SITE PLAN REVIEW TECHNICAL ADVISORY COMMITTEE
PORTSMOUTH, NEW HAMPSHIRE

WORK SESSION

Conference Room A
City Hall, Municipal Complex, 1 Junkins Avenue

2:00 PM **February 14, 2023**

AGENDA

2:00 PM 9 - 11 Kent Street **Site Improvement Review**
Cynthia Austin Smith & Peter Smith, Owners
Ambit Engineering, Engineer
(LUTW-23-1)

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.

6 February, 2023

Peter Stith, TAC Committee Chair
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: Request for TAC Workshop Review at 9 – 11 Kent Street
Tax Map 113 Lot 42

Dear Mr. Stith and TAC Members:

On behalf of Cynthia Austin and Peter Smith (Owners) we are pleased to submit the attached plan set for **TAC Workshop Review** for the above-mentioned project and request that we be placed on the agenda for your **February 14, 2023,** Technical Advisory Committee Meeting. The project consists of the replacement of a residential structure at 9 – 11 Kent Street with a new 2 Story Residential building with the associated and required site improvements. This project will NOT require Site Plan review. The project team wants Technical Advisory Committee Workshop review to ensure that the Department of Public Works finds the off-site grading, drainage, and driveway location on Rockland Street are acceptable.

The new structure is intended to be a single-family dwelling. This will replace the existing duplex. Improvements to the rear yard are shown; this will create a useable yard area to serve as an extension of the home, which has been modestly expanded. The site contains an existing detached garage, which is currently not accessed with a formal driveway. The new structure will include a basement parking level. To access the parking the plan shows a new formal driveway from Rockland Street. The driveway slopes down from its connection to the street to the basement grade. In order to provide drainage for this driveway the plan shows a proposed outlet in the Rockland Street right-of-way. The proposed lot coverage increases; though not above the allowable for the zone. The plan design mitigates the increase in drainage by utilizing a porous Terrace, with additional storage for roof run-off in the drainage layer below. Due to the scope of the improvements proposed we request that the Technical Advisory Committee review the proposed site plans.

The plan set contents are summarized as follows:

- Cover Sheet – This shows the Development Team, Legend, Site Location, and Site Zoning.
- Standard Boundary and Topographic Survey Plan – This plan shows the existing property boundaries and site topography.

- Demo Plan C1 – This plan shows the existing building(s) and other site features which will be removed.
- Site Plan C2 – This plan shows the site development and proposed building placement. Tables showing dimensional and area information are provided.
- Landscape Plan – This plans shows proposed landscape features with a plant list and a site section detail.
- Grading Plan C3 – This plan shows proposed site grading and the drainage for the proposed driveway in Rockland Street.
- Utility Plan C4 – This plan shows proposed site utilities.
- Site Section P1 – This plan shows some site sections which detail the drainage features under the Terrace as well as the driveway profile.
- Detail Sheets D1 – D3 – These plans show site details.

Architectural Plans are also included in this submission. We look forward to an in-person presentation at the February 14th meeting.

Sincerely,

John Chagnon, PE; Ambit Engineering – Haley Ward
Submitted Online

J:\JOBS3\JN 3400's\3490's\3492\2022 Survey\Applications\City of Portsmouth TAC Workshop\9 Kent Street TAC Worksop Application 2-7-23.doc

DRAINAGE ANALYSIS

SMITH RESIDENCE

9 KENT STREET
PORTSMOUTH, NH

PREPARED FOR
PETER SMITH

06 FEBRUARY 2023

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road, Unit 3
Portsmouth, NH 03801
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E-mail: jrc@ambitengineering.com
(Ambit Job Number 3492)

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This drainage analysis examines the pre-development (existing) and post-development (proposed) stormwater drainage patterns for the Residence Redevelopment at the property known as 9 Kent Street in Portsmouth, NH. The site is shown on the City of Portsmouth Assessor's Tax Map 113 as Lot 42. The total size of the lot is 5000± square feet (0.115 acres) and the associated drainage area is 7,643± square-feet (0.175 acres).

The development will provide for a residence redevelopment, parking, and associated utilities. The development has the potential to increase stormwater runoff to adjacent properties, and should be designed in a manner to prevent that occurrence. The site contains an existing building which will be replaced. The proposed stormwater BMPs will offset the impact caused by the redevelopment.

The hydrologic modeling utilized for this analysis uses the "Extreme Precipitation" values for rainfall from The Northeast Regional Climate Center (Cornell University), with a 15% increase to comply with local ordinance.

INTRODUCTION / PROJECT DESCRIPTION

This drainage report is designed to assist the owner, contractor, regulatory reviewer, and others in understanding the impact of the proposed development project on local surface water runoff and quality. The project site is shown on the City of Portsmouth Assessor's Tax Map 113 as Lot 42. Bounding the site to the north is Rockland Street followed by City property. Bounding the site to the east is City property. Bounding the site to the south is a private residence. Bounding the site to the west is Kent Street, followed by private residences. A vicinity map is included in the Appendix to this report.

The proposed project includes a building redevelopment, associated parking and utilities. This report uses the design to calculate the future impervious coverage of the proposed lot, as required by the City.

This report includes information about the existing site and the proposed site necessary to analyze stormwater runoff and to design any required mitigation. The report includes impervious surface analyses and the associated operations and maintenance manual. The report will provide a narrative of the stormwater runoff. Proposed stormwater management and treatment structures and methods will also be described, as well as erosion and sediment control practices. To fully understand the proposed site development the reader should also review a complete site plan set in addition to this report.

METHODOLOGY

"Extreme Precipitation" values from The Northeast Regional Climate Center (Cornell University) have been used for modeling purposes. These values have been used in this analysis, with a 15% addition to comply with local ordinances.

This report uses the US Soil Conservation Service (SCS) Method for estimating stormwater runoff. The SCS method is published in The National Engineering Handbook (NEH), Section 4 "Hydrology" and includes the Technical Release No. 20, (TR-20) "Computer Program for Project Formulation Hydrology", and Technical Release No. 55 (TR-55) "Urban Hydrology for Small Watersheds" methods. This report uses the HydroCAD version 10.20 program,

written by HydroCAD Software Solutions LLC, Chocorua, N.H., to apply these methods for the calculation of runoff and for pond modeling. Rainfall data and runoff curve numbers are taken from "The Stormwater Management and Erosion Control Handbook for Urban and Developing Areas in New Hampshire."

Time of Concentration (Tc) is calculated by entering measured flow path data such as flow path type, length, slope and surface characteristics into the HydroCAD program. For the purposes of this report, a minimum time of concentration of 5 minutes is used.

The storm events used for the calculations in this report are the 2-year, 10-year, 25-year, and 50-year (24-hour) storms. Watershed basin boundaries have been delineated using topographic maps prepared by Ambit Engineering and field observations to confirm.

SITE SPECIFIC INFORMATION

Based on the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Soil Survey of Rockingham County, New Hampshire the site is made up of two soil types:

Soil Symbol	Soil Name and Slopes
799	Urban land – Canton Complex (3-15% slopes)

Canton complex is well drained with a stated depth to water table and restrictive feature of more than 80 inches. While there is a pond near the site which might suggest high runoff potential, the soil report and test pit observations suggested high infiltrative capacity, so the Hydrologic Soil Group will be assumed to be A, and the design infiltration rate will be 5 inches per hour.

The physical characteristics of the site consist of flat (0-15%) grades that generally slope from the south to the north. Elevations on the site range from 24 to 29 feet above sea level. The existing site is developed and includes an existing building located to the west of the lot, with a shed to the east. Vegetation around the developed portion of the lot consists of established grasses and some landscape areas.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) number 33015C0259F (effective date January 29, 2021), the proposed

development is located in Zone X and is determined to be outside of the 0.2% annual chance floodplain. A copy of the FIRM map is included in the Appendix.

PRE-DEVELOPMENT DRAINAGE

In the pre-development condition, the site has been analyzed as two subcatchment basins (E1 and E2) based on localized topography and discharge location. Subcatchment E1 contains the west half of the property and flows toward the South Mill Pond (Discharge Point 1 or DP1). Subcatchment E2 contains the east half of the property and flows toward DP1.

Table 1: Pre-Development Watershed Basin Summary

Watershed Basin ID	Basin Area (SF)	Tc (MIN)	CN	10-Year Runoff (CFS)	50-Year Runoff (CFS)	To Design Point
E1	2,922	5.0	56	0.09	0.25	DP1
E2	4,721	5.0	61	0.21	0.48	DP1

POST-DEVELOPMENT DRAINAGE

Proposed subcatchments P1, P2 and P2a occupy the same approximate space as subcatchments E1 and E2, with P1 matching E1 and both P2 and P2a matching E2. All subcatchments flow to the same discharge point. The peak discharge of P1 is mitigated with the use of a drip apron. The peak discharge of subcatchment P2a is mitigated with the use of permeable pavers. The subcatchments were analyzed for peak discharges using HydroCAD.

Table 2: Post-Development Watershed Basin Summary

Watershed Basin ID	Basin Area (SF)	Tc (MIN)	CN	10-Year Runoff (CFS)	50-Year Runoff (CFS)	Design Point
P1	2,156	5.0	67	0.13	0.26	DP1
P2	2,820	5.0	55	0.09	0.23	DP1
P2a	2,667	5.0	84	0.27	0.46	DP1

The overall impervious coverage of the subcatchment areas analyzed in this report **increases** from 1,824 square-feet (36.5%) in the pre-development condition to 3,415 square-feet (68.3%) in the post-development condition. The project proposes the construction of a drip apron and permeable pavers on site, reducing the peak flow discharge from the site as well as providing treatment.

Table 3 shows a summary of the comparison between pre-developed flows and post-developed flows for each design point. The comparison shows the reduced flows as a result of the drip apron and permeable pavers.

Table 3: Pre-Development to Post-Development Comparison

	Q2 (CFS)		Q10 (CFS)		Q50 (CFS)		
Design Point	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Description**
DP1	0.08	0.02	0.30	0.13	0.52	0.49	South Mill Pond

The proposed development has been designed to match the pre-development drainage patterns to the greatest extent feasible. A plan sheet detailing the subcatchments and direction of runoff are included in the Attachments. In the developed condition, the site will have a drip apron and permeable pavers. As a result, discharge point DP1 will experience a net decrease in peak discharge for all design storms in the proposed condition.

OFFSITE INFRASTRUCTURE CAPACITY

There is an overall reduction in off-site flow due to the drip apron and permeable pavers proposed by the project. As a result, there is no anticipated negative impact to City infrastructure.

EROSION AND SEDIMENT CONTROL PRACTICES

The erosion potential for this site as it exists is moderate due to the presence of construction areas that are highly erodible. During construction, the major potential for erosion is wind and stormwater runoff. The contractor will be required to inspect and maintain all necessary erosion control measures, as well as installing any additional measures as required. All erosion control practices shall conform to "The Stormwater Management and Erosion Control Handbook for Urban and Developing Areas in New Hampshire." Some examples of erosion and sediment control measures to be utilized for this project during construction may include:

- Silt Soxx (or approved alternative) located at the toe of disturbed slopes
- Stabilized construction entrance at access point to the site
- Temporary mulching and seeding for disturbed areas
- Spraying water over disturbed areas to minimize wind erosion

After construction, permanent stabilization will be accomplished by permanent seeding, landscaping, and compacting/surfacing the access drives with gravel.

CONCLUSION

The proposed development has been designed to match the pre-development drainage patterns to the greatest extent feasible. With the installation of the drip apron and permeable pavers, the post-development peak runoff will be sufficiently decreased to mitigate any issues caused by the proposed construction. Erosion and sediment control practices will be implemented for both the temporary condition during construction and for final stabilization after construction. Therefore, there are no negative impacts to downstream receptors or adjacent properties anticipated as a result of this project.

REFERENCES

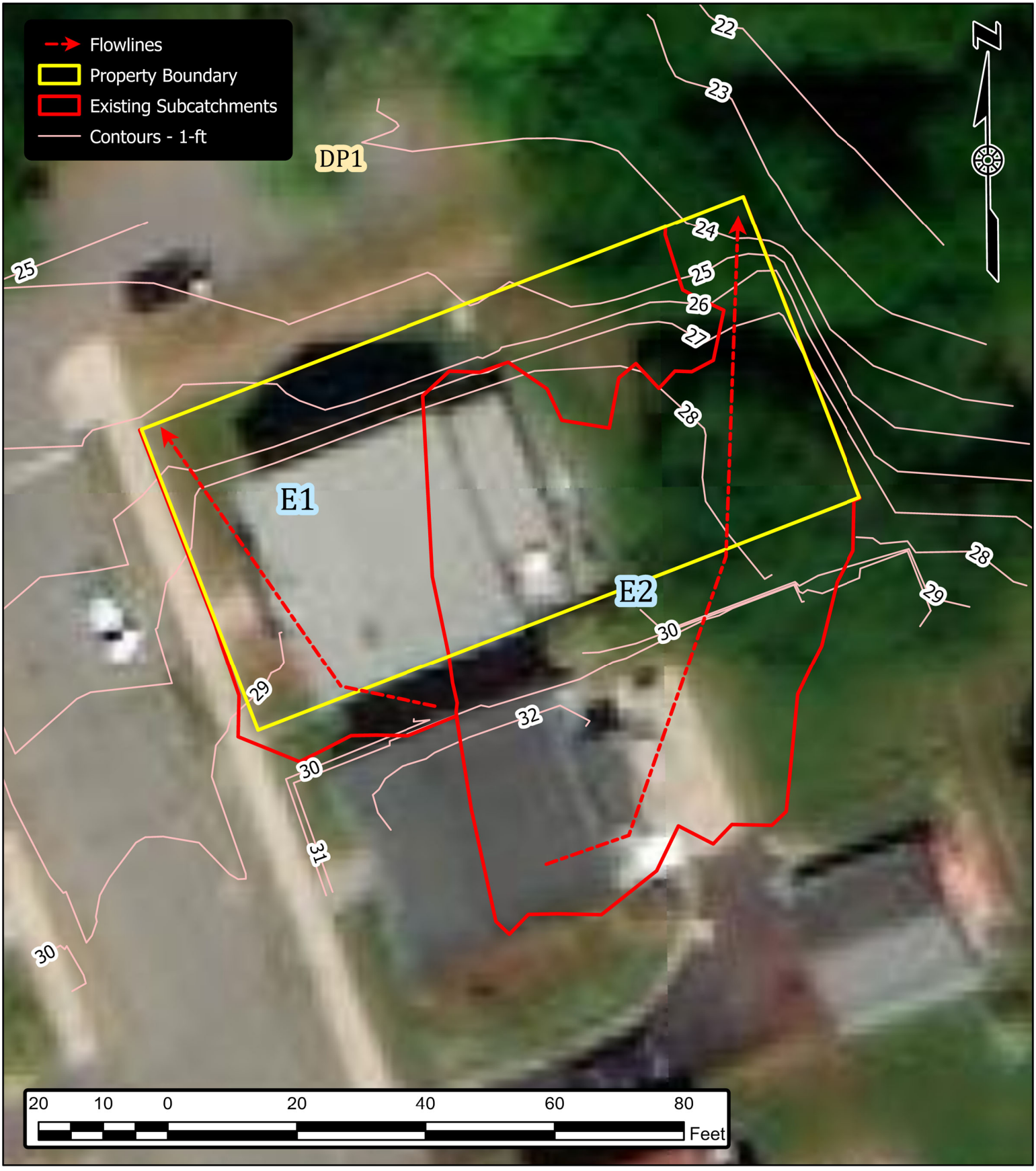
1. Comprehensive Environmental Inc. and New Hampshire Department of Environmental Services. *New Hampshire Stormwater Manual (Volumes 1, 2 and 3)*, December 2008 (Revision 1.0).
2. Minnick, E.L. and H.T. Marshall. *Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire*, prepared by Rockingham County Conservation District, prepared for New Hampshire Department of Environmental Services, in cooperation with USDA Soil Conservation Service, August 1992.
3. HydroCAD Software Solution, LLC. *HydroCAD Stormwater Modeling System Version 10.20* copyright 2022.

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.

Existing Subcatchments

SMITH RESIDENCE
9 KENT STREET
PORTSMOUTH, NH

JOB NUMBER: 3492
SCALE: 1" = 20'
SUBMITTED: 12-23-2022

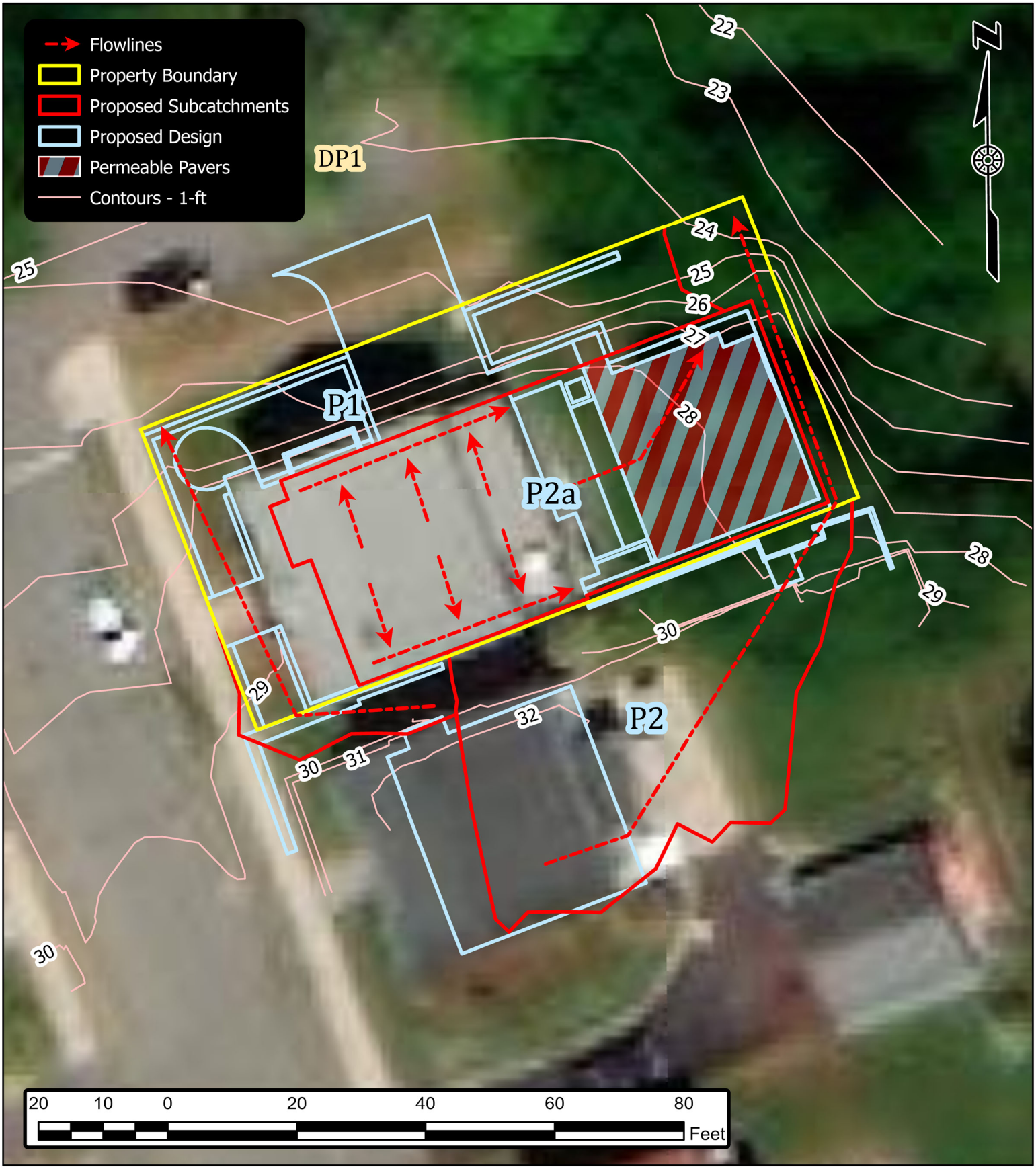


AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.

Proposed Subcatchments

SMITH RESIDENCE
9 KENT STREET
PORTSMOUTH, NH

JOB NUMBER: 3492
SCALE: 1" = 20'
SUBMITTED: 02-03-2023



APPENDIX A

VICINITY (TAX) MAP

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.

Tax Map

SMITH RESIDENCE
9 KENT STREET
PORTSMOUTH, NH

JOB NUMBER: 3492
SCALE: 1" = 50'
SUBMITTED: 12-22-2022

APPENDIX B

TABLES, CHARTS, ETC.

