

General Information

Instructions
General
Volume
Rate
Quality

Project Name: <input style="width: 90%;" type="text" value="Greenway Trail along Chandler Mill Road"/>	Application Type: <input style="width: 90%;" type="text" value="PAG-02 NOI"/>
County: <input style="width: 90%;" type="text" value="Chester"/>	Municipality: <input style="width: 90%;" type="text" value="Kennett Township"/>
Project Type: <input style="width: 90%;" type="text" value="Other"/>	<input checked="" type="radio"/> New Project <input type="radio"/> Minor / Major Amendment
Area: <input style="width: 100px;" type="text" value="10.65"/> acres <i>(In Watershed)</i>	Total Earth Disturbance: <input style="width: 100px;" type="text" value="2.24"/> acres <i>(In Watershed)</i>
No. of Post-Construction Discharge Points: <input style="width: 100px;" type="text" value="1"/>	Start DP Numbering at: <input style="width: 100px;" type="text" value="001"/>

Discharge Point (DP) No.	Drainage Area (DA) (acres)	Earth Disturbance in DA (acres)	Existing Impervious in DA (acres)	Proposed Impervious in DA (acres)	Receiving Waters	Ch. 93 Class	Structural BMP(s)
001	2.24	2.24	0.00	0.53	West Branch Red Clay Creek	TSF, MF	Yes
Undetained Areas							
Totals:	2.24	2.24		0.53			

PROJECT SITE MEETS SMALL SITE EXCEPTION - RATE WORKSHEET NOT REQUIRED

Volume Management

Project: Greenway Trail along Chandler Mill Road

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2-Year / 24-Hour Storm Event (NOAA Atlas 14): inches Alternative 2-Year / 24-Hour Storm Event inches

Alternative Source:

Pre-Construction Conditions: No. Rows: Exempt from Meadow in Good Condition Automatically Calculate CN, Ia, Runoff and Volume

Land Cover	Area (acres)	Soil Group	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Pervious as Meadow	0.15	B	58	1.448	0.33	181
Forested (Good Condition)	0.27	B	55	1.636	0.24	231
Pervious as Meadow	0.75	C	71	0.817	0.85	2,335
Forested (Good Condition)	0.90	C	70	0.857	0.80	2,638
Pervious as Meadow	0.07	D	78	0.564	1.24	298
Forested (Good Condition)	0.10	D	77	0.597	1.18	447
TOTAL (ACRES):		2.24		TOTAL (CF):		6,129

Post-Construction Conditions: No. Rows:

Land Cover	Area (acres)	Soil Group	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Impervious Areas: Paved Parking Lots, Roofs, Driveways, Etc. (Excluding ROW)	0.07	B	98	0.041	2.93	755
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	0.30	B	58	1.448	0.33	361

Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	0.05	B	61	1.279	0.43	84
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	0.03	B	61	1.279	0.43	40
Impervious Areas: Paved Parking Lots, Roofs, Driveways, Etc. (Excluding ROW)	0.41	C	98	0.041	2.93	4,315
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	1.10	C	71	0.817	0.85	3,395
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	0.05	C	74	0.703	1.01	195
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	0.03	C	74	0.703	1.01	110
Impervious Areas: Paved Parking Lots, Roofs, Driveways, Etc. (Excluding ROW)	0.05	D	98	0.041	2.93	563
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	0.14	D	78	0.564	1.24	650

TOTAL (ACRES): 2.24

TOTAL (CF): 10,468

NET CHANGE IN VOLUME TO MANAGE (CF): 4,339

Non-Structural BMP Volume Credits:

Tree Planting Credit

Number of new deciduous trees that will be planted within disturbed area:

81

CREDIT (CF): 486

Number of new evergreen trees that will be planted within disturbed area:

CREDIT (CF):

Other (attach calculations):

Structural BMP Volume Credits:

No. Structural BMPs: 10

Start BMP Numbering at: 51

DP No.	BMP No.	BMP Name	MRC?	Discharge	Incremental BMP DA (acres)	Volume Routed to BMP (CF)	Infiltration / Vegetated Area (SF)	Infiltration Rate (in/hr)	Infiltration Period (hrs)	Vegetated?	Media Depth (ft)	Storage Volume (CF)	Infiltration Credit (CF)	ET Credit (CF)
001	51	Infiltration Bed	Y	Off-Site	0.06	546	968	0.00	61	No	1.5	101	0	

