

115157-001
April 17, 2024

Mark Connors
Director of Planning and Community Development
Town of Stratham
10 Bunker Hill Avenue
Stratham, NH 03885



Re: **Proposed Site Improvements
200 Domain Drive, Stratham, NH**

Dear Mr. Connors:

Tighe & Bond is pleased to submit the enclosed supplemental materials related to a Site Plan Amendment and Conditional Use Permit for the existing office building located at 200 Domain Drive, Map 01, Lot 003-000 in Stratham, NH.

The applicant had originally submitted to the Planning Board and Conservation Commission in November of 2023. In December 2023, the applicant attended a meeting with the Conservation Commission. At that time, the Commission expressed concerns that the design was not trying to minimize direct wetland impacts along the rear of the building. The enclosed Site Plan package has been revised to address the Commissions concerns. On March 27, 2024, the applicant attended a second Conservation Commission meeting to present the revised site design. At this meeting, the Commission voted unanimously in favor of the revised design.

The purpose of the Site Plan Amendment is to provide pedestrian and service vehicle loading to a repurposed portion of the existing 207,667 SF building. There are new walkways, a patio area and a service drive proposed to provide access from the building to existing parking areas and amenities for building users. The prior design included a 1,842 SF permanent impact to an existing wetland area between the building and parking areas. The enclosed Site Plan package has eliminated all direct wetland impacts. In addition, the revised design incorporates (2) proposed rain gardens to provide stormwater treatment for proposed impervious areas in the rear of the building. A Drainage Narrative has been enclosed describing for these stormwater improvements.

The Site Plan Amendment impacts only a small portion of the 28.12 Acre property. As such we are respectfully requesting a waiver from full site plan requirements, including Section 4.2.2 (h) High Intensity Soils, 4.3.1 Existing Data (for areas outside of the proposed area of work), and 4.3.2 (n) Traffic Impact Analysis.

Enclosed is one (1) full-size and eight (8) half size copies of the revised plan set for Planning Board. The applicant is scheduled to meet with the Zoning Board of Adjustment (ZBA) on May 7, 2024 for the proposed lobby/entry additions located within the wetland buffer. Assuming the relief is granted by the ZBA, the applicant respectfully requests to be placed on the May 15, 2024 Planning Board meeting agenda.



Please review the attached information and let us know if you have any questions or need additional information. We look forward to meeting with the Planning Board on May 15th.

Very truly yours,

TIGHE & BOND, INC.

A handwritten signature in blue ink, appearing to read 'P M C', with a horizontal line extending to the right.

Patrick M. Crimmins, PE
Vice President

Enclosures

Copy: Brian Brooks, Boulos Asset Management

200 Domain Drive – Proposed Site Improvements Drainage Narrative

TO: Town of Stratham Planning Board

FROM: Patrick M. Crimmins, PE, Vice President, Tighe & Bond
Craig M. Langton, PE, Project Engineer, Tighe & Bond

COPY: Boulos Asset Management

DATE: April 17, 2024

1 Project Description

The proposed project is located at 200 Domain Drive in Stratham, New Hampshire. The parcel is identified as Map 01 / Lot 003 according to the Town of Stratham Tax Maps. The proposed project consists of new walkways, patio area and a service drive proposed to provide access from the building to existing parking areas the building and amenities for building users. The proposed improvements have been located to avoid direct wetland impact and two (2) proposed Rain Gardens have been designed to treat the new impervious areas.

2 Drainage Summary

As stated above the two (2) proposed Rain Gardens have been designed to capture and treat nearly all the proposed new impervious area from the new access drive and sidewalk. The enclosed Drainage Area Exhibit illustrates the overall area's draining to each of the proposed Rain Gardens. Both Rain Gardens were designed to completely capture, treat, and infiltrate the entire theoretical 1-inch storm event, more commonly known as the "first flush" of any storm event. The Rain Gardens were sized / designed using an assumed conservative Hydrological Soil Group Rating of "C" with a minimal infiltration rating of 0.03 in/hr. As shown in the enclosed HydroCAD analysis, both Rain Gardens capture, treat, and infiltrate nearly all runoff up to the 10-year storm even before discharging via their proposed overflow spillways.