Extreme Precipitation Tables

Northeast Regional Climate Center

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

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.756 degrees West
Latitude	43.071 degrees North
Elevation	0 feet
Date/Time	Thu, 22 Dec 2022 14:33:27 -0500

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	0.65	0.81	1.04	**1yr**	0.70	0.98	1.21	1.56	2.03	2.66	2.92	**1yr**	2.35	2.81	3.22	3.94	4.55	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.52	1.94	2.49	3.21	3.57	**2yr**	2.84	3.43	3.94	4.68	5.33	**2yr**
5yr	0.37	0.58	0.73	0.98	1.25	1.61	**5yr**	1.08	1.47	1.89	2.43	3.14	4.07	4.58	**5yr**	3.60	4.40	5.04	5.94	6.70	**5yr**
10yr	0.41	0.65	0.82	1.12	1.45	1.89	**10yr**	1.25	1.73	2.23	2.89	3.75	4.86	5.53	**10yr**	4.31	5.32	6.09	7.11	7.98	**10yr**
25yr	0.48	0.76	0.97	1.34	1.78	2.34	**25yr**	1.53	2.14	2.78	3.63	4.74	6.17	7.10	**25yr**	5.46	6.83	7.81	9.03	10.05	**25yr**
50yr	0.54	0.86	1.10	1.54	2.08	2.76	**50yr**	1.79	2.53	3.29	4.33	5.66	7.39	8.58	**50yr**	6.54	8.25	9.43	10.81	11.97	**50yr**
100yr	0.60	0.97	1.25	1.77	2.42	3.26	**100yr**	2.09	2.98	3.91	5.16	6.77	8.85	10.38	**100yr**	7.83	9.98	11.39	12.96	14.27	**100yr**
200yr	0.68	1.10	1.43	2.05	2.83	3.84	**200yr**	2.44	3.52	4.62	6.14	8.08	10.60	12.55	**200yr**	9.38	12.06	13.76	15.55	17.01	**200yr**
500yr	0.80	1.32	1.72	2.49	3.49	4.78	**500yr**	3.01	4.39	5.78	7.71	10.22	13.47	16.14	**500yr**	11.92	15.52	17.68	19.78	21.48	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.72	0.88	**1yr**	0.63	0.86	0.93	1.33	1.69	2.24	2.49	**1yr**	1.98	2.39	2.87	3.19	3.90	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.34	3.06	3.45	**2yr**	2.71	3.32	3.82	4.55	5.09	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.73	3.78	4.19	**5yr**	3.35	4.03	4.72	5.53	6.24	**5yr**
10yr	0.39	0.59	0.73	1.03	1.33	1.60	**10yr**	1.14	1.56	1.80	2.39	3.05	4.37	4.85	**10yr**	3.87	4.67	5.43	6.41	7.19	**10yr**
25yr	0.44	0.67	0.83	1.19	1.56	1.90	**25yr**	1.35	1.86	2.10	2.75	3.53	4.73	5.88	**25yr**	4.19	5.65	6.64	7.78	8.67	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.17	**50yr**	1.52	2.12	2.35	3.06	3.92	5.35	6.78	**50yr**	4.73	6.52	7.71	9.03	10.00	**50yr**
100yr	0.54	0.81	1.01	1.46	2.01	2.47	**100yr**	1.73	2.41	2.62	3.40	4.33	6.02	7.82	**100yr**	5.32	7.52	8.95	10.49	11.55	**100yr**
200yr	0.59	0.89	1.13	1.63	2.27	2.81	**200yr**	1.96	2.75	2.93	3.77	4.77	6.75	9.02	**200yr**	5.97	8.68	10.38	12.20	13.35	**200yr**
500yr	0.68	1.02	1.31	1.90	2.71	3.36	**500yr**	2.33	3.28	3.41	4.30	5.43	7.86	10.89	**500yr**	6.95	10.47	12.63	14.92	16.17	**500yr**

Upper Confidence Limits

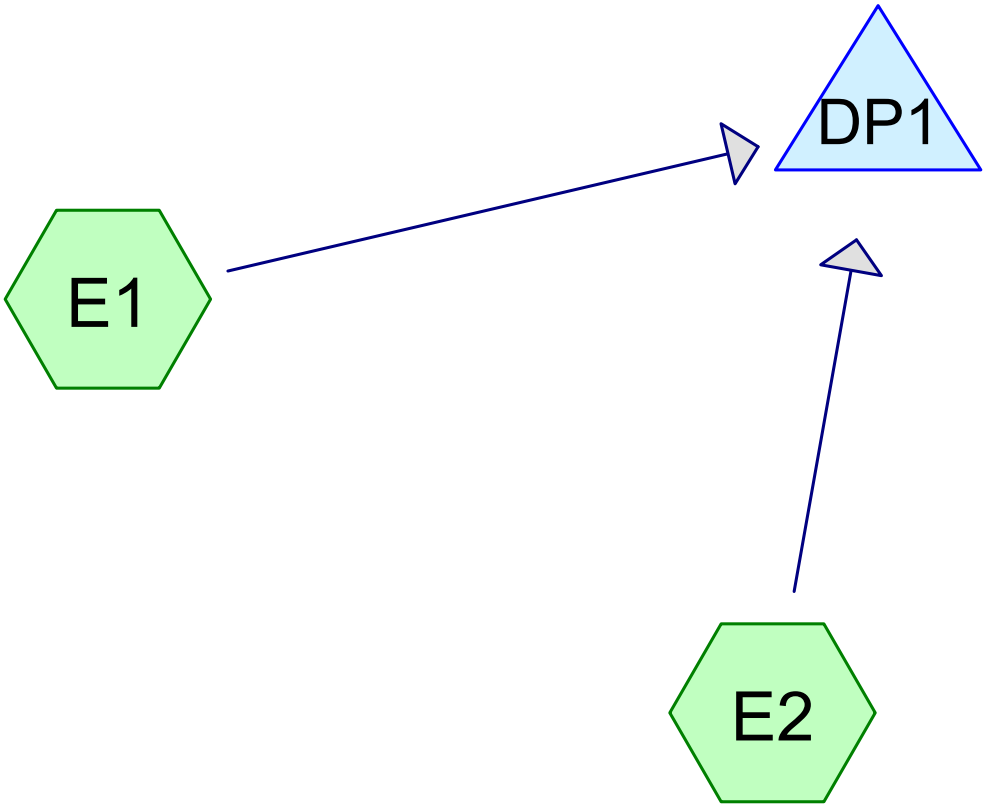
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.26	1.74	2.20	2.98	3.17	**1yr**	2.64	3.05	3.58	4.37	5.04	**1yr**
2yr	0.34	0.52	0.64	0.87	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.52	3.42	3.71	**2yr**	3.03	3.56	4.09	4.84	5.63	**2yr**
5yr	0.40	0.62	0.77	1.05	1.34	1.62	**5yr**	1.15	1.59	1.89	2.54	3.25	4.34	4.97	**5yr**	3.84	4.78	5.38	6.38	7.16	**5yr**
10yr	0.47	0.72	0.89	1.25	1.61	1.98	**10yr**	1.39	1.93	2.28	3.11	3.96	5.34	6.21	**10yr**	4.72	5.97	6.83	7.85	8.76	**10yr**
25yr	0.58	0.88	1.09	1.56	2.05	2.57	**25yr**	1.77	2.52	2.96	4.08	5.16	7.76	8.36	**25yr**	6.87	8.04	9.17	10.35	11.42	**25yr**
50yr	0.67	1.02	1.27	1.83	2.47	3.13	**50yr**	2.13	3.06	3.60	5.01	6.34	9.71	10.48	**50yr**	8.59	10.08	11.48	12.74	13.98	**50yr**
100yr	0.79	1.20	1.50	2.16	2.97	3.82	**100yr**	2.56	3.73	4.38	6.17	7.79	12.15	13.14	**100yr**	10.75	12.63	14.36	15.72	17.11	**100yr**
200yr	0.93	1.39	1.77	2.56	3.57	4.66	**200yr**	3.08	4.56	5.35	7.60	9.57	15.23	16.48	**200yr**	13.48	15.85	18.00	19.38	20.94	**200yr**
500yr	1.15	1.71	2.20	3.20	4.55	6.06	**500yr**	3.93	5.92	6.94	10.05	12.62	20.58	22.27	**500yr**	18.21	21.41	24.26	25.55	27.37	**500yr**

Powered by ACIS Northeast Regional Climate Center

APPENDIX C

HYDROCAD DRAINAGE

ANALYSIS CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for 2022-12-22 Existing Conditions - David T
Prepared by Ambit Engineering, Printed 2022-12-23

Project Notes

Defined 5 rainfall events from output (21) IDF

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.69	2
2	10-yr	Type III 24-hr		Default	24.00	1	5.59	2
3	25-yr	Type III 24-hr		Default	24.00	1	7.10	2
4	50-yr	Type III 24-hr		Default	24.00	1	8.50	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.115	39	>75% Grass cover, Good, HSG A (E1, E2)
0.001	50	Drip Apron (E1)
0.008	98	Paved parking, HSG A (E1, E2)
0.002	98	Paved parking, HSG A, Retwall (E1, E2)
0.050	98	Roofs, HSG A (E1, E2)
0.175	**59**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.175	HSG A	E1, E2
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.001	Other	E1
0.175		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.115	0.000	0.000	0.000	0.000	0.115	>75% Grass cover, Good	E1, E2
0.000	0.000	0.000	0.000	0.001	0.001	Drip Apron	E1
0.010	0.000	0.000	0.000	0.000	0.010	Paved parking	E1, E2
0.050	0.000	0.000	0.000	0.000	0.050	Roofs	E1, E2
0.175	**0.000**	**0.000**	**0.000**	**0.001**	**0.175**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Runoff Area=2,922 sf 28.78% Impervious Runoff Depth>0.45"
Tc=5.0 min CN=56 Runoff=0.02 cfs 0.003 af

Subcatchment E2: Runoff Area=4,721 sf 37.60% Impervious Runoff Depth>0.66"
Tc=5.0 min CN=61 Runoff=0.07 cfs 0.006 af

Pond DP1: Inflow=0.08 cfs 0.008 af
Primary=0.08 cfs 0.008 af

Total Runoff Area = 0.175 ac Runoff Volume = 0.008 af Average Runoff Depth = 0.58"
65.77% Pervious = 0.115 ac 34.23% Impervious = 0.060 ac

Summary for Subcatchment E1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.02 cfs @ 12.12 hrs, Volume= 0.003 af, Depth> 0.45"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.69"

	Area (sf)	CN	Description
	2,045	39	>75% Grass cover, Good, HSG A
*	49	98	Paved parking, HSG A, Retwall
	733	98	Roofs, HSG A
	59	98	Paved parking, HSG A
*	36	50	Drip Apron
	2,922	56	Weighted Average
	2,081		71.22% Pervious Area
	841		28.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment E2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.07 cfs @ 12.10 hrs, Volume= 0.006 af, Depth> 0.66"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.69"

	Area (sf)	CN	Description
	2,946	39	>75% Grass cover, Good, HSG A
*	23	98	Paved parking, HSG A, Retwall
	1,451	98	Roofs, HSG A
	301	98	Paved parking, HSG A
	4,721	61	Weighted Average
	2,946		62.40% Pervious Area
	1,775		37.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond DP1:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.175 ac, 34.23% Impervious, Inflow Depth > 0.58" for 2-yr event
Inflow = 0.08 cfs @ 12.11 hrs, Volume= 0.008 af
Primary = 0.08 cfs @ 12.11 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Runoff Area=2,922 sf 28.78% Impervious Runoff Depth>1.36"
Tc=5.0 min CN=56 Runoff=0.09 cfs 0.008 af

Subcatchment E2: Runoff Area=4,721 sf 37.60% Impervious Runoff Depth>1.73"
Tc=5.0 min CN=61 Runoff=0.21 cfs 0.016 af

Pond DP1: Inflow=0.30 cfs 0.023 af
Primary=0.30 cfs 0.023 af

Total Runoff Area = 0.175 ac Runoff Volume = 0.023 af Average Runoff Depth = 1.59"
65.77% Pervious = 0.115 ac 34.23% Impervious = 0.060 ac

Summary for Subcatchment E1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.09 cfs @ 12.09 hrs, Volume= 0.008 af, Depth> 1.36"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.59"

	Area (sf)	CN	Description
	2,045	39	>75% Grass cover, Good, HSG A
*	49	98	Paved parking, HSG A, Retwall
	733	98	Roofs, HSG A
	59	98	Paved parking, HSG A
*	36	50	Drip Apron
	2,922	56	Weighted Average
	2,081		71.22% Pervious Area
	841		28.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment E2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.016 af, Depth> 1.73"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.59"

	Area (sf)	CN	Description
	2,946	39	>75% Grass cover, Good, HSG A
*	23	98	Paved parking, HSG A, Retwall
	1,451	98	Roofs, HSG A
	301	98	Paved parking, HSG A
	4,721	61	Weighted Average
	2,946		62.40% Pervious Area
	1,775		37.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond DP1:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.175 ac, 34.23% Impervious, Inflow Depth > 1.59" for 10-yr event
Inflow = 0.30 cfs @ 12.09 hrs, Volume= 0.023 af
Primary = 0.30 cfs @ 12.09 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Runoff Area=2,922 sf 28.78% Impervious Runoff Depth>2.28"
Tc=5.0 min CN=56 Runoff=0.17 cfs 0.013 af

Subcatchment E2: Runoff Area=4,721 sf 37.60% Impervious Runoff Depth>2.77"
Tc=5.0 min CN=61 Runoff=0.35 cfs 0.025 af

Pond DP1: Inflow=0.52 cfs 0.038 af
Primary=0.52 cfs 0.038 af

Total Runoff Area = 0.175 ac Runoff Volume = 0.038 af Average Runoff Depth = 2.58"
65.77% Pervious = 0.115 ac 34.23% Impervious = 0.060 ac

Summary for Subcatchment E1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.17 cfs @ 12.09 hrs, Volume= 0.013 af, Depth> 2.28"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=7.10"

	Area (sf)	CN	Description
	2,045	39	>75% Grass cover, Good, HSG A
*	49	98	Paved parking, HSG A, Retwall
	733	98	Roofs, HSG A
	59	98	Paved parking, HSG A
*	36	50	Drip Apron
	2,922	56	Weighted Average
	2,081		71.22% Pervious Area
	841		28.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment E2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.35 cfs @ 12.08 hrs, Volume= 0.025 af, Depth> 2.77"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=7.10"

	Area (sf)	CN	Description
	2,946	39	>75% Grass cover, Good, HSG A
*	23	98	Paved parking, HSG A, Retwall
	1,451	98	Roofs, HSG A
	301	98	Paved parking, HSG A
	4,721	61	Weighted Average
	2,946		62.40% Pervious Area
	1,775		37.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond DP1:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.175 ac, 34.23% Impervious, Inflow Depth > 2.58" for 25-yr event
Inflow = 0.52 cfs @ 12.08 hrs, Volume= 0.038 af
Primary = 0.52 cfs @ 12.08 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Runoff Area=2,922 sf 28.78% Impervious Runoff Depth>3.24"
Tc=5.0 min CN=56 Runoff=0.25 cfs 0.018 af

Subcatchment E2: Runoff Area=4,721 sf 37.60% Impervious Runoff Depth>3.83"
Tc=5.0 min CN=61 Runoff=0.48 cfs 0.035 af

Pond DP1: Inflow=0.73 cfs 0.053 af
Primary=0.73 cfs 0.053 af

Total Runoff Area = 0.175 ac Runoff Volume = 0.053 af Average Runoff Depth = 3.60"
65.77% Pervious = 0.115 ac 34.23% Impervious = 0.060 ac

Summary for Subcatchment E1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.25 cfs @ 12.08 hrs, Volume= 0.018 af, Depth> 3.24"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=8.50"

	Area (sf)	CN	Description
	2,045	39	>75% Grass cover, Good, HSG A
*	49	98	Paved parking, HSG A, Retwall
	733	98	Roofs, HSG A
	59	98	Paved parking, HSG A
*	36	50	Drip Apron
	2,922	56	Weighted Average
	2,081		71.22% Pervious Area
	841		28.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment E2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.48 cfs @ 12.08 hrs, Volume= 0.035 af, Depth> 3.83"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=8.50"

	Area (sf)	CN	Description
	2,946	39	>75% Grass cover, Good, HSG A
*	23	98	Paved parking, HSG A, Retwall
	1,451	98	Roofs, HSG A
	301	98	Paved parking, HSG A
	4,721	61	Weighted Average
	2,946		62.40% Pervious Area
	1,775		37.60% Impervious Area

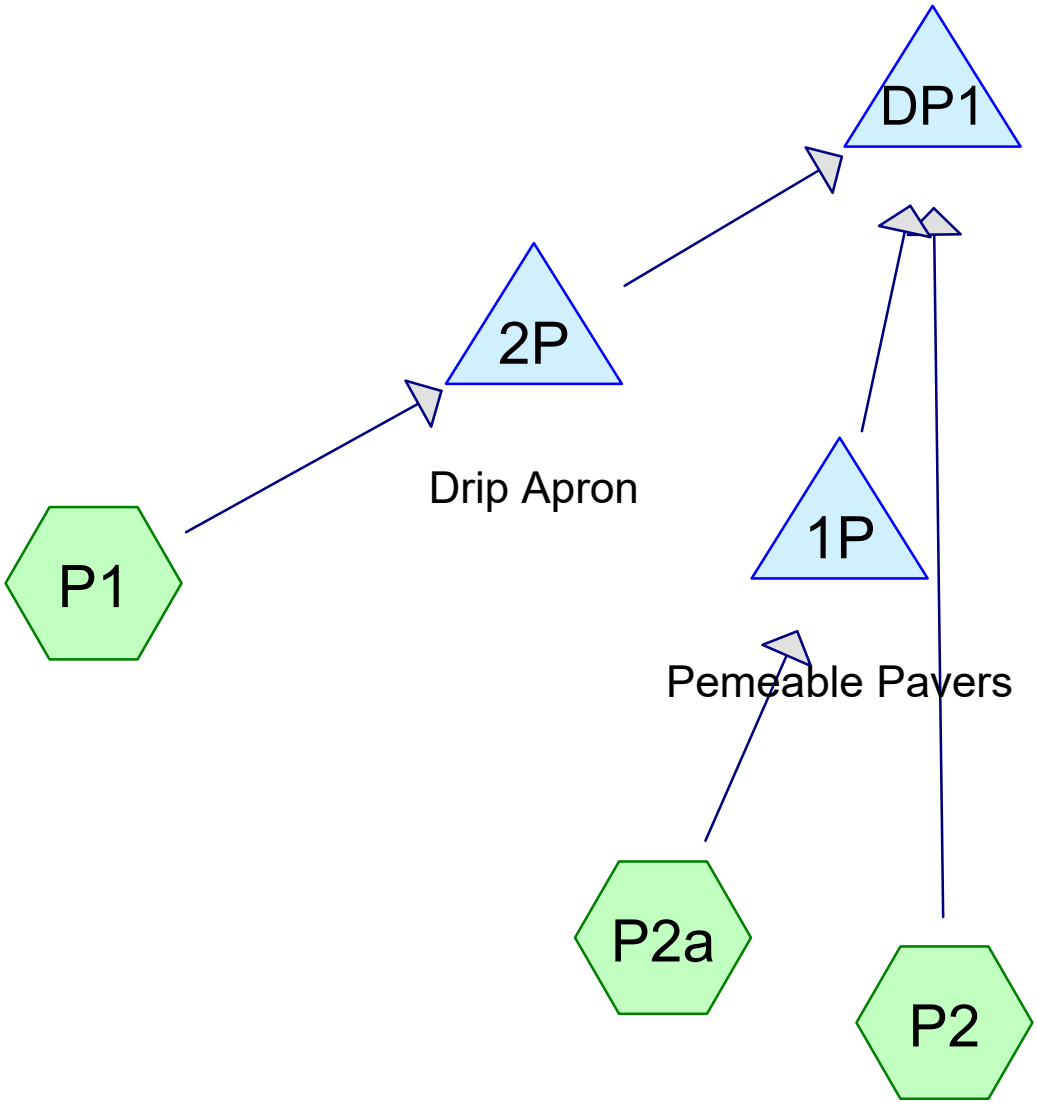
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond DP1:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.175 ac, 34.23% Impervious, Inflow Depth > 3.60" for 50-yr event
Inflow = 0.73 cfs @ 12.08 hrs, Volume= 0.053 af
Primary = 0.73 cfs @ 12.08 hrs, Volume= 0.053 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs



Subcat Reach Pond Link

Routing Diagram for 2022-12-22 Proposed Conditions - David T
Prepared by Ambit Engineering, Printed 2023-02-03

Project Notes

Defined 5 rainfall events from output (21) IDF

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.69	2
2	10-yr	Type III 24-hr		Default	24.00	1	5.59	2
3	25-yr	Type III 24-hr		Default	24.00	1	7.10	2
4	50-yr	Type III 24-hr		Default	24.00	1	8.50	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.074	39	>75% Grass cover, Good, HSG A (P1, P2, P2a)
0.003	50	Drip Apron (P1, P2)
0.002	96	Gravel surface, HSG A (P1)
0.022	98	Paved parking, HSG A (P1, P2a)
0.009	98	Paved parking, HSG A, Retwall (P1, P2, P2a)
0.016	50	Permeable Pavers (P1, P2a)
0.047	98	Roofs, HSG A (P2, P2a)
0.003	98	Water Surface, HSG A (P2a)
0.175	**68**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.157	HSG A	P1, P2, P2a
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.018	Other	P1, P2, P2a
0.175		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.074	0.000	0.000	0.000	0.000	0.074	>75% Grass cover, Good	P1, P2, P2a
0.000	0.000	0.000	0.000	0.003	0.003	Drip Apron	P1, P2
0.002	0.000	0.000	0.000	0.000	0.002	Gravel surface	P1
0.031	0.000	0.000	0.000	0.000	0.031	Paved parking	P1, P2, P2a
0.000	0.000	0.000	0.000	0.016	0.016	Permeable Pavers	P1, P2a
0.047	0.000	0.000	0.000	0.000	0.047	Roofs	P2, P2a
0.003	0.000	0.000	0.000	0.000	0.003	Water Surface	P2a
0.157	**0.000**	**0.000**	**0.000**	**0.018**	**0.175**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Runoff Area=2,156 sf 42.39% Impervious Runoff Depth>0.96"
Tc=5.0 min CN=67 Runoff=0.05 cfs 0.004 af

Subcatchment P2: Runoff Area=2,820 sf 25.92% Impervious Runoff Depth>0.41"
Tc=5.0 min CN=55 Runoff=0.02 cfs 0.002 af

Subcatchment P2a: Runoff Area=2,667 sf 71.69% Impervious Runoff Depth>2.10"
Tc=5.0 min CN=84 Runoff=0.15 cfs 0.011 af

Pond 1P: Pemeable Pavers Peak Elev=0.74' Storage=0.002 af Inflow=0.15 cfs 0.011 af
Discarded=0.04 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.011 af

Pond 2P: Drip Apron Peak Elev=1.41' Storage=0.001 af Inflow=0.05 cfs 0.004 af
Discarded=0.01 cfs 0.004 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.004 af

Pond DP1: Inflow=0.02 cfs 0.002 af
Primary=0.02 cfs 0.002 af

Total Runoff Area = 0.175 ac Runoff Volume = 0.017 af Average Runoff Depth = 1.15"
53.46% Pervious = 0.094 ac 46.54% Impervious = 0.082 ac

Summary for Subcatchment P1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af, Depth> 0.96"
Routed to Pond 2P : Drip Apron

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.69"

	Area (sf)	CN	Description
	1,082	39	>75% Grass cover, Good, HSG A
*	62	50	Drip Apron
*	16	50	Permeable Pavers
	82	96	Gravel surface, HSG A
*	226	98	Paved parking, HSG A, Retwall
	688	98	Paved parking, HSG A
	2,156	67	Weighted Average
	1,242		57.61% Pervious Area
	914		42.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment P2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.02 cfs @ 12.14 hrs, Volume= 0.002 af, Depth> 0.41"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.69"

	Area (sf)	CN	Description
*	54	50	Drip Apron
	2,035	39	>75% Grass cover, Good, HSG A
*	23	98	Paved parking, HSG A, Retwall
	708	98	Roofs, HSG A
	2,820	55	Weighted Average
	2,089		74.08% Pervious Area
	731		25.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment P2a:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.15 cfs @ 12.08 hrs, Volume= 0.011 af, Depth> 2.10"
Routed to Pond 1P : Pemeable Pavers

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.69"

	Area (sf)	CN	Description
*	665	50	Permeable Pavers
	289	98	Paved parking, HSG A
	131	98	Water Surface, HSG A
	90	39	>75% Grass cover, Good, HSG A
*	135	98	Paved parking, HSG A, Retwall
	680	98	Roofs, HSG A
	677	98	Roofs, HSG A
	2,667	84	Weighted Average
	755		28.31% Pervious Area
	1,912		71.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: Pemeable Pavers

Inflow Area = 0.061 ac, 71.69% Impervious, Inflow Depth > 2.10" for 2-yr event
Inflow = 0.15 cfs @ 12.08 hrs, Volume= 0.011 af
Outflow = 0.04 cfs @ 11.85 hrs, Volume= 0.011 af, Atten= 74%, Lag= 0.0 min
Discarded = 0.04 cfs @ 11.85 hrs, Volume= 0.011 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond DP1 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 0.74' @ 12.46 hrs Surf.Area= 0.008 ac Storage= 0.002 af

Plug-Flow detention time= 14.9 min calculated for 0.011 af (100% of inflow)
Center-of-Mass det. time= 14.5 min (836.3 - 821.8)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.012 af	**24.00'W x 14.00'L x 4.00'H Prismatoid** 0.031 af Overall x 40.0% Voids
#2	4.00'	0.008 af	**24.00'W x 14.00'L x 1.00'H Prismatoid**
		0.020 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	4.00'	**38.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.04 cfs @ 11.85 hrs HW=0.05' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: Drip Apron

Inflow Area = 0.049 ac, 42.39% Impervious, Inflow Depth > 0.96" for 2-yr event
Inflow = 0.05 cfs @ 12.09 hrs, Volume= 0.004 af
Outflow = 0.01 cfs @ 11.90 hrs, Volume= 0.004 af, Atten= 82%, Lag= 0.0 min
Discarded = 0.01 cfs @ 11.90 hrs, Volume= 0.004 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond DP1 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1.41' @ 12.67 hrs Surf.Area= 0.002 ac Storage= 0.001 af

Plug-Flow detention time= 35.0 min calculated for 0.004 af (100% of inflow)
Center-of-Mass det. time= 34.6 min (908.5 - 874.0)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.002 af	**13.00'W x 6.00'L x 3.00'H Prismatoid** 0.005 af Overall x 40.0% Voids
#2	3.00'	0.002 af	**13.00'W x 6.00'L x 1.00'H Prismatoid**
		0.004 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	3.00'	**34.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.01 cfs @ 11.90 hrs HW=0.04' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond DP1:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.175 ac, 46.54% Impervious, Inflow Depth > 0.15" for 2-yr event
Inflow = 0.02 cfs @ 12.14 hrs, Volume= 0.002 af
Primary = 0.02 cfs @ 12.14 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Runoff Area=2,156 sf 42.39% Impervious Runoff Depth>2.22"
Tc=5.0 min CN=67 Runoff=0.13 cfs 0.009 af