001	52	Infiltration Bed	Y	Off-Site	0.02	188	239	0.00	32	No	2.5	77	0	
001	53	Infiltration Bed	Y	Off-Site	0.06	569	512	0.00	31	No	2.2	128	0	
001	54	Infiltration Bed	Y	Off-Site	0.07	616	810	0.00	67	No	2.2	243	0	
001	55	Infiltration Bed	Y	Off-Site	0.08	689	708	0.00	43	No	2.5	212	0	
001	56	Infiltration Bed	Y	Off-Site	0.11	1,060	1,002	0.00	61	No	2.5	301	0	
001	57	Infiltration Bed	Y	Off-Site	0.05	451	420	0.00	26	No	2.7	147	0	
001	58	Infiltration Bed	Y	Off-Site	0.05	487	720	0.00	44	No	2.0	144	0	
001	59	Infiltration Trench	-	Off-Site	0.02	121	128	0.00	39	No	2.0	102	0	
001	60	Infiltration Trench	-	Off-Site	0.03	252	124	0.00	58	No	2.0	149	0	

Totals:

INFILTRATION & ET CREDITS (CF):

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MANAGED RELEASE CREDIT (CF):

4,606

NET CHANGE IN VOLUME TO MANAGE (CF):

4,339

TOTAL CREDITS (CF):

5,092

VOLUME REQUIREMENT SATISFIED

Rate Control

Project: Greenway Trail along Chandler Mill Road

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SMALL SITE EXCEPTION SATISFIED: RATE CONTROL NOT REQUIRED

Precipitation Amounts:

NOAA 2-Year 24-Hour Storm Event (in):

3.16

Alternative 2-Year 24-Hour Storm Event (in):

NOAA 10-Year 24-Hour Storm Event (in):

Alternative 10-Year 24-Hour Storm Event (in):

NOAA 50-Year 24-Hour Storm Event (in):

Alternative 50-Year 24-Hour Storm Event (in):

NOAA 100-Year 24-Hour Storm Event (in):

Alternative 100-Year 24-Hour Storm Event (in):

Report Summary of Peak Rates Only

Time of Concentration (Tc) - Pre-Construction Use Default (0.1 hr)

Time of Concentration (Tc) - Post-Construction Use Default (0.1 hr)

Peak Rate Analysis:

	Pre-Construction	Post-Construction without BMPs
Disturbed Area (mi²)	0.004	0.004
	Runoff Depth (inches)	
2-Year Storm:	0.72	1.11
10-Year Storm:		
50-Year Storm:		

Water Quality

Project: Greenway Trail along Chandler Mill Road

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Pre-Construction Pollutant Loads:

Land Cover (from Volume Worksheet)	Land Cover for Water Quality	Area (acres)	Soil Group	Runoff Volume (cf)	Pollutant Conc. (mg/L)			Pollutant Loads (lbs)		
					TSS	TP	TN	TSS	TP	TN
Pervious as Meadow	Grassland/Herbaceous	0.15	B	181	48.8	0.22	2.30	0.55	0.00	0.03
Forested (Good Condition)	Deciduous Forest/Evergreen Forest/Mixed Forest	0.27	B	231	45.0	0.13	1.05	0.65	0.00	0.02
Pervious as Meadow	Grassland/Herbaceous	0.75	C	2,335	48.8	0.22	2.30	7.11	0.03	0.34
Forested (Good Condition)	Deciduous Forest/Evergreen Forest/Mixed Forest	0.90	C	2,638	45.0	0.13	1.05	7.41	0.02	0.17
Pervious as Meadow	Grassland/Herbaceous	0.07	D	298	48.8	0.22	2.30	0.91	0.00	0.04
Forested (Good Condition)	Deciduous Forest/Evergreen Forest/Mixed Forest	0.10	D	447	45.0	0.13	1.05	1.26	0.00	0.03
TOTAL (ACRES):		2.24			TOTALS:			17.89	0.07	0.62

Post-Construction Pollutant Loads (without BMPs):

