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APPLICATION CHECK SHEET
HAMILTON ZONING BOARD OF APPEALS

COMPREHENSIVE PERMIT

14 copies of all Materials. Refer to Instruction Sheet and "Town of Hamilton, MA - Comprehensive Permit Rules of the Zoning Board of Appeals" as adopted May 7, 2003

Entity Seeking Comprehensive Permit

- ☑ Limited Divided Organization
- ☐ Non-Profit Organization
- ☐ Public Agency
- ☐ Local Agency

Application Materials Required Refer to "Comprehensive Permit Rules of the Zoning Board of Appeals" as adopted May 7, 2003 for complete information where a Section reference is made below

Completed Application Form

- ☑ Preliminary Site Development Plans – See Section 3.01a
- ☑ Report on existing site conditions including surrounding areas – See Section 3.01b
- ☑ Preliminary scaled architectural drawings for all proposed buildings including plans, elevations, and sections – See Section 3.01c
- ☑ Tabulation of proposed buildings by type and size; summary of percentage of land use occupied by buildings, parking, paved areas, other – See Section 3.01d
- ☑ Preliminary subdivision plan where applicable
- ☑ Preliminary site utilities plan(s) – See Section 3.01f
- ☑ Preliminary plan indicating driveways, traffic flow, ingress/egress, paving – See Section 3.01g
- ☑ Documents showing applicant fulfills the jurisdictional requirements of 760 CMR 31.01 – See Section 3.01h
- ☑ List of requested exceptions to local requirements and regulations
- ☑ Statement by the Applicant as to how the project will satisfy the need for Low or Moderate income housing in the Town
- ☑ Projected financial and budget information showing cost of Project and required improvements to surrounding roads, utilities, and other Town infrastructure

Filing Fee:

- ☑ Limited Dividend Organization - $250 flat fee plus $9.00 per unit = $ 781
- ☐ Non-Profit Organization - $100 flat fee plus $3.00 per unit = $_____
- ☐ Public Agency – No fee
- ☐ Local Agency – No fee
- ☐ Local Initiative Project – No fee

TOWN OF HAMILTON
ZONING BOARD OF APPEALS

APPLICATION FOR COMPREHENSIVE PERMIT

Date Received
Town Clerk's Office _____

The undersigned hereby applies to the Zoning Board of Appeals for a Comprehensive Permit pursuant to MGL Chapter 40B, Sections 20-23 and 760 CMR 30.00 and 31.00

Applicant Name: Chebacco Hill Partners, LLC Phone 9784637700
Applicant Address: c/o Lisa L. Mead, Mead, Talerman & Fax 978 463 7747
Costa, LLC 30 Green St, Newburyport MA 01950

Applicant Status: (Check One) Attach documentation of applicant status

- ☒ Limited Divided Organization
- ☐ Non-Profit Organization
- ☐ Public Agency
- ☐ Local Agency

Subsidizing Agency: Mass Housing New England Fund

Subsidy Program: New England Fund
(Attach Agency Commitment Letter)

Property Location: 133 Essex St.
Property Owner(s): Country Squire Realty Inc.
Address of Owner(s): 103 River Rd., Topsfield MA

Assessor's Map/Parcel Number: 65-0001 Zoning District: R-1B
Groundwater Overlay District: _____

Existing Level of Development of the Property – Number of Buildings, Use, etc. (if applicable):

Vacant

Name of Proposed Development: Village At Chebacco Hill

Short Project Description:
Construction of 59 Age Restricted Homes with related Improvements. See attached letter.

TOWN OF HAMILTON
ZONING BOARD OF APPEALS

APPLICATION FOR COMPREHENSIVE PERMIT

Development Team Lisa MeAD + Adam Costa
Applicant's Attorney: MeAD Talerman + Costa Phone: ~~978973~~ 9784637700
Address: 30 Green St Newburyport Fax: 9784637747

Applicant's Engineer: GreyRock, Dillis + Roy Civil Phone: 978 7796091
Address: Design Group 1 Main St Fax:
Lunenburg MA
Applicant's Architect: Ken Feyl, Lagrasse, Yannowitz + Phone: 978 470 3675
Address: Feyl, 1 Elm St, Andover MA Fax:

Required Attachments: (Refer to "Comprehensive Permit Rules of the Zoning Board of Appeals" as adopted May 7, 2003 for complete information where a Section reference is noted)

- ☐ Preliminary Site Development Plans – Section 3.01a
- ☐ Report on existing site conditions including surrounding areas – Section 3.01b
- ☐ Preliminary scaled architectural drawings for all proposed buildings including plans, elevations, and sections – Section 3.01c
- ☐ Tabulation of proposed buildings by type and size; summary of percentage of land use occupied by buildings, parking, paved areas, other – Section 3.01d
- ☐ Preliminary subdivision plan where applicable
- ☐ Preliminary site utilities plan(s) – Section 3.01f
- ☐ Preliminary plan showing driveways, traffic flow, ingress/egress, paving – Section 3.01g
- ☐ Documents showing applicant fulfills the jurisdictional requirements of 760 CMR 31.01 – Section 3.01h
- ☐ List of requested exceptions to local requirements and regulations
- ☐ Statement by the Applicant as to how the project will satisfy the need for Low or Moderate income housing in the Town
- ☐ Projected financial and budget information showing cost of Project and required improvements to surrounding roads, utilities, and other Town infrastructure

State whether any petition as to the said premises has been submitted to this Board within the last five years. If so, give details.

Signature: _____ Date: 7/31/25
Applicant's or Representative's Signature

Representative's
Address: 30 Green St Phone: 9784637700 ext 101
Newburyport MA 01950 Fax: 9784637747

July 23, 2025 Map 65 Lot 1

TOWN OF HAMILTON
Zoning Board of Appeals
CERTIFICATE OF PARTIES IN INTEREST

Pursuant to Massachusetts General Laws, Chapter 40A, Section 11, the undersigned Assessor of the Town of Hamilton, hereby certifies that the names and addresses appearing on the list appended hereto are those of the:

(a) abutters 100'

(b) owners of land directly opposite on any public or private street or way

X (c) owners of land within 300' of the property line of the property at:

133 Essex St.

So. Hamilton

Dated *July 23, 2025*

Prepared by Assessor's Office of the Town of Hamilton.

Jane Dooley
Director of Assessing

300 feet Abutters List Report

Hamilton, MA
July 23, 2025

Subject Property:

Parcel Number: 65-0001
CAMA Number: 65-000-0001
Property Address: 133 ESSEX ST

Mailing Address: COUNTRY SQUIRE REALTY INC C/O
CATHERINE RICH-DUVAL
103 RIVER ROAD
TOPSFIELD, MA 01983

Abutters:

Parcel Number: 65-0002
CAMA Number: 65-000-0002
Property Address: 245 ESSEX ST

Mailing Address: DOLAN MICHAEL P
245 ESSEX ST
SOUTH HAMILTON, MA 01982

Parcel Number: 65-0003
CAMA Number: 65-000-0003
Property Address: 233 ESSEX ST

Mailing Address: BEATON DANIEL S MEGAN K
233 ESSEX ST
SOUTH HAMILTON, MA 01982

Parcel Number: 65-0011
CAMA Number: 65-000-0011
Property Address: 40 MARTEL RD

Mailing Address: LITTLEFIELD DAVID ROBERT
LITTLEFIELD TAYLOR L.
40 MARTEL RD
SOUTH HAMILTON, MA 01982

Parcel Number: 65-0012
CAMA Number: 65-000-0012
Property Address: 46 MARTEL RD

Mailing Address: BIRCH PATRICK J LUCKETTE EMILY W
46 MARTEL RD
SOUTH HAMILTON, MA 01982

Parcel Number: 65-0013
CAMA Number: 65-000-0013
Property Address: 61 ALAN RD

Mailing Address: COLLINS NICHOLAS P COLLINS
AMANDA P
61 ALAN RD
SOUTH HAMILTON, MA 01982

Parcel Number: 65-0014
CAMA Number: 65-000-0014
Property Address: 55 ALAN RD

Mailing Address: STEWARD THEODORE H &
55 ALAN RD RLTY TRUST 55 ALAN RD
SOUTH HAMILTON, MA 01982

Parcel Number: 65-0080
CAMA Number: 65-000-0080
Property Address: 24 ALAN RD

Mailing Address: BENSON MEGHAN BENSON ADAM
24 ALAN RD
SOUTH HAMILTON, MA 01982

Parcel Number: 65-0081
CAMA Number: 65-000-0081
Property Address: 30 ALAN RD

Mailing Address: THISSELL SUSAN E
30 ALAN RD
SOUTH HAMILTON, MA 01982

Parcel Number: 65-0082
CAMA Number: 65-000-0082
Property Address: 34 ALAN RD

Mailing Address: NORRIS BRETT ALLEN MATTHEW J
34 ALAN RD
SOUTH HAMILTON, MA 01982

Parcel Number: 65-0083
CAMA Number: 65-000-0083
Property Address: 44 ALAN RD

Mailing Address: PERKINS KEITH T & ROBERTA DIGI BO
& KEITH PERKINS FAMILY TRST
44 ALAN RD
SOUTH HAMILTON, MA 01982

300 feet Abutters List Report

Hamilton, MA
July 23, 2025

Parcel Number:	65-0084	Mailing Address:	MINNAAR CONNOR JESSICA 54 ALAN RD SOUTH HAMILTON, MA 01982
CAMA Number:	65-000-0084		
Property Address:	54 ALAN RD		
Parcel Number:	65-0085	Mailing Address:	SULLIVAN DAVID R KATHERINE E 60 ALAN RD SOUTH HAMILTON, MA 01982
CAMA Number:	65-000-0085		
Property Address:	60 ALAN RD		
Parcel Number:	65-0086	Mailing Address:	AMES HENRY J DEBORAH FOSTER AMES 288 ESSEX ST SOUTH HAMILTON, MA 01982
CAMA Number:	65-000-0086		
Property Address:	288 ESSEX ST		
Parcel Number:	65-0087	Mailing Address:	BROWN LOUIS R ANDREA M TE 296 ESSEX ST SOUTH HAMILTON, MA 01982
CAMA Number:	65-000-0087		
Property Address:	296 ESSEX ST		
Parcel Number:	65-0088	Mailing Address:	SHIELDS JOHN SHIELDS GAIL 300 ESSEX ST SOUTH HAMILTON, MA 01982
CAMA Number:	65-000-0088		
Property Address:	300 ESSEX ST		
Parcel Number:	65-0089	Mailing Address:	ZAGARRI ANDREW P HIRSCHFELD BROOKE A. 310 ESSEX ST SOUTH HAMILTON, MA 01982
CAMA Number:	65-000-0089		
Property Address:	310 ESSEX ST		
Parcel Number:	65-0126	Mailing Address:	SARKISIAN ROBERT D & LINDA F T 307 ESSEX ST SOUTH HAMILTON, MA 01982
CAMA Number:	65-000-0126		
Property Address:	307 ESSEX ST		
Parcel Number:	65-0127	Mailing Address:	SARKISIAN ROBERT D & LINDA 16 CHEBACCO RD SOUTH HAMILTON, MA 01982
CAMA Number:	65-000-0127		
Property Address:	16 CHEBACCO RD		
Parcel Number:	65-0128	Mailing Address:	JANES JONATHAN E 221 WESTERN AVE ESSEX, MA 01929
CAMA Number:	65-000-0128		
Property Address:	313 ESSEX ST		
Parcel Number:	65-0129	Mailing Address:	JANES LESLIE C INDIVIDUALLY 221 WESTERN AVE ESSEX, MA 01929
CAMA Number:	65-000-0129		
Property Address:	44 CHEBACCO RD		
Parcel Number:	65-0131	Mailing Address:	VANDI RONALD J TRST OF THE VANDI R J TRST OF THE R J VAND 247 ESSEX ST SOUTH HAMILTON, MA 01982
CAMA Number:	65-000-0131		
Property Address:	247 ESSEX ST		
Parcel Number:	65-0132	Mailing Address:	COLE HILARY P HILARY P COLE 2009 REVO TRUST 66 CHEBACCO RD SOUTH HAMILTON, MA 01982
CAMA Number:	65-000-0132		
Property Address:	66 CHEBACCO RD		

300 feet Abutters List Report

Hamilton, MA
July 23, 2025

Parcel Number:	65-0135	Mailing Address:	CARMICHAEL KATHRYN M 318 ESSEX ST SOUTH HAMILTON, MA 01982
CAMA Number:	65-000-0135		
Property Address:	318 ESSEX ST		
Parcel Number:	65-132A	Mailing Address:	HARMON SETH T. HARMON SARAH LOWELL 74 CHEBACCO RD SOUTH HAMILTON, MA 01982
CAMA Number:	65-132A-000A		
Property Address:	74 CHEBACCO RD		
Parcel Number:	70-0001	Mailing Address:	HAMILTON TOWN OF TOWN HALL SOUTH HAMILTON, MA 01982
CAMA Number:	70-000-0001		
Property Address:	500 CHEBACCO RD		
Parcel Number:	70-0002	Mailing Address:	HAMILTON TOWN OF TOWN HALL SOUTH HAMILTON, MA 01982
CAMA Number:	70-000-0002		
Property Address:	0 CHEBACCO RD OFF		
Parcel Number:	70-0003	Mailing Address:	MANCHESTER BY THE SEA HAMILTON TOWN OF 10 CENTRAL ST. mANCHESTER, MA 01944
CAMA Number:	70-000-0003		
Property Address:	0 GORDON WOODS		
Parcel Number:	70-0004	Mailing Address:	PAUL D DRISCOLL REVOCABLE TRUS PAUL D DRISCOLL TRUSTEE 111 CHEBACCO RD SOUTH HAMILTON, MA 01982
CAMA Number:	70-000-0004		
Property Address:	111 CHEBACCO RD		
Parcel Number:	70-0005	Mailing Address:	KERR FAMILY TRUST KERR WILLIAM D & CAROLYN M 101 CHEBACCO RD S HAMILTON, MA 01982
CAMA Number:	70-000-0005		
Property Address:	101 CHEBACCO RD		
Parcel Number:	70-0006	Mailing Address:	THE HICKS DANZINGER FMY REV TR JEANNINE HICKS WILLIAM DANZING 1VILLA ROAD SOUTH HAMILTON, MA 01982
CAMA Number:	70-000-0006		
Property Address:	94 CHEBACCO RD		
Parcel Number:	70-0007	Mailing Address:	ARTHURS JEFFREY D & ELIZABETH 102 &104 CHEBACCO ROAD S. HAMILTON, MA 01982
CAMA Number:	70-000-0007		
Property Address:	102 104 CHEBACCO RD		
Parcel Number:	70-0008	Mailing Address:	GORDON COLLEGE 255 GRAPEVINE RD WENHAM, MA 01984
CAMA Number:	70-000-0008		
Property Address:	0 CHEBACCO RD		
Parcel Number:	70-0009	Mailing Address:	CODDING ANTHONY JR 121 CHEBACCO RD S HAMILTON, MA 01982
CAMA Number:	70-000-0009		
Property Address:	121 CHEBACCO RD		
Parcel Number:	70-0010	Mailing Address:	SOUTHARD CRAIG T JENNIFER A 125 CHEBACCO RD SOUTH HAMILTON, MA 01982
CAMA Number:	70-000-0010		
Property Address:	125 CHEBACCO RD		