Subcatchment P2: Runoff Area=2,820 sf 25.92% Impervious Runoff Depth>1.29"
Tc=5.0 min CN=55 Runoff=0.09 cfs 0.007 af

Subcatchment P2a: Runoff Area=2,667 sf 71.69% Impervious Runoff Depth>3.81"
Tc=5.0 min CN=84 Runoff=0.27 cfs 0.019 af

Pond 1P: Pemeable Pavers Peak Elev=1.96' Storage=0.006 af Inflow=0.27 cfs 0.019 af
Discarded=0.04 cfs 0.019 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.019 af

Pond 2P: Drip Apron Peak Elev=3.00' Storage=0.002 af Inflow=0.13 cfs 0.009 af
Discarded=0.02 cfs 0.008 af Primary=0.06 cfs 0.001 af Outflow=0.08 cfs 0.009 af

Pond DP1: Inflow=0.12 cfs 0.008 af
Primary=0.12 cfs 0.008 af

Total Runoff Area = 0.175 ac Runoff Volume = 0.036 af Average Runoff Depth = 2.43"
53.46% Pervious = 0.094 ac 46.54% Impervious = 0.082 ac

Summary for Subcatchment P1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.13 cfs @ 12.08 hrs, Volume= 0.009 af, Depth> 2.22"
Routed to Pond 2P : Drip Apron

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.59"

	Area (sf)	CN	Description
	1,082	39	>75% Grass cover, Good, HSG A
*	62	50	Drip Apron
*	16	50	Permeable Pavers
	82	96	Gravel surface, HSG A
*	226	98	Paved parking, HSG A, Retwall
	688	98	Paved parking, HSG A
	2,156	67	Weighted Average
	1,242		57.61% Pervious Area
	914		42.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment P2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.09 cfs @ 12.09 hrs, Volume= 0.007 af, Depth> 1.29"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.59"

	Area (sf)	CN	Description
*	54	50	Drip Apron
	2,035	39	>75% Grass cover, Good, HSG A
*	23	98	Paved parking, HSG A, Retwall
	708	98	Roofs, HSG A
	2,820	55	Weighted Average
	2,089		74.08% Pervious Area
	731		25.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment P2a:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.27 cfs @ 12.07 hrs, Volume= 0.019 af, Depth> 3.81"
Routed to Pond 1P : Pemeable Pavers

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.59"

	Area (sf)	CN	Description
*	665	50	Permeable Pavers
	289	98	Paved parking, HSG A
	131	98	Water Surface, HSG A
	90	39	>75% Grass cover, Good, HSG A
*	135	98	Paved parking, HSG A, Retwall
	680	98	Roofs, HSG A
	677	98	Roofs, HSG A
	2,667	84	Weighted Average
	755		28.31% Pervious Area
	1,912		71.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: Pemeable Pavers

Inflow Area = 0.061 ac, 71.69% Impervious, Inflow Depth > 3.81" for 10-yr event
Inflow = 0.27 cfs @ 12.07 hrs, Volume= 0.019 af
Outflow = 0.04 cfs @ 11.70 hrs, Volume= 0.019 af, Atten= 86%, Lag= 0.0 min
Discarded = 0.04 cfs @ 11.70 hrs, Volume= 0.019 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond DP1 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1.96' @ 12.59 hrs Surf.Area= 0.008 ac Storage= 0.006 af

Plug-Flow detention time= 45.8 min calculated for 0.019 af (100% of inflow)
Center-of-Mass det. time= 45.4 min (850.3 - 804.9)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.012 af	**24.00'W x 14.00'L x 4.00'H Prismatoid** 0.031 af Overall x 40.0% Voids
#2	4.00'	0.008 af	**24.00'W x 14.00'L x 1.00'H Prismatoid**
		0.020 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	4.00'	**38.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.04 cfs @ 11.70 hrs HW=0.06' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: Drip Apron

Inflow Area = 0.049 ac, 42.39% Impervious, Inflow Depth > 2.22" for 10-yr event
Inflow = 0.13 cfs @ 12.08 hrs, Volume= 0.009 af
Outflow = 0.08 cfs @ 12.21 hrs, Volume= 0.009 af, Atten= 35%, Lag= 7.9 min
Discarded = 0.02 cfs @ 12.20 hrs, Volume= 0.008 af
Primary = 0.06 cfs @ 12.21 hrs, Volume= 0.001 af
Routed to Pond DP1 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 3.00' @ 12.20 hrs Surf.Area= 0.004 ac Storage= 0.002 af

Plug-Flow detention time= 80.5 min calculated for 0.009 af (100% of inflow)
Center-of-Mass det. time= 80.1 min (927.9 - 847.7)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.002 af	**13.00'W x 6.00'L x 3.00'H Prismatoid** 0.005 af Overall x 40.0% Voids
#2	3.00'	0.002 af	**13.00'W x 6.00'L x 1.00'H Prismatoid**
		0.004 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	3.00'	**34.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.02 cfs @ 12.20 hrs HW=3.00' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.01 cfs @ 12.21 hrs HW=3.00' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Weir Controls 0.01 cfs @ 0.16 fps)

Summary for Pond DP1:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.175 ac, 46.54% Impervious, Inflow Depth > 0.55" for 10-yr event
Inflow = 0.12 cfs @ 12.21 hrs, Volume= 0.008 af
Primary = 0.12 cfs @ 12.21 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Runoff Area=2,156 sf 42.39% Impervious Runoff Depth>3.38"
Tc=5.0 min CN=67 Runoff=0.20 cfs 0.014 af

Subcatchment P2: Runoff Area=2,820 sf 25.92% Impervious Runoff Depth>2.19"
Tc=5.0 min CN=55 Runoff=0.16 cfs 0.012 af

Subcatchment P2a: Runoff Area=2,667 sf 71.69% Impervious Runoff Depth>5.23"
Tc=5.0 min CN=84 Runoff=0.37 cfs 0.027 af

Pond 1P: Pemeable Pavers Peak Elev=3.05' Storage=0.009 af Inflow=0.37 cfs 0.027 af
Discarded=0.04 cfs 0.027 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.027 af

Pond 2P: Drip Apron Peak Elev=3.01' Storage=0.002 af Inflow=0.20 cfs 0.014 af
Discarded=0.02 cfs 0.010 af Primary=0.32 cfs 0.004 af Outflow=0.34 cfs 0.014 af

Pond DP1: Inflow=0.48 cfs 0.015 af
Primary=0.48 cfs 0.015 af

Total Runoff Area = 0.175 ac Runoff Volume = 0.052 af Average Runoff Depth = 3.59"
53.46% Pervious = 0.094 ac 46.54% Impervious = 0.082 ac

Summary for Subcatchment P1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.20 cfs @ 12.08 hrs, Volume= 0.014 af, Depth> 3.38"
Routed to Pond 2P : Drip Apron

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=7.10"

	Area (sf)	CN	Description
	1,082	39	>75% Grass cover, Good, HSG A
*	62	50	Drip Apron
*	16	50	Permeable Pavers
	82	96	Gravel surface, HSG A
*	226	98	Paved parking, HSG A, Retwall
	688	98	Paved parking, HSG A
	2,156	67	Weighted Average
	1,242		57.61% Pervious Area
	914		42.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment P2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.16 cfs @ 12.09 hrs, Volume= 0.012 af, Depth> 2.19"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=7.10"

	Area (sf)	CN	Description
*	54	50	Drip Apron
	2,035	39	>75% Grass cover, Good, HSG A
*	23	98	Paved parking, HSG A, Retwall
	708	98	Roofs, HSG A
	2,820	55	Weighted Average
	2,089		74.08% Pervious Area
	731		25.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment P2a:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.37 cfs @ 12.07 hrs, Volume= 0.027 af, Depth> 5.23"
Routed to Pond 1P : Pemeable Pavers

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=7.10"

	Area (sf)	CN	Description
*	665	50	Permeable Pavers
	289	98	Paved parking, HSG A
	131	98	Water Surface, HSG A
	90	39	>75% Grass cover, Good, HSG A
*	135	98	Paved parking, HSG A, Retwall
	680	98	Roofs, HSG A
	677	98	Roofs, HSG A
	2,667	84	Weighted Average
	755		28.31% Pervious Area
	1,912		71.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: Pemeable Pavers

Inflow Area = 0.061 ac, 71.69% Impervious, Inflow Depth > 5.23" for 25-yr event
Inflow = 0.37 cfs @ 12.07 hrs, Volume= 0.027 af
Outflow = 0.04 cfs @ 11.60 hrs, Volume= 0.027 af, Atten= 89%, Lag= 0.0 min
Discarded = 0.04 cfs @ 11.60 hrs, Volume= 0.027 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond DP1 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 3.05' @ 12.82 hrs Surf.Area= 0.008 ac Storage= 0.009 af

Plug-Flow detention time= 78.2 min calculated for 0.027 af (100% of inflow)
Center-of-Mass det. time= 77.9 min (873.8 - 796.0)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.012 af	**24.00'W x 14.00'L x 4.00'H Prismatoid** 0.031 af Overall x 40.0% Voids
#2	4.00'	0.008 af	**24.00'W x 14.00'L x 1.00'H Prismatoid**
		0.020 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	4.00'	**38.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.04 cfs @ 11.60 hrs HW=0.05' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: Drip Apron

[88] Warning: Qout>Qin may require smaller dt or Finer Routing
[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=8)

Inflow Area = 0.049 ac, 42.39% Impervious, Inflow Depth > 3.38" for 25-yr event
Inflow = 0.20 cfs @ 12.08 hrs, Volume= 0.014 af
Outflow = 0.34 cfs @ 12.10 hrs, Volume= 0.014 af, Atten= 0%, Lag= 1.2 min
Discarded = 0.02 cfs @ 12.10 hrs, Volume= 0.010 af
Primary = 0.32 cfs @ 12.10 hrs, Volume= 0.004 af
Routed to Pond DP1 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 3.01' @ 12.10 hrs Surf.Area= 0.004 ac Storage= 0.002 af

Plug-Flow detention time= 66.5 min calculated for 0.014 af (100% of inflow)
Center-of-Mass det. time= 66.0 min (901.5 - 835.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.002 af	**13.00'W x 6.00'L x 3.00'H Prismatoid** 0.005 af Overall x 40.0% Voids
#2	3.00'	0.002 af	**13.00'W x 6.00'L x 1.00'H Prismatoid**
		0.004 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	3.00'	**34.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.02 cfs @ 12.10 hrs HW=3.01' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.19 cfs @ 12.10 hrs HW=3.01' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Weir Controls 0.19 cfs @ 0.39 fps)

Summary for Pond DP1:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.175 ac, 46.54% Impervious, Inflow Depth > 1.06" for 25-yr event
Inflow = 0.48 cfs @ 12.10 hrs, Volume= 0.015 af
Primary = 0.48 cfs @ 12.10 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Runoff Area=2,156 sf 42.39% Impervious Runoff Depth>4.54"
Tc=5.0 min CN=67 Runoff=0.26 cfs 0.019 af

Subcatchment P2: Runoff Area=2,820 sf 25.92% Impervious Runoff Depth>3.13"
Tc=5.0 min CN=55 Runoff=0.23 cfs 0.017 af

Subcatchment P2a: Runoff Area=2,667 sf 71.69% Impervious Runoff Depth>6.57"
Tc=5.0 min CN=84 Runoff=0.46 cfs 0.034 af

Pond 1P: Pemeable Pavers Peak Elev=3.99' Storage=0.012 af Inflow=0.46 cfs 0.034 af
Discarded=0.07 cfs 0.034 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.034 af

Pond 2P: Drip Apron Peak Elev=3.01' Storage=0.002 af Inflow=0.26 cfs 0.019 af
Discarded=0.02 cfs 0.012 af Primary=0.26 cfs 0.007 af Outflow=0.28 cfs 0.019 af

Pond DP1: Inflow=0.49 cfs 0.023 af
Primary=0.49 cfs 0.023 af

Total Runoff Area = 0.175 ac Runoff Volume = 0.069 af Average Runoff Depth = 4.73"
53.46% Pervious = 0.094 ac 46.54% Impervious = 0.082 ac

Summary for Subcatchment P1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.26 cfs @ 12.08 hrs, Volume= 0.019 af, Depth> 4.54"
Routed to Pond 2P : Drip Apron

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=8.50"

	Area (sf)	CN	Description
	1,082	39	>75% Grass cover, Good, HSG A
*	62	50	Drip Apron
*	16	50	Permeable Pavers
	82	96	Gravel surface, HSG A
*	226	98	Paved parking, HSG A, Retwall
	688	98	Paved parking, HSG A
	2,156	67	Weighted Average
	1,242		57.61% Pervious Area
	914		42.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment P2:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.23 cfs @ 12.08 hrs, Volume= 0.017 af, Depth> 3.13"
Routed to Pond DP1 :

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=8.50"

	Area (sf)	CN	Description
*	54	50	Drip Apron
	2,035	39	>75% Grass cover, Good, HSG A
*	23	98	Paved parking, HSG A, Retwall
	708	98	Roofs, HSG A
	2,820	55	Weighted Average
	2,089		74.08% Pervious Area
	731		25.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment P2a:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.46 cfs @ 12.07 hrs, Volume= 0.034 af, Depth> 6.57"
Routed to Pond 1P : Pemeable Pavers

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=8.50"

	Area (sf)	CN	Description
*	665	50	Permeable Pavers
	289	98	Paved parking, HSG A
	131	98	Water Surface, HSG A
	90	39	>75% Grass cover, Good, HSG A
*	135	98	Paved parking, HSG A, Retwall
	680	98	Roofs, HSG A
	677	98	Roofs, HSG A
	2,667	84	Weighted Average
	755		28.31% Pervious Area
	1,912		71.69% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: Pemeable Pavers

Inflow Area = 0.061 ac, 71.69% Impervious, Inflow Depth > 6.57" for 50-yr event
Inflow = 0.46 cfs @ 12.07 hrs, Volume= 0.034 af
Outflow = 0.07 cfs @ 12.57 hrs, Volume= 0.034 af, Atten= 84%, Lag= 30.0 min
Discarded = 0.07 cfs @ 12.57 hrs, Volume= 0.034 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond DP1 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 3.99' @ 12.57 hrs Surf.Area= 0.008 ac Storage= 0.012 af

Plug-Flow detention time= 105.1 min calculated for 0.033 af (100% of inflow)
Center-of-Mass det. time= 104.5 min (894.3 - 789.7)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.012 af	**24.00'W x 14.00'L x 4.00'H Prismatoid** 0.031 af Overall x 40.0% Voids
#2	4.00'	0.008 af	**24.00'W x 14.00'L x 1.00'H Prismatoid**
		0.020 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	4.00'	**38.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.04 cfs @ 12.57 hrs HW=3.99' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=0.00' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 2P: Drip Apron

[88] Warning: Qout>Qin may require smaller dt or Finer Routing
[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=14)

Inflow Area = 0.049 ac, 42.39% Impervious, Inflow Depth > 4.54" for 50-yr event
Inflow = 0.26 cfs @ 12.08 hrs, Volume= 0.019 af
Outflow = 0.28 cfs @ 12.06 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Discarded = 0.02 cfs @ 12.00 hrs, Volume= 0.012 af
Primary = 0.26 cfs @ 12.06 hrs, Volume= 0.007 af
Routed to Pond DP1 :

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 3.01' @ 12.05 hrs Surf.Area= 0.004 ac Storage= 0.002 af

Plug-Flow detention time= 58.4 min calculated for 0.019 af (100% of inflow)
Center-of-Mass det. time= 58.0 min (884.9 - 827.0)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	0.002 af	**13.00'W x 6.00'L x 3.00'H Prismatoid** 0.005 af Overall x 40.0% Voids
#2	3.00'	0.002 af	**13.00'W x 6.00'L x 1.00'H Prismatoid**
		0.004 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**5.000 in/hr Exfiltration over Horizontal area** Phase-In= 0.01'
#2	Primary	3.00'	**34.0' long Sharp-Crested Rectangular Weir** 0 End Contraction(s) 0.5' Crest Height

Discarded OutFlow Max=0.02 cfs @ 12.00 hrs HW=3.01' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.13 cfs @ 12.06 hrs HW=3.01' (Free Discharge)
2=Sharp-Crested Rectangular Weir (Weir Controls 0.13 cfs @ 0.34 fps)

Summary for Pond DP1:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.175 ac, 46.54% Impervious, Inflow Depth > 1.60" for 50-yr event
Inflow = 0.49 cfs @ 12.07 hrs, Volume= 0.023 af
Primary = 0.49 cfs @ 12.07 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

APPENDIX D

SOIL SURVEY INFORMATION

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Rockingham County, New Hampshire

December 22, 2022

Custom Soil Resource Report
Soil Map

Map Scale: 1:211 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 3 6 12 18

Feet
0 10 20 40 60

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 25, Sep 12, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
799	Urban land-Canton complex, 3 to 15 percent slopes	0.1	100.0%
Totals for Area of Interest		**0.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Rockingham County, New Hampshire

799—Urban land-Canton complex, 3 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9cq0
Elevation: 0 to 1,000 feet
Mean annual precipitation: 42 to 46 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 120 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 55 percent
Canton and similar soils: 20 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Parent material: Till

Typical profile

H1 - 0 to 5 inches: gravelly fine sandy loam
H2 - 5 to 21 inches: gravelly fine sandy loam
H3 - 21 to 60 inches: loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Udorthents

Percent of map unit: 5 percent
Hydric soil rating: No

Scituate and newfields

Percent of map unit: 4 percent
Hydric soil rating: No

Chatfield

Percent of map unit: 4 percent
Hydric soil rating: No

Boxford and eldridge

Percent of map unit: 4 percent
Hydric soil rating: No

Walpole

Percent of map unit: 4 percent
Landform: Depressions
Hydric soil rating: Yes

Squamscott and scitico

Percent of map unit: 4 percent
Landform: Marine terraces
Hydric soil rating: Yes

APPENDIX E

FEMA FIRM MAP

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.

FEMA Flood Map

SMITH RESIDENCE
9 KENT STREET
PORTSMOUTH, NH

JOB NUMBER: 3492
SCALE: 1" = 200'
SUBMITTED: 12-22-2022

APPENDIX F

INSPECTION & LONG TERM MAINTENANCE PLAN

AMBIT ENGINEERING, INC.
A DIVISION OF HALEY WARD, INC.

INSPECTION & LONG-TERM MAINTENANCE PLAN
FOR
SMITH RESIDENCE

9 KENT STREET
PORTSMOUTH, NH

Introduction

The intent of this plan is to provide Peter Smith (herein referred to as "owner") with a list of procedures that document the inspection and maintenance requirements of the stormwater management system for this development. Specifically, the proposed drip apron and permeable pavers (collectively referred to as the "Stormwater Management System"). The contact information for the owner shall be kept current, and if there is a change of ownership of the property this plan must be transferred to the new owner.

The following inspection and maintenance program is necessary to keep the stormwater management system functioning properly and will help in maintaining a high quality of stormwater runoff to minimize potential environmental impacts. By following the enclosed procedures, the owner will be able to maintain the functional design of the stormwater management system and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

Annual Report

The owner shall prepare an annual Inspection & Maintenance Report. The report shall include a summary of the system's maintenance and repair by transmission of the Inspection & Maintenance Log and other information as required. A copy of the report shall be delivered annually to the Portsmouth DPW, if required.

Inspection & Maintenance Checklist/Log

The following pages contain the Stormwater Management System Inspection & Maintenance Requirements and a blank copy of the Stormwater Management System Inspection & Maintenance Log. These forms are provided to the owner as a guideline for performing the inspection and maintenance of the Stormwater Management System. This is a guideline and should be periodically reviewed for conformance with current practice and standards.

Stormwater Management System Components

The Stormwater Management System is designed to mitigate the quality of site-generated stormwater runoff. As a result, the design includes the following elements:

Non-Structural BMPs

Non-Structural best management practices (BMP's) include temporary and permanent measures that typically require less labor and capital inputs and are intended to provide protection against erosion of soils. Examples of non-structural BMP's on this project include but are not limited to:

- Temporary and Permanent mulching
- Temporary and Permanent grass cover
- Trees
- Shrubs and ground covers
- Miscellaneous landscape plantings
- Dust control
- Tree protection
- Topsoiling
- Sediment barriers
- Stabilized construction entrance

Structural BMPs

Structural BMPs are more labor and capital-intensive structures or installations that require more specialized personnel to install. Examples on this project include but are not limited to:

- Permeable pavers
- Drip apron

Inspection and Maintenance Requirements

The following summarizes the inspection and maintenance requirements for the various BMP's that may be found on this project.

1. **Grassed areas (until established):** After each rain event of 0.5" or more during a 24-hour period, inspect grassed areas for signs of disturbance, such as erosion. If damaged areas are discovered, immediately repair the damage. Repairs may include adding new topsoil, lime, seed, fertilizer and mulch.
2. **Plantings**: Planting and landscaping (trees, shrubs) shall be monitored bi-monthly during the first year to insure viability and vigorous growth. Replace dead or dying vegetation with new stock and make adjustments to the conditions that caused the dead or dying vegetation. During dryer times of the year, provide weekly watering or irrigation during the establishment period of the first year. Make the necessary adjustments to ensure long-term health of the vegetated covers, i.e. provide more permanent mulch or compost or other means of protection.

3. **Permeable Pavers:** Ensure that sediments do not enter and plug pavement. Remove sediments, trash, and debris, as necessary. Repair outlet structures and appurtenances, as necessary. Vacuum at least twice annually.
4. **Drip Apron:** Ensure that sediments do not enter and plug drip apron surface. If system does not drain within 72 hours of a rainfall event, consult a qualified professional about restoration of function of the drip apron.

Pollution Prevention

The following pollution prevention activities shall be undertaken to minimize potential impacts on stormwater runoff quality. The Contractor is responsible for all activities during construction. The Owner is responsible thereafter.

Spill Procedures

Any discharge of waste oil or other pollutant shall be reported immediately to the New Hampshire Department of Environmental Services (NHDES). The Contractor/Owner will be responsible for any incident of groundwater contamination resulting from the improper discharge of pollutants to the stormwater system, and may be required by NHDES to remediate incidents that may impact groundwater quality. If the property ownership is transferred, the new owner will be informed of the legal responsibilities associated with operation of the stormwater system, as indicated above.

Sanitary Facilities

Sanitary facilities shall be provided during all phases of construction.

Material Storage

No on site trash facility is provided until homes are constructed. The contractors are required to remove trash from the site. Hazardous material storage is prohibited.

Material Disposal

All waste material, trash, sediment, and debris shall be removed from the site and disposed of in accordance with applicable local, state, and federal guidelines and regulations. Removed sediments shall be if necessary dewatered prior to disposal.

Invasive Species

Monitor the Stormwater Management System for signs of invasive species growth. If caught early, their eradication is much easier. The most likely places where invasions start is in wetter, disturbed soils or detention ponds. Species such as phragmites and purple loose-strife are common invaders in these wetter areas. If they are found, the owner shall refer to the fact-sheet created by the University of New Hampshire Cooperative Extension or contact a wetlands scientist with experience in invasive species control to implement a plan of action for eradication. Measures that do not require the application of chemical herbicides should be the first line of defense.

Figure 1: Lythrum salicaria, Purple Loosestrife. Photo by Liz West.