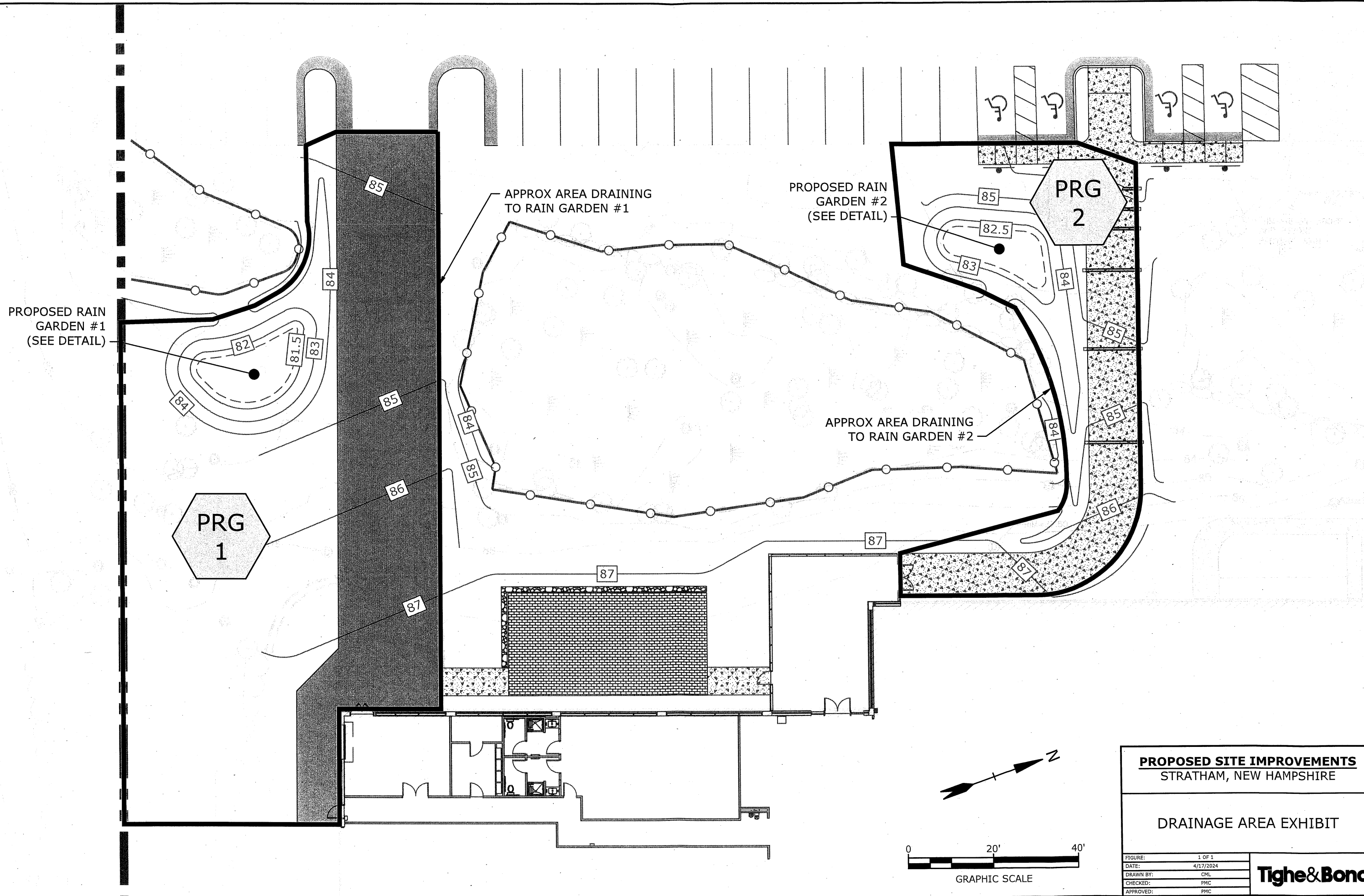
The following table summarizes and compares the pre- and post-development peak runoff rates from the 1-inch, 1-year, 2-year, and 10-year, storm events for each watershed area.