300 feet Abutters List Report

Hamilton, MA
July 23, 2025

Parcel Number:	70-0011	Mailing Address:	ALMEIDA MATTHEW G MERLUZZO ANGELA M 135 CHEBACCO ROAD SOUTH HAMILTON, MA 01982
CAMA Number:	70-000-0011		
Property Address:	135 CHEBACCO RD		
Parcel Number:	70-0014	Mailing Address:	GIRARD PAUL & KATHARINE 6 PARTRIDGEBERRY LN SOUTH HAMILTON, MA 01982
CAMA Number:	70-000-0014		
Property Address:	6 PARTRIDGEBERRY LN		

ALMEIDA MATTHEW G
MERLUZZO ANGELA M
135 CHEBACCO ROAD
SOUTH HAMILTON, MA 01982

AMES HENRY J
DEBORAH FOSTER AMES
288 ESSEX ST
SOUTH HAMILTON, MA 01982

ARTHURS JEFFREY D & ELIZA
102 &104 CHEBACCO ROAD
S. HAMILTON, MA 01982

BEATON DANIEL S
MEGAN K
233 ESSEX ST
SOUTH HAMILTON, MA 01982

BENSON MEGHAN
BENSON ADAM
24 ALAN RD
SOUTH HAMILTON, MA 01982

BIRCH PATRICK J
LUCKETTE EMILY W
46 MARTEL RD
SOUTH HAMILTON, MA 01982

BROWN LOUIS R
ANDREA M TE
296 ESSEX ST
SOUTH HAMILTON, MA 01982

CARMICHAEL KATHRYN M
318 ESSEX ST
SOUTH HAMILTON, MA 01982

CODDING ANTHONY JR
121 CHEBACCO RD
S HAMILTON, MA 01982

COLE HILARY P
HILARY P COLE 2009 REVO T
66 CHEBACCO RD
SOUTH HAMILTON, MA 01982

COLLINS NICHOLAS P
COLLINS AMANDA P
61 ALAN RD
SOUTH HAMILTON, MA 01982

DOLAN MICHAEL P
245 ESSEX ST
SOUTH HAMILTON, MA 01982

GIRARD PAUL & KATHARINE
6 PARTRIDGEBERRY LN
SOUTH HAMILTON, MA 01982

GORDON COLLEGE
255 GRAPEVINE RD
WENHAM, MA 01984

HAMILTON TOWN OF
TOWN HALL
SOUTH HAMILTON, MA 01982

HARMON SETH T.
HARMON SARAH LOWELL
74 CHEBACCO RD
SOUTH HAMILTON, MA 01982

JANES JONATHAN E
221 WESTERN AVE
ESSEX, MA 01929

JANES LESLIE C INDIVIDUA
221 WESTERN AVE
ESSEX, MA 01929

KERR FAMILY TRUST
KERR WILLIAM D & CAROLYN
101 CHEBACCO RD
S HAMILTON, MA 01982

LITTLEFIELD DAVID ROBERT
LITTLEFIELD TAYLOR L.
40 MARTEL RD
SOUTH HAMILTON, MA 01982

MANCHESTER BY THE SEA
HAMILTON TOWN OF
10 CENTRAL ST.
mANCHESTER, MA 01944

MINNAAR CONNOR
JESSICA
54 ALAN RD
SOUTH HAMILTON, MA 01982

NORRIS BRETT
ALLEN MATTHEW J
34 ALAN RD
SOUTH HAMILTON, MA 01982

PAUL D DRISCOLL REVOCABLE
PAUL D DRISCOLL TRUSTEE
111 CHEBACCO RD
SOUTH HAMILTON, MA 01982

PERKINS KEITH T & ROBERTA
BO & KEITH PERKINS FAMILY
44 ALAN RD
SOUTH HAMILTON, MA 01982

SARKISIAN ROBERT D & LIND
16 CHEBACCO RD
SOUTH HAMILTON, MA 01982

SARKISIAN ROBERT D & LIND
307 ESSEX ST
SOUTH HAMILTON, MA 01982

SHIELDS JOHN
SHIELDS GAIL
300 ESSEX ST
SOUTH HAMILTON, MA 01982

SOUTHARD CRAIG T
JENNIFER A
125 CHEBACCO RD
SOUTH HAMILTON, MA 01982

STEWARD THEODORE H &
55 ALAN RD RLTY TRUST
55 ALAN RD
SOUTH HAMILTON, MA 01982

SULLIVAN DAVID R
KATHERINE E
60 ALAN RD
SOUTH HAMILTON, MA 01982

THE HICKS DANZINGER FMY R
JEANNINE HICKS WILLIAM DA
1VILLA ROAD
SOUTH HAMILTON, MA 01982

THISSELL SUSAN E
30 ALAN RD
SOUTH HAMILTON, MA 01982

VANDI RONALD J TRST OF TH
VANDI R J TRST OF THE R J
247 ESSEX ST
SOUTH HAMILTON, MA 01982

ZAGARRI ANDREW P
HIRSCHFELD BROOKE A.
310 ESSEX ST
SOUTH HAMILTON, MA 01982

Mead, Talerman & Costa, LLC
Attorneys at Law

30 Green Street
Newburyport, MA 01950
Phone 978.463.7700
Fax 978.463.7747

www.mtclawyers.com

July 31, 2025

IN HAND

Bruce Gingrich, Chair
Zoning Board of Appeals
Town of Hamilton
577 Bay Road
Hamilton MA 01936

RE: Application for a Comprehensive Permit
Property: A Portion of 133 Essex Street / Town of Hamilton Assessors: 65-0001
Owner: Country Squire Realty, Inc.
Applicant: Chebacco Hill Capital Partners, LLC

Dear Mr. Gingrich and Members of the Board:

Reference is made to the above captioned matter. In that connection, we represent Chebacco Hill Capital Partners, LLC (the "Applicant"). This document comprises an application pursuant to G. L. c. 40B, §§ 20-23 (the "Act"), and the regulations promulgated thereunder, with regard to a Comprehensive Permit to authorize the construction of fifty-nine (59) mixed income residential for sale units in thirty-two (32) buildings and related infrastructure (the "Project"). The Project is proposed to be constructed on a portion of the property known and numbered as 133 Essex Street in Hamilton, shown on the Town of Hamilton Assessor's Map 65-0001, which portion includes 56.81 acres, more or less shown as Lot 1 on the site plan attached hereto (the "Site"). The Site is located in the Single Residential (R-1B) zoning district.

While the Project and its benefits are described below, in an effort to consolidate the understanding of the relationship between the Project and the Town I provide a synopsis of those benefits here:

Millis Office
730 Main Street, Suite 1F
Millis, MA 02054
Phone/Fax 508.376.8400

New Bedford Office
227 Union Street, Suite 606
New Bedford, MA 02740

1. **Creation of Senior Affordable Housing**. There are 59 home ownership units, of which 15 will be restricted in perpetuity to be Subsidized Housing Inventory ("SHI") eligible affordable units. The restricted affordable units will be required to house at least one occupant over 55 years of age..
2. **Trail Connection**: The Project includes a trail connection to Chebacco Woods through the Site from Chebacco Road to be provided in perpetuity with a donated easement to the Town.
3. **Public Parking**: The Project includes a public trail head parking area at the entrance to the Site on Chebacco Road to aid in trail access.
4. **Conservation Restricted Open Space**: The Site is 56.81 acres, plus or minus. Of that amount only 16 acres will be used for the development of the Project. In total only 228,646 SF (5.25 acres) of the Project will be impervious. The Applicant proposes that the remaining approximately 40 acres, plus or minus, which are contiguous to Chebacco Woods will have a Conservation Restriction to be held by the Town or other qualifying entity.

1.0 The Applicant

The within application is filed by Chebacco Hill Capital Partners, LLC (the "Applicant"), a Limited Dividend Organization as that term has been defined in accordance with 760 CMR 56.02 and 56.04(1)(a), with a principal address of 176 Barton Road, Stow, MA 01775. A copy of the Applicant's Certificate of Organization as filed with the Massachusetts Secretary of State's Office is attached hereto as **Exhibit A**. A Certificate of Good Standing issued by the Massachusetts Secretary of State's Office is attached hereto as **Exhibit B**. The Applicant is represented by Larry Smith, its Manager.

The Development Team is as follows:

A. APPLICANT

Chebacco Hill Capital Partners, LLC
176 Barton Road
Stow, MA 01775

B. ATTORNEY

Lisa L. Mead, Esq.
Adam Costa, Esq.

Mead, Talerman, & Costa, LLC
30 Green Street
Newburyport, MA 01950
(978) 463-7700 (telephone)
(978) 463-7747 (facsimile)
lisa@mtclawyers.com
adam@mtclawyrs.com
www.mtclawyers.com

C. CHIEF DESIGN ENGINEER

Gregory S. Roy, P.E. (MA 46070)
Dillis & Roy Civil Design Group, Inc.
1 Main Street, Suite 1
Lunenburg, MA 01462
E: groy@dillisandroy.com
P: (978) 779-6091

D. ARCHITECT

Ken Feyl
Lagrasse Yanowitz and Feyl
1 Elm Street, 3rd Floor
Andover, MA 01810
E: kfeyl@lyfarchitects.com
P: (978) 470-3675

Any questions should be directed to attorney Lisa L. Mead.

2.0 Limited Dividend Organization

The Applicant is a Limited Dividend Organization, as that term has been defined in accordance with 760 CMR 56.02 and 56.04(1)(a), with a principal address of 176 Barton Road, Stow, MA 01775 eligible to file a comprehensive permit application pursuant to G. L. 40B, § 21.

3.0 Project Subsidy

The Applicant has received a Project Eligibility Letter from the MassHousing pursuant to the New England Fund ("NEF") Program of the Federal Home Loan Bank of Boston dated January 16, 2024. A copy of the Project Eligibility Letter is attached hereto as **Exhibit C**. The Project Eligibility Letter issued by MassHousing satisfies the jurisdictional subsidy requirements established under the Act and the regulations promulgated thereunder.

The Project Eligibility Letter issued by MassHousing contains the findings required by 760 CMR 56.04(4), including the finding that the Applicant controls the Site pursuant to 760 CMR 56.04(4)(g). Pursuant to 760 CMR 56.04(6), the determinations made by the Subsidizing Agency (in this instance MassHousing) are conclusive, and any challenge to such determination may be made "solely upon the grounds that there has been a substantial change affecting the project eligibility requirements set forth at 760 CMR 56.04(1)."

The Applicant has notified the Subsidizing Agency of the submittal of this Application. A copy of the notice to the MassHousing is attached hereto as **Exhibit D**.

4.0 Site Control

The Applicant controls the Site within the meaning of the Act. The Site is controlled by the Applicant. A copy of the Purchase and Sale Agreement, with subsequent extensions, is attached hereto as **Exhibit E.**

5.0 The Site

The Site consists of approximately 56.81 acres +/- located off of 133 Essex Street with frontage on Chebacco Road. The Site is shown as Lot 1 on a set of plans entitled "Village at Chebacco Hill Chapter 40B Site Plan", Showing Existing Conditions and Proposed Site Improvements, dated March 4, 2024, prepared by Dillis & Roy Civil Design Group, Inc., 1 Main Street, Lunenburg, MA 01462 and consisting of 16 sheets (the "Site Development Plans") attached hereto as **Exhibit F**. Such plans fulfill the requirements of 760 CMR 56.05(2)(a), preliminary site development plans, as well as the Rules and Regulations of the Town of Hamilton Zoning Board of Appeals. In addition, you will see in the site plan set, there is a photometric plan as required by your regulations. Immediately following thereafter are the cutsheets associated with that plan.

Additionally, the Applicant has submitted pictures and aerial photographs of the surrounding area attached as **Exhibit G**. Such material, along with the existing conditions narrative contained herein, fulfills the requirement for an existing conditions summary contained in 760 CMR 56.05(2)(b). Proposed design features and floor plans and exterior elevations for the proposed structures are shown on a set of plans dated September 26, 2023 including 15 sheets and prepared by LYF Architects, Andover, Massachusetts (the "Architectural Plans") attached hereto as **Exhibit H**. (collectively, the Site Development Plans and the Architectural Plans are referred to as the "Project Plans"). The

Architectural Plans submitted herewith fulfill the requirement for submitting preliminary, scaled architectural plans contained in 760 CMR 56.05(2)(c). The Project plans are filed with this application and are made a part hereof by reference. Under the Act, plans filed with a Comprehensive Permit application may be preliminary plans, and the Applicant reserves the right to revise the Project Plans prior to final approval of the Project.

6.0 Project Description

The Village at Chebacco Hill will be located off of Chebacco Road and is proposed to be a condominium ownership community including 59 mixed income residential dwelling units in 32 buildings. There will be 44 age-restricted units at market rate and 15 units which will be income and deed restricted to households at or below 80% of area median income. The market rate units will not permit occupants under the age of 18 while the affordable units will be restricted to requiring at least one occupant to be 55 years of age or older[1]. The general area includes residential dwellings and is zoned single family residential. Given the design of the Project in harmony with the natural features of the Project, a limited number of units will be visible from Chebacco Road and no homes will be visible from Essex Street. This is in keeping with the general residential character of the R-1B district. Further, while the Site includes over 56 acres, the development disturbance is limited to 16 acres and when completed, only 5.25 acres will include impervious areas. Approximately 40 acres will be preserved as open space.

This Project will consist of the construction of thirty-two free-standing buildings. The building styles will be a mixture of single, duplex and triplex unit layouts. All units will be energy efficient and will include two bedrooms, 2 ½ bathrooms, of which the primary bedroom attached to an ensuite will be on the first floor. Each unit will also include two-car garages.

The units will be serviced by municipal water, and private sewer. On site amenities will include an extensive walking trail connecting to a nearby network of conservation areas as well as community gathering areas, all as shown on the plans. More than ample parking is provided on site. Each unit will have four parking spaces, two in the garage and two

[1] Please note the stated occupancy requirements comply with the EOHLC Policy on Restrictions on Children in Age Restricted Housing issued February 2018.

in the driveway and there will be a provision in the master deed for 24 visitor parking spaces. The Project includes each unit to have electric vehicle wiring in the garage and a community EV charger at the entrance next to the trail head parking area.