Figure 2: Phragmites australis. Photo by Le Loup Gris

DRIP APRON LONG-TERM MAINTENANCE SHEET

INSPECTION REQUIREMENTS		
ACTION TAKEN	**FREQUENCY**	**MAINTENANCE REQUIREMENTS**
-Inspect drip apron for the occurrence of silt or vegetation *-Check to see if trench drains within 72 hours of rainfall.*	Bi-Yearly and following major storm events	*-Ensure that sediments do not enter and plug drip apron surface.* *-if system does not drain within 72 hours of a rainfall event, consult a qualified professional about restoration of function of the drip apron.*

MAINTENANCE LOG	
PROJECT NAME	
INSPECTOR NAME	**INSPECTOR CONTACT INFO**
DATE OF INSPECTION	**REASON FOR INSPECTION** ☐LARGE STORM EVENT ☐PERIODIC CHECK-IN
IS CORRECTIVE ACTION NEEDED? ☐YES ☐NO	**DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE**
DATE OF MAINTENANCE	**PERFORMED BY**
NOTES	

PERMEABLE PAVER LONG-TERM MAINTENANCE SHEET

INSPECTION REQUIREMENTS		
ACTION TAKEN	**FREQUENCY**	**MAINTENANCE REQUIREMENTS**
-Inspect pavement surface for the occurrence of sediment, trash, debris, or structural damage. *-Check pavement for surface ponding*	Frequently in first few months following construction, Bi-annually after	*-Ensure that sediments do not enter and plug pavement. Remove sediments, trash, and debris, as necessary.* *-Repair outlet structures and appurtenances, as necessary.* *-Vacuum pavement at least twice annually.* *-Prevent vehicles with muddy wheels from accessing permeable pavement.*
-No winter sanding permitted *-Minimize application of salt*	Continuous practice	

MAINTENANCE LOG	
PROJECT NAME	
INSPECTOR NAME	**INSPECTOR CONTACT INFO**
DATE OF INSPECTION	**REASON FOR INSPECTION** ☐LARGE STORM EVENT ☐PERIODIC CHECK-IN
IS CORRECTIVE ACTION NEEDED? ☐YES ☐NO	**DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE**
DATE OF MAINTENANCE	**PERFORMED BY**
NOTES	

STABILIZED CONSTRUCTION ENTRANCE CONSTRUCTION MAINTENANCE SHEET

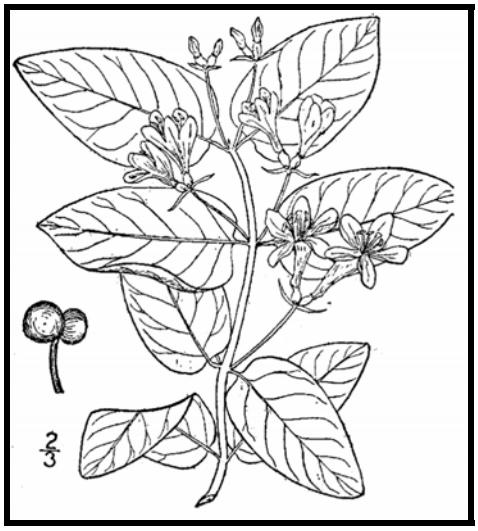
INSPECTION REQUIREMENTS		
ACTION TAKEN	**FREQUENCY**	**MAINTENANCE REQUIREMENTS**
ENTRANCE SURFACE *-Check for sediment accumulation/clogging of stone* *-Check Vegetative filter strips*	After heavy rains, as necessary	*-Top dress pad with new stone.* *-Replace stone completely if completely clogged.* *-Maintain vigorous stand of vegetation.*
WASHING FACILITIES (if applicable) *-Monitor Sediment Accumulation*	As often as necessary	*-Remove Sediments from traps.*

MAINTENANCE LOG	
PROJECT NAME	
INSPECTOR NAME	**INSPECTOR CONTACT INFO**
DATE OF INSPECTION	**REASON FOR INSPECTION** ☐LARGE STORM EVENT ☐PERIODIC CHECK-IN
IS CORRECTIVE ACTION NEEDED? ☐YES ☐NO	**DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE**
DATE OF MAINTENANCE	**PERFORMED BY**
NOTES	

University of New Hampshire Cooperative Extension

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle
Lonicera tatarica
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

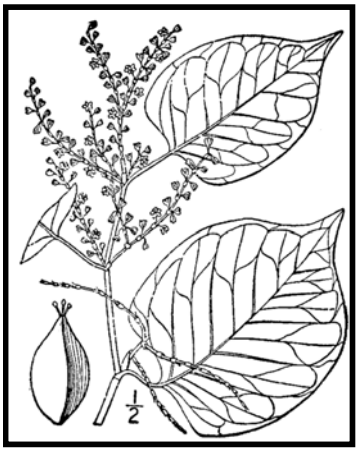
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag "head first" at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don't reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.

Be diligent looking for seedlings for *years* in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

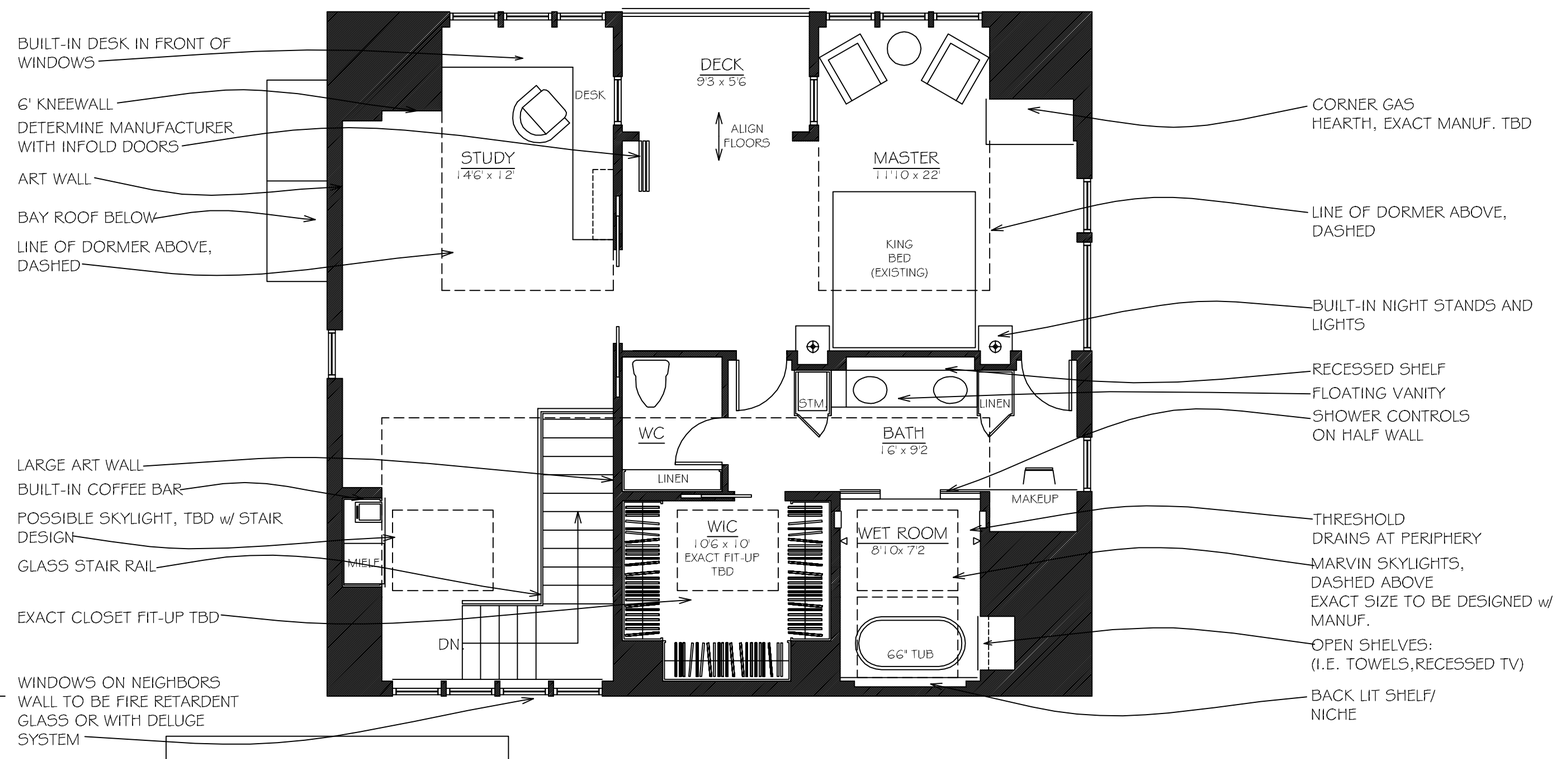
This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

<table>
<tr><th>Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">Norway maple
(Acer platanoides)
European barberry
(Berberis vulgaris)
Japanese barberry
(Berberis thunbergii)
autumn olive
(Elaeagnus umbellata)
burning bush
(Euonymus alatus)
Morrow's honeysuckle
(Lonicera morrowii)
Tatarian honeysuckle
(Lonicera tatarica)
showy bush honeysuckle
(Lonicera x bella)
common buckthorn
(Rhamnus cathartica)
glossy buckthorn
(Frangula alnus)</td><td rowspan="2">Fruit and Seeds
  </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Use as firewood.
▪ Make a brush pile.
▪ Chip.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip once all fruit has dropped from branches.
▪ Leave resulting chips on site and monitor.</td></tr>
<tr><td rowspan="2">oriental bittersweet
(Celastrus orbiculatus)
multiflora rose
(Rosa multiflora)</td><td rowspan="2">Fruits, Seeds, Plant Fragments
  </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Make a brush pile.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.</td></tr>
</table>

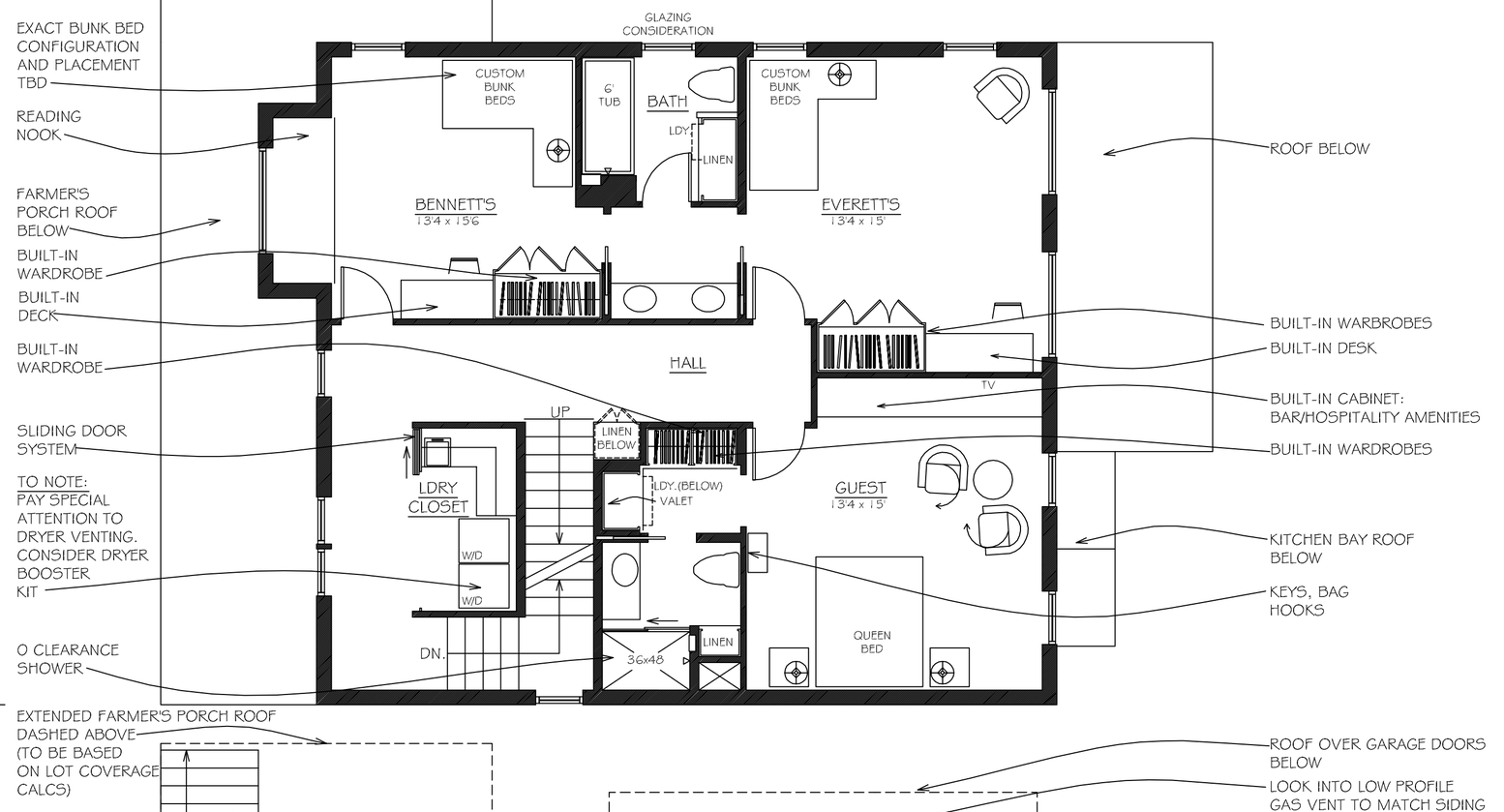
Non-Woody Plants	Method of Reproducing	Methods of Disposal
garlic mustard *(Alliaria petiolata)* spotted knapweed *(Centaurea maculosa)* ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. black swallow-wort *(Cynanchum nigrum)* ▪ May cause skin rash. Wear gloves and long sleeves when handling. pale swallow-wort *(Cynanchum rossicum)* giant hogweed *(Heracleum mantegazzianum)* ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. dame's rocket *(Hesperis matronalis)* perennial pepperweed *(Lepidium latifolium)* purple loosestrife *(Lythrum salicaria)* Japanese stilt grass *(Microstegium vimineum)* mile-a-minute weed *(Polygonum perfoliatum)*	**Fruits and Seeds** 	**Prior to flowering** Depends on scale of infestation Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material. **During and following flowering** Do nothing until the following year or remove flowering heads and bag and let rot. Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material.
common reed (*Phragmites australis*) Japanese knotweed *(Polygonum cuspidatum)* Bohemian knotweed *(Polygonum x bohemicum)*	**Fruits, Seeds, Plant Fragments** Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.	**Small infestation** ▪ Bag all plant material and let rot. ▪ Never pile and use resulting material as compost. ▪ Burn. **Large infestation** ▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile. ▪ Monitor and remove any sprouting material. ▪ Pile, let dry, and burn.