Pre- and Post-Development Flow Comparison (CFS)				
Point of Analysis	1-Inch Storm	1-Year Storm	2-Year Storm	10-Year Storm
PRG-1 (PRE)	0.00	0.19	0.30	0.67
PRG-1 (POST)	0.00	0.01	0.03	0.56
PRG-2 (PRE)	0.00	0.07	0.11	0.26
PRG-2 (POST)	0.00	0.00	0.00	0.10

The following table identifies the recommended frequency of routine maintenance inspections and minimum actions required to maintain a high-quality stormwater runoff for the proposed Rain Gardens.

Rain Garden Inspection/Maintenance Requirements		
Inspection/ Maintenance	Frequency	Action
Monitor to ensure that Rain Gardens function effectively after storms	Two (2) times annually and after any rainfall event exceeding 2.5" in a 24-hr period	<ul style="list-style-type: none"> - Trash and debris to be removed - Any required maintenance shall be addressed
Inspect Vegetation	Annually	<ul style="list-style-type: none"> - Inspect the condition of all Rain Garden vegetation - Prune back overgrowth - Replace dead vegetation - Remove any invasive species
Inspect Drawdown Time - The system shall drawdown within 48-hours following a rainfall event.	Annually	<ul style="list-style-type: none"> - Assess the condition of the facility to determine measures required to restore the filtration function, including but not limited to removal of accumulated sediments or reconstruction of the filter.

Last Save Date: April 16, 2024 4:09 PM By: CML
Plot Date: Tuesday, April 16, 2024 Plotted By: Craig M. Langton
T&B File Location: J:\035157\Boules Asset Management\001\Drawings\AutoCAD\03-5157-001_DSGN.dwg Layout Tab: Drainage

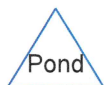
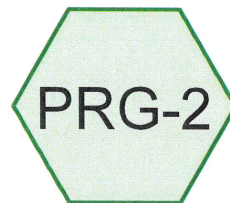
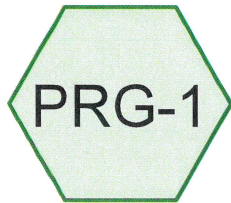


PROPOSED SITE IMPROVEMENTS
STRATHAM, NEW HAMPSHIRE

DRAINAGE AREA EXHIBIT

FIGURE:	1 OF 1
DATE:	4/17/2024
DRAWN BY:	CML
CHECKED:	PMC
APPROVED:	PMC





Routing Diagram for 200 Domain Drive-Pre
Prepared by Tighe & Bond Consulting, Printed 4/17/2024
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200 Domain Drive-Pre

Prepared by Tighe & Bond Consulting

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
13,845	74	>75% Grass cover, Good, HSG C (PRG-1, PRG-2)
13,845	74	TOTAL AREA

200 Domain Drive-Pre

Type III 24-hr 1 Inch Rainfall=1.00"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRG-1:

Runoff Area=9,980 sf 0.00% Impervious Runoff Depth=0.02"
Tc=3.0 min CN=74 Runoff=0.00 cfs 19 cf

SubcatchmentPRG-2:

Runoff Area=3,865 sf 0.00% Impervious Runoff Depth=0.02"
Tc=3.0 min CN=74 Runoff=0.00 cfs 7 cf

Total Runoff Area = 13,845 sf Runoff Volume = 27 cf Average Runoff Depth = 0.02"
100.00% Pervious = 13,845 sf 0.00% Impervious = 0 sf

200 Domain Drive-Pre

Type III 24-hr 1-yr Rainfall=2.70"

Prepared by Tighe & Bond Consulting

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRG-1:

Runoff Area=9,980 sf 0.00% Impervious Runoff Depth=0.72"
Tc=3.0 min CN=74 Runoff=0.19 cfs 602 cf

SubcatchmentPRG-2:

Runoff Area=3,865 sf 0.00% Impervious Runoff Depth=0.72"
Tc=3.0 min CN=74 Runoff=0.07 cfs 233 cf

Total Runoff Area = 13,845 sf Runoff Volume = 835 cf Average Runoff Depth = 0.72"
100.00% Pervious = 13,845 sf 0.00% Impervious = 0 sf

200 Domain Drive-Pre

Type III 24-hr 2-yr Rainfall=3.24"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRG-1:

Runoff Area=9,980 sf 0.00% Impervious Runoff Depth=1.06"
Tc=3.0 min CN=74 Runoff=0.30 cfs 885 cf

SubcatchmentPRG-2:

Runoff Area=3,865 sf 0.00% Impervious Runoff Depth=1.06"
Tc=3.0 min CN=74 Runoff=0.11 cfs 343 cf

Total Runoff Area = 13,845 sf Runoff Volume = 1,228 cf Average Runoff Depth = 1.06"
100.00% Pervious = 13,845 sf 0.00% Impervious = 0 sf

200 Domain Drive-Pre

Type III 24-hr 10-yr Rainfall=4.94"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

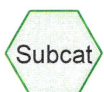
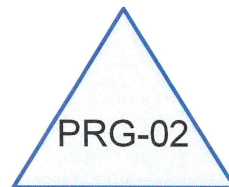
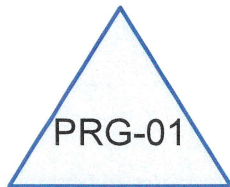
SubcatchmentPRG-1:

Runoff Area=9,980 sf 0.00% Impervious Runoff Depth=2.32"
Tc=3.0 min CN=74 Runoff=0.67 cfs 1,927 cf

SubcatchmentPRG-2:

Runoff Area=3,865 sf 0.00% Impervious Runoff Depth=2.32"
Tc=3.0 min CN=74 Runoff=0.26 cfs 746 cf

Total Runoff Area = 13,845 sf Runoff Volume = 2,673 cf Average Runoff Depth = 2.32"
100.00% Pervious = 13,845 sf 0.00% Impervious = 0 sf



200 Domain Drive-Post

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
8,245	74	>75% Grass cover, Good, HSG C (PRG-1, PRG-2)
5,600	98	Paved parking, HSG C (PRG-1, PRG-2)
13,845	84	TOTAL AREA

200 Domain Drive-Post

Type III 24-hr 1 Inch Rainfall=1.00"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRG-1: Runoff Area=9,980 sf 38.58% Impervious Runoff Depth=0.13"
Tc=3.0 min CN=83 Runoff=0.02 cfs 110 cf

SubcatchmentPRG-2: Runoff Area=3,865 sf 45.28% Impervious Runoff Depth=0.17"
Tc=3.0 min CN=85 Runoff=0.01 cfs 56 cf

Pond PRG-01: Peak Elev=81.41' Storage=102 cf Inflow=0.02 cfs 110 cf
Discarded=0.00 cfs 36 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 36 cf

Pond PRG-02: Peak Elev=81.78' Storage=49 cf Inflow=0.01 cfs 56 cf
Discarded=0.00 cfs 32 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 32 cf

Total Runoff Area = 13,845 sf Runoff Volume = 166 cf Average Runoff Depth = 0.14"
59.55% Pervious = 8,245 sf 40.45% Impervious = 5,600 sf

200 Domain Drive-Post

Type III 24-hr 1-yr Rainfall=2.70"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRG-1: Runoff Area=9,980 sf 38.58% Impervious Runoff Depth=1.21"
Tc=3.0 min CN=83 Runoff=0.35 cfs 1,006 cf

SubcatchmentPRG-2: Runoff Area=3,865 sf 45.28% Impervious Runoff Depth=1.34"
Tc=3.0 min CN=85 Runoff=0.15 cfs 432 cf

Pond PRG-01: Peak Elev=83.26' Storage=895 cf Inflow=0.35 cfs 1,006 cf
Discarded=0.00 cfs 136 cf Primary=0.01 cfs 86 cf Outflow=0.01 cfs 221 cf

Pond PRG-02: Peak Elev=83.47' Storage=411 cf Inflow=0.15 cfs 432 cf
Discarded=0.00 cfs 97 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 97 cf

Total Runoff Area = 13,845 sf Runoff Volume = 1,437 cf Average Runoff Depth = 1.25"
59.55% Pervious = 8,245 sf 40.45% Impervious = 5,600 sf

200 Domain Drive-Post

Type III 24-hr 2-yr Rainfall=3.24"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRG-1: Runoff Area=9,980 sf 38.58% Impervious Runoff Depth=1.64"
Tc=3.0 min CN=83 Runoff=0.48 cfs 1,366 cf