Below is a summary of the mix of units to be constructed:

Style	Buildings	Units	Affordable	Market
Single	12	12	3	9
Duplex	13	26	6	20
Tri-Plex	7			
Tri-end		14	4	10
Tri-middle		7	2	5
Totals	32	59	15	44

7.0 **Existing Site and Surrounding Site Area Conditions** (See 760 CMR 56.05(2)(b))

A. Significant Natural Resources of Wildlife Habitat

The Massachusetts Natural Heritage Atlas, 15th Edition, was reviewed to obtain information regarding any significant natural resource or wildlife habitat areas. The Natural Heritage and Endangered Species Program (NHESP) produces the Natural Heritage Atlas which represents the known geographic extent of habitat for rare plants and animals protected under the Massachusetts Endangered Species Act ("MESA") and Wetlands Protection Act ("WPA"). A review of the maps for both Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife and Certified Vernal Pool indicates a certified vernal pool but no Priority or Estimated Habitat on the Site. Priority Habitat is based on the known geographical extent of habitat for all state-listed rare species, both plants and animals, and is codified under the MESA. Estimated Habitats are a sub-set of the Priority Habitats and are based on the geographical extent of habitat of state-listed rare wetlands wildlife and is codified under the WPA, which does not protect plants. State-listed wetland wildlife species are protected under the MESA as well as the WPA. The site is not in an Area of Critical Environmental Concern

("ACEC"). ACECs are places in Massachusetts that receive special recognition because of the quality, uniqueness, and significance of their natural and cultural resources. These areas are identified and nominated at the community level and are reviewed and designated by the state's Secretary of Energy and Environmental Affairs. According to the Federal Emergency Management Agency (FEMA), community panel 25009C0427F, with an effective date of July 8, 2025, a portion of the site is mapped as a Special Flood Hazard Area, Zone A.

The Site is not a part of a regional water resource area, includes no fault line nor does it include an underground aquifer. Finally, the Site is not located in a Zone I or Zone II, Interim Wellhead Protection Area, or Aquifer Protection Area.

B. Existing Conditions

The Site consists of approximately 56.81 acres +/- located off 133 Essex Street with frontage on Chebacco Road. The Site is comprised of uplands which include steep slopes with visible ledge outcroppings in many areas. Ledge removal will be required for road construction and building sites.

A portion of the Site is located within the Ground Water Protection Overlay District ("GWPOD") and has a series of wetland features all as shown on the site plan. Due to the existence of these features, the Applicant has limited the developed area of the Site to the upland portions that lie well outside of the GWOPD and outside of the 100-foot buffer to all jurisdictional wetlands (except for a horizontal drilling area that is underneath a small section of wetlands and installation of a water main within the paved surface of Chebacco Road). The Applicant has received an Order of Conditions (OOC) under the Local Wetlands Bylaw and a Superseding Order of Conditions (SOOC) under the WPA for another proposal. The Project employs the same delineation lines as the prior proposal. The Site includes one certified vernal pool and three non-certified vernal pools which are not located in the development area and are part of the known delineated wetlands. The existing conditions of the Site are also described in a letter prepared by Dillis & Roy Civil Design Group, Inc., attached hereto as **Exhibit M**.

It should be noted and highlighted, this Site is part of a privately owned parcel of land. The Site is not a part of the adjacent public land nor is it open to public use. However, the Project does identify a proposed walking trail that includes over 4,000 linear feet of trails that will provide a connection to an offsite trail system which is situated on abutting parcels

of land and the Project will include a walkable path from Chebacco Road to Chebacco Woods. As can be seen on the Site Development Plans, there will be a trail head parking area at the entrance and will be open to the public to use in order to access the trail system. It is proposed that this dedication will be reflected in an appropriate easement document and reflected in the condominium master deed as well.

C. Existing Public Utilities

Existing public utilities in the area of the Project include municipal water and electric service provided by the Town of Hamilton and National Grid, respectively.

D. Historic or Archeological Features of Significance

The Site does not appear to have any significant historic or archeological features.

8.0 Proposed Landscaping/Buffers

The project will have minimal visual impact off of Chebacco Road and will have no visual impact from Essex Street. As shown by the cross section plans, attached hereto as **Exhibit N**, the Village at Chebacco Hill will not visible from Essex Street, preserving the visual country character of Hamilton while constructing a cluster community. The entrance to the Project will be approximately 250 feet from the nearest dwelling unit. A landscape buffer will also be installed along Chebacco Road and a small monument sign to identify the community. The landscape plans will be provided at a later date as we move through the permitting process.

9.0 Project Impacts

A. Municipal Services

1. Water Supply

The Project will be serviced by public water from the Town of Hamilton public water system at Chebacco Road from Essex Street. With 118 bedrooms, it is estimated that the water usage will be 9,990 gpd[2] for the Project when it is

[2] Water and sewer impacts are based upon the Title V standards for age restricted housing.

fully built out. The Project will be constructed with the appropriate water saving plumbing fixtures such as low flow toilets.

2. Wastewater

The Project will be serviced by an onsite private disposal system. The system will be designed for 9,990 gpd as further specified below. A full set of plans compliant with Title V will be submitted in the near future.

Unit type description	number of units	# of bedrooms/unit	Allowable flow/day/unit	Total flow/day
Senior housing	44	2	150	6,600
No age restricted 40B	15	2	220	3,300
Total	59			9,900

3. Stormwater

The stormwater management system for the Project is designed in conformance with the Massachusetts Department of Environmental Protection's Stormwater Management Standards. The engineers have employed low impact design techniques as part of the stormwater management system for the project as more fully set forth in the Plans. Specifically, the project has been designed to incorporate some Low Impact Development methods including: (1) a reduced pavement width, (2) the use of Rain Gardens for stormwater management, and (3) clustering of the project on a small portion of the land to preserve Open Space. A preliminary stormwater report is attached at **Exhibit I**.

4. Public Safety

Impacts to public safety would be associated with adequate access to and from the Site. Public safety vehicle access to and from the site will be from Chebacco Road, a public way. Nether the Fire Department nor Police Department have expressed concerns to date about the proposed Project. The Project will have no adverse impact upon public safety. A review of traffic impacts will be provided separately from this application during the course of the hearing process.

5. Other Utilities

Utilities, electric, cable and telephone will be coordinated prior to construction with the local providers. No adverse impacts relative to public services or utilities to abutting properties or to the Town in general are anticipated.

B. Construction Impacts

Anticipated impacts of the Project associated with the construction process include blasting, erosion and sedimentation, noise, and dust control. Although these impacts will be temporary in nature, mitigation controls will be in place. Such controls include the following:

i. A Stormwater Pollution Prevention Plan (SWPPP) as required by the EPA NPDES general Permit for Stormwater Discharges from Construction Sites will be prepared prior to construction.

ii. Construction sequencing, best management practices for erosion control, equipment and vehicle management, material storage and use, waste disposal and spill prevention and response.

iii. A daily inspection of the site conditions, as needed, to control dust during construction and to provide watering, as needed.

iv. During blasting times all state and federal laws will be followed.

C. Historical and Archeological Impacts

The Applicant is unaware of any historical or archeological impacts that will result from the Project.

D. Environmental Impacts

The Applicant does not expect the Project to result in any adverse environmental impacts to the Site.

E. Traffic Impacts

The Applicant does not anticipate any significant traffic impacts from the Project to the surrounding roadway system. As mentioned above, a traffic study will be submitted and such traffic study will include recommended truck routes during construction for the Town's consideration.

10.0 Request for Zoning, General Ordinance and Regulation Waivers

Pursuant to the Act and the regulations promulgated thereunder, the Applicant requests that the waivers set forth on **Exhibit J** from the Zoning Bylaw, General Bylaws and local Regulations of the Town[3].

11.0 Need for Affordable Housing

The Act provides in relevant part that all communities are bound to a standard of achieving a minimum of ten percent (10%) of their housing stock dedicated to low and moderate income housing. See G. L. c. 40B, § 20, and 760 CMR 56.03(3)(a). Based upon most recent applicable data available, the stock of housing utilized in Hamilton for low to moderate income purposes is approximately 4.07%, which is plainly below the 10% requirement. See EOHLC Subsidized Housing Inventory (SHI) for Hamilton as of June 25, 2025, attached hereto as **Exhibit K**. Therefore, because the Town is below the 10% threshold under the SHI, there exists a legal presumption that there is a regional housing need which outweighs local concerns. In such case, the Board must hear the Applicant's comprehensive permit application, and the Applicant enjoys all of the benefits and privileges of the Act.

12.0 Filing with Other Boards

The Applicant will file, if required, a notice to DEP of the changed condition and notice to the Town's Conservation Commission consistent with its jurisdiction pursuant to G. L. c. 131, § 40 (the "Wetlands Protection Act") and the regulations promulgated thereunder.

13.0 Additional Information

[3] References herein are to the Town of Hamilton Zoning Bylaw and the Subdivision Rules and Regulations as well as the General Bylaws of the Town, including the local wetlands bylaw.

The Applicant reserves the right to provide, and anticipates providing, additional information to the Board of Appeals during the course of the hearing process.

14.0 Request for Findings of Fact

The Applicant requests that the Board of Appeals make the following findings in connection with the action of the Board on this application:

- That Chebacco Hill Capital Partners, LLC is a limited dividend corporation within the meaning of General Laws, Chapter 40B.

- The Applicant has control of the site by virtue of a Purchase and Sale Agreement executed on January 15, 2021, with subsequent extensions, as confirmed in the Project Eligibility Letter sufficient to comply with 760 CMR56.04(4)(g).

- The applicant has received approval and a Project Eligibility Letter through MassHousing pursuant to the New England Fund Program and therefore has received approval in accordance with 760 CMR 56.04(4).
- The number of low or moderate income housing units in the Town of Hamilton constitutes less than ten percent (10%) as reported in the latest decennial census of the Town and reported by the Executive Officer of Housing and Livable Communities as of June 29, 2023 and verified by EOHLC on June 25, 2025.

- The proposal addresses the needs for affordable housing in the Town and is consistent with local needs within the meaning of General Laws, Chapter 40B, Section 20.

15.0 Summary

The within Application proposes an attractive, well-designed affordable housing development that will address a long-standing and serious shortage of housing within the Town of Hamilton. According to the City's Housing Production Plan, the Site on which the Project is located is available to construct housing within the Town.

The Site design and existing conditions afford ample area to accommodate the proposed development. Moreover, the Project has been designed to minimize and mitigate potential impacts to municipal systems and services.

The Applicant respectfully submits that the Project will meet a severe regional and local need for affordable housing while also addressing the health, safety, and environmental concerns of Hamilton residents.

Respectfully submitted,
Chebacco Hill Capital Partners, LLC
By its attorneys,
MEAD, TALERMAN & COSTA, LLC

LISA L. MEAD
ADAM COSTA
30 Green Street
Newburyport, MA 01950
(978) 463-7700

The Commonwealth of Massachusetts
William Francis Galvin

Minimum Fee: $500.00

Secretary of the Commonwealth, Corporations Division
One Ashburton Place, 17th floor
Boston, MA 02108-1512
Telephone: (617) 727-9640

Certificate of Organization
(General Laws, Chapter)

Identification Number: 001478642

1. The exact name of the limited liability company is: CHEBACCO HILL CAPITAL PARTNERS, LLC

2a. Location of its principal office:
No. and Street: 176 BARTON ROAD
City or Town: STOW State: MA Zip: 01775 Country: USA

2b. Street address of the office in the Commonwealth at which the records will be maintained:
No. and Street: 176 BARTON ROAD
City or Town: STOW State: MA Zip: 01775 Country: USA

3. The general character of business, and if the limited liability company is organized to render professional service, the service to be rendered:
REAL ESTATE DEVELOPMENT

4. The latest date of dissolution, if specified:

5. Name and address of the Resident Agent:
Name: LAWRENCE SMITH
No. and Street: 176 BARTON ROAD
City or Town: STOW State: MA Zip: 01775 Country: USA

I, LAWRENCE SMITH resident agent of the above limited liability company, consent to my appointment as the resident agent of the above limited liability company pursuant to G. L. Chapter 156C Section 12.

6. The name and business address of each manager, if any:

Title	Individual Name First, Middle, Last, Suffix	Address (no PO Box) Address, City or Town, State, Zip Code
MANAGER	LAWRENCE SMITH	176 BARTON ROAD STOW, MA 01775

7. The name and business address of the person(s) in addition to the manager(s), authorized to execute documents to be filed with the Corporations Division, and at least one person shall be named if there are no managers.

Title	Individual Name First, Middle, Last, Suffix	Address (no PO Box) Address, City or Town, State, Zip Code

8. The name and business address of the person(s) authorized to execute, acknowledge, deliver and record any recordable instrument purporting to affect an interest in real property:

Title	**Individual Name** First, Middle, Last, Suffix	**Address** (no PO Box) Address, City or Town, State, Zip Code
REAL PROPERTY	LAWRENCE SMITH	176 BARTON ROAD STOW, MA 01775

9. Additional matters:

SIGNED UNDER THE PENALTIES OF PERJURY, this 4 Day of January, 2021,
LAWRENCE SMITH

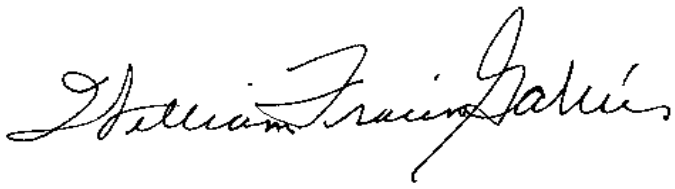
(The certificate must be signed by the person forming the LLC.)

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THE COMMONWEALTH OF MASSACHUSETTS

I hereby certify that, upon examination of this document, duly submitted to me, it appears that the provisions of the General Laws relative to corporations have been complied with, and I hereby approve said articles; and the filing fee having been paid, said articles are deemed to have been filed with me on:

January 04, 2021 09:50 AM



WILLIAM FRANCIS GALVIN

Secretary of the Commonwealth

The Commonwealth of Massachusetts

Secretary of the Commonwealth

State House, Boston, Massachusetts 02133

William Francis Galvin
Secretary of the
Commonwealth

July 25, 2025

TO WHOM IT MAY CONCERN:

I hereby certify that a certificate of organization of a Limited Liability Company was filed in this office by

CHEBACCO HILL CAPITAL PARTNERS, LLC

in accordance with the provisions of Massachusetts General Laws Chapter 156C on **January 4, 2021.**

I further certify that said Limited Liability Company has filed all annual reports due and paid all fees with respect to such reports; that said Limited Liability Company has not filed a certificate of cancellation; that there are no proceedings presently pending under the Massachusetts General Laws Chapter 156C, § 70 for said Limited Liability Company's dissolution; and that said Limited Liability Company is in good standing with this office.

I also certify that the names of all managers listed in the most recent filing are: **LAWRENCE SMITH**

I further certify, the names of all persons authorized to execute documents filed with this office and listed in the most recent filing are: **LAWRENCE SMITH**

I also certify that the names of all persons authorized to act with respect to real property listed in the most recent filing are: **LAWRENCE SMITH**

In testimony of which,

I have hereunto affixed the

Great Seal of the Commonwealth

on the date first above written.