January 2010

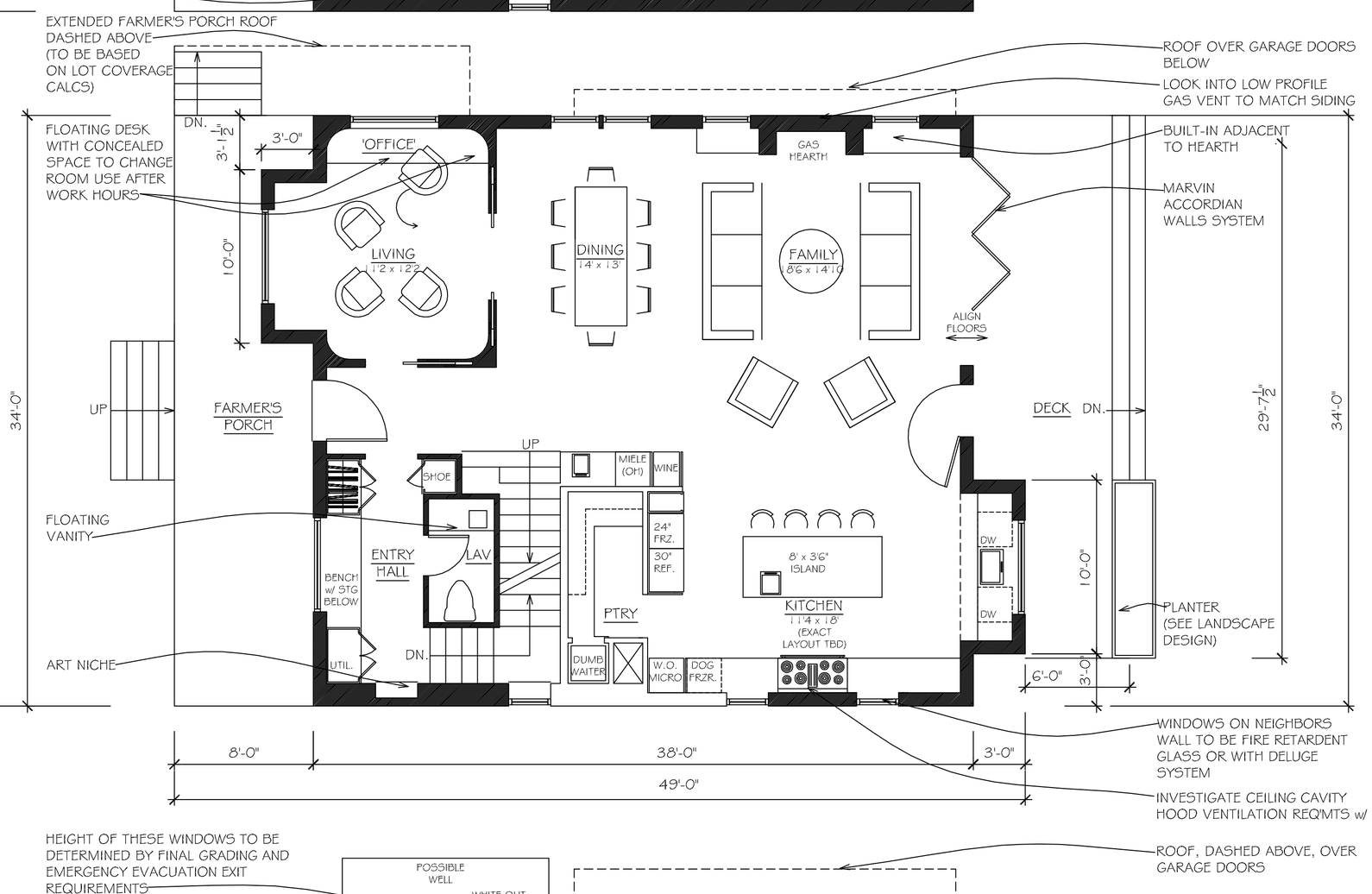
THIRD FLOOR



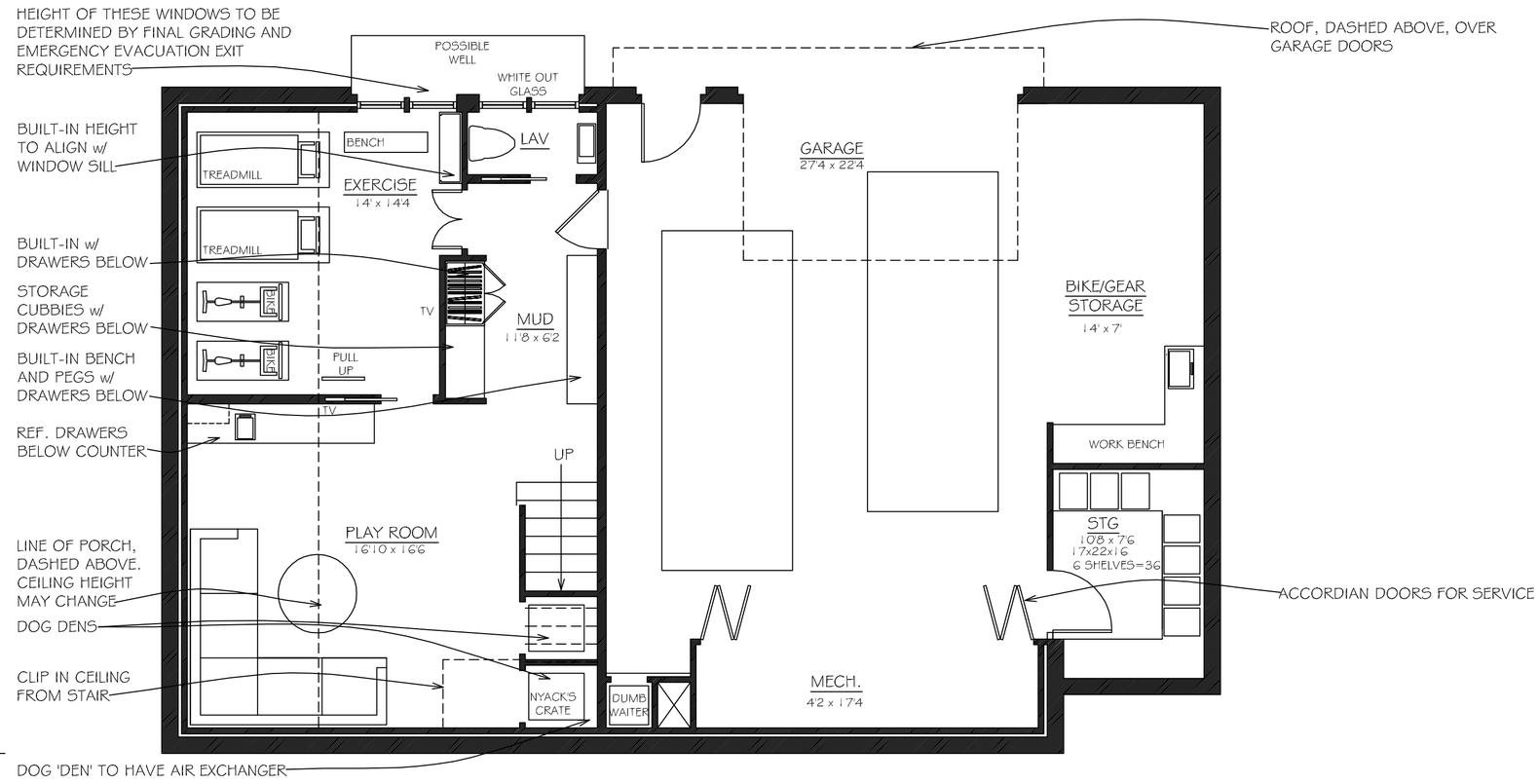
SECOND FLOOR



FIRST FLOOR



LOWER LEVEL



SMITH RESIDENCE

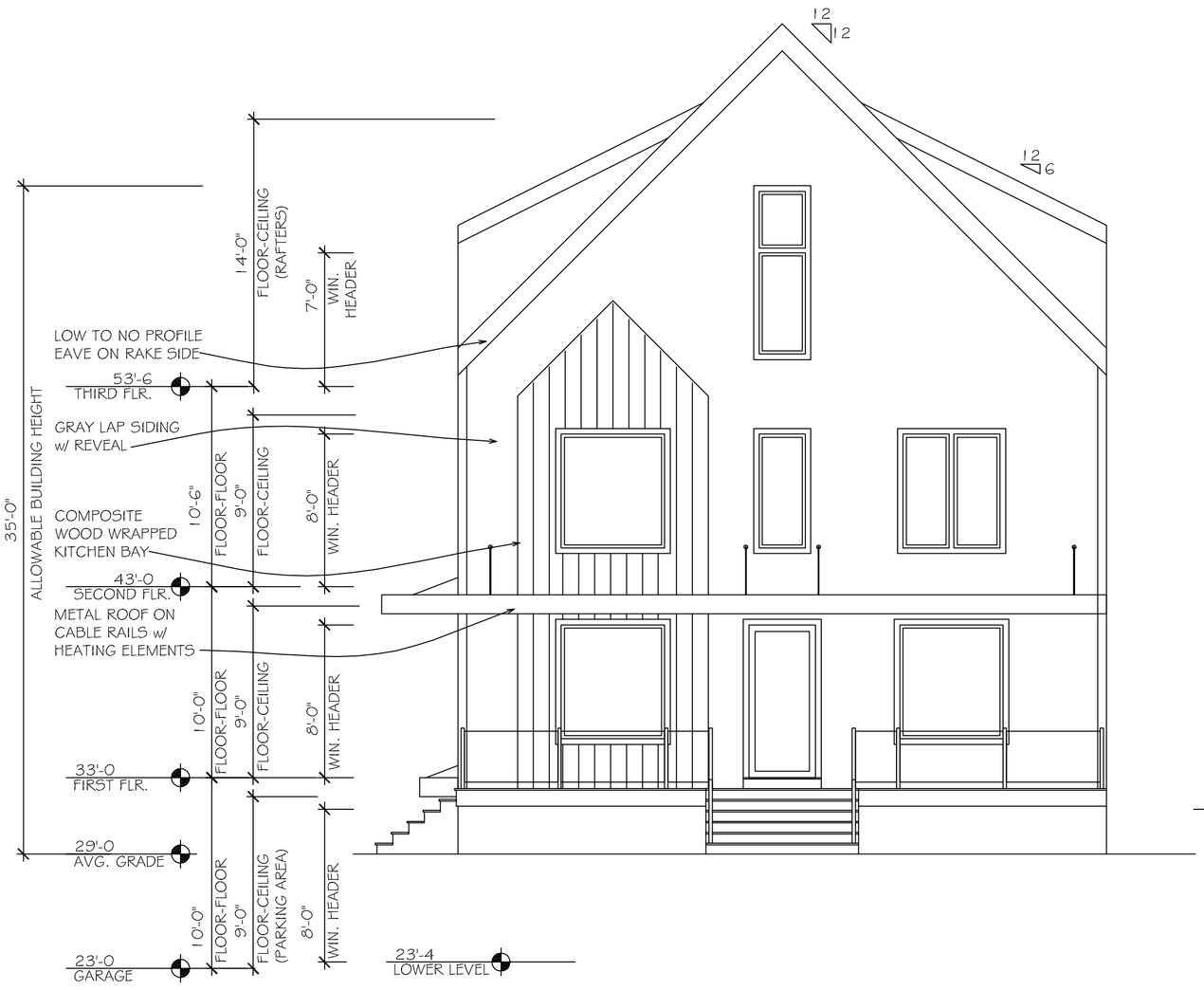
9 KENT STREET, PORTSMOUTH, NH

PROPOSED FLOOR PLANS

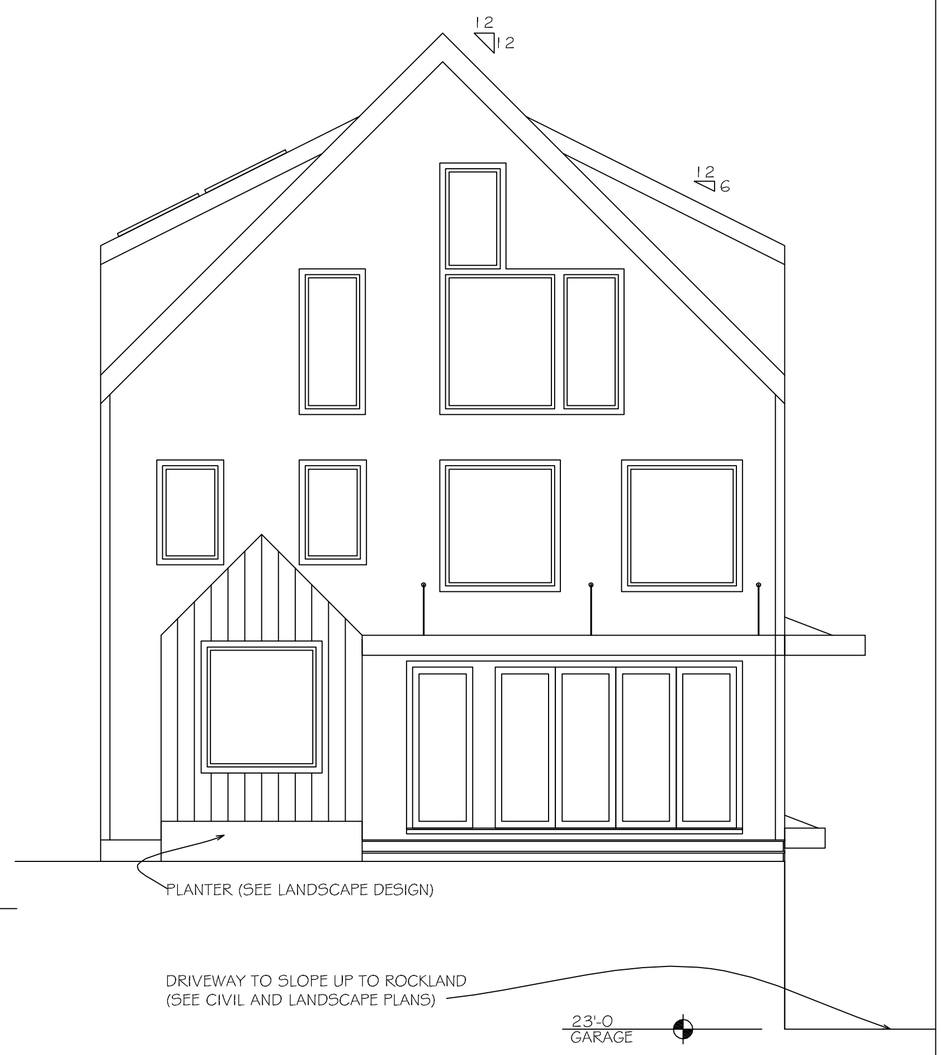
$\frac{3}{16}" = 1'-0"$

OCT 5, 2022
OCT 18-21, 2022

SOMMA STUDIOS

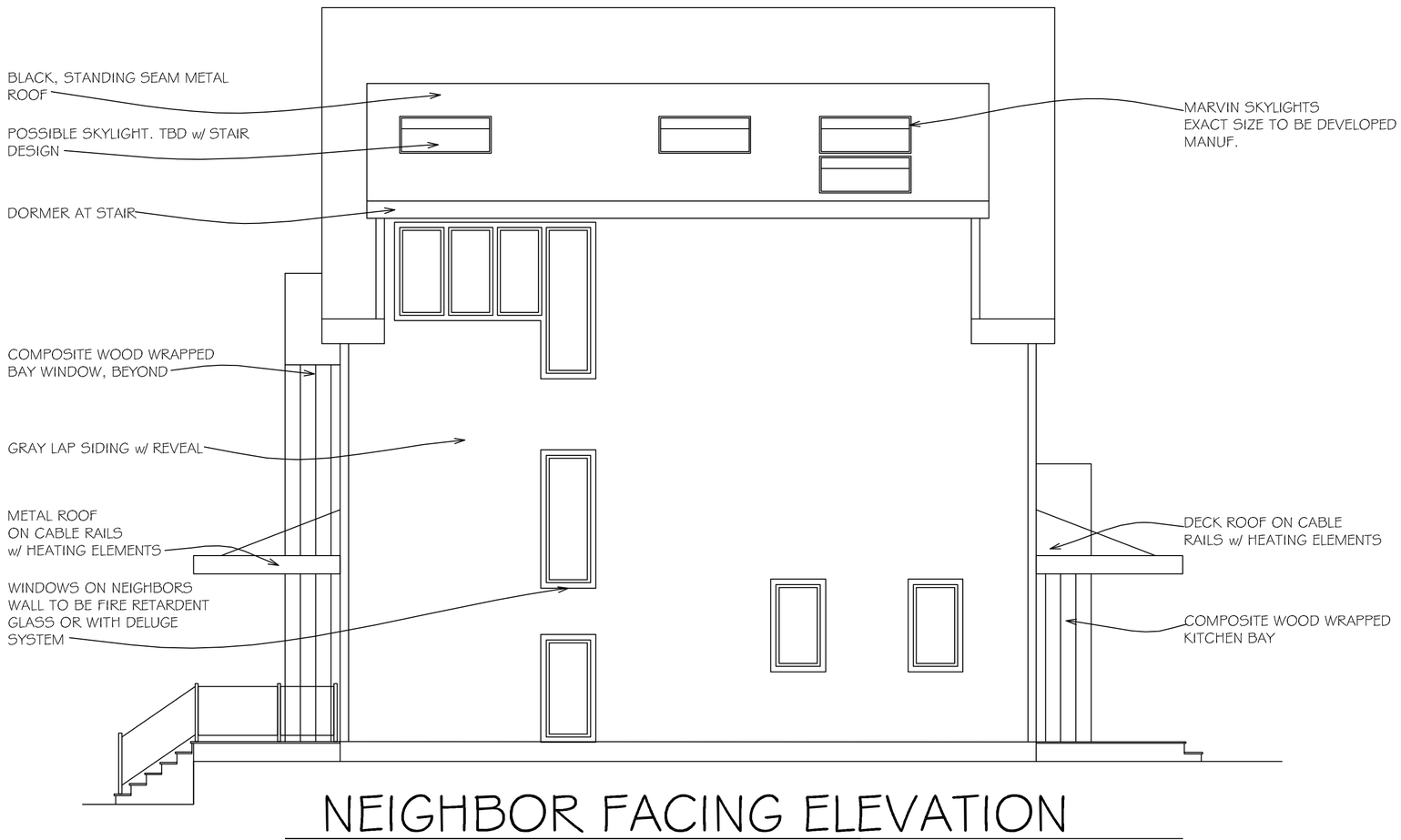


KENT STREET ELEVATION



BACK YARD ELEVATION

ROCKLAND STREET ELEVATION



NEIGHBOR FACING ELEVATION

SMITH RESIDENCE

9 KENT STREET, PORTSMOUTH, NH

PROPOSED ELEVATIONS

$\frac{3}{16}" = 1'-0"$

OCT 5, 2022
OCT 18-21, 2022

SOMMA STUDIOS

STRUCTURE REPLACEMENT

SMITH RESIDENCE

9 - 11 KENT STREET, PORTSMOUTH, NEW HAMPSHIRE

PERMIT PLANS

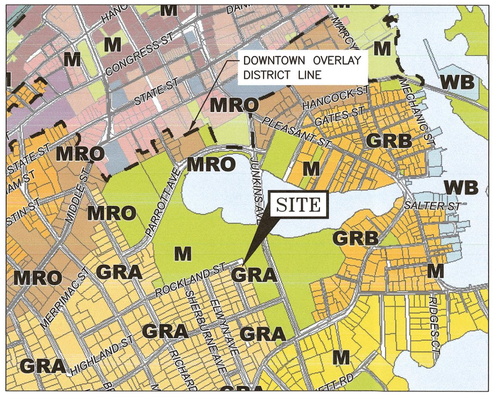
OWNER & APPLICANT:
CYNTHIA AUSTIN SMITH &
PETER SMITH
9 KENT STREET
PORTSMOUTH, NH 03801
(617) 803-2109

CIVIL ENGINEER & LAND SURVEYOR:
AMBIT ENGINEERING, INC.
200 GRIFFIN ROAD, UNIT 3
PORTSMOUTH, N.H. 03801
TEL. (603) 430-9282
FAX (603) 436-2315

ATTORNEY:
HOEFLE, PHOENIX, GORMLEY & ROBERTS, PLLC
127 PARROTT AVENUE
PORTSMOUTH, NH 03801
TEL. (603) 436-0666
FAX (603) 431-0879

LANDSCAPE ARCHITECT:
WOODBURN & COMPANY LANDSCAPE ARCHITECTURE, LLC
103 KENT PLACE
NEWMARKET, N.H. 03857
TEL. (603) 659-5949
FAX (603) 659-5939

ARCHITECT:
SOMMA STUDIOS
30 MAPLEWOOD AVENUE
PORTSMOUTH NH 03801
TEL. (617) 766-3760
FAX (617) 766-3761

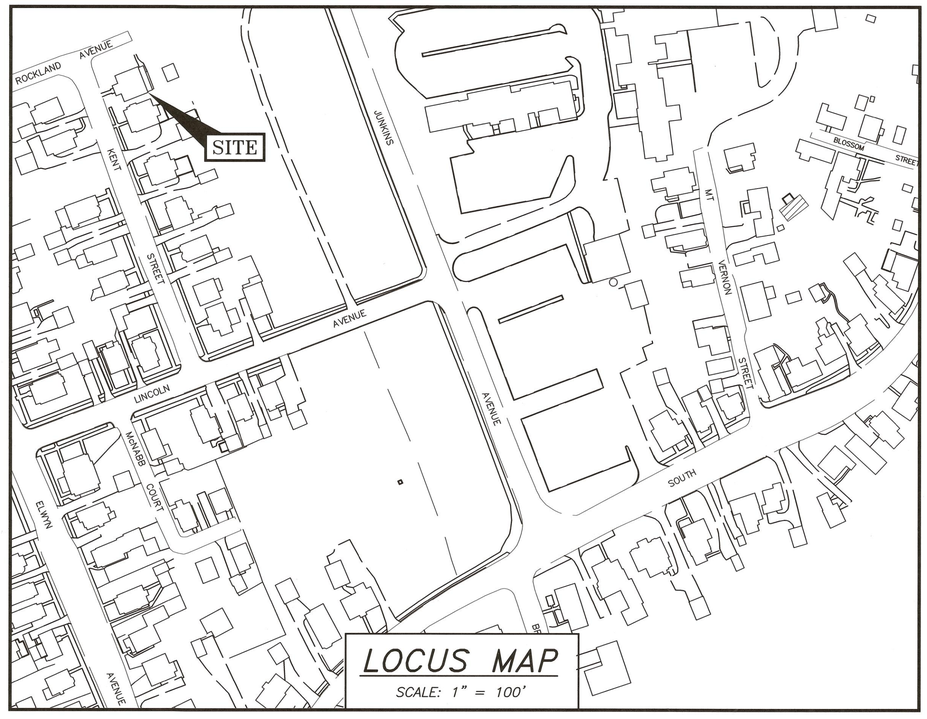


Legend

Character Districts
Character-Based Zoning Area
(Refer to Zoning Map Sheet 2 of 2 Character Districts Regulating Plan)

Residential Districts

R	Rural
SRA	Single Residence A
SRB	Single Residence B
GRA	General Residence A
GRB	General Residence B
GRC	General Residence C
GA/MH	Garden Apartment/Mobile Home Park



LOCUS MAP
SCALE: 1" = 100'

PERMIT LIST:
PORTSMOUTH ZONING BOARD: PENDING
PORTSMOUTH DRIVEWAY PERMIT: PENDING
PORTSMOUTH TREES AND GREENERY: PENDING

LEGEND:

EXISTING	PROPOSED	
		PROPERTY LINE
		SETBACK
S	S	SEWER PIPE
SL	SL	SEWER LATERAL
G	G	GAS LINE
D	D	STORM DRAIN
W	W	WATER LINE
WS	WS	WATER SERVICE
UGE	UGE	UNDERGROUND ELECTRIC
OHW	OHW	OVERHEAD ELECTRIC/WIRES
	UD	FOUNDATION DRAIN
		EDGE OF PAVEMENT (EP)
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		UTILITY POLE
		WALL MOUNTED EXTERIOR LIGHTS
		TRANSFORMER ON CONCRETE PAD
		ELECTRIC HANDHOLD
		SHUT OFFS (WATER/GAS)
	GV	GATE VALVE
	HYD	HYDRANT
CB	CB	CATCH BASIN
S	SMH	SEWER MANHOLE
D	DMH	DRAIN MANHOLE
T	TMH	TELEPHONE MANHOLE
14	14	PARKING SPACE COUNT
PM		PARKING METER
LSA		LANDSCAPED AREA
TBD	TBD	TO BE DETERMINED
CI	CI	CAST IRON PIPE
COP	COP	COPPER PIPE
DI	DI	DUCTILE IRON PIPE
PVC	PVC	POLYVINYL CHLORIDE PIPE
RCP	RCP	REINFORCED CONCRETE PIPE
AC	–	ASBESTOS CEMENT PIPE
VC	VC	VITRIFIED CLAY PIPE
EP	EP	EDGE OF PAVEMENT
EL.	EL.	ELEVATION
FF	FF	FINISHED FLOOR
INV	INV	INVERT
S =	S =	SLOPE FT/FT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL

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INDEX OF SHEETS

UTILITY CONTACTS

ELECTRIC:
EVERSOURCE
1700 LAFAYETTE ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 436-7708, Ext. 555.5678
ATTN: MICHAEL BUSBY, P.E. (MANAGER)

SEWER & WATER:
PORTSMOUTH DEPARTMENT OF PUBLIC WORKS
680 PEVERLY HILL ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 427-1530
ATTN: JIM TOW

NATURAL GAS:
UNITIL
325 WEST ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 294-5144
ATTN: DAVE BEAULIEU

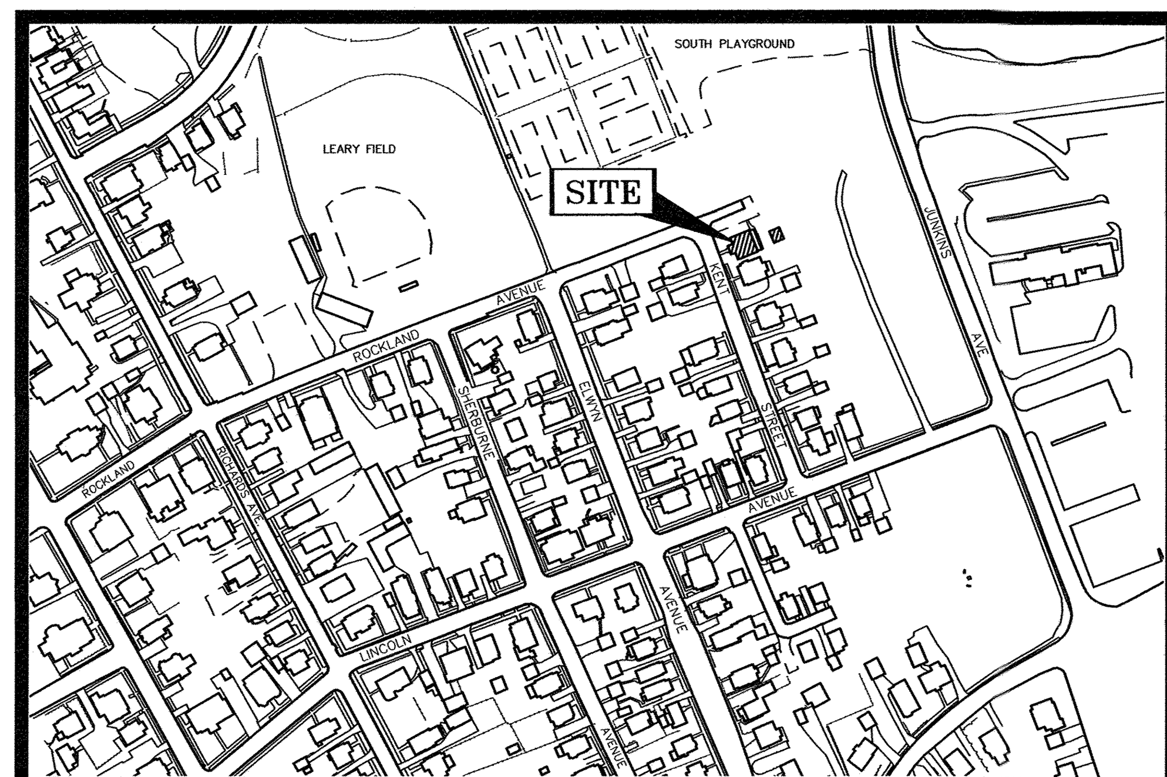
COMMUNICATIONS:
FAIRPOINT COMMUNICATIONS
JOE CONSIDINE
1575 GREENLAND ROAD
GREENLAND, N.H. 03840
Tel. (603) 427-5525

CABLE:
COMCAST
155 COMMERCE WAY
PORTSMOUTH, N.H. 03801
Tel. (603) 679-5695 (X1037)
ATTN: MIKE COLLINS

STRUCTURE REPLACEMENT
SMITH RESIDENCE
9 - 11 KENT STREET
PORTSMOUTH, N.H.

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

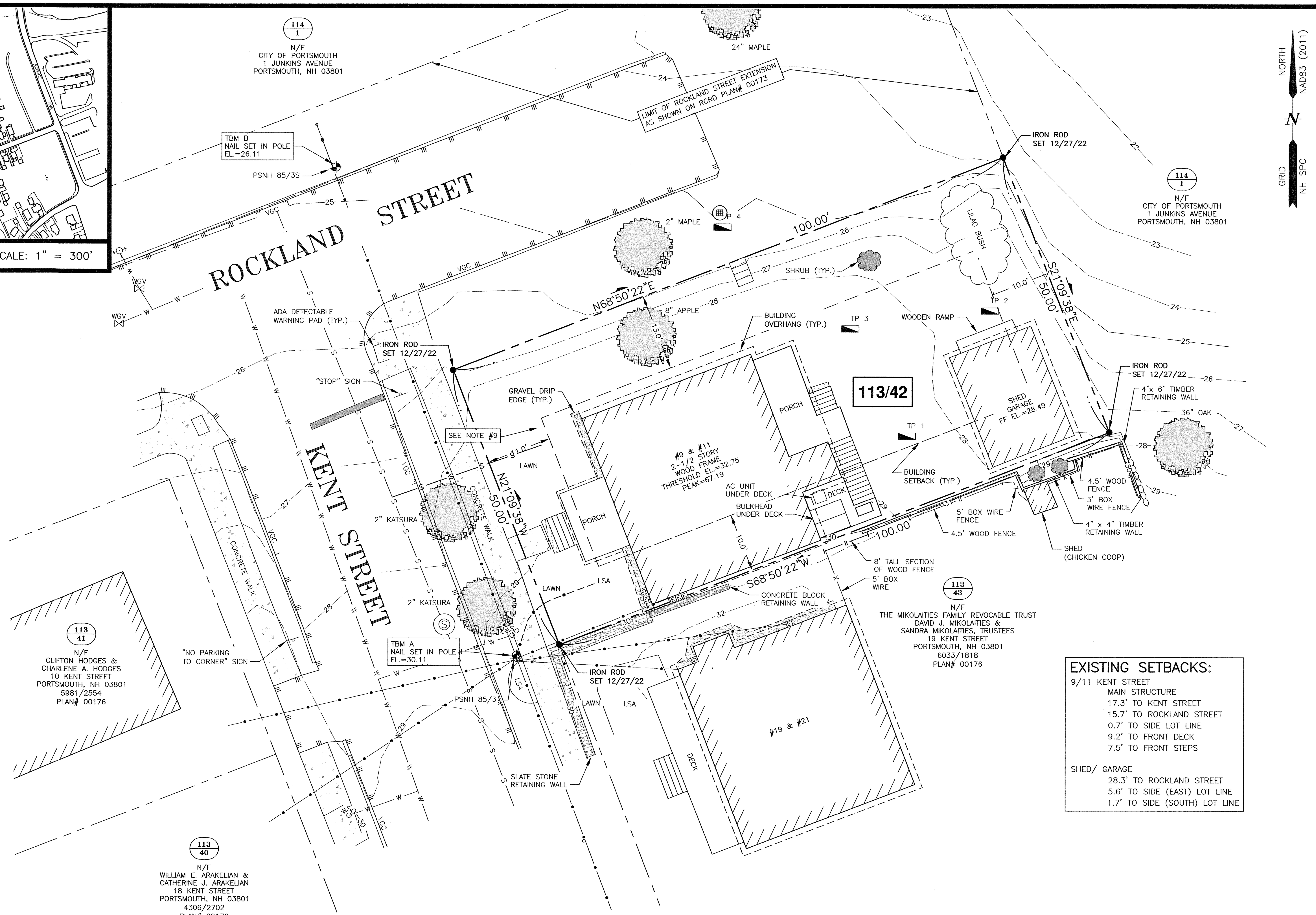
PLAN SET SUBMITTAL DATE: 7 FEBRUARY 2023



LOCATION MAP SCALE: 1" = 300'

LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
11/21	MAP 11 / LOT 21
	BOUNDARY
	SETBACK
	RAILROAD SPIKE FOUND/SET
	IRON ROD/ PIPE FOUND
	DRILL HOLE FOUND/SET
S	SEWER LINE
G	GAS LINE
D	STORM DRAIN
W	WATER LINE
	OVERHEAD ELECTRIC/WIRES
100	CONTOUR
97x3	SPOT ELEVATION
	EDGE OF PAVEMENT (EP)
	WOODS / TREE LINE
	UTILITY POLE (w/ GUY)
	GAS SHUT OFF
	WATER SHUT OFF/CURB STOP
GV	GATE VALVE
	HYDRANT
E	METER (GAS, WATER, ELECTRIC)
S	SEWER MANHOLE
	SIGNS
EL.	ELEVATION
FF	FINISHED FLOOR
TBM	TEMPORARY BENCHMARK
TYP.	TYPICAL
VGC	VERTICAL GRANITE CURB
CCB	CAPE COD BERM
LSA	LANDSCAPED AREA



EXISTING SETBACKS:

9/11 KENT STREET
MAIN STRUCTURE
17.3' TO KENT STREET
15.7' TO ROCKLAND STREET
0.7' TO SIDE LOT LINE
9.2' TO FRONT DECK
7.5' TO FRONT STEPS

SHED/ GARAGE
28.3' TO ROCKLAND STREET
5.6' TO SIDE (EAST) LOT LINE
1.7' TO SIDE (SOUTH) LOT LINE

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 113 AS LOT 42.