SubcatchmentPRG-2: Runoff Area=3,865 sf 45.28% Impervious Runoff Depth=1.79"
Tc=3.0 min CN=85 Runoff=0.20 cfs 577 cf

Pond PRG-01: Peak Elev=83.27' Storage=905 cf Inflow=0.48 cfs 1,366 cf
Discarded=0.00 cfs 137 cf Primary=0.03 cfs 444 cf Outflow=0.03 cfs 581 cf

Pond PRG-02: Peak Elev=83.75' Storage=547 cf Inflow=0.20 cfs 577 cf
Discarded=0.00 cfs 108 cf Primary=0.00 cfs 8 cf Outflow=0.00 cfs 116 cf

Total Runoff Area = 13,845 sf Runoff Volume = 1,943 cf Average Runoff Depth = 1.68"
59.55% Pervious = 8,245 sf 40.45% Impervious = 5,600 sf

200 Domain Drive-Post

Type III 24-hr 10-yr Rainfall=4.94"

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Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPRG-1: Runoff Area=9,980 sf 38.58% Impervious Runoff Depth=3.12"
Tc=3.0 min CN=83 Runoff=0.91 cfs 2,595 cf

SubcatchmentPRG-2: Runoff Area=3,865 sf 45.28% Impervious Runoff Depth=3.31"
Tc=3.0 min CN=85 Runoff=0.37 cfs 1,067 cf

Pond PRG-01: Peak Elev=83.40' Storage=994 cf Inflow=0.91 cfs 2,595 cf
Discarded=0.00 cfs 140 cf Primary=0.56 cfs 1,670 cf Outflow=0.56 cfs 1,810 cf

Pond PRG-02: Peak Elev=83.80' Storage=570 cf Inflow=0.37 cfs 1,067 cf
Discarded=0.00 cfs 111 cf Primary=0.10 cfs 494 cf Outflow=0.10 cfs 605 cf

Total Runoff Area = 13,845 sf Runoff Volume = 3,662 cf Average Runoff Depth = 3.17"
59.55% Pervious = 8,245 sf 40.45% Impervious = 5,600 sf