William Francis Galvin

Secretary of the Commonwealth

Processed by: QL

QC by: KM

MassHousing

Massachusetts Housing Finance Agency
One Beacon Street Boston, MA 02108

Tel: 617-854-1000 | Relay 711
Fax: 617-854-1091 | www.masshousing.com

January 16, 2024

Chebacco Hill Capital Partners LLC
176 Barton Road
Stow, MA 01775
Attn: Lawrence Smith

Re: Village at Chebacco Hill
Project Eligibility/Site Approval
MassHousing ID No. 1205

Dear Mr. Smith:

This letter is in response to your application as "Applicant" for a determination of Project Eligibility ("Site Approval") pursuant to Massachusetts General Laws Chapter 40B ("Chapter 40B"), 760 CMR 56.00 (the "Regulations") and the Comprehensive Permit Guidelines issued by the Executive Office of Housing and Livable Communities ("EOHLC") (the "Guidelines" and, collectively with Chapter 40B and the Regulations, the "Comprehensive Permit Rules"), under the New England Fund ("NEF") Program ("the Program") of the Federal Home Loan Bank of Boston ("FHLBank Boston").

Chebacco Hill Capital Partners LLC (the "Applicant") has proposed to build fifty-nine (59) age-restricted homeownership units (the "Project") on approximately 56.81 acres of land located at 133 Essex Street (the "Site") in Hamilton (the "Municipality"). While 133 Essex Street is the legal address for the Site, access is located on Chebacco Road.

In accordance with the Comprehensive Permit Rules, this letter is intended to be a written determination of Project Eligibility by MassHousing acting as Subsidizing Agency under the Guidelines.

MassHousing has performed an on-site inspection of the Site and has reviewed the pertinent information for the Project submitted by the Applicant, the Municipality and others in accordance with the Comprehensive Permit Rules.

Municipal Comments
Pursuant to the Regulations, the Municipality was given a thirty (30) day period in which to review the Site Approval application and submit comments to MassHousing. The Hamilton Select Board submitted a letter dated November 20, 2023, providing comments from the Planning Board, Planning Director, Conservation Commission, Septic Inspector, DPW, Police and Fire Departments. The various boards, departments, and commissions identified the following comments and concerns:

Maura Healey, Governor
Kim Driscoll, Lt. Governor
Jeanne Pinado, Chair
Carolina Avellaneda, Vice Chair
Chrystal Kornegay,
Chief Executive Officer

- The Municipality's comments acknowledged that the Site was the subject of a prior special permit and stormwater application for a similar age-restricted project, which were denied. Many of the comments and concerns provided in the letter clarified expectations for additional review by various parties given project changes. It was noted that peer review, including for traffic, utilities, drainage, septic, and lighting will be expected as a part of the comprehensive permit hearing process.

- The Municipality is concerned with the extent of site work and associated costs required to construct the proposed Project, noting the numerous issues previously considered by the Planning Board including challenging topography, extensive blasting and rock crushing, ledge removal, noise, well monitoring, traffic and other safety concerns.

- The Municipality raised questions regarding the proposed age restriction and compliance with state policy relative to housing for families with children, and requested appropriate amenities and site design for both older adults and children.

- The Municipality requested that the Applicant follow the Superseding Order of Conditions DEP #172-0629 previously issued by MassDEP and the Conservation Commission, and to follow up in accordance with the appropriate regulations should additional project deviations occur.

- The Municipality noted that a new septic plan and application will be required for review.

- The Municipality requests additional information on proposed and existing drainage infrastructure, the extent of water main and hydrant work, and anticipated roadway paving and improvement activity on adjacent public roadways that will be required for the proposed Project. Additionally, the Municipality noted anticipated plans for the repaving of Chebacco Road and requested appropriate coordination between the Applicant and the Department of Public Works.

- The Municipality requested the use of low impact development techniques to protect groundwater and wetlands, and limit site erosion.

- The Municipality acknowledged that the Site is identified in Hamilton's Housing Production Plan, and recognized the need for additional housing diversity, including rental housing, affordable housing, and residential typologies generally in town. The Municipality expressed an interest in whether the proposed Project could meet the needs for mobility impaired and special needs populations.

Community Comments

In addition to comments submitted by the Municipality, MassHousing received approximately eighty-five (85) letters from area residents expressing comments and concerns regarding the proposed Project. In general, letters from the community opposed the proposed Project, expressing dismay that the Applicant is seeking 40B approval after denial of a special permit by the planning board and stating that there are better locations for affordable housing development in town. One letter expressed support for the proposed Project, acknowledging the need for additional housing creation in the region. The following concerns were detailed by area residents:

- The amount of blasting required to construct the proposed Project.
- Environmental impacts, including increased stormwater, wastewater management, and potential risks to water supply for the region resulting from construction. A hydrological study and information regarding long-term monitoring and maintenance of stormwater and wastewater infrastructure were requested.
- Impacts of the proposed Project on the experience of visitors using the surrounding trail networks and disruption to the forested wildlife habitat.
- Traffic impacts to area roadways, particularly during construction.

MassHousing Determination and Recommendation

MassHousing staff has determined that the Project appears generally eligible under the requirements of the Program, subject to final review of eligibility and to Final Approval.[1] As a result of our review, we have made the findings as required pursuant to 760 CMR 56.04(1) and (4). Each such finding, with supporting reasoning, is set forth in further detail on Attachment 1 hereto. It is important to note that Comprehensive Permit Rules limit MassHousing to these specific findings in order to determine Project Eligibility. If, as here, MassHousing issues a determination of Project Eligibility, the Applicant may apply to the Zoning Board of Appeals ("ZBA") for a comprehensive permit. At that time local boards, officials and members of the public are provided the opportunity to further review the Project to ensure compliance with applicable state and local standards and regulations.

Based on MassHousing's site and design review, and considering feedback received from the Municipality, the following issues should be addressed in your application to the ZBA, and you should be prepared to explore them more fully during the public hearing process:

- Development of this Site will require compliance with all state and federal environmental laws, regulations and standards applicable to existing conditions and to the proposed use related to building construction, stormwater management, wastewater collection and treatment, and hazardous waste safety. The Applicant should expect that the Municipality will require evidence of such compliance prior to the issuance of a building permit for the Project.

- The Applicant must demonstrate the ability to manage the onsite blasting required to construct the proposed Project. A construction management plan should be prepared to give assurance to the Municipality and neighborhood that the contractor will mitigate the impacts of construction, including noise and vibration.

- The Applicant should provide a detailed traffic study assessing potential impacts of the Project on area roadways, including traffic volumes, crash rates, and the safety and level of service ("LOS") of area intersections, as well as identifying appropriate mitigation in compliance with all applicable state regulations.

- The Applicant must comply with the Interagency Agreement Regarding Housing Opportunities for Families with Children and EOHLC's policy Regarding Restrictions on Children in Age-Restricted 55+ Housing.

[1] MassHousing has relied on the Applicant to provide truthful and complete information with respect to this approval. If at any point prior to the issuance of a comprehensive permit MassHousing determines that the Applicant has failed to disclose any information pertinent to the findings set forth in 760 CMR 56.04 or information requested in the Certification and Acknowledgment of the Application, MassHousing retains the right to rescind this Site Approval letter.

- The Applicant should work with the Municipality to address changes in design and capacity for the septic system.

- The Applicant should be prepared to provide detailed information relative to proposed water use, drainage needs, potential impacts on existing capacity, and appropriate mitigation, including Low Impact Development (LID) techniques.

- The Applicant should work with the Municipality to coordinate work that may interfere with local roadway repaving.

MassHousing has also reviewed the application for compliance within the requirements of 760 CMR 56.04(2) relative to Application requirements and has determined that the material provided by the Applicant is sufficient to show compliance.

This Site Approval is expressly limited to the development of no more than fifty-nine (59) homeownership units under the terms of the Program, of which not less than fifteen (15) of such units shall be restricted as affordable for low- or moderate-income persons or families as required under the terms of the Guidelines. It is not a commitment or guarantee of financing and does not constitute a site plan or building design approval. Should you consider, prior to obtaining a comprehensive permit, the use of any other housing subsidy program, the construction of additional units or a reduction in the size of the Site, you may be required to submit a new Site Approval application for review by MassHousing. Should you consider a change in tenure type or a change in building type or height, you may be required to submit a new site approval application for review by MassHousing.

For guidance on the comprehensive permit review process, you are advised to consult the Guidelines. Further, we urge you to review carefully with legal counsel the M.G.L. c.40B Comprehensive Permit Regulations at 760 CMR 56.00.

This approval will be effective for a period of two (2) years from the date of this letter. Should the Applicant not apply for a comprehensive permit within this period this letter shall be considered to be expired and no longer in effect unless MassHousing extends the effective period of this letter in writing. In addition, the Applicant is required to notify MassHousing at the following times throughout this two-year period: (1) when the Applicant applies to the local ZBA for a Comprehensive Permit, (2) when the ZBA issues a decision and (3) if applicable, when any appeals are filed.

Should a Comprehensive Permit be issued, please note that prior to (i) commencement of construction of the Project or (ii) issuance of a building permit, the Applicant is required to submit to MassHousing a request for Final Approval of the Project (as it may have been amended) in accordance with the Comprehensive Permit Rules (see especially 760 CMR 56.04(07) and the Guidelines including, without limitation, Part III thereof concerning Affirmative Fair Housing Marketing and Resident Selection). Final Approval will not be issued unless MassHousing is able to make the same findings at the time of issuing Final Approval as required at Site Approval.

Please note that MassHousing may not issue Final Approval if the Comprehensive Permit contains any conditions that are inconsistent with the regulatory requirements of the New England Fund Program of the FHLBank Boston, for which MassHousing serves as Subsidizing Agency, as reflected in the applicable regulatory documents. In the interest of providing for an efficient review process and to avoid the potential lapse of certain appeal rights, the Applicant

may wish to submit a "final draft" of the Comprehensive Permit to MassHousing for review. Applicants who avail themselves of this opportunity may avoid significant procedural delays that can result from the need to seek modification of the Comprehensive Permit after its initial issuance.

If you have any questions concerning this letter, please contact Kat Miller at (617) 854-1217.

Sincerely,

Colin M. McNiece
General Counsel

cc: Ed Augustus, Secretary, EOHLC
The Honorable Bruce E. Tarr
The Honorable Kristin E. Kassner
Shawn M. Farrell, Chair, Hamilton Select Board
Bruce Gingrich, Chair, Hamilton Zoning Board of Appeals
Joseph J. Domelowicz Jr., Hamilton Town Manager
Patrick Reffett, Director of Planning and Inspectional Services

Attachment 1

760 CMR 56.04 Project Eligibility: Other Responsibilities of Subsidizing Agency
Section (4) Findings and Determinations

Village at Chebacco Hill, Hamilton, MA #1205

MassHousing hereby makes the following findings, based upon its review of the application, and taking into account information received during the site visit and from written comments:

(a) that the proposed Project appears generally eligible under the requirements of the housing subsidy program, subject to final approval under 760 CMR 56.04(7);

The Project is eligible under the NEF housing subsidy program and at least 25% of the units will be available to households earning at or below 80% of the Area Median Income, adjusted for household size, as published by the U.S. Department of Housing and Urban Development ("HUD"). The most recent HUD income limits indicate that 80% of the current median income for a four-person household in Hamilton is $118,450.

The Applicant submitted a letter of financial interest from Webster Five Cents Savings Bank, a member bank of the FHLBank Boston under the NEF Program.

(b) that the site of the proposed Project is generally appropriate for residential development, taking into consideration information provided by the Municipality or other parties regarding municipal actions previously taken to meet affordable housing needs, such as inclusionary zoning, multifamily districts adopted under c.40A, and overlay districts adopted under c.40R, (such finding, with supporting reasoning, to be set forth in reasonable detail);

Based on a site inspection by MassHousing staff, internal discussions, and a thorough review of the application, MassHousing finds that the Site is suitable for residential use and development and that such use would be compatible with surrounding uses and would address the local need for housing.

The Town of Hamilton has an EOHLC-approved Housing Production Plan (HPP) and is an HPP-certified community, through March 20, 2025. According to DHCD's Chapter 40B Subsidized Housing Inventory, updated through June 29, 2023, Hamilton has 114 Subsidized Housing Inventory (SHI) units (4.07% of its housing inventory), which is 167 units below the statutory minima requirement of 10%. The Municipality acknowledged that the Site is identified in Hamilton's Housing Production Plan and recognized the need for additional housing diversity in town.

(c) that the conceptual project design is generally appropriate for the site on which it is located, taking into consideration factors that may include proposed use, conceptual site plan and building massing, topography, environmental resources, and integration into existing development patterns (such finding, with supporting reasoning, to be set forth in reasonable detail);

In summary, based on evaluation of the site plan using the following criteria, MassHousing finds that the proposed conceptual Project design is generally appropriate for the Site. The following plan review findings are made in response to the conceptual plan, submitted to MassHousing:

Relationship to adjacent streets/Integration into existing development patterns
Hamilton is on the North Shore of Massachusetts, approximately 30 miles northeast of Boston and 20 miles south of the New Hampshire border. Route 128 is accessible approximately 15 minutes to the south, and Routes 1 and I-95 are 15-minutes to the west of the Site. Locally, Hamilton is primarily accessed via Route 1A, which runs north-south through the center of town. Commuter Rail access to Boston is located along 1A, approximately 3 miles northwest of the Site, at the Hamilton/Wenham town line. The Shoppes at Hamilton Crossing, which includes Crosby's Market, a CVS pharmacy, Bank of America as well as some boutique stores is also located in this area. Commercial uses are otherwise limited in Hamilton, with the closest shopping and employment centers located in Beverly and Peabody, 5 and 10 miles to the south respectively.

The Site itself is accessed from Chebacco Road in a neighborhood that is rural in nature, abutted by the Chebacco Woods trail network to the south and west and the MeadowBrook Farmstand to the north. The surrounding uses along Chebacco Road and other nearby roadways are otherwise single-family homes.

Relationship to Adjacent Building Typology (Including building massing, site arrangement, and architectural details)
The proposed development will consist of fifty-nine (59) two- bedroom units offered in a mix of duplexes, triplexes, and detached single-family homes. Detailing and materials are in keeping with the traditional, residential, New England character of the surrounding community. Homes include entry porches, gable roofs, shed and gable dormers, and lap and shake siding. All homes include a two-car garage. Variations in the location, size and materials of these architectural features distinguish each unit, breaking down the massing of the buildings, and creating visual interest. The architectural designs and building scale are compatible with the style of homes found in the surrounding area.

Density
The Applicant proposes to build fifty-nine (59) homeownership units on approximately 56.81 acres, of which 44.62 acres are buildable. The resulting density is 1.3 units per buildable acre, which is acceptable given the proposed housing type.