2) OWNERS OF RECORD:
CYNTHIA AUSTIN SMITH &
PETER SMITH
9 KENT STREET
PORTSMOUTH, NH 03801
6358/448
PLAN# 00176

3) PARCEL IS NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259F, DATED 1/29/2021.

4) EXISTING LOT AREA:
5,000 S.F.
0.1148 ACRES

5) PARCEL IS LOCATED IN THE GENERAL RESIDENCE A (GRA) DISTRICT.

6) DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA:	7,500 S.F.
FRONTAGE:	100 FEET
SETBACKS:	
FRONT:	15 FEET
SIDE:	10 FEET
REAR:	20 FEET
MAXIMUM STRUCTURE HEIGHT:	35 FEET
MAXIMUM BUILDING COVERAGE:	25%
MINIMUM OPEN SPACE:	30%

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULTS OF A STANDARD BOUNDARY AND TOPOGRAPHIC SURVEY OF ASSESSOR'S MAP 113, LOT 42 IN THE CITY OF PORTSMOUTH.

8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.

9) IN ACCORDANCE WITH THE PORTSMOUTH ZONING ORDINANCE, ARTICLE 5, SECTION 10.516 FRONT YARD EXCEPTION FOR EXISTING ALIGNMENTS: THE AVERAGE FRONT SETBACK FOR LOT 113/42 ON KENT STREET IS 10' AND AVERAGE FRONT SETBACK ON ROCKLAND STREET IS 13'. MEASUREMENT TO STRUCTURES 18" ABOVE GRADE.

NO.	DESCRIPTION	DATE
3	ISSUED FOR APPROVAL	2/7/23
2	MONUMENTS SET	12/27/22
1	TEST PIT INFORMATION	11/10/22
0	ISSUED FOR COMMENT	7/13/22

REVISIONS

TEST PIT #1

Date:	11/3/22
Logged by:	STEVEN D. RIKER
ESHWT:	34"
Observed Water:	NONE
Restrictive layer:	NONE
REFUSAL:	NONE TO 66"
Percolation rate:	10 min./inch

DEPTH	DESCRIPTION
0" – 8"	10 YR 3/2 FINE SANDY LOAM, GRANULAR, FRIABLE
0" – 21"	10 YR 4/3 FINE SANDY LOAM, GRANULAR, FRIABLE
21" – 34"	ASH LAYER
34" – 53"	10 YR 3/4 FINE SANDY LOAM, GRANULAR, FRIABLE
53" – 61"	10 YR 4/6 FINE SANDY LOAM, GRANULAR, FRIABLE
61" – 66"	2.5 YR 5/4 FINE SANDY LOAM, GRANULAR, FRIABLE

TEST PIT #2

Date:	11/3/22
Logged by:	STEVEN D. RIKER
ESHWT:	57"
Observed Water:	NONE
Restrictive layer:	NONE
REFUSAL:	NONE TO 75"
Percolation rate:	10 min./inch

DEPTH	DESCRIPTION
0" – 6"	10 YR 3/3 FINE SANDY LOAM, GRANULAR, FRIABLE
6" – 26"	10 YR 4/3 FINE SANDY LOAM, GRANULAR, FRIABLE
26" – 57"	ASH LAYER
57" – 75"	10 YR 5/4 FINE SANDY LOAM, GRANULAR, FRIABLE

TEST PIT #3

Date:	11/3/22
Logged by:	STEVEN D. RIKER
ESHWT:	55"
Observed Water:	NONE
Restrictive layer:	NONE
REFUSAL:	NONE TO 75"
Percolation rate:	10 min./inch

DEPTH	DESCRIPTION
0" – 37"	10 YR 3/3 FINE SANDY LOAM, GRANULAR, FRIABLE
37" – 55"	ASH LAYER
55" – 75"	10 YR 5/4 FINE SANDY LOAM, GRANULAR, FRIABLE

TEST PIT #4

Date:	11/3/22
Logged by:	STEVEN D. RIKER
ESHWT:	56"
Observed Water:	NONE
Restrictive layer:	PAN AT 56"
REFUSAL:	NONE TO 56"
Percolation rate:	10 min./inch

DEPTH	DESCRIPTION
0" – 5"	10 YR 4/3 FINE SANDY LOAM, GRANULAR, FRIABLE
5" – 18"	ASH LAYER
18" – 27"	10 YR 4/4 FINE SANDY LOAM, GRANULAR, FRIABLE
27" – 56"	2.5 YR 4/4 FINE SANDY LOAM, GRANULAR, FRIABLE
56" – 71"	2.5 YR 4/3 FINE SANDY LOAM, GRANULAR, FRIABLE

PLAN REFERENCES:

1) PLAN OF A LOT OF LAND OWNED BY ALFRED L. ELWYN PORTSMOUTH N.H. COMPILED FROM A SURVEY MADE 1899 BY A.C. HOYT C.E. RCRD PLAN# 00176.

2) STANDARD BOUNDARY SURVEY TAX MAP 113 – LOT 45 OWNER: MICHAEL T. ROCHE & SUSAN L. JAVUREK, PROPERTY LOCATED AT 45 KENT STREET, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE, SCALE: 1" = 10', DATED: MAY 2002, NOT RECORDED

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 738 JOHN R. CHAGNON

"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."

2-7-23

JOHN R. CHAGNON, LLS #738 DATE

GRAPHIC SCALE
10 5 0 10 20 30 40 FEET
3 0 5 10 METERS

STANDARD BOUNDARY & TOPOGRAPHIC SURVEY TAX MAP 113 – LOT 42

OWNER:

CYNTHIA AUSTIN SMITH & PETER SMITH

9-11 KENT STREET
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

SCALE: 1" = 10' JUNE 2022

FB 301 PG 45 3492

DEMOLITION NOTES

A) THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE DESIGNER. IT IS THE CONTRACTORS' RESPONSIBILITY TO LOCATE UTILITIES AND ANTICIPATE CONFLICTS. CONTRACTOR SHALL REPAIR EXISTING UTILITIES DAMAGED BY THEIR WORK AND RELOCATE EXISTING UTILITIES THAT ARE REQUIRED TO BE RELOCATED PRIOR TO COMMENCING ANY WORK IN THE IMPACTED AREA OF THE PROJECT.

B) ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTORS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES. THE CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, DISPOSAL, OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.

C) ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO THE ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

D) THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.

E) SAWCUT AND REMOVE PAVEMENT ONE FOOT OFF PROPOSED EDGE OF PAVEMENT TRENCH IN AREAS WHERE PAVEMENT IS TO BE REMOVED.

F) IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL THE PERMIT APPROVALS.

G) THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL CONSTRUCTION PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR ANY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK.

H) THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE, UTILITIES, VEGETATION, PAVEMENT, AND CONTAMINATED SOIL WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ANY EXISTING DOMESTIC / IRRIGATION SERVICE WELLS IN THE PROJECT AREA IDENTIFIED DURING THE CONSTRUCTION AND NOT CALLED OUT ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER FOR PROPER CAPPING / RE-USE.

I) ALL WORK WITHIN THE CITY OF PORTSMOUTH RIGHT OF WAY SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS (DPW).

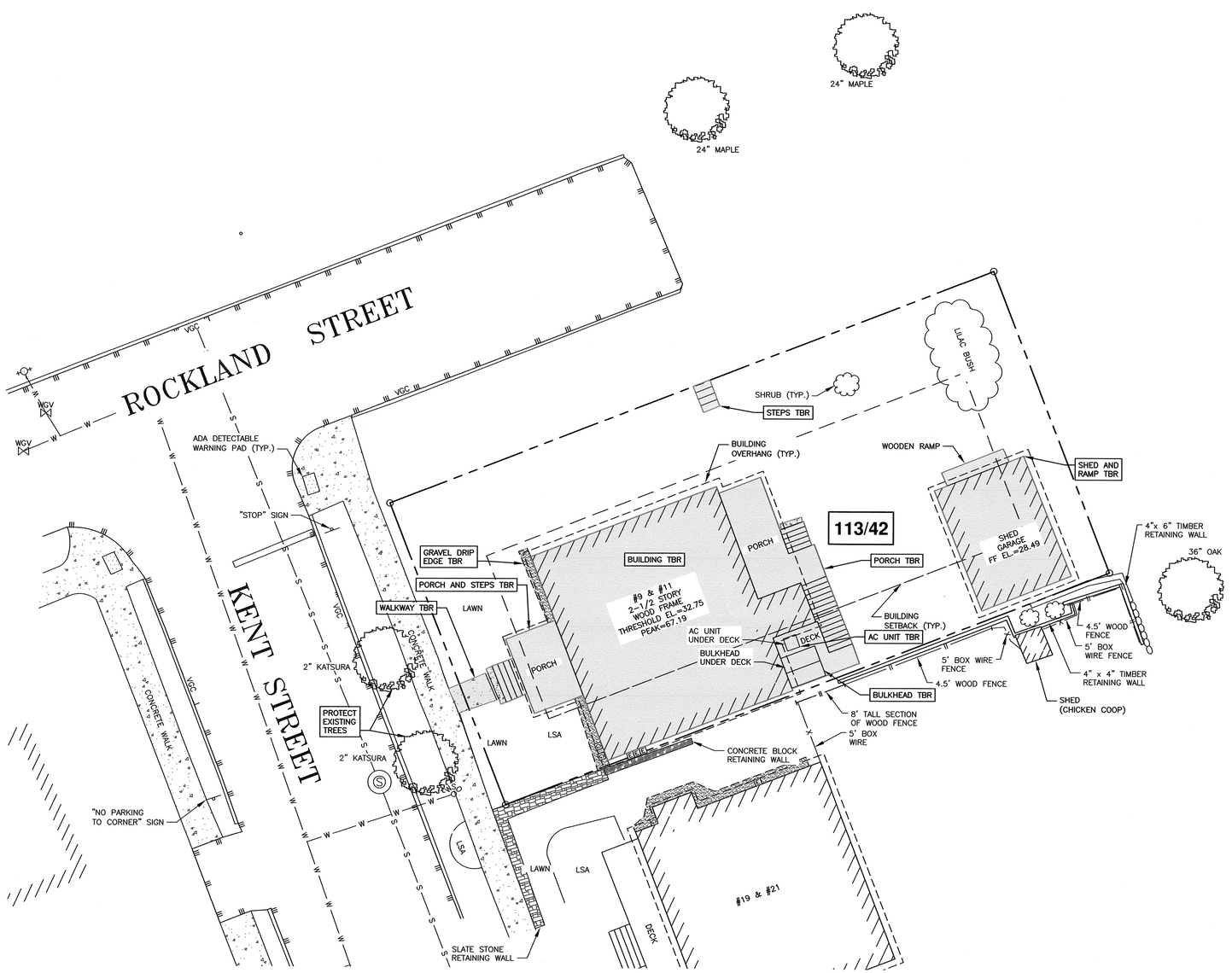
J) REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF-SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

K) CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED, THE CONTRACTOR SHALL EMPLOY A NH LICENSED LAND SURVEYOR TO REPLACE THEM.

L) PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS WITHIN CONSTRUCTION LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE HIGH FLOW SILT SACK BY ACF ENVIRONMENTAL OR APPROVED EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF WARRANTED OR FABRIC BECOMES CLOGGED. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.

M) THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFELY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.

N) ANY CONTAMINATED MATERIAL REMOVED DURING THE COURSE OF THE WORK WILL REQUIRE HANDLING IN ACCORDANCE WITH NHDES REGULATIONS. CONTRACTOR SHALL HAVE A HEALTH AND SAFETY PLAN IN PLACE, AND COMPLY WITH ALL APPLICABLE PERMITS, APPROVALS, AUTHORIZATIONS, AND REGULATIONS



GRAPHIC SCALE

10 5 0 10 20 30 40 FEET
3 0 5 10 METERS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY WITHIN 100 FEET OF UNDERGROUND UTILITIES. THE EXCAVATOR IS RESPONSIBLE TO MAINTAIN MARKS. DIG SAFE TICKETS EXPIRE IN THIRTY DAYS.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

SMITH RESIDENCE
9 KENT STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR APPROVAL	2/7/23

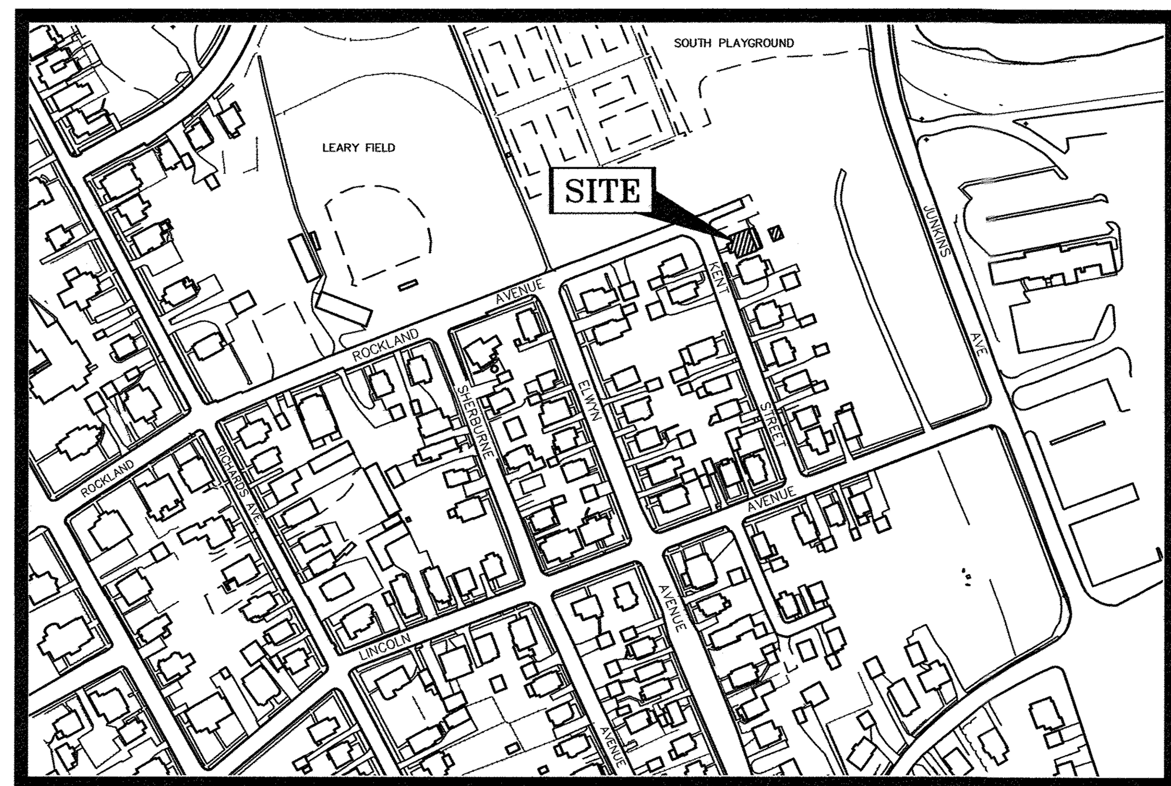
REVISIONS

JOHN R. CHAGNON No. 9551 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE

SCALE: 1" = 10' FEBRUARY 2023

DEMO PLAN C1

FB 301 PG 45 3492



LOCATION MAP SCALE: 1" = 300'

PROPOSED SETBACKS:

9 & 11 KENT STREET
MAIN STRUCTURE
- 14.3' TO KENT STREET
- 9.7' TO ROCKLAND STREET
- 0.6' TO SIDE (SOUTH) LOT LINE
- 9.3' TO FRONT PORCH
- 6.5' TO FRONT (KENT) STEPS
- 12.5' TO SIDE (ROCKLAND) STEPS

LANDSCAPE WALL:
- 1.0' TO ROCKLAND STREET
- 0' TO KENT STREET
- 4.5' TO SIDE (EAST) LOT LINE
- 0.5' TO SIDE (SOUTH) LOT LINE

IMPERVIOUS SURFACE AREAS
(TO PROPERTY LINE)

STRUCTURE	PRE–CONSTRUCTION IMPERVIOUS (S.F.)	POST–CONSTRUCTION IMPERVIOUS (S.F.)
MAIN STRUCTURE	1,075	1,353
GARAGE/SHED	296	0
PORCHES/DECKS	315	458
STAIRS/RAMP/LANDINGS	111	205
CONCRETE PADS	27	28
DRIVEWAY	0	297
POOL FRAME WALL	0	37
RETAINING WALLS	0	303
668 S.F. TERRACE	0	668
EXTENDED ROOF OVERHANG	0	66
TOTAL	1,824	3,415
LOT SIZE	5,000	5,000
% LOT COVERAGE	36.5%	68.3%

EXISTING BUILDING COVERAGE:

MAIN STRUCTURE	1,075 S.F.
GARAGE/SHED	296 S.F.
PORCH/DECKS	315 S.F.
STEPS OVER 18" AG	
FRONT PORCH STEPS	9 S.F.
BACK PORCH/DECK STEPS	52 S.F.
TOTAL	1,747 S.F.

BUILDING COVERAGE: 1,747/5000 = 35%

PROPOSED BUILDING COVERAGE:

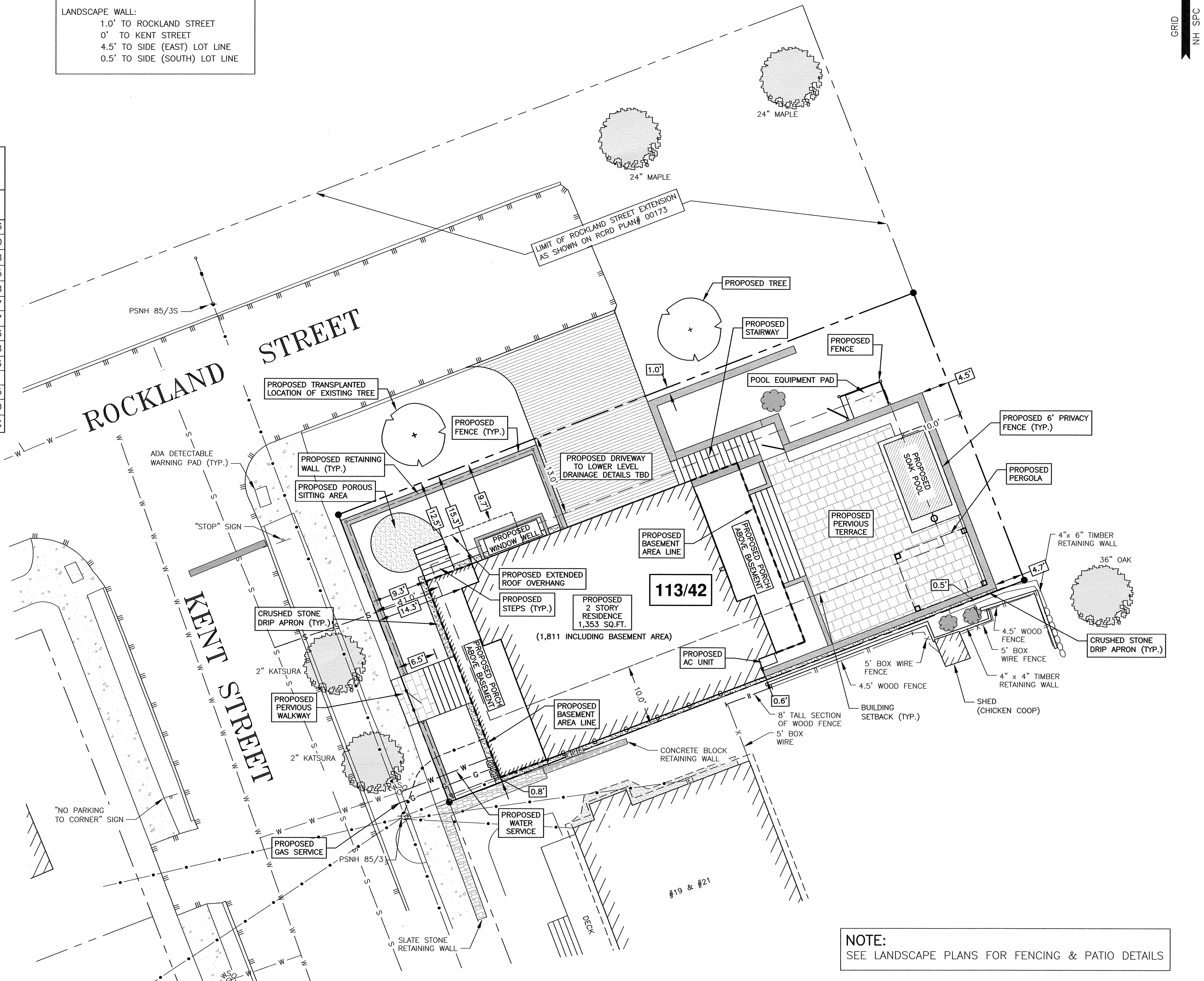
MAIN STRUCTURE	1,353 S.F.
PORCH/PATIOS	458 S.F.
STEPS OVER 18" AG	
FRONT PORCH STEPS	22 S.F.
SIDE PORCH STEPS	13 S.F.
STEPS ON PATIO	62 S.F.
STAIRWAY	60 S.F.
PERVIOUS TERRACE AREA	668 S.F. (INCLUDING PERGOLA FRAME)
POOL EQUIPMENT AREA	24 S.F.
TOTAL	2,660 S.F.

BUILDING COVERAGE: 2,660/5000 = 53%

PROPOSED OPEN SPACE CALCULATION:

MAIN STRUCTURE	1,353 S.F.
PORCH'S	458 S.F.
STAIRS/STEPS	205 S.F.
CONCRETE PADS	28 S.F.
DRIVEWAY	297 S.F.
POOL FRAME WALL	37 S.F.
RETAINING WALLS	303 S.F.
PERVIOUS TERRACE AREA	668 S.F. (INCLUDING PERGOLA FRAME)
TOTAL	3,349 S.F.

COVERAGE: 3349/5000 = 67% COVERAGE
100% – 67% = 33% OPEN SPACE



NOTE:
SEE LANDSCAPE PLANS FOR FENCING & PATIO DETAILS

GRAPHIC SCALE
10 5 0 10 20 30 40 FEET
3 0 5 10 METERS

"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."

2-7-23

JOHN R. CHAGNON, LLS #738 — DATE

STATE OF NEW HAMPSHIRE — JOHN R. CHAGNON No. 738 — LICENSED LAND SURVEYOR

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 113 AS LOT 42.

2) OWNERS OF RECORD:
CYNTHIA AUSTIN SMITH &
PETER SMITH
9 KENT STREET
PORTSMOUTH, NH 03801
6358/448
PLAN# 00176

3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F, DATED 1/29/2021.

4) EXISTING LOT AREA:
5,000 S.F.
0.1148 ACRES

5) PARCEL IS LOCATED IN THE GENERAL RESIDENCE A (GRA) DISTRICT.

6) DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA:	7,500 S.F.
FRONTAGE:	100 FEET
SETBACKS:	
FRONT:	15 FEET
SIDE:	10 FEET
REAR:	20 FEET
MAXIMUM STRUCTURE HEIGHT:	35 FEET
MAXIMUM BUILDING COVERAGE:	25%
MINIMUM OPEN SPACE:	30%

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED STRUCTURE AND SITE IMPROVEMENTS ON ASSESSOR'S MAP 113, LOT 42 IN THE CITY OF PORTSMOUTH.

8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.

SMITH RESIDENCE
9 KENT STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
3	ISSUED FOR APPROVAL	2/7/23
2	DENSITY CALCULATIONS	1/10/23
1	REVISED LAYOUT	12/28/22
0	ISSUED FOR COMMENT	12/22/22

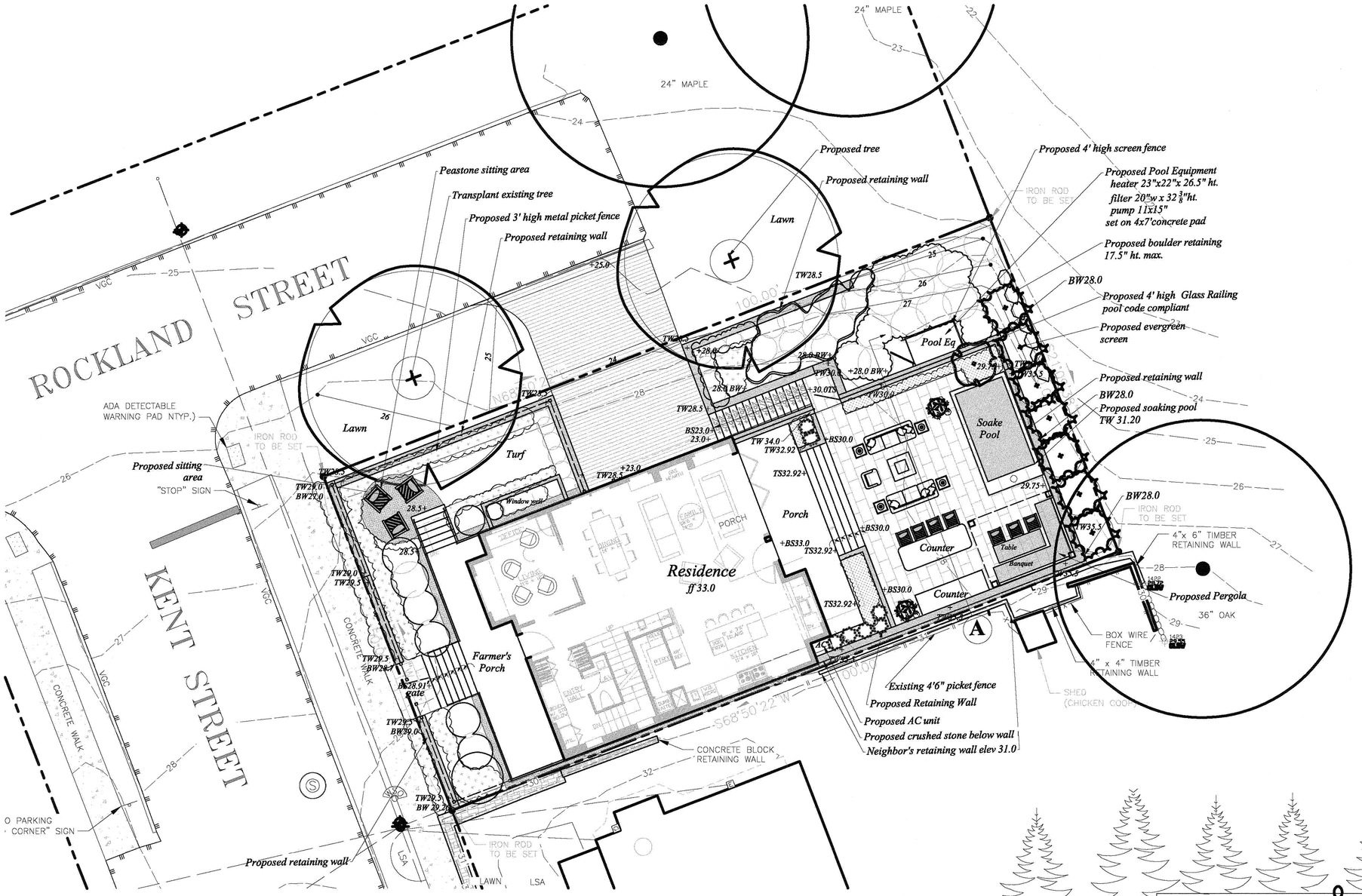
REVISIONS

SCALE: 1" = 10' NOVEMBER 2022

SITE PLAN — C2

FB 301 PG 45

3492



FOR REVIEW ONLY

woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

Smith Residence

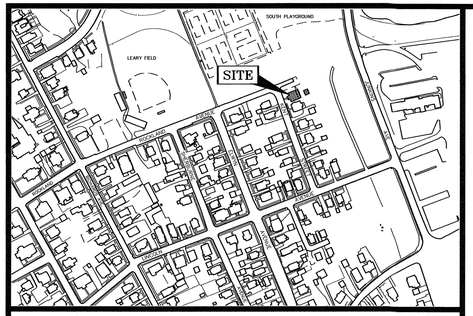
PRELIMINARY LANDSCAPE PLAN

9 Kent Street Portsmouth, New Hampshire

Drawn By:	RW
Checked By:	RW
Scale:	scale
Date:	2022-11-30
Revisions:	2022-12-15 2022-12-19 2022-12-22 2022-12-27 2023-01-19 2023-01-23 2023-01-24 2023-02-06

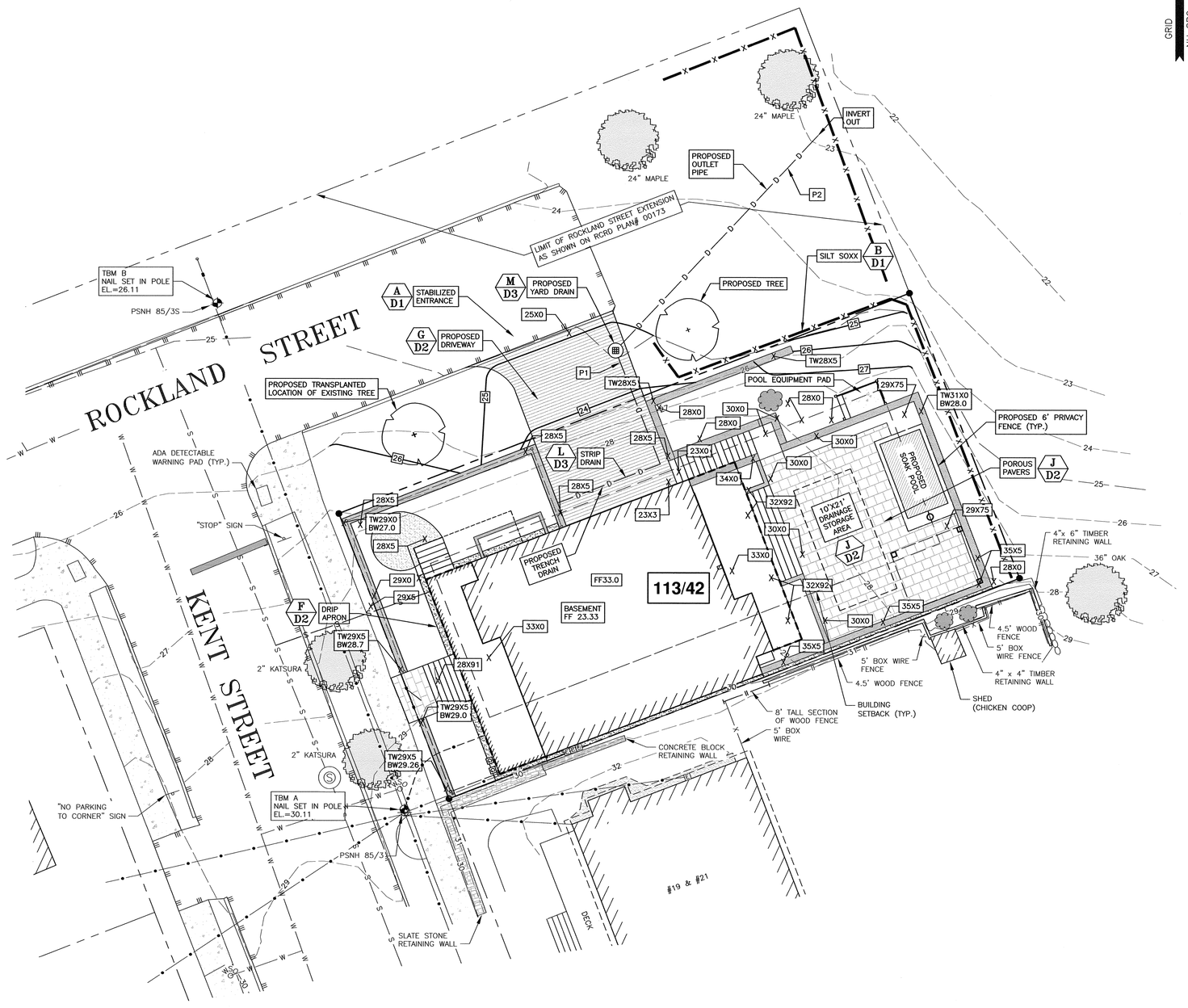
L-1

Sheet 1 of 1



LOCATION MAP SCALE: 1" = 300'

PIPE SCHEDULE					
PIPE #	SIZE	LENGTH	INVERT IN	INVERT OUT	SLOPE
P1	6" PVC	18'	21.67	21.49	0.01
P2	6" PVC	48'	21.39	20.91	0.01



GRAPHIC SCALE

10 5 0 10 20 30 40 FEET
3 0 5 10 METERS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 113 AS LOT 42.

2) OWNERS OF RECORD:
CYNTHIA AUSTIN SMITH &
PETER SMITH
9 KENT STREET
PORTSMOUTH, NH 03801
6358/448
PLAN# 00176

3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F, DATED 1/29/2021.

4) EXISTING LOT AREA:
5,000 S.F.
0.1148 ACRES

5) PARCEL IS LOCATED IN THE GENERAL RESIDENCE A (GRA) DISTRICT.

6) DIMENSIONAL REQUIREMENTS:

MIN. LOT AREA:	7,500 S.F.
FRONTAGE:	100 FEET
SETBACKS:	
FRONT:	15 FEET
SIDE:	10 FEET
REAR:	20 FEET
MAXIMUM STRUCTURE HEIGHT:	35 FEET
MAXIMUM BUILDING COVERAGE:	25%
MINIMUM OPEN SPACE:	30%

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED GRADING ON ASSESSOR'S MAP 113, LOT 42 IN THE CITY OF PORTSMOUTH.

8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.

9) GUTTERS TO ROOF DRAINS (NORTH & SOUTH) WILL BE CONNECTED TO THE DRAINAGE STORAGE AREA UNDER THE TERRACE. SHOP DRAWINGS TO BE COORDINATED WITH THE ARCHITECT.

SMITH RESIDENCE
9 KENT STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR APPROVAL	2/7/23

REVISIONS

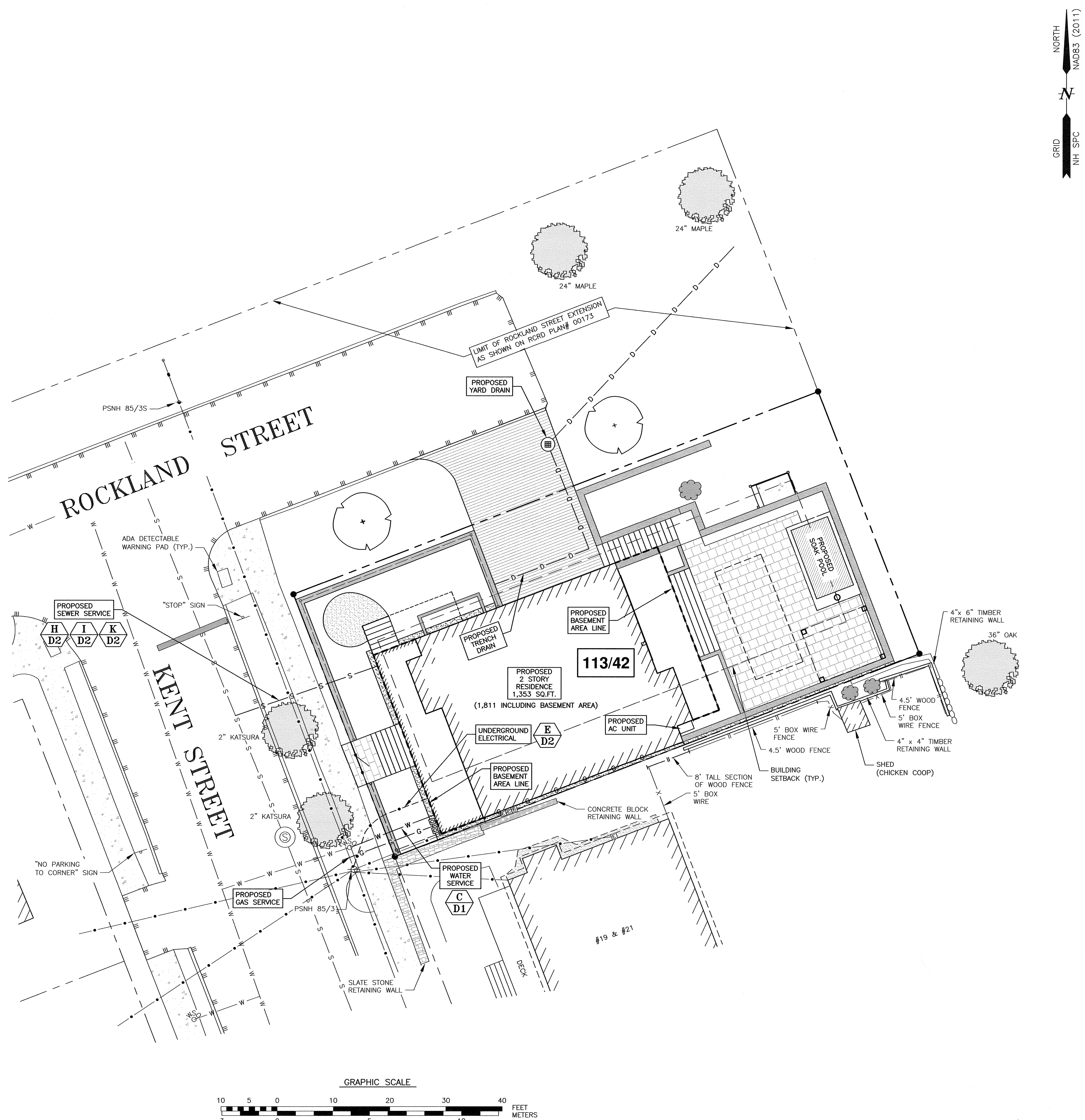
STATE OF NEW HAMPSHIRE · JOHN CHAGNON NO. 7661 · LICENSED PROFESSIONAL ENGINEER

SCALE: 1" = 10' FEBRUARY 2023

GRADING PLAN C3

FB 301 PG 45

3492



AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY WITHIN 100 FEET OF UNDERGROUND UTILITIES. THE EXCAVATOR IS RESPONSIBLE TO MAINTAIN MARKS. DIG SAFE TICKETS EXPIRE IN THIRTY DAYS.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

SMITH RESIDENCE
9 KENT STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR APPROVAL	2/7/23

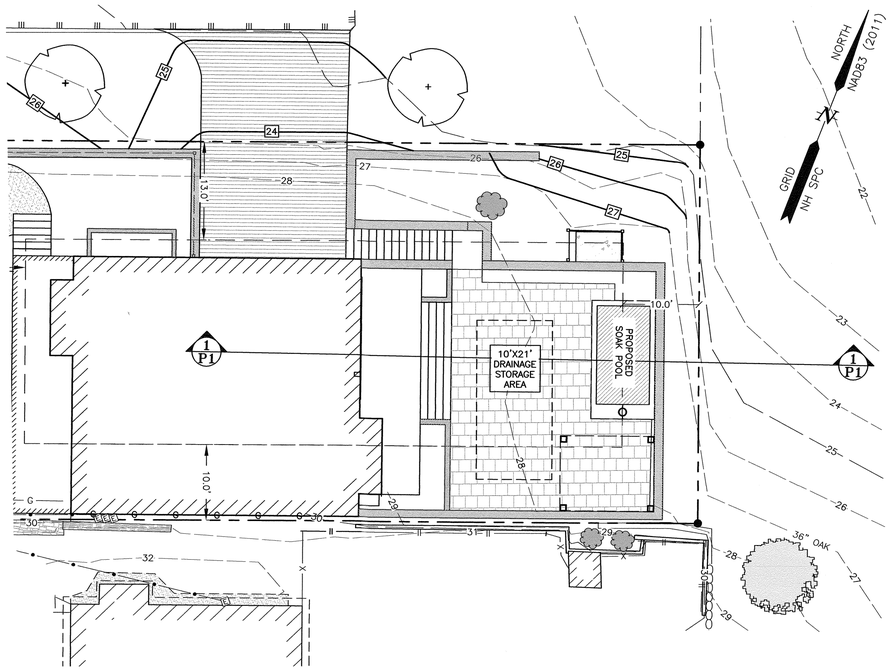
REVISIONS

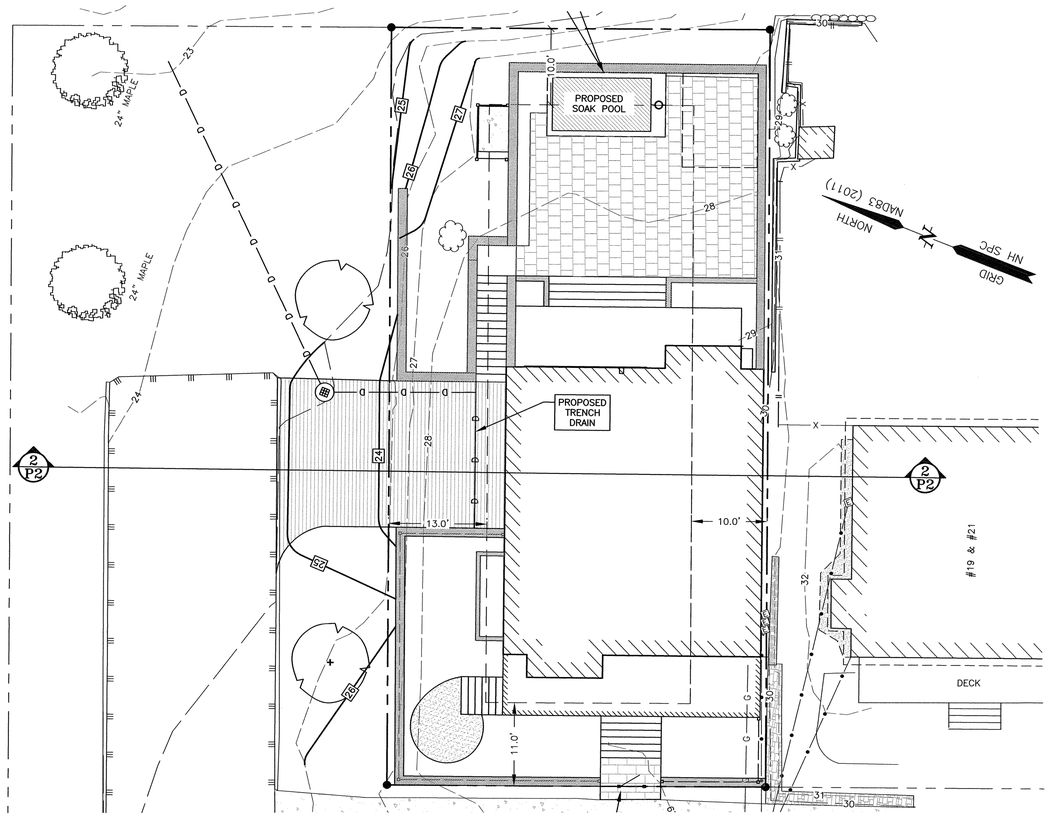
STATE OF NEW HAMPSHIRE JOHN R. CHAGNON No. 7851 LICENSED PROFESSIONAL ENGINEER

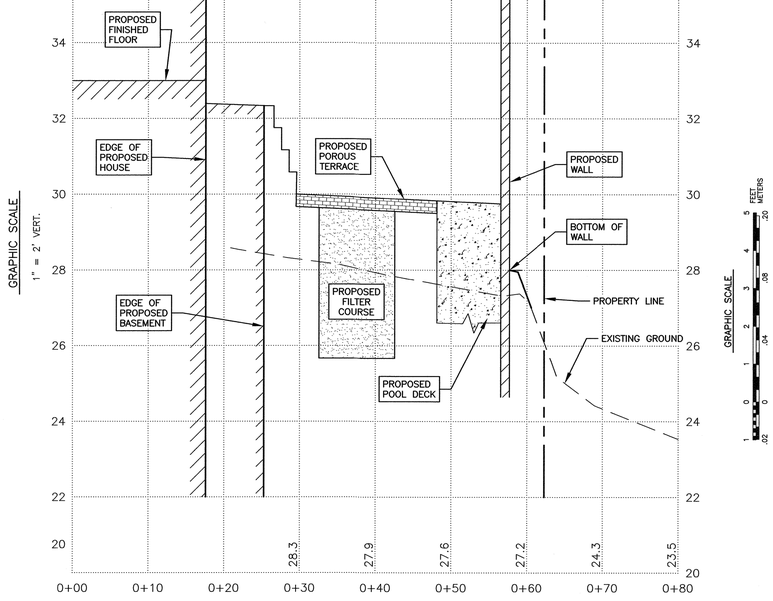
SCALE: 1" = 10'   NOVEMBER 2022

UTILITY PLAN   C4

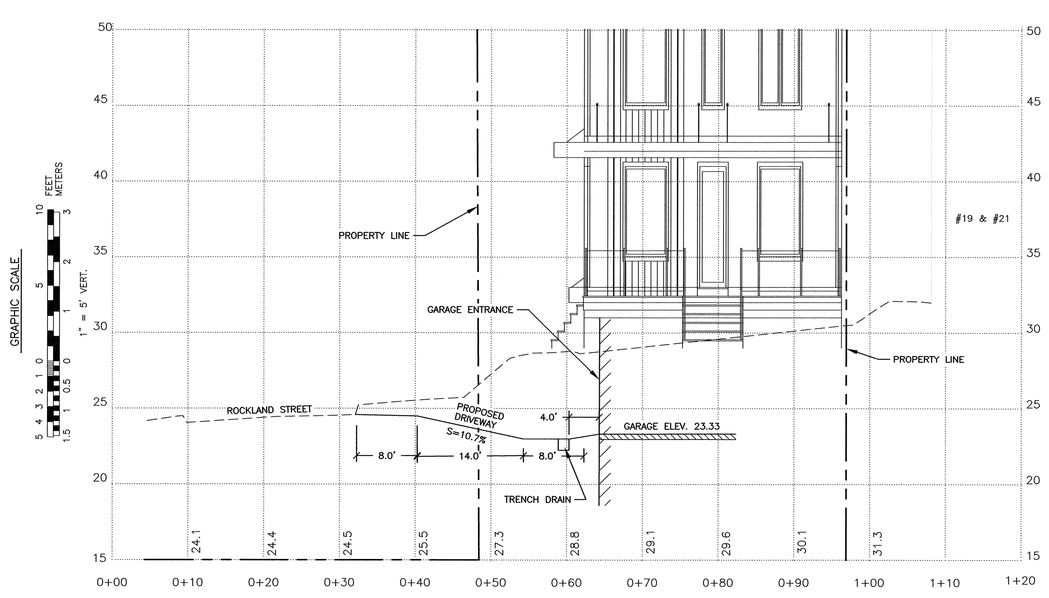
FB 301 PG 45   3492







PATIO SECTION (1)



GRAPHIC SCALE
HORIZONTAL
FEET
METERS

DRIVEWAY SECTION (2)

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

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2) OWNERS OF RECORD:
CYNTHIA AUSTIN SMITH &
PETER SMITH
9 KENT STREET
PORTSMOUTH, NH 03801
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PLAN# 00176

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7) THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED STRUCTURE AND SITE IMPROVEMENTS ON ASSESSOR'S MAP 113, LOT 42 IN THE CITY OF PORTSMOUTH.

