Brandywine Creek Watershed

2-yr post-development = 1-yr pre-development

5-yr post-development = 5-yr pre-development

10-yr post-development = 10-yr pre-development

25yr post-development = 25-yr pre-development

50yr post-development = 50-yr pre-development

100-yr post-development = 100-yr pre-development

Chester Creek Watershed

Post-development Peak Discharge for all Design Storms must no greater than
50% of the pre-development Peak Discharges

Chadds Ford Township Control Criteria

Brandywine Creek Watershed

2-yr post-development = 1-yr pre-development

5-yr post-development = 50% of the 5-yr pre-development

10-yr post-development = 50% of the 10-yr pre-development

25yr post-development = 50% of the 25-yr pre-development

50yr post-development = 50% of the 50-yr pre-development

100-yr post-development = 50% of the 100-yr pre-development

Chester Creek Watershed

Post-development Peak Discharge for all Design Storms must no greater than
50% of the pre-development Peak Discharges

**The PA DEP focuses stormwater volume control on the 2-year storm because it captures 95% for the bulk of runoff, while larger storms are instead managed through peak rate and velocity cc Pennsylvania Stormwater Best Management Practices Manual, chapter 2 dated 12/30/2006.

Project: The Shoppes at Concord

Summary of Volume Mitigation

POA-1 - Volume Mitigation - Beaver Creek (Brandywine Creek Watershed)

PRE-Development Volume	44,927	CF
Post-Construction Volume (assuming un-managed)	77,123	CF
Change in Volume (required to manage)	32,196	CF
Infiltration & ET Credits for the Project	33,066	CF
Post Construction Volume (including Management)	44,057	CF

IMPROVEMENT FROM EXISTING CONDITION

2%

POA-2 - Volume Mitigation - TRIB 0031 to Harvey Run (Brandywine Creek Watershed)

PRE-Development Volume	39,650	CF
Post-Construction Volume (assuming un-managed)	144,882	CF
Change in Volume (required to manage)	105,232	CF
Infiltration & ET Credits for the Project	106,068	CF
Post Construction Volume (including Management)	38,814	CF

IMPROVEMENT FROM EXISTING CONDITION

2%

POA-3 - Volume Mitigation - TRIB 0031 to Harvey Run (Brandywine Creek Watershed)

PRE-Development Volume	8,163	CF
Post-Construction Volume (assuming un-managed)	4,895	CF
Change in Volume (required to manage)	-3,268	CF
Infiltration & ET Credits for the Project	NA	CF

IMPROVEMENT FROM EXISTING CONDITION

40%

POA-4 - Volume Mitigation - TRIB 00568 OF West Branch Chester Creek (Webb Creek) Watershed

PRE-Development Volume	18,736	CF
Post-Construction Volume (assuming un-managed)	5,208	CF
Change in Volume (required to manage)	-13,528	CF
Infiltration & ET Credits for the Project	NA	CF

IMPROVEMENT FROM EXISTING CONDITION

72%

Notes:

1. Values reference Rev4 of DEP spreadsheet Version 2.2 for the project
2. Volumes reflect the 2-Year / 24-Hour Storm Event

Project: The Shoppes at Concord

Summary of Water Quality Mitigation

POA-1 - Water Quality Mitigation - Beaver Creek (Brandywine Creek Watershed)

Pollutant Categories	TSS	LP	TN
PRE-Development Pollutant Loads (LBS)	143.96	0.64	6.28
Post Development Pollutant Loads (LBS) (Areas Treated)	18.67	0.08	2.02
Post development Pollutant Loads (LBS) (Areas Un-Treated)	114.06	0.42	3.61
Post Development Pollutant Loads (LBS) (Combined)	132.73	0.50	5.63

IMPROVEMENT FROM EXISTING CONDITION	8%	22%	10%
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POA-2 - Water Quality Mitigation - TRIB 0031 to Harvey Run (Brandywine Creek Watershed)

Pollutant Categories	TSS	LP	TN
PRE-Development Pollutant Loads (LBS)	124.61	0.56	5.57
Post Development Pollutant Loads (LBS) (Areas Treated)	19.29	0.46	1.85
Post development Pollutant Loads (LBS) (Areas Un-Treated)	20.47	0.09	0.60
Post Development Pollutant Loads (LBS) (Combined)	39.76	0.55	2.45

IMPROVEMENT FROM EXISTING CONDITION	68%	2%	56%
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POA-3 - Water Quality Mitigation - TRIB 0031 to Harvey Run (Brandywine Creek Watershed)

Pollutant Categories	TSS	LP	TN
PRE-Development Pollutant Loads (LBS)	28.62	0.13	1.11
Post Development Pollutant Loads (LBS) (Areas Treated)	0.00	0.00	0.00
Post development Pollutant Loads (LBS) (Areas Un-Treated)	21.15	0.08	0.55
Post Development Pollutant Loads (LBS) (Combined)	21.15	0.08	0.55

IMPROVEMENT FROM EXISTING CONDITION	26%	38%	50%
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POA-4 - Water Quality Mitigation - TRIB 00568 OF West Branch Chester Creek (Webb Creek) Watershed

Pollutant Categories	TSS	LP	TN
PRE-Development Pollutant Loads (LBS)	62.77	0.28	2.60
Post Development Pollutant Loads (LBS) (Areas Treated)	0.00	0.00	0.00
Post development Pollutant Loads (LBS) (Areas Un-Treated)	21.51	0.09	0.64
Post Development Pollutant Loads (LBS) (Combined)	21.51	0.09	0.64

IMPROVEMENT FROM EXISTING CONDITION	66%	68%	75%
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Notes:

1. Values reference Rev4 of DEP spreadsheet Version 2.2 for the project