Conceptual Site Plan
The proposed site layout consists of fifty-nine (59) units in a mix of thirty-two (32) duplexes, triplexes, and detached single-family structures organized along a looped roadway. All homes are oriented with garages and driveways facing the street. A sidewalk that wraps the perimeter of the roadway is shown on the site plan, and according to information provided by the Applicant, the proposed Project will include a walking trail that will provide connections to offsite trail systems on abutting properties as well as provide a walkable path from Chebacco Road to Chebacco Woods. The site plan limits disturbance to approximately 16 acres of land, preserving the remaining 40 as undisturbed open space. The homes will be served by a shared septic system that will be located in the western portion of the Site. Other utilities including water and electricity will service the Site from Chebacco Road. The proposed Project is designed to exceed local and state energy and building codes and the site plan incorporates low-impact development features such as rain gardens for stormwater infiltration, reduced impervious area to the extent practicable, as well as other environmentally sensitive development strategies.

Environmental Resources
The Site contains 12.19 acres of wetland scattered throughout the Site. All building footprints are located beyond the 100-foot Buffer Zone. The site layout will require a temporary bridge crossing over an on-site intermittent stream to facilitate the construction of a stormwater management area in the northern portion of the Site. Horizontal Directional Drilling is also proposed for the installation of septic infrastructure under the intermittent stream. Plans for these features have been approved under a MassDEP-issued Superseding Order of Conditions.

Topography
The Site has challenging topography with large areas of rock ledge outcroppings, having a change in grade of approximately 72 feet from the front of the Site at the Chebacco Road frontage to the top of its highest knob, located in the center of the Site. Extensive blasting will be required to construct the proposed roadways and to grade the Site so that the building clusters can be nestled into its topography.

(d) that the proposed Project appears financially feasible within the housing market in which it will be situated (based on comparable rentals or sales figures);

The Project appears financially feasible based on market analysis submitted by the Applicant. Information received from the Applicant confirmed the need for age-restricted housing units in the area.

(e) that an initial pro forma has been reviewed, including a land valuation determination consistent with the Secretariat's Guidelines, and the Project appears financially feasible and consistent with the Secretariat's Guidelines for Cost Examination and Limitations on Profits and Distributions (if applicable) on the basis of estimated development costs;

The initial pro forma has been reviewed for the proposed residential use, and the Project appears financially feasible with a projected profit margin of 12.77%. A third-party appraisal commissioned by MassHousing has determined that the "As Is" land value for the Site of the proposed Project is $1,560,000.

(f) that the Applicant is a public agency, a non-profit organization, or a Limited Dividend Organization, and it meets the general eligibility standards of the housing program; and

MassHousing finds that the Applicant must be organized as a Limited Dividend Organization. MassHousing sees no reason this requirement could not be met given information reviewed to date. The Applicant meets the general eligibility standards of the NEF housing subsidy program and has executed an Acknowledgment of Obligations to restrict their profits in accordance with the applicable limited dividend provisions.

(g) that the Applicant controls the site, based on evidence that the Applicant or a related entity owns the site, or holds an option or contract to acquire such interest in the site, or has such other interest in the site as is deemed by the Subsidizing Agency to be sufficient to control the site.

The Applicant controls the Site by virtue of a Purchase and Sale Agreement between Country Squire Realty, Inc. (Seller) and Chebacco Hill Capital Partners, LLC (Purchaser) dated January 15, 2021, as amended on June 24, 2022, and June 9, 2023, with an expiration date of January 15, 2026.

Mead, Talerman & Costa, LLC
Attorneys at Law

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Newburyport, MA 01950
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www.mtclawyers.com

July 31, 2025,

By Mail

MassHousing
Massachusetts Housing Finance Agency
One Beacon Street
Boston, MA 02108
Attn: Colin M. McNiece, General Counsel

Re: Village at Chebacco Hill
Notification of Application for Comprehensive Permit

Dear Mr. McNiece:

Reference is made to the above captioned matter. In that connection, this firm represents Chebacco Hill Capital Partners, LLC (the "Applicant"). This letter shall serve as notice to MassHousing in conformance with its letter dated January 16, 2024, re: Village at Chebacco Hill, Project Eligibility/Site Approval, MassHousing ID No. 1205. The Applicant has applied to the Zoning Board of Appeals of the Town of Hamilton, Massachusetts for a Comprehensive Permit on the same day as the mailing of this letter. Please accept this letter as notice pursuant to the January 16, 2024 letter.

Respectfully submitted,
Chebacco Hill Capital Partners, LLC
By its Attorney,



Lisa L. Mead

Attachments
cc: client

Millis Office
730 Main Street, Suite 1F
Millis, MA 02054
Phone/Fax 508.376.8400

New Bedford Office
227 Union Street, Suite 606
New Bedford, MA 02740

PURCHASE AND SALE AGREEMENT

Purchase and Sale Agreement (the "Agreement"), dated as of January 15, 2021 (the "Effective Date"), by and among Country Squire Realty Inc. (a Massachusetts corporation), (c/o Catherine Rich-Duval) (the "Seller") with a mailing address of 103 River Road, Topsfield, MA 01983 (email address:crichduval@gmail.com), and Chebacco Hill Capital Partners, LLC, a Massachusetts limited liability company (the "Buyer") with a business address of 176 Barton Road, Stow, MA 01775 (email address: Lsmith@restorationcapital.net).

WITNESSETH:

In consideration of the mutual covenants herein contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Buyer and Seller agree as follows:

1. Purchase and Sale of Property. Seller hereby agrees to sell, transfer and convey to Buyer and Buyer hereby agrees to purchase from Seller, upon the terms and conditions hereinafter set forth, fee simple title to the parcel of land, with the buildings and improvements situated thereon, located at 133 Essex Street, Hamilton, MA (Assessor's Map 65, Parcel 1) and containing approximately sixty-six (66.2+/-) acres of land (the "Land"), as further described on Exhibit A, attached hereto and incorporated herein, together with all of Seller's right, title and interest in and to the following (collectively, the "Property"):

(a) any rights of way, easements, streets abutting or adjoining thereon, and any strips, trees, shrubs, plants, easements, hereditaments and appurtenances in or affecting the Land; and

(b) all intangible assets relating to the Land, including (i) warranties and guaranties relating to the Land, (ii) all licenses, permits and approvals relating to the Land, and (iii) all plans and specifications relating to the Land, Improvements or Personal Property, in each case to the extent that Seller may legally transfer the same; and

(c) all equipment, machinery, inventories, supplies, signs and other tangible personal property, if any, installed, located or situated on or used in connection with the Land, excluding all personal property owned by the tenants or occupants of the Land.

The deed into Seller is recorded with the Essex South District Registry of Deeds ("Registry") in Book 4540, Page 467, from which is excluded the land previously conveyed in 1959 by deed recorded at said Registry in Book 4541, Page 32.

2. Conveyance: Title. The Property is to be conveyed by a quitclaim deed (the "Deed") and bill of sale (the "BOS"), in the forms attached hereto as Exhibits B and C, attached hereto and incorporated herein, running to Buyer or to such nominee as Buyer may designate by notice to Seller at least five (5) business days before the Closing Date as defined below in Section 6. The

Deed shall convey good and clear record and marketable fee simple title to the Land, subject only to the Permitted Exceptions and free from all Survey Objections and Additional Title Objections, defined below under Section 3 hereof, in proper form for recording and executed and acknowledged by Seller, but shall be subject to:

(a) Provisions of existing applicable building and zoning laws in effect on the date of the delivery of the Deed;

(b) Such real property taxes for the then current tax period as are not yet due and payable on the date of the delivery of the Deed;

(c) Easements and restrictions of record that do not materially affect the reasonable use and development of the Property by Buyer as the location for the Buyer's Proposal defined below under paragraph 4(a); and

(d) Permitted Exceptions (as defined under Section 3(a)).

The exceptions referenced in subparagraphs (a), (b), (c) and (d) above are collectively called "Permitted Encumbrances".

3. Title Examination; Survey; and Environmental Inspections.

(a) Buyer has obtained and reviewed its title examination, survey and environmental investigations of the Property ("Buyer's Inspections"), and any matter noted in Buyer's Inspections, other than the deliverables which are listed as Items 2, 3 and 4 on Exhibit F, attached hereto and incorporated herein by reference which shall be provided at Closing in the normal course, shall be deemed to be a "Permitted Exception".

(b) In the event any matters of record, which in Buyer's reasonable judgment render the title to the Property to no longer be good and clear record and marketable, are recorded after the Effective Date (the "Additional Title Objections"), Buyer shall provide written notice to Seller of such Additional Title Objections within five (5) days of discovery and Seller shall use its best efforts to remove or cure all noted Additional Title Objections prior to the Closing Date, at Seller's sole cost and expense.

(c) For the avoidance of doubt, Seller shall not have the right to refuse or decline to use its best efforts to cure any Additional Title Objections. Should Seller fail to cure any Additional Title Objections at or prior to Closing, Buyer shall have the right to elect (i) to cure all such any Additional Title Objections and to receive a credit against the Purchase Price for all associated reasonable and customary costs and expenses incurred by Buyer in curing such Additional Title Objections; or (ii) to terminate this Agreement, in which event all Deposits, as defined under Section 5 and any Extension Fees, as defined under Section 4(e) below, shall be refunded to the Buyer and there shall be no further recourse between the parties.

4. Inspection; Zoning Review; and Final Approvals.

(a) Buyer shall have the right until January 15, 2022, (the "Approval Period"), at Buyer's sole cost and expense, to file applications with all local, state and any federal agency, department, board and commission deemed necessary and appropriate by Buyer for the development of the Property as the location for a residential development with no fewer than forty-four (44) dwelling units for persons who are fifty-five years of age and older (the "Buyer's Proposal"). Such applications shall include, without limitation, requests for an order of resource area delineation, an order of conditions and stormwater management permit, and applying for and obtaining all necessary zoning and planning relief that is required to secure approval for the development of the Property for the Buyer's Proposal.

(b) Seller hereby agrees (i) to cooperate with and assist Buyer in pursuing any and all necessary permits and approvals, at no cost, expense or liability to Seller, including by authorizing its President and Treasurer, or either of them, to execute applications, letters of authorization and the like, and (ii) not to object to Buyer's Proposal. In support of the foregoing, the Seller shall deliver to the Buyer the Authorization in the form attached hereto as Exhibit D.

(c) If any inspection or test by or on behalf of Buyer disturbs any of the Land, Buyer will forthwith at its expense restore the Land to substantially the same condition as existed prior to any such inspection or test.

(d) Buyer shall use best efforts and shall work expeditiously, continually and without delay to obtain all permits and approvals from all local, state, and federal authorities, including but not limited to any and all zoning and planning approvals, conservation commission or Department of Environmental Protection orders of condition, septic system approvals and all other necessary local, state and federal regulatory approvals for which all associated appeal periods have expired (the "Final Approvals") required for the development of the Property as the Buyer's Proposal. In no event will Final Approvals include any building permits or septic installation permits.

(e) If the Buyer fails to obtain or reasonably believes that it will not be granted all of the required Final Approvals, or if any permits or approvals are appealed on or before the expiration of the Approval Period, Buyer shall have the right to extend the Approval Period for up to two (2) additional periods of ninety (90) days each (the "Extended Approval Periods"), provided (i) Buyer has timely filed for all applications and has diligently pursued all such Final Approvals in a commercially reasonable manner, and (ii) Buyer has delivered to the Escrow Agent a payment in the amount of fifteen thousand ($15,000.00) dollars for each extension (the "Extension Fee"). All Extension Fees shall be nonrefundable, however if and when the Closing occurs as contemplated herein, they shall be applied as a credit to the Purchase Price at Closing.

(f) If the Buyer is unable to secure Final Approvals due to a government shutdown or other government response to a force majeure event that interferes with the Buyer's efforts to secure Final Approvals, Buyer shall have the right to extend the Approval Period, without penalty or fee, by the length of time during any government sanctioned shutdown.

(g) If at the end of the Approval Period, as may have been extended, Buyer fails to obtain Final Approvals for the Buyer's Proposal or if any permits or approvals are appealed, Buyer shall have the right to terminate this Agreement by giving notice to Seller of such termination on or before 5:00 p.m. EST on the last day of the Approval Period, as extended, whereupon the Deposits (excluding any portion of the Deposits that is nonrefundable in accordance with Section 5(a) and (b) and any Extension Fees) shall be forthwith refunded to Buyer, any reimbursements to Seller and any restoration of any portion of the Property disturbed by Buyer required to be made by Buyer hereunder shall be made and all other obligations of the parties hereto shall cease and this Agreement shall be void and of no further force or effect. If the Buyer does not so terminate, the closing shall take place 30 days after the end of the Approval Period, as extended.

5. Purchase Price. The agreed purchase price for the Property (the "Purchase Price") is [redacted] payable as follows:

(a) [redacted] has been paid by Buyer to Seller's agent, LandVest, defined below (the "Initial Deposit"); and

(b) [redacted] shall be paid on the Effective Date (together with the Initial Deposit, the "Deposits"); and

(c) [redacted] shall be paid at the Closing by wire transfer as directed by and without charge to the Seller (the "Balance of the Purchase Price").

All Deposits and Extension Fees then held by the Escrow Agent shall be credited against the Purchase Price at Closing.

Provided the Seller is not in default hereunder and except as may be specifically provided for herein, a portion of the Deposits shall be nonrefundable as follows:

(a) as of the Effective Date, [redacted] of the Deposit shall be nonrefundable; and

(b) as of July 15, 2021, an additional $[redacted] of the Deposit shall be nonrefundable.

6. Time of Closing. The Deed is to be delivered at 10:00 o'clock a.m. on the date that is thirty (30) days after Buyer has obtained all Final Approvals necessary to develop the Property as the location for the Buyer's Proposal, or if not a business day, the next succeeding business day. The time of the delivery of the Deed, as the same may be extended pursuant to the provisions of this Agreement, is referred to herein as the "Closing Date." It is agreed that time is of the essence of

this Agreement.

The closing shall take place at the law offices of the Buyer's attorney or another location as may be agreed upon by the parties. Unless the parties otherwise agree in writing, the Closing shall be conducted either in person or through an escrow arrangement, the Seller shall deliver to Buyer's legal counsel all Seller Deliverables, defined under Section 8(a), and the Buyer shall deliver to the Seller's legal counsel all Buyer's Deliverables, defined under Section 8(b) and the Balance of the Purchase Price plus any adjustments included on the Settlement Statement, defined below in Section 8(a).

If, on the Closing Date (as it may be extended hereunder), any one or more of the Seller Deliverables or the Buyer's Deliverables, as applicable, has not been delivered, then unless otherwise agreed in writing between the parties, such failure shall be deemed to be a default by Seller or Buyer, as applicable, and the terms of Section 21(a) and Section 21(b), as applicable, shall apply.

7. Condition of Property. Full possession of the Property, free of all tenants (with the exception of the Meadow Brook Farm, operated by Ron Vandi, which enterprise shall be entitled to continue - at the Premises, subject to an agreement by and between Mr. Vandi and Buyer) and occupants, is to be delivered at the Time of Closing, the Property to be then (i) in the same condition as they now are, reasonable wear and tear excepted, and (ii) not burdened by any lien or encumbrance not set forth as a Permitted Encumbrances hereunder.