8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBSERVATIONS.

SMITH RESIDENCE
9 KENT STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	ISSUED FOR APPROVAL	2/7/23
0	ISSUED FOR COMMENT	1/20/23

REVISIONS

STATE OF NEW HAMPSHIRE
JOHN R. CHAGNON
No. 7861
LICENSED
PROFESSIONAL ENGINEER

SCALE H:1"=10' JANUARY 2023

SITE SECTION

P1

FB 301 PG 45

3492

EROSION CONTROL NOTES

CONSTRUCTION SEQUENCE

DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.

INSTALL INLET PROTECTION AND PERIMETER CONTROLS, i.e., SILT FENCING OR SILTSOXX AROUND THE LIMITS OF DISTURBANCE AND CATCH BASIN FILTER BEFORE ANY EARTH MOVING OPERATIONS.

CUT AND GRUB ALL TREES, SHRUBS, SAPLINGS, BRUSH, VINES AND REMOVE OTHER DEBRIS AND RUBBISH AS REQUIRED.

REMOVE EXISTING GARAGE.

PERFORM IMPROVEMENTS. CONSTRUCT SITE UTILITIES AND BUILD HOME.

REMOVE TRAPPED SEDIMENTS FROM COLLECTION DEVICES AS APPROPRIATE, AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF FINAL STABILIZATION OF THE SITE.

DURING CONSTRUCTION ACCESS WILL BE PROVIDED TO EXISTING PROPERTY LOCATED ON ROCKLAND ST.

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF A BUILDING REPLACEMENT WITH ASSOCIATED UTILITIES, GRADING, AND PARKING.

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 0.115 ACRES.

BASED ON SITE OBSERVATIONS AND TEST PITS THE SOILS ON SITE CONSIST OF FINE SANDY LOAM WHICH ARE WELL DRAINED SOILS WITH A HYDROLOGIC SOIL GROUP RATING OF A.

THE STORMWATER RUNOFF FROM THE SITE WILL BE DISCHARGED TO CITY OF PORTSMOUTH PROPERTY WHICH ULTIMATELY FLOWS TO THE SOUTH MILL POND THEN TO THE PISCATAQUA RIVER.

GENERAL CONSTRUCTION NOTES

THE EROSION CONTROL PROCEDURES SHALL CONFORM TO SECTION 645 OF THE "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION" OF THE NHDOT, AND "STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE". THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED FOR MORE THAN 45 DAYS.

ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION.

THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

DUST CONTROL: DUST CONTROL MEASURES SHALL INCLUDE BUT ARE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.
IF TEMPORARY STABILIZATION PRACTICES, SUCH AS TEMPORARY VEGETATION AND MULCHING, DO NOT ADEQUATELY REDUCE DUST GENERATION, APPLICATION OF WATER OR CALCIUM CHLORIDE SHALL BE APPLIED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES.

SILTSOXX SHALL BE PERIODICALLY INSPECTED DURING THE LIFE OF THE PROJECT AND AFTER EACH STORM. ALL DAMAGED SILTSOXX SHALL BE REPAIRED. SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED IN A SECURED LOCATION.

ALL FILLS SHALL BE PLACED AND COMPACTED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS.

ALL NON-STRUCTURAL, SITE-FILL SHALL BE PLACED AND COMPACTED TO 90% MODIFIED PROCTOR DENSITY IN LAYERS NOT EXCEEDING 18 INCHES IN THICKNESS UNLESS OTHERWISE NOTED.

FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIAL, TRASH, WOODY DEBRIS, LEAVES, BRUSH OR ANY DELETERIOUS MATTER SHALL NOT BE INCORPORATED INTO FILLS.

FILL MATERIAL SHALL NOT BE PLACED ON FROZEN FOUNDATION SUBGRADE.

DURING CONSTRUCTION AND UNTIL ALL DEVELOPED AREAS ARE FULLY STABILIZED, ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH ONE HALF INCH OF RAINFALL.

THE CONTRACTOR SHALL MODIFY OR ADD EROSION CONTROL MEASURES AS NECESSARY TO ACCOMMODATE PROJECT CONSTRUCTION.

ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- BASE COURSE GRAVELS HAVE BEEN INSTALLED ON AREAS TO BE PAVED
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
- A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED
- EROSION CONTROL BLANKETS HAVE BEEN INSTALLED.
- IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.

STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA.

STABILIZATION MEASURES TO BE USED INCLUDE:
- TEMPORARY SEEDING;
- MULCHING.

1. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
2. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN THESE AREAS, SILTSOXX, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
3. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILTSOXX, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY OCTOBER 15.

MAINTENANCE AND PROTECTION

THE SILTSOXX BARRIER SHALL BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

SILTSOXX SHALL BE REMOVED ONCE SITE IS STABILIZED, AND DISTURBED AREAS RESULTING FROM SILTSOXX REMOVAL SHALL BE PERMANENTLY SEEDED.

THE CATCH BASIN INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.
SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

WINTER NOTES

ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85% VEGETATED GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;

AFTER OCTOBER 15, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;

STOCKPILES

1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

CONCRETE WASHOUT AREA

THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
1. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FAILITY;
2. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
3. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
4. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES

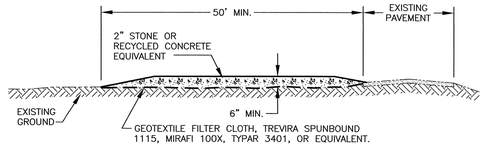
1. FIRE-FIGHTING ACTIVITIES;
2. FIRE HYDRANT FLUSHING;
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
4. WATER USED TO CONTROL DUST;
5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
11. UNCONTAMINATED EXCAVATION DEWATERING;
12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL

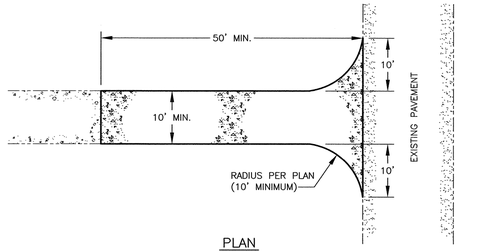
1. WASTE MATERIAL
   - ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
   - NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
   - ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE
   - ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
   - SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE
   - ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

BLASTING NOTES

1. CONTRACTOR SHALL CONTACT THE NHDES AND/OR LOCAL JURISDICTION PRIOR TO COMMENCING ANY BLASTING ACTIVITIES.
2. FOR ANY PROJECT FOR WHICH BLASTING OF BEDROCK IS ANTICIPATED, THE APPLICANT SHALL SUBMIT A BLASTING PLAN THAT IDENTIFIES:
   - WHERE THE BLASTING ACTIVITIES ARE ANTICIPATED TO OCCUR;
   - THE ESTIMATED QUANTITY OF BLAST ROCK IN CUBIC YARDS; AND
   - SITE-SPECIFIC BLASTING BEST MANAGEMENT PRACTICES.

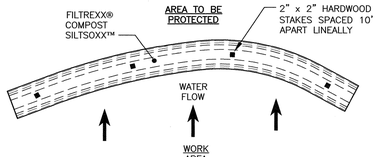


PROFILE

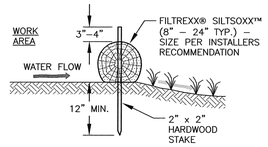


PLAN

A / C3 STABILIZED CONSTRUCTION ENTRANCE
SUBSTITUTE FODS IF DESIRED — NTS



PLAN

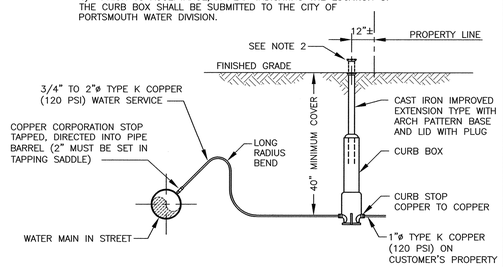


ELEVATION

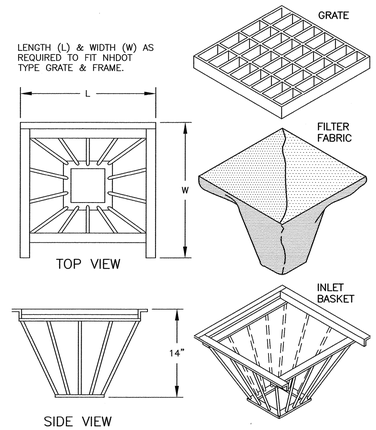
NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILLTREXX SYSTEM SHALL BE INSTALLED BY A CERTIFIED FILTREXX INSTALLER.
3. THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTRATION SYSTEM IN A FUNCTIONAL CONDITION AT ALL TIMES. IT WILL BE ROUTINELY INSPECTED AND REPAIRED WHEN REQUIRED.
4. SILTSOXX DEPICTED IS FOR MINIMUM SLOPES, GREATER SLOPES MAY REQUIRE ADDITIONAL PLACEMENTS.
5. THE COMPOST FILTER MATERIAL WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED, AS DETERMINED BY THE ENGINEER.

B / C3 FILTREXX® SILTSOXX™ FILTRATION SYSTEM — NTS

NOTE:
1) INSTALLATION OF WATER MAIN TAP & CURB STOP & BOX SHALL ONLY BE PERFORMED BY THOSE AUTHORIZED BY THE PUBLIC WORKS DEPARTMENT.
2) IN AREAS OF HEAVY GROWTH THE CURB BOX COVER SHALL BE SET 6" ABOVE FINISH GRADE AND A WITNESS STAKE SET.
3) CURB BOX SHALL BE SET APPROXIMATELY 12" OUTSIDE PROPERTY LINE AS SHOWN.
4) PRIOR TO ACCEPTANCE, A PLAN INDICATING THE LOCATION OF THE CURB BOX SHALL BE SUBMITTED TO THE CITY OF PORTSMOUTH WATER DIVISION.



C / C4 WATER SERVICE CONNECTION
(PORTSMOUTH) — NTS



1) INLET BASKETS SHALL BE INSTALLED IMMEDIATELY AFTER CATCH BASIN CONSTRUCTION IS COMPLETE AND SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL PAVEMENT BINDER COURSE IS COMPLETE.

2) FILTER FABRIC SHALL BE PUSHED DOWN AND FORMED TO THE SHAPE OF THE BASKET. THE SHEET OF FABRIC SHALL BE LARGE ENOUGH TO BE SUPPORTED BY THE BASKET FRAME WHEN HOLDING SEDIMENT AND, SHALL EXTEND AT LEAST 6" PAST THE FRAME. THE INLET GRATE SHALL BE PLACED OVER THE BASKET/FRAME AND WILL SERVE AS THE FABRIC ANCHOR.

3) THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC; POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:
- –RAB STRENGTH: 45 LB. MIN. IN ANY PRINCIPAL DIRECTION (ASTM D1682)
- –MULLEN BURST STRENGTH: MIN. 60 psi (ASTM D774)

4) THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND A MINIMUM PERMEABILITY OF 120 gpm/s.f. (MULTIPLY THE PERMITTIVITY IN SEC.-1 FROM ASTM 54491-85 CONSTANT HEAD TEST USING THE CONVERSION FACTOR OF 74.)

5) THE INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.

6) SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

D / — CATCH BASIN INLET BASKET
AS NEEDED — NTS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

4) DURING CONSTRUCTION ON LOTS 1 AND 2, ACCESS TO EXISTING PROPERTIES ON BIRCH STREET SHALL BE MAINTAINED.

SMITH RESIDENCE
9 KENT STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	ISSUED FOR APPROVAL	2/7/23
0	ISSUED FOR COMMENT	1/20/23

REVISIONS

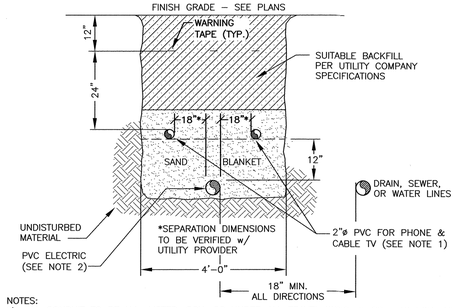
JOHN R. CHAGNON No. 7651 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

SCALE AS SHOWN — JANUARY 2023

EROSION CONTROL NOTES & DETAILS — **D1**

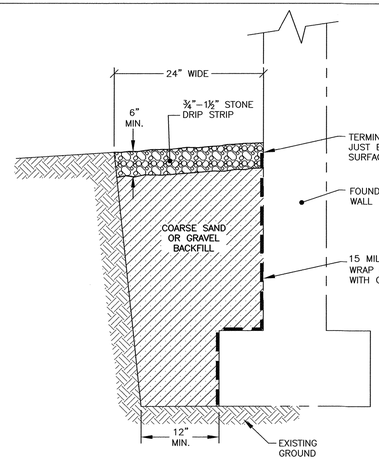
FB. 301, PG 45

3492

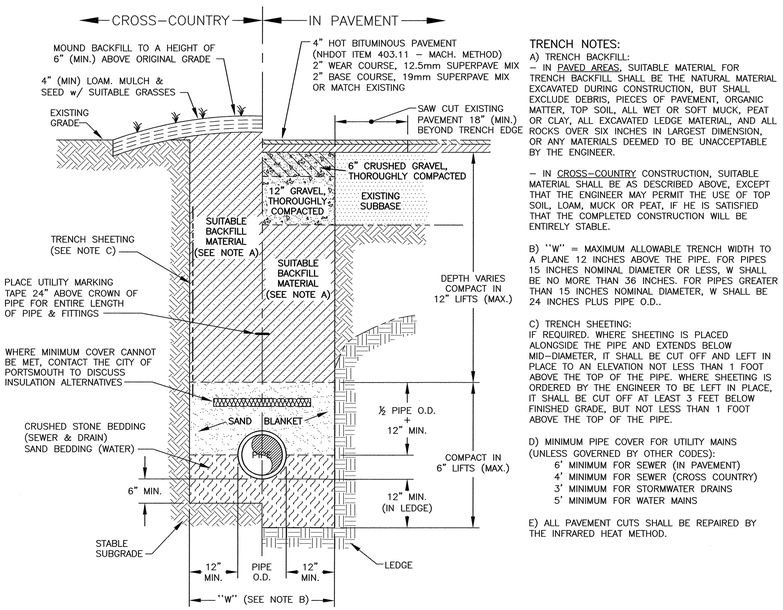


NOTES:
1) ALL CONDUIT TO BE U.L. LISTED, SCH. 80 UNDER ALL TRAVEL WAYS, & SCH. 40 FOR THE REMAINDER.
2) NORMAL CONDUIT SIZES FOR PSNH ARE 3 INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4 INCH FOR THREE PHASE SECONDARY, AND 5 INCH FOR THREE PHASE PRIMARY.
3) ALL WORK TO CONFORM TO THE NATIONAL ELECTRICAL CODE (LATEST REVISION)
4) INSTALL A 200# PULL ROPE FOR EACH CONDUIT
5) VERIFY ALL CONDUIT SPECIFICATIONS WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION.

E / C4 UTILITY TRENCH
ELECTRIC/PHONE/CABLE NTS



F / C3 STONE DRIP APRON
UNDER BUILDING DRIP LINE & DECK (FED BY GUTTERS) NTS



TRENCH NOTES:
A) TRENCH BACKFILL:
– IN PAVED AREAS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIALS DEEMED TO BE UNACCEPTABLE BY THE ENGINEER.

– IN CROSS–COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE.

B) "W" = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D..

C) TRENCH SHEETING:
IF REQUIRED, WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID–DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.

D) MINIMUM PIPE COVER FOR UTILITY MAINS (UNLESS GOVERNED BY OTHER CODES):
6' MINIMUM FOR SEWER (IN PAVEMENT)
4' MINIMUM FOR SEWER (CROSS COUNTRY)
3' MINIMUM FOR STORMWATER DRAINS
5' MINIMUM FOR WATER MAINS

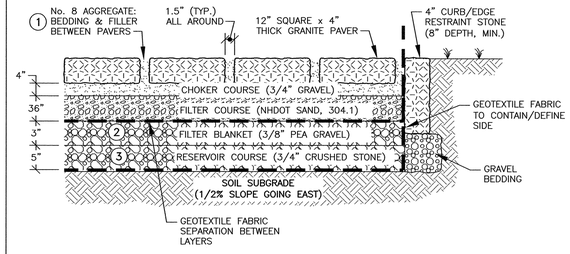
E) ALL PAVEMENT CUTS SHALL BE REPAIRED BY THE INFRARED HEAT METHOD.

H / C4 TYPICAL PIPE TRENCH NTS

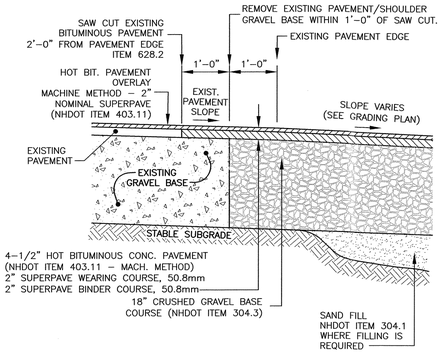
ASTM D 448 GRADATION TABLE

①		②		③	
ASTM No. 8 BEDDING & JOINT FILLER		ASTM No. 57 STONE OPEN GRADED BASE		ASTM No. 2 STONE SUBBASE	
SIEVE SIZE	PASSING BY WEIGHT (%)	SIEVE SIZE	PASSING BY WEIGHT (%)	SIEVE SIZE	PASSING BY WEIGHT (%)
1/2" (12.5mm)	100	1.5" (37.5mm)	100	3" (75mm)	100
3/8" (9.5mm)	85–100	1" (25mm)	95–100	2.5" (63mm)	90–100
No. 4 (4.75mm)	10–30	1/2" (12.5mm)	25–60	2" (50mm)	35–70
No. 8 (2.36mm)	0–10	No. 4 (4.75mm)	0–10	1.5" 37.5mm)	0–15
No. 16 (1.16mm)	0–5	No. 8 (2.36mm)	0–5	3/4" (19mm)	0–5

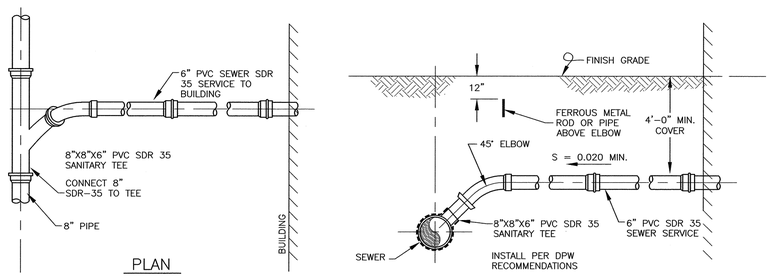
NOTES:
1) PAVING SYSTEM BASE DESIGN IS SIMILAR TO BASE REQUIRED FOR THE UNI ECO–STONE PAVER. INSTALLATION SHALL FOLLOW MANUFACTURER'S INSTRUCTIONS FOR PLACEMENT OF BASE MATERIALS.
2) ALL STONE SHALL BE ANGULAR, WITH 90% FRACTURED FACES. STONE SHALL BE WASHED WITH LESS THAN 1% PASSING THE 200 SIEVE.
3) CONTRACTOR SHALL SUBMIT SIEVE ANALYSIS FOR EACH COURSE MATERIAL TO PROJECT ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.
4) ALL FABRIC TO BE TENCATE MIRAFI 140N NONWOVEN GEOTEXTILE.



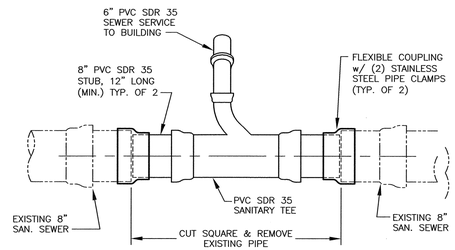
J / C3 POROUS PAVER SECTION
12" SQUARE GRANITE PAVERS NTS

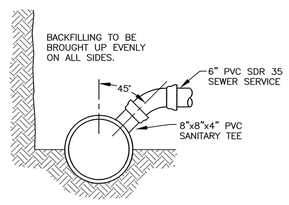


G / C3 FULL DEPTH PAVEMENT SECTION AND PAVEMENT JOINT DETAIL
PORTSMOUTH NTS



I / C4 TYPE "A" SEWER SERVICE CONNECTION NTS





K / C4 SEWER SERVICE TAP DETAIL NTS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801–7114
Tel (603) 430–9282
Fax (603) 436–2315

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4) ALL WATER LINE INSTALLATION WORK SHALL BE TO CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS. DETAILS MAY OR MAY NOT BE UP–TO–DATE.

SMITH RESIDENCE
9 KENT STREET
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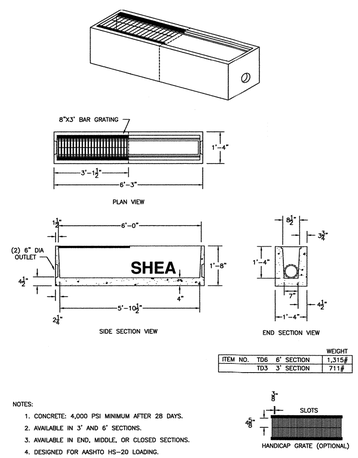
REVISIONS

SCALE AS NOTED JANUARY 2023

DETAILS

D2

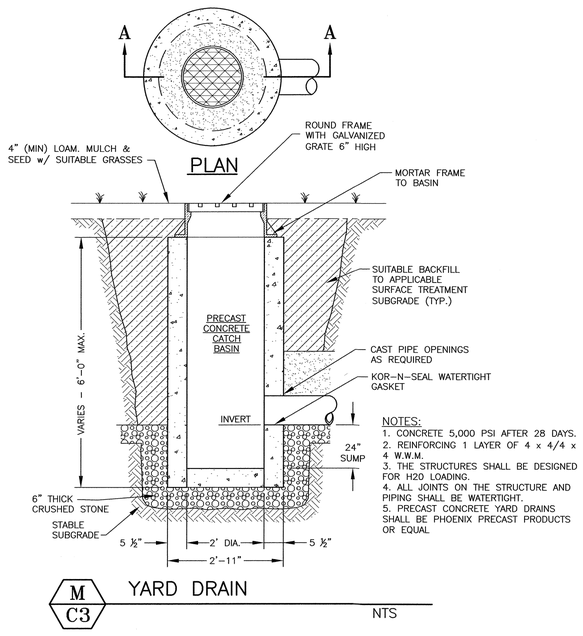
3492



SHEA PRODUCT ID: TD3/TD6
TRENCH DRAIN 8"X16"
WEIGHT (LBS): 711#/1,315#

L / C3 STRIP DRAIN

NTS



NOTES:
1. CONCRETE 5,000 PSI AFTER 28 DAYS.
2. REINFORCING 1 LAYER OF 4 x 4/4 x 4 W.W.M.
3. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
4. ALL JOINTS ON THE STRUCTURE AND PIPING SHALL BE WATERTIGHT.
5. PRECAST CONCRETE YARD DRAINS SHALL BE PHOENIX PRECAST PRODUCTS OR EQUAL

M / C3 YARD DRAIN

NTS

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REVISIONS

AS NOTED JANUARY 2023

DETAILS D3

3492