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point	
Smoothing	Yes
State	New Hampshire
Location	New Hampshire, United States
Latitude	42.975 degrees North
Longitude	70.893 degrees West
Elevation	20 feet
Date/Time	Tue Apr 16 2024 13:49:23 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.66	0.82	1.05	1yr	0.71	0.99	1.22	1.58	2.05	2.70	2.94	1yr	2.39	2.83	3.24	3.96	4.59	1yr
2yr	0.32	0.50	0.62	0.82	1.03	1.31	2yr	0.89	1.19	1.52	1.95	2.51	3.24	3.60	2yr	2.87	3.46	3.97	4.72	5.37	2yr
5yr	0.38	0.58	0.73	0.98	1.26	1.62	5yr	1.09	1.47	1.90	2.46	3.18	4.12	4.63	5yr	3.65	4.45	5.09	6.01	6.79	5yr
10yr	0.42	0.66	0.83	1.13	1.46	1.91	10yr	1.26	1.74	2.25	2.93	3.80	4.94	5.60	10yr	4.37	5.38	6.15	7.22	8.10	10yr
25yr	0.49	0.77	0.98	1.35	1.80	2.37	25yr	1.55	2.16	2.82	3.69	4.82	6.28	7.20	25yr	5.56	6.93	7.90	9.22	10.25	25yr
50yr	0.54	0.87	1.12	1.56	2.11	2.80	50yr	1.82	2.55	3.35	4.40	5.77	7.54	8.72	50yr	6.67	8.39	9.55	11.09	12.25	50yr
100yr	0.61	0.99	1.27	1.80	2.46	3.32	100yr	2.13	3.02	3.98	5.26	6.91	9.05	10.56	100yr	8.01	10.16	11.54	13.34	14.64	100yr
200yr	0.69	1.13	1.46	2.09	2.89	3.92	200yr	2.49	3.57	4.72	6.27	8.27	10.86	12.79	200yr	9.62	12.30	13.96	16.06	17.52	200yr
500yr	0.81	1.34	1.75	2.54	3.57	4.90	500yr	3.08	4.45	5.93	7.92	10.50	13.84	16.49	500yr	12.25	15.85	17.95	20.54	22.21	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.36	0.45	0.60	0.74	0.89	1yr	0.64	0.87	0.94	1.29	1.59	2.32	2.59	1yr	2.05	2.49	2.90	3.35	4.02	1yr
2yr	0.32	0.49	0.60	0.82	1.01	1.19	2yr	0.87	1.17	1.37	1.82	2.33	3.12	3.53	2yr	2.77	3.39	3.89	4.61	5.18	2yr
5yr	0.36	0.55	0.68	0.94	1.19	1.42	5yr	1.03	1.39	1.62	2.12	2.73	3.87	4.33	5yr	3.42	4.16	4.79	5.66	6.40	5yr
10yr	0.39	0.61	0.75	1.05	1.36	1.62	10yr	1.17	1.59	1.82	2.40	3.07	4.47	5.05	10yr	3.95	4.85	5.60	6.58	7.39	10yr
25yr	0.45	0.69	0.86	1.23	1.61	1.94	25yr	1.39	1.90	2.12	2.77	3.56	4.94	6.17	25yr	4.37	5.94	6.87	8.01	8.94	25yr
50yr	0.50	0.76	0.95	1.37	1.84	2.23	50yr	1.59	2.18	2.37	3.10	3.98	5.59	7.18	50yr	4.95	6.91	8.03	9.30	10.32	50yr
100yr	0.56	0.85	1.07	1.54	2.12	2.55	100yr	1.83	2.50	2.65	3.45	4.43	6.31	8.34	100yr	5.59	8.02	9.38	10.78	11.89	100yr
200yr	0.63	0.95	1.20	1.74	2.43	2.93	200yr	2.10	2.86	2.96	3.83	4.92	7.10	9.70	200yr	6.28	9.33	10.97	12.49	13.73	200yr
500yr	0.74	1.10	1.42	2.06	2.93	3.53	500yr	2.53	3.45	3.44	4.40	5.68	8.26	11.84	500yr	7.31	11.38	13.49	15.14	16.56	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.44	0.54	0.72	0.89	1.08	1yr	0.77	1.06	1.27	1.73	2.18	3.00	3.12	1yr	2.65	3.00	3.59	4.36	5.05	1yr
2yr	0.33	0.52	0.64	0.86	1.06	1.27	2yr	0.92	1.24	1.48	1.95	2.49	3.42	3.69	2yr	3.03	3.54	4.07	4.86	5.66	2yr
5yr	0.40	0.62	0.77	1.06	1.35	1.62	5yr	1.16	1.59	1.88	2.50	3.20	4.39	4.93	5yr	3.88	4.74	5.42	6.38	7.18	5yr
10yr	0.47	0.73	0.90	1.26	1.63	1.98	10yr	1.41	1.94	2.27	3.05	3.86	5.44	6.15	10yr	4.81	5.92	6.76	7.90	8.80	10yr
25yr	0.59	0.89	1.11	1.58	2.08	2.57	25yr	1.80	2.52	2.94	3.98	4.97	7.74	8.26	25yr	6.85	7.95	9.03	10.50	11.54	25yr
50yr	0.68	1.04	1.30	1.86	2.51	3.13	50yr	2.16	3.06	3.58	4.86	6.05	9.71	10.34	50yr	8.59	9.94	11.27	13.03	14.17	50yr
100yr	0.81	1.22	1.53	2.20	3.02	3.81	100yr	2.61	3.73	4.35	5.96	7.37	12.18	12.94	100yr	10.78	12.44	14.05	16.21	17.40	100yr
200yr	0.94	1.42	1.80	2.61	3.64	4.65	200yr	3.14	4.55	5.31	7.31	8.97	15.32	16.22	200yr	13.56	15.60	17.55	20.16	21.39	200yr
500yr	1.17	1.75	2.25	3.26	4.64	6.03	500yr	4.00	5.90	6.89	9.59	11.67	20.79	21.87	500yr	18.39	21.03	23.51	26.92	28.15	500yr