8. Closing Deliverables

(a) Seller shall be required to deliver prior to the Closing the following items (the "Seller Deliverables"): (i) the Deed duly executed and acknowledged; (ii) the BOS duly executed and acknowledged; (iii) an affidavit pursuant to Section 1445(b)(2) of the Code, and on which Buyer is entitled to rely, that Seller is not a "foreign person" within the meaning of Section 1445(f)(3) of the Code; (iv) Seller's representation certificate (defined under Section 13), executed by Seller confirming that the Seller Representations made by Seller under Section 13 are true and accurate as of the Closing Date; (v) duly executed closing statement as approved in advance by the parties setting forth the applicable credits, prorations, adjustments and balance due, as provided herein, and such other matters as the parties shall reasonably agree (the "Settlement Statement"); (vi) Seller authority and good standing documents in form and substance reasonably satisfactory to the Buyer's title insurer; (vii) a title affidavit in the form attached hereto as Exhibit E (the "Title Affidavit"), executed and acknowledged by Seller relating to: (x) mechanics' or materialmen's liens; (y) parties in possession; and (z) the status and capacity of Seller and the authority of the signatories who are executing the various documents on behalf of Seller in connection with the sale of the Property; (viii) all documentation required to cure any and all Survey Objections and Additional Title Objections; (ix) a tax lien waiver and good standing certificate from the Massachusetts of Revenue, in recordable form; and (ix) such other documents,

certificates and the like as are customary for a transaction of this nature and reasonably required by Buyer's title insurer or as may be necessary to carry out its obligations under this Agreement or as may be required by law.

(b) At or before Closing, Buyer shall deliver to Seller the following items (the "Buyer Deliverables"): (i) the Balance of the Purchase Price plus any other sums and adjustments due and payable by Buyer as required herein and as reflected in the Settlement Statement; (ii) a duly executed Settlement Statement; (iii) Buyer authority and Good Standing documents in form and substance satisfactory to Seller,; and (iv) such other documents, certificates and the like as may be reasonably required by Seller's counsel or required herein or as may be necessary to carry out its obligations under this Agreement or as may be required by law.

(c) Upon completion of the Closing, Seller shall deliver possession of the Property to Buyer as required hereunder.

8. Closing Costs. Seller shall pay the cost of recording any instruments required to clear the title and all real estate transfer taxes (documentary stamps) at the Time of Closing. Buyer shall pay for the recording of the Deed (not including real estate transfer taxes), any mortgages and any other instruments to be recorded. Buyer and Seller shall each pay their own attorneys' fees.

9. Extension to Perfect Delivery. If Seller shall be unable to give title or to make conveyance, deliver possession of the Property, remove all Survey Objections and Additional Title Objections, or make the Premises conform to the provisions hereof or to satisfy any other condition hereof, all as herein stipulated, Seller shall have the right to extend the time for Closing for such period (not to exceed thirty (30) days) as Seller may designate by written notice to Buyer. Nevertheless, it is agreed that sale proceeds may be used to address any and all uncured Survey Objections and Additional Title Objections.

10. Failure to Perfect Title; Deliver Property; or Make Property Conform. If at the expiration of the extended time as provided under Paragraph 9 above, Seller shall have failed to address Survey Objections and Additional Title Objections, Buyer may (i) terminate this Agreement by written notice to Seller whereupon the Deposit (including all amounts identified as nonrefundable under Section 5(a) and (b) and all Extension Fees) shall be forthwith refunded to Buyer, any reimbursements required to be made by Buyer hereunder shall be made and all other obligations of the parties hereto shall cease and this Agreement shall be void and of no further force or effect or (ii) Buyer shall close with a credit against the Purchase Price for all reasonable costs actually incurred by Buyer to cure the Survey Objections and Additional Title Objections, in addition to having the right to exercise all other rights herein granted to Buyer. Seller shall act diligently and in good faith to perfect delivery of the Premises to Buyer.

11. Indemnities. Seller agrees to defend, indemnify and reimburse Buyer for any and all claims, demands, causes of action, losses, damages, liabilities, costs and expenses (including reasonable attorney's fees and court costs) incurred by Buyer by reason of or arising out of a breach of any representation or warranty of Seller set forth in this Agreement. Buyer agrees to indemnify and reimburse Seller for any and all claims, demands, causes of action, losses, damages,

liabilities, costs and expenses (including reasonable attorney's fees and court costs) incurred by Seller by reason of or arising out of a breach of any promise, representation or warranty of Buyer set forth in this Agreement.

12. Financing. Intentionally Deleted

13. Seller Representations and Warranties. Seller represents covenants and warrants to and agrees with Buyer, as of the date of this Agreement and as of the Time of Closing (the "Seller Representations"), as follows, which provisions shall survive the Closing:

(a) Seller is a Massachusetts corporation duly formed and validly existing and in good standing under the laws of the Commonwealth of Massachusetts. Seller has the legal right, power and authority to enter into this Agreement and to perform all of its obligations hereunder and the execution and delivery of this Agreement and the performance by Seller of its obligations hereunder (a) has been duly authorized by all necessary acts of Seller, and (b) will not conflict with, or result in a breach of, any judgment, writ, injunction or decree of any court or governmental authority, or any agreement or instrument to which Seller is a party or by which Seller is otherwise bound.

(b) No authorization, consent, or approval of any governmental authority (including courts) is required for the execution and delivery by Seller of this Agreement or performance of its obligations hereunder.

(c) there are no leases, agreements, or contracts affecting all or any part of the Property or the use thereof to which Seller is a party which would be binding upon or otherwise affect Buyer or its nominee, except as the same have been disclosed to Buyer.

(d) There are no actions, suits or proceedings pending or, to the knowledge of Seller, threatened, against or affecting Seller which, if determined adversely to Seller, would adversely affect its ability to perform its obligations hereunder. Seller has not (a) made a general assignment for the benefit of creditors, (b) filed any voluntary petition in bankruptcy or suffered the filing of an involuntary petition of Seller's creditors, (c) suffered the appointment of a receiver to take possession of all, or substantially all, of Seller's assets, (d) suffered the attachment or other judicial seizure of all, or substantially all, of Seller's assets, (e) admitted in writing it inability to pay its debts as they come due or (f) made an offer of settlement, extension or composition to its creditors generally.

(e) Neither the execution, delivery or performance of this Agreement nor compliance herewith (a) conflicts or will conflict with or results or will result in a breach of or constitutes or will constitute a default under (1) the organizational documents of Seller, (2) to the best of Seller's knowledge, any law or any order, writ, injunction or decree of any court or governmental authority, or (3) any agreement or instrument to which Seller is a party or by which it is bound or (b) results in the

creation or imposition of any lien, charge or encumbrance upon the Property pursuant to any such agreement or instrument.

(f) To the best of Seller's knowledge, there are no underground storage tanks beneath any portion of the Premises used for holding fuel oil, gasoline or other substances.

(g) Seller has not generated, treated, released, discarded or disposed of any "Oil" or Hazardous Waste on the Premises. For the purpose of this Agreement "Hazardous Waste" shall mean any "hazardous material" or "oil" as defined in the Comprehensive Environmental Response, Compensation and Liability Act 42 U.S.C. §9601, as amended, and the Massachusetts Oil and Hazardous Material Release Prevention and Response Act, M.G. L. c. 21E, as amended, or in regulations adopted thereunder.

(h) Seller is not a "foreign person" or "disregarded" entity" as defined in Section 1445 of the Code; Seller's taxpayer identification number has been provided to Buyer.

(i) Seller has not received any written notice of violation of any laws, regulations or codes, and (ii) the Seller has no actual knowledge of any claim of violation of any laws, regulations or codes.

(j) to the best of Seller's knowledge, other than municipal real estate taxes (which are not delinquent), Seller has no obligations to any governmental authority, adjacent property owner or other person for the payment (or for any donations in lieu of payment) or performance of any infrastructure, capital improvements or other work in connection with the development or ownership of the Property.

(k) No condemnation or eminent domain proceedings are pending or, to Seller's knowledge, threatened against the Property or any part thereof, and the Seller has not made any commitments to or received any written notice of the desire of any public authority or other entity to take or use the Property or any part thereof whether temporarily or permanently, for easements, rights-of-way, or other public or quasi-public purposes.

(l) There are no pending, or to Seller's knowledge, threatened, judicial or administrative proceedings or investigations against Seller or the Property affecting or relating to the development, construction, use, operation or ownership of the Property in accordance with Buyer's Proposal.

(m) No portion of the Property comprises part of a tax parcel which includes property other than property comprising all or a portion of the Property. No application or proceeding is pending with respect to a reduction or an increase of such taxes. There are no tax refund proceedings relating to the Property which are currently pending. All real estate taxes that are due and payable have been paid as of the date hereof and no such real estate taxes are delinquent. To the best of Seller's knowledge, there are no special taxes or assessments to be levied against the

Property nor is the Seller aware of any change in the tax assessment of the Property.

(n) To the best of Seller's knowledge, it has good title to the Personal Property and shall transfer the same to Purchaser free and clear of all liens and encumbrances.

(o) Except as otherwise disclosed herein, there are no options, rights of first refusal or first opportunity, or other rights or options to purchase or otherwise acquire the Property or any portion thereof (or any interest therein) in favor of any party.

14. Buyer Representations and Warranties. Buyer represents, covenants and warrants to and agrees with Seller as follows:

(a) Buyer shall not record this contract or a notice of this contract at the Registry.

(b) The Buyer agrees that it shall pay in full and in a timely manner its consultants and contractors and their subcontractors and any consultants engaged by it or by the Town and for which the Buyer is responsible to pay and that no notice of contract or lien shall be placed on the Property prior to the closing by such consultants and contractors and subcontractors, and provided further, in the event any mechanic's lien, Notice of Contract, or other lien or encumbrance is placed on the title to the Property on account of Buyer or Buyer's agents, contractors or subcontractors, Buyer will forthwith undertake to have such lien or other encumbrance immediately released of record.

(c) Buyer agrees to indemnify, defend, and hold Seller, free and harmless from any loss, injury, damage, claim, lien, cost or expense, including reasonable attorneys' fees and costs, but excluding losses resulting from the negligence or willful misconduct of Seller, which Seller incurs as a result of (i) a breach of the agreements by Buyer in connection with the inspection of the property, or (ii) otherwise from the exercise by Buyer or Buyer's agents of the right of access, or (iii) the Buyer's or the Buyer's agents' actions in seeking governmental approvals.

(d) Buyer is a limited liability company duly formed and validly existing and in good standing under the laws of the State of Delaware, registered to conduct business in the Commonwealth of Massachusetts. Buyer has the legal right, power and authority to enter into this Agreement and to perform all of its obligations hereunder and the execution and delivery of this Agreement and the performance by Buyer of its obligations hereunder (a) has been duly authorized by all necessary acts of Buyer and (b) will not conflict with, or result in a breach of, any judgment, writ, injunction or decree of any court or governmental authority, or any agreement or instrument to which Buyer is a party or by which Buyer is otherwise bound;

(e) No authorization, consent, or approval of any governmental authority (including courts) is required for the execution and delivery by Buyer of this Agreement or performance of its obligations hereunder.

(f) There are no actions, suits or proceedings pending or, to the knowledge of Buyer threatened, against or affecting Buyer which, if determined adversely to Buyer, would adversely affect its ability to perform its obligations hereunder. Buyer has not (a) made a general assignment for the benefit of creditors, (b) filed any voluntary petition in bankruptcy or suffered the filing of an involuntary petition of Buyer's creditors, (c) suffered the appointment of a receiver to take possession of all, or substantially all, of Buyer's assets, (d) suffered the attachment or other judicial seizure of all, or substantially all, of Buyer's assets, (e) admitted in writing its inability to pay its debts as they come due or (f) made an offer of settlement, extension or composition to its creditors generally.

(g) Neither the execution, delivery or performance of this Agreement nor compliance herewith (a) conflicts or will conflict with or results or will result in a breach of or constitutes or will constitute a default under (1) the organizational documents of Buyer, (2) to the best of Buyer's knowledge, any law or any order, writ, injunction or decree of any court or governmental authority, or (3) any agreement or instrument to which Buyer is a party or by which it is bound or (b) results in the creation or imposition of any lien, charge or encumbrance upon the Property.

15. Operation of the Property.

(a) Seller shall not, without the prior written consent of Buyer in each instance, which may be withheld in Buyer's sole discretion:

(i) enter into any lease or other agreement concerning occupancy or use of any of the Property or any service or other agreement concerning the operation, maintenance or ownership of the Property or any portion thereof that would affect the rights of the Buyer if the closing occurs; or

(ii) perform any construction on or modification to the Property other than normal and routine maintenance and repairs.

(b) Seller hereby agrees that it shall:

(i) not seek or support any change in the zoning classification of or restrictions relating to the Property unless Buyer consents thereto in writing; and

(ii) promptly deliver to Buyer copies of any and all notices received by Seller that relate to and/or may affect the Property, including but not limited to notices of any claims, actions, opposition to the Buyer's proposed development of the Property, and all other notices received by the Seller relating to Seller's right, title, and interest to the Property.

16. Use of Money to Clear Title. To enable Seller to make conveyance as herein provided, Seller may, at the Time of Closing, use the purchase money or any portion thereof to address a Title Objection that the Seller has elected to cure pursuant to paragraph 3, provided that all instruments so procured are recorded simultaneously with the delivery of the Deed or recorded thereafter in a manner consistent with customary commercial practice.

17. Insurance. Until the Time of Closing, Seller will maintain in full force and effect any existing policies of insurance relating to the Property. Buyer shall obtain and maintain during the pendency of this Agreement such policies of general liability and casualty insurance covering the Property and Buyer's and Buyer's agents' presence and activities upon the Property, and such Worker's Compensation coverage, as Seller shall reasonably require, which shall name Seller as first loss payee, and shall provide to Seller written evidence of same upon request therefor.

18. Adjustments.

(a) Real property taxes shall be apportioned as of 12:00 am on the date of the Closing, with Buyer being responsible for the Closing Date, and the net amount thereof shall be added to or deducted from, as the case may be, the Purchase Price; and

(b) If, at the Time of Closing, real property taxes for the then fiscal tax year are not known, the apportionment of real property taxes called for herein shall be made on the basis of the real property taxes for the preceding fiscal tax year, and an appropriate adjustment shall be made when such real property taxes are known. If the taxes that are to be apportioned shall thereafter be reduced by abatement, the amount of such abatement, less the reasonable cost of obtaining the same, shall be apportioned between the parties, provided that neither party shall be obligated to institute or prosecute proceedings for an abatement.