Land Cover (from Volume Worksheet)	Land Cover for Water	Area	Soil	Runoff Volume	Pollutant Conc. (mg/L)	Pollutant Loads (lbs)
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Land Cover (from Volume Worksheet)	Quality	(acres)	Group	Volume (cf)	TSS	TP	TN	TSS	TP	TN
Impervious Areas: Paved Parking Lots, Roofs, Driveways, Etc. (Excluding ROW)	Residential	0.07	B	755	65.0	0.29	2.05	3.06	0.01	0.10
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	Grassland/Herbaceous	0.30	B	361	48.8	0.22	2.30	1.10	0.00	0.05
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	Open Space	0.05	B	84	78.0	0.25	1.25	0.41	0.00	0.01
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	Open Space	0.03	B	40	78.0	0.25	1.25	0.20	0.00	0.00
Impervious Areas: Paved Parking Lots, Roofs, Driveways, Etc. (Excluding ROW)	Residential	0.41	C	4,315	65.0	0.29	2.05	17.51	0.08	0.55
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	Grassland/Herbaceous	1.10	C	3,395	48.8	0.22	2.30	10.35	0.05	0.49
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	Open Space	0.05	C	195	78.0	0.25	1.25	0.95	0.00	0.02
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	Open Space	0.03	C	110	78.0	0.25	1.25	0.54	0.00	0.01
Impervious Areas: Paved Parking Lots, Roofs, Driveways, Etc. (Excluding ROW)	Residential	0.05	D	563	65.0	0.29	2.05	2.29	0.01	0.07
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	Grassland/Herbaceous	0.14	D	650	48.8	0.22	2.30	1.98	0.01	0.09

TOTAL (ACRES): 2.24

TOTALS: 38.38 0.17 1.39

POLLUTANT LOAD REDUCTION REQUIREMENTS (LBS):

20.49	0.10	0.77
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Characterize Undetained Areas (for Untreated Stormwater)

Non-Structural BMP Water Quality Credits:

Pervious Undetained Area Credit

Other (attach calculations)

Structural BMP Water Quality Credits:

Use default BMP Outflows and Median BMP Outflow Concentrations

DP No.	BMP No.	BMP Name	MRC?	BMP DA (acres)	Vol. Routed to BMP (CF)	Inf. & ET Credits (CF)	Capture & Buffer Credits (CF)	Outflow (CF)	Outflow Conc. (mg/L)			Pollutant Loads (lbs)		
									TSS	TP	TN	TSS	TP	TN
001	51	Infiltration Bed	Y	0.06	546	0		546	-	-	-	-	-	-
001	52	Infiltration Bed	Y	0.02	188	0		188	-	-	-	-	-	-
001	53	Infiltration Bed	Y	0.06	569	0		569	-	-	-	-	-	-
001	54	Infiltration Bed	Y	0.07	616	0		616	-	-	-	-	-	-
001	55	Infiltration Bed	Y	0.08	689	0		689	-	-	-	-	-	-
001	56	Infiltration Bed	Y	0.11	1,060	0		1,060	-	-	-	-	-	-
001	57	Infiltration Bed	Y	0.05	451	0		451	-	-	-	-	-	-
001	58	Infiltration Bed	Y	0.05	487	0		487	-	-	-	-	-	-
001	59	Infiltration Trench	-	0.02	121	0		121	22.00	0.10	2.38	0.17	0.00	0.02

001	60	Infiltration Trench	-	0.03	252	0		252	22.00	0.10	2.38	0.35	0.00	0.04
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POLLUTANT LOADS FROM STRUCTURAL BMP (TREATED) OUTFLOWS (LBS):

POLLUTANT LOADS FROM UNTREATED STORMWATER (LBS):

NON-STRUCTURAL BMP WATER QUALITY CREDITS (LBS):

NET POLLUTANT LOADS FROM SITE, POST-CONSTRUCTION (LBS):

POLLUTANT LOADS FROM SITE, PRE-CONSTRUCTION (LBS):

TSS	TP	TN
0.51	0.00	0.06
18.34	0.08	0.66
18.85	0.08	0.72
17.89	0.07	0.62

WATER QUALITY REQUIREMENT NOT SATISFIED

CERTIFICATION

I certify under penalty of law and subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities) that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further certify that the structure, function, and calculations contained in this spreadsheet have not been modified in comparison to the spreadsheet DEP has posted to its website or, if modifications were made, an explanation of the modifications made is attached to this spreadsheet.

Stephen C. Giampaolo, P.E.

Spreadsheet User Name

8/31/2022

Date