19. Broker. Other than Janet Breiter of Keller Williams Realty and Greta Gustafson and LandVest, Cristie's International Real Estate, Ten Post Office Square, Boston, MA 02109 ("LandVest") Buyer and Seller hereby represent and warrant that neither has used the services of a real estate broker or agent or other person who would be entitled to be paid a commission by reason of the procurement of this Agreement or the transaction which is the subject matter hereof, and each agrees to indemnify and hold the other harmless from and against any loss, cost, damage or expense arising out of any breach by the indemnifying party of the foregoing representation and warranty. Buyer shall be responsible for the payment of the broker's commission to Keller Williams Realty.

20. Deposit. All Deposits made and Extension Fees delivered hereunder shall be held in escrow by LandVest, subject to the terms of this Agreement and shall be duly accounted for at the time for performance of this Agreement. The Deposits and the Extension Fees may not be released from escrow without the assent of both Buyer and Seller. The recording of the Deed to the Property shall constitute such assent. In the event of any disagreement between the parties, the Escrow Agent may retain all Deposits and Extension Fees pending instructions mutually given by the Buyer and Seller, or by a court of competent jurisdiction. So long as Escrow Agent served in good faith, Buyer and Seller each agree to hold harmless Escrow Agent from damages, losses or

expenses, arising out of this Agreement or any action or failure to act, including reasonable attorney's fees, related thereto brought by the indemnifying party.

21. Default and Remedies.

(a) In the event Seller breaches or fails, without legal excuse, to complete the sale of the Property or to perform its obligations under this Agreement (the "Seller Default"), then, after written notice of such Seller Default given by Buyer to Seller and the passage of ten (10) business days after Seller's receipt of such notice without Seller having cured the Seller Default, Buyer may, as its sole and exclusive remedy at law or in equity elect to either: (i) terminate this Agreement by giving written notice thereof to Seller, in which event the entire Deposit and all Extension Fees will promptly be returned to Buyer and thereafter the parties shall have no further obligation to each other except for the obligations which expressly survive the termination of this Agreement; (ii) enforce specific performance of this Agreement against Seller, whereupon the Purchase Price shall be reduced by the reasonable actual out-of-pocket costs (including legal fees and expenses) incurred by Buyer of such action and cure, or (iii) waive such default and consummate the transactions contemplated hereby in accordance with the terms of this Agreement. Seller's obligations hereunder shall survive the termination of this Agreement

(b) If Buyer shall fail to fulfill Buyer's obligations hereunder, the Deposits made and any Extension Fees delivered hereunder by Buyer, together with any and all interest thereon, shall be paid to Seller as full and complete liquidated damages and not as a penalty, and shall be Seller's sole remedy at law or inequity, whereupon all obligations of Seller and Buyer hereunder shall terminate without recourse to either party. BUYER AND SELLER ACKNOWLEDGE THAT THE DAMAGES TO SELLER IN THE EVENT OF A BREACH OF THIS AGREEMENT BY PURCHASER WOULD BE DIFFICULT OR IMPOSSIBLE TO DETERMINE, THAT THE AMOUNT OF THE DEPOSIT REPRESENTS THE PARTIES' BEST AND MOST ACCURATE ESTIMATE OF THE DAMAGES THAT WOULD BE SUFFERED BY SELLER IF THE TRANSACTION SHOULD FAIL TO CLOSE AND THAT SUCH ESTIMATE IS REASONABLE UNDER THE CIRCUMSTANCES EXISTING AS OF THE DATE OF THIS AGREEMENT AND UNDER THE CIRCUMSTANCES THAT SELLER AND BUYER REASONABLY ANTICIPATE WOULD EXIST AT THE TIME OF SUCH BREACH. BUYER AND SELLER AGREE THAT SELLER'S RIGHT TO RETAIN THE DEPOSIT SAND ANY EXTENSION FEES SHALL BE SELLER'S SOLE REMEDY, AT LAW AND IN EQUITY, FOR BUYER'S FAILURE TO PURCHASE THE PROPERTY IN ACCORDANCE WITH THE TERMS OF THIS AGREEMENT.

22. Notices. Whenever notice is given or required to be given by either of the parties hereto to the other, it shall be in writing and deemed to have been given (i) when delivered or refused by hand during regular business hours, (ii) three (3) days after being sent by United States Postal Service, registered or certified mail, postage prepaid, return receipt requested, (iii) the next business day if sent by a reputable national overnight express mail service that provides tracing and proof of receipt or refusal of items mailed, or (iv) when sent with proof of successful

transmission if sent by email during business hours, addressed to Seller or Buyer, as the case may be, at the address or addresses set forth in paragraph 1 above with a copy delivered as follows:

SELLER:
Carla S. Cox, Esq.
Handly & Cox, P.C.
9 Abbott Street
Beverly, MA 01915
Telephone 978-921-5544
Email: carlacox@aol.com

BUYER:
Jill Elmstrom Mann
MANN & MANN, P.C.
191 South Main Street, Suite 104
Middleton, MA 01949
Telephone: 978-762-6238
Email: jill@mannpc.com

23. Title Matters.

(a) Any matter or practice arising under or relating to this Agreement that is the subject of a Title Standard or a Practice Standard of the Real Estate Bar Association for Massachusetts at the time of delivery of the deed shall be covered by such Title Standard or Practice Standard to the extent applicable; and

(b) Without limiting any other provisions in this Agreement, said Property shall not be considered to be in compliance with the provisions of this Agreement with respect to title unless title to said Property is insurable, for the benefit of the Buyer, in a fee owner's policy of title insurance, at normal premium rates, in the American Land Title Association form currently in use, subject only to those printed exceptions to title normally included in the "jacket" to such form or policy and the Permitted Encumbrances.

24. Miscellaneous.

(a) This Agreement is binding upon and inures to the benefit of the parties hereto and their respective heirs, devisees, executors, administrators, successors and assigns, and may be cancelled, modified or amended only by a written instrument executed by both Seller and Buyer, and shall be interpreted under the laws of the Commonwealth of Massachusetts.

(b) This Agreement supersedes all prior agreements and other understandings between the parties and represents the complete and full agreement of the parties hereto except as this Agreement is modified or altered by written agreement signed by the parties hereto. All prior offers, listing sheets and agreements between the parties with respect to the transactions contemplated hereby and any such prior offers or agreements shall be null and void. The captions and marginal notes are used only as a matter of convenience and are not to be considered a part of this Agreement or to be used in determining the intent of the parties to it. Buyer and Seller hereby agree that both Buyer and Seller shall be considered to have jointly drafted this Agreement and no terms shall be interpreted against any one party as drafter.

(c) If Seller or Buyer executes this agreement in a representative or fiduciary capacity, only the principal or the estate represented shall be bound, and neither Seller nor Buyer so executing, nor the trustees, beneficiaries, shareholders, officers, directors, employees, attorneys or agents of Seller or Buyer, shall be personally liable for any obligation, express or implied, hereunder.

(d) By executing this Agreement, the Seller and Buyer hereby grant to their attorneys identified above in Section 22 the actual authority to bind them for the sole limited purpose of allowing them to cancel, grant extensions, modify or amend as to deadlines this Agreement in writing, and the Seller and Buyer shall be able to rely upon the signatures of said attorneys as binding unless they have actual knowledge that the principals have disclaimed the authority granted herein to bind them. Further, for purposes of this Agreement, email transmissions and/or facsimile signatures on such written instruments shall be binding.

(e) The Parties acknowledge and agree that this Agreement may be signed in counterparts, and for purposes of this Agreement, facsimile or electronically scanned or submitted signatures shall be construed as original, except as to the Deed and the Closing documents and except as to documents intended to be recorded.

(f) In the event that any deadline or date for performance or providing notice contained herein (including, without limitation, any contingencies or extensions of the time for performance under this Agreement), falls on a Saturday, Sunday or legal holiday, as the case may be, such deadline or other date shall be automatically extended to the immediately following business day.

(g) It is acknowledged and presumed that the substance and form of this Agreement have been fully reviewed by the Parties hereto and approved as to form by their respective counsel.

(h) Both Seller and Buyer hereby acknowledge that they have been offered the opportunity to seek and confer with qualified legal counsel of their choice prior to signing this Agreement.

(i) If this Agreement or any other provisions by way of reference incorporated herein shall contain any term or provision which shall be invalid, then the remainder of the Agreement or other instrument by way of reference incorporated herein, as the case may be, shall not be affected thereby and shall remain valid and in full force and effect to the fullest extent permitted by law.

LIST OF EXHIBITS

Exhibit A Legal Description
Exhibit B Quitclaim Deed

Exhibit C	Bill of Sale
Exhibit D	Owner Authorization
Exhibit E	Title Affidavit
Exhibit F	Title Deliverables

IN WITNESS WHEREOF, Seller and Buyer have caused this Agreement to be duly executed as of the date first above-written by their respective officers and manager.

SELLER:
COUNTRY SQUIRE REALTY, INC.

Catherine Rich-Duval, President

Bryan T. Rich, Treasurer

BUYER:
CHEBACCO HILL CAPITAL PARTNERS, LLC

BY: _____
Lawrence Smith, Manager

LANDVEST, as Escrow Agent

BY: _____

IN WITNESS WHEREOF, Seller and Buyer have caused this Agreement to be duly executed as of the date first above-written by their respective officers and manager.

SELLER:
COUNTRY SQUIRE REALTY, INC.

_____
Catherine Rich-Duval, President

_____
Bryan T. Rich, Treasurer

BUYER:
CHEBACCO HILL CAPITAL PARTNERS, LLC

BY: _____
Lawrence Smith, Manager

LANDVEST, as Escrow Agent

BY: _____

EXHIBIT A

DESCRIPTION OF LAND

A certain parcel of land situated on Essex Street and Chebacco Road in Hamilton in said County of Essex, Commonwealth of Massachusetts, and being shown on plan entitled "Plan of Land in Hamilton, Mass., as surveyed for James I. McGrath & Francis P. Rich, scale: 1 inch = 100 feet, 24 Jan. 1959, Chas. H. Morse & Son, Eng's., Haverhill, Mass." recorded in the Essex South District Registry of Deeds, bounded and described as follows:

Beginning at the Northeasterly corner of the granted premises on Essex Street at land of Dolan, formerly of Spencer; thence running

NORTHEASTERLY by said Essex Street on various courses, ninety-nine and fifty-seven hundredths (99.57) feet, seventy-six and four hundredths (76.04) feet, one hundred seventy-six and five hundredths (176.05) feet, and two hundred seven and sixty-five hundredths (207.65) feet to an Essex County stone bound; thence

By a curved line in a general SOUTHEASTERLY direction forty-seven and seventy-eight hundredths (47.78) feet to an Essex County stone bound at Chebacco Road; thence

Turning and running in a general SOUTHEASTERLY course by Chebacco Road, by various courses, eighty-nine and ninety-seven hundredths (89.97) feet, one hundred one and thirty-one hundredths (101.31) feet, one hundred and two hundredths (100.02) feet, two hundred and five hundredths (200.05) feet, two hundred fifty-three and sixty-four hundredths (253.64) feet, one hundred and forty-two hundredths (100.42) feet, two hundred (200.00) feet, one hundred (100.00) feet, one hundred and six hundredths (100.06) feet, seventy-five and one hundredths (75.01) feet, twenty-five and sixty hundredths (25.60) feet, fifty-six and eighty three hundredths (56.83) feet and one hundred ninety-two and fifty-seven hundredths (192.57) feet to a point; thence turning and running

SOUTHEASTERLY, more SOUTHERLY, by Chebacco Road, by various courses, seventy-one and seven hundredths (71.07) feet, and two hundred five and ten hundredths (205.10) feet to a drill hole in ledge at land now or formerly of Kerr; thence turning and running

WESTERLY by said land of Kerr, land of Gordon College of Theology & Missions and land of parties unknown by various courses, two hundred forty-eight and sixty-five hundredths (248.65) feet, fifty-nine and thirty-three hundredths (59.33) feet, one hundred forty-six and twenty-nine hundredths (146.29) feet, eighty-four (84.00) feet, and forty-four and thirteen hundredths (44.13) feet to a point; thence turning and running

SOUTHERLY by land of parties unknown six hundred ninety-one and twenty-five hundredths (691.25) feet to land of Gordon College of Theology & Missions; thence turning and running

NORTHWESTERLY by land of the heirs of John Woodbury four hundred thirty (430.00) feet to

a point; thence turning and running

SOUTHWESTERLY by said land of the heirs of John Woodbury three hundred fifty (350.00) feet to a point at land now or formerly of Gordon College of Theology & Missions; thence turning and running

NORTHWESTERLY by said Gordon College of Theology & Missions land fifty-two and sixteen hundredths (52.16) feet and continuing in the same line one hundred seventy and forty-four hundredths (170.44) feet and continuing in the same line fifty-one and fifty-two hundredths (51.52) feet to a point; thence turning and running

NORTHWESTERLY, more NORTHERLY, by land of Gordon College of Theology & Missions nineteen hundred fourteen and five hundredths (1914.05) feet to a stone bound; thence turning and running

NORTHEASTERLY by land of Gordon College of Theology & Missions three hundred seventy-four and ninety-five hundredths (374.95) feet to a drill hole at land of Dolan; thence turning and running

SOUTHEASTERLY by said Dolan land five hundred four and thirty-one hundredths (504.31) feet to a drill hole; thence turning and running

NORTHEASTERLY by a stone wall by said Dolan land three hundred fifty-five and seventeen hundredths (355.17) feet to Essex Street and the point of beginning.

Excepting therefrom a certain parcel of land being shown as the 40,257 s.f. parcel on that certain plan entitled "Plan of Land in Hamilton, Mass. Surveyed for Country Squire Realty, Inc." dated 21 February 1959 and recorded as Plan 606 of 1959 and as described in that certain deed of Country Squire Realty, Inc. dated February 25, 1959 and recorded with said Registry of Deeds in Book 4541, Page 32, which parcel is located on Chebacco Road bounded and described as follows:

Beginning at a point on the westerly side of Chebacco Road, land of grantor, marked by a drill hole in the ledge at the south east corner of the premises herein described, thence running:

NORTH seventy-seven degrees, fifty-two minutes, ten seconds west (77° 52' 10' W), two hundred forty-eight and 65/100 (248.65) feet by land of William N. Kerr et ux. and Gordon College of Theology & Missions, thence running

NORTH ten degrees, ten minutes, forty seconds west (10° 10' 40' W) by land of grantor one hundred seventy-five (175) feet to an angle, thence running

SOUTH seventy-seven degrees, fifty-two minutes, ten seconds east (77° 52' 10' E), two hundred forty-eight and 65/100 (248.65) feet to Chebacco Road, thence running

SOUTH ten degrees, ten minutes, forty seconds east (10° 10' 45' E) by west line of Chebacco Road, on hundred seventy-five (175) feet to a drill hole in the ledge of the grantor and point of beginning.

EXHIBIT B

FORM OF QUITCLAIM DEED

Space above the line reserved for recording information

MASSACHUSETTS QUITCLAIM DEED

COUNTRY SQUIRE REALTY INC., a Massachusetts corporation, with an address of 103 River Road, Topsfield, MA 01983 (the "Grantor"), for consideration of Three Million, Three Hundred Thousand and 00/100 dollars, grants to CHEBACCO HILL CAPITAL PARTNERS, LLC, a Massachusetts limited liability company, with an address of 176 Barton Road, Stow, MA 01775

with **quitclaim covenants**

the land known and numbered as 133 Essex Street, Hamilton, Massachusetts 01982, more particularly described on Schedule A attached hereto, together with the improvements located thereon,

subject to any existing easements, rights of way and other encumbrances and restrictions of record to the extent in force and applicable.

For reference to Grantor's title see Deed recorded in with the Essex South District Registry of Deeds in Book 4540, Page 467.

This Quitclaim Deed is made this ____ day of _____, 202 .

[Signature on following page]

Property Address: 133 Essex Street, Hamilton, Massachusetts 01982

EXECUTED under seal as of the date first written above.

COUNTRY SQUIRE REALTY INC.

By: _____
Catherine Rich-Duval, President

By: _____
Bryan T. Rich, Treasurer

COMMONWEALTH OF MASSCHUSETTS
ESSEX COUNTY

On this ___ day of 202 , before me, the undersigned notary public, personally appeared Catherine Rich-Duval, who proved to me through satisfactory identification, which was to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it voluntarily for its stated purpose on behalf of Country Squire Realty, Inc.,

_____
(Official Signature and Seal of Notary)
My Commission Expires:

COMMONWEALTH OF MASSCHUSETTS
ESSEX COUNTY

On this ___ day of 202 , before me, the undersigned notary public, personally appeared Bryan T. Rich, who proved to me through satisfactory identification, which was to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose on behalf of Country Squire Realty, Inc.

_____
(Official Signature and Seal of Notary)
My Commission Expires:

Schedule A

LEGAL DESCRIPTION

A certain parcel of land situated on Essex Street and Chebacco Road in Hamilton in said County of Essex, Commonwealth of Massachusetts, and being shown on plan entitled "Plan of Land in Hamilton, Mass., as surveyed for James I. McGrath & Francis P. Rich, scale: 1 inch = 100 feet, 24 Jan. 1959, Chas. H. Morse & Son, Eng's., Haverhill, Mass." recorded in the Essex South District Registry of Deeds, bounded and described as follows:

Beginning at the Northeasterly corner of the granted premises on Essex Street at land of Dolan, formerly of Spencer; thence running

NORTHEASTERLY by said Essex Street on various courses, ninety-nine and fifty-seven hundredths (99.57) feet, seventy-six and four hundredths (76.04) feet, one hundred seventy-six and five hundredths (176.05) feet, and two hundred seven and sixty-five hundredths (207.65) feet to an Essex County stone bound; thence

By a curved line in a general SOUTHEASTERLY direction forty-seven and seventy-eight hundredths (47.78) feet to an Essex County stone bound at Chebacco Road; thence

Turning and running in a general SOUTHEASTERLY course by Chebacco Road, by various courses, eighty-nine and ninety-seven hundredths (89.97) feet, one hundred one and thirty-one hundredths (101.31) feet, one hundred and two hundredths (100.02) feet, two hundred and five hundredths (200.05) feet, two hundred fifty-three and sixty-four hundredths (253.64) feet, one hundred and forty-two hundredths (100.42) feet, two hundred (200.00) feet, one hundred (100.00) feet, one hundred and six hundredths (100.06) feet, seventy-five and one hundredths (75.01) feet, twenty-five and sixty hundredths (25.60) feet, fifty-six and eighty three hundredths (56.83) feet and one hundred ninety-two and fifty-seven hundredths (192.57) feet to a point; thence turning and running

SOUTHEASTERLY, more SOUTHERLY, by Chebacco Road, by various courses, seventy-one and seven hundredths (71.07) feet, and two hundred five and ten hundredths (205.10) feet to a drill hole in ledge at land now or formerly of Kerr; thence turning and running

WESTERLY by said land of Kerr, land of Gordon College of Theology & Missions and land of parties unknown by various courses, two hundred forty-eight and sixty-five hundredths (248.65) feet, fifty-nine and thirty-three hundredths (59.33) feet, one hundred forty-six and twenty-nine hundredths (146.29) feet, eighty-four (84.00) feet, and forty-four and thirteen hundredths (44.13) feet to a point; thence turning and running

SOUTHERLY by land of parties unknown six hundred ninety-one and twenty-five hundredths (691.25) feet to land of Gordon College of Theology & Missions; thence turning and running

NORTHWESTERLY by land of the heirs of John Woodbury four hundred thirty (430.00) feet to a point; thence turning and running

SOUTHWESTERLY by said land of the heirs of John Woodbury three hundred fifty (350.00) feet to a point at land now or formerly of Gordon College of Theology & Missions; thence turning and running

NORTHWESTERLY by said Gordon College of Theology & Missions land fifty-two and sixteen hundredths (52.16) feet and continuing in the same line one hundred seventy and forty-four hundredths (170.44) feet and continuing in the same line fifty-one and fifty-two hundredths (51.52) feet to a point; thence turning and running

NORTHWESTERLY, more NORTHERLY, by land of Gordon College of Theology & Missions nineteen hundred fourteen and five hundredths (1914.05) feet to a stone bound; thence turning and running

NORTHEASTERLY by land of Gordon College of Theology & Missions three hundred seventy-four and ninety-five hundredths (374.95) feet to a drill hole at land of Dolan; thence turning and running

SOUTHEASTERLY by said Dolan land five hundred four and thirty-one hundredths (504.31) feet to a drill hole; thence turning and running

NORTHEASTERLY by a stone wall by said Dolan land three hundred fifty-five and seventeen hundredths (355.17) feet to Essex Street and the point of beginning.

Excepting therefrom a certain parcel of land being shown as the 40,257 s.f. parcel on that certain plan entitled "Plan of Land in Hamilton, Mass. Surveyed for Country Squire Realty, Inc." dated 21 February 1959 and recorded as Plan 606 of 1959 and as described in that certain deed of Country Squire Realty, Inc. dated February 25, 1959 and recorded with said Registry of Deeds in Book 4541, Page 32, which parcel is located on Chebacco Road bounded and described as follows:

Beginning at a point on the westerly side of Chebacco Road, land of grantor, marked by a drill hole in the ledge at the south east corner of the premises herein described, thence running:

NORTH seventy-seven degrees, fifty-two minutes, ten seconds west (77° 52′ 10′ W), two hundred forty-eight and 65/100 (248.65) feet by land of William N. Kerr et ux. and Gordon College of Theology & Missions, thence running

NORTH ten degrees, ten minutes, forty seconds west (10° 10′ 40′ W) by land of grantor one hundred seventy-five (175) feet to an angle, thence running

SOUTH seventy-seven degrees, fifty-two minutes, ten seconds east (77° 52′ 10′ E), two hundred forty-eight and 65/100 (248.65) feet to Chebacco Road, thence running

SOUTH ten degrees, ten minutes, forty seconds east (10° 10′ 45′ E) by west line of Chebacco Road, on hundred seventy-five (175) feet to a drill hole in the ledge of the grantor and point of beginning.

EXHIBIT C
BILL OF SALE

BILL OF SALE, BLANKET CONVEYANCE AND ASSIGNMENT

This Bill of Sale, Blanket Conveyance and Assignment (this "Assignment") is executed by COUNTRY SQUIRE REALTY INC., a Massachusetts corporation ("Assignor"), with an address of 103 River Road, Topsfield, MA 01983, to and for the benefit of CHEBACCO HILL CAPITAL PARTNERS, LLC , a Massachusetts limited liability company ("Assignee") with an address of 176 Barton Road, Stow, MA 01775.

RECITALS

WHEREAS, concurrently herewith Assignor is conveying to Assignee that certain real property (the "Land") more particularly described on Exhibit A attached hereto and incorporated herein for all purposes; and

WHEREAS, in connection with the conveyance of the Land, Assignor intends to sell, assign and convey unto Assignee the Assigned Properties (defined below).

NOW, THEREFORE, in consideration of the foregoing and Ten and No/100 Dollars ($10.00) and other good and valuable consideration in hand paid by Assignee to Assignor, the receipt and sufficiency of which are hereby acknowledged and confessed by Assignor, Assignor and Assignee hereby act and agree as follows:

1. Conveyance. Assignor does hereby ASSIGN, TRANSFER, CONVEY, SET OVER and DELIVER to Assignee, its successors and assigns, the following properties (collectively, the "Assigned Properties"):

(a) Any and all personal property, equipment, appliances, furniture, furnishings, building materials, improvements, and other personalty of whatever kind or character owned by Assignor, lying and being situated at, incidental to, appurtenant to, or associated or used in connection with the ownership, use, operation, repair and maintenance of the Property, including all fixtures and other property affixed thereto, including without limitation, all heating, air conditioning, plumbing, lighting, communications, elevators and kitchen, medical, dental or rehabilitation fixtures, all gas and electric fixtures, appliances and wiring, engines, boilers, elevators, escalators, incinerators, motors, dynamos, heating and air conditioning equipment, sinks, water closets, basins, pipes, electrical systems, faucets, fire prevention and extinguishing apparatus, central music and public address systems, burglar alarms, security systems and equipment, and other furnishings and decor equipment, spare parts, materials, and supplies for the ownership, use, operation, maintenance, and repair of the Property or the personal property referred to herein or both, tools, supplies, and all other personal property owned by Assignor which is located on or is used in connection with the ownership, use, operation, maintenance, or repair of the Property or the personal property referred

to herein or both whether tangible or intangible, paving, curbing, trees, shrubs, plants and other improvements and landscaping of every kind and nature (collectively, the "Personalty").

(b) Rights in and to plans, specifications, designs, drawings, as previously delivered to Assignee, and keys.

(c) To the extent assignable, all of Assignor's rights in and to (i) all licenses, permits, approvals and similar documents relating to the Property, (ii) all plans, drawings, specifications, surveys, engineering reports, and other technical descriptions relating to the Property, (iii) all warranties and guaranties (express or implied) issued in connection with or arising out of (a) the purchase or repair of all fixtures, fittings, appliances, apparatus, equipment, machinery and other personal property owned by Assignor, if any, and affixed or attached to or placed or situated upon, or used or acquired in connection with the Property, or (b) the construction, alteration, maintenance and repair of any of the improvements located on the Property, and (iv) all other property (real, personal or mixed), owned or held by Assignor which relate in any way to the design, construction, use, leasing, maintenance, service or operation of the Property or Personalty.

TO HAVE AND TO HOLD the Assigned Properties unto Assignee, and Assignee's successors and assigns forever, and Assignor does hereby bind Assignor, and Assignor's successors and assigns, to WARRANT and FOREVER DEFEND, all and singular the Assigned Properties unto Assignee, and Assignee's successors and assigns, against every person whomsoever lawfully claiming or to claim the same, or any part thereof by, through and under Assignor but not otherwise.

2. Counterparts; Governing Law; Successors and Assigns; Authority. This Assignment may be executed in any number of counterparts (including PDF and facsimile signatures), and each counterpart hereof shall be deemed to be an original instrument, but all such counterparts shall constitute but one instrument. This Assignment shall be construed and enforced in accordance with and governed by the internal laws of the Commonwealth of Massachusetts. This Assignment shall bind and inure to the benefit of Assignor and Assignee and their respective successors and assigns.

3. Further Assurances. The parties agree to take all such further actions and execute, acknowledge and deliver all such further documents that are reasonably necessary in carrying out the purposes of this Assignment.

[The balance of this page is intentionally left blank]

IN WITNESS WHEREOF, this Assignment is executed as of this _____ day of _____, 202 .

EXECUTED under seal as of the date first written above.

ASSIGNOR:
COUNTRY SQUIRE REALTY INC.

By: _____
Catherine Rich-Duval, President

By: _____
Bryan T. Rich, Treasurer

ASSIGNEE:
CHEBACCO HILL CAPITAL PARTNERS, LLC

By: _____
Lawrence Smith, Manager

EXHIBIT A

(to Bill of Sale)

Property Description

EXHIBIT D

OWNER AUTHORIZATION

The undersigned (the "Owner"), hereby authorizes **CHEBACCO HILL CAPITAL PARTNERS, LLC** (the "Buyer"), to apply to the Planning Board, the Board of Appeals, Board of Health and the Conservation Commission for the Town of Hamilton as well as to any other local, state, or federal board or agency for all and all approvals and permits (the "Approvals") necessary to develop the property located 133 Essex Street, Hamilton, MA (the "Property") as a 55+ residential development. Such Approvals shall include an application for subdivision approval, the submittal of an application for abbreviated notice of resource area delineation, submittal of a notice of intent, and any other relief as may be reasonably necessary to properly develop the Property as the Buyer's Proposed Use in the sole opinion of the Buyer. The Owner may rescind this authorization at any time in the event the Purchase and Sale Agreement between the Owner and the Buyer dated January , 2021, is terminated.

The Owner disclaims any and all responsibility and liability for the actions or inactions of, or information provided by, the Buyer to any person or entity, whether relating to any requests for approval or otherwise. This document shall be void if recorded at the Registry of Deeds.

Dated: 15 January , 2021

COUNTRY SQUIRE REALTY INC.

By: _____
Catherine Rich-Duval, President

By: Bryan T. Rich
Bryan T. Rich, Treasurer

COMMONWEAL TH OF MASSACHUSETTS

Essex, ss

On this 15 day of January 2021, before me, the undersigned notary public, personally appeared Bryan T. Rich known to me to be the person whose name is signed on the foregoing instrument, and acknowledged to me that he signed voluntarily on behalf of Country Squire Realty, Inc. for the purpose stated herein.

Rose A. Richards
Notary Public
My commission expires: 5/4/2023

ROSE A. RICHARDS
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
May 4, 2023

EXHIBIT D

OWNER AUTHORIZATION

The undersigned (the "Owner"), hereby authorizes CHEBACCO HILL CAPITAL PARTNERS, LLC (the "Buyer"), to apply to the Planning Board, the Board of Appeals, Board of Health and the Conservation Commission for the Town of Hamilton as well as to any other local, state, or federal board or agency for all and all approvals and permits (the "Approvals") necessary to develop the property located 133 Essex Street, Hamilton, MA (the "Property") as a 55+ residential development. Such Approvals shall include an application for subdivision approval, the submittal of an application for abbreviated notice of resource area delineation, submittal of a notice of intent, and any other relief as may be reasonably necessary to properly develop the Property as the Buyer's Proposed Use in the sole opinion of the Buyer. The Owner may rescind this authorization at any time in the event the Purchase and Sale Agreement between the Owner and the Buyer dated January , 2021, is terminated.

The Owner disclaims any and all responsibility and liability for the actions or inactions of, or information provided by, the Buyer to any person or entity, whether relating to any requests for approval or otherwise. This document shall be void if recorded at the Registry of Deeds.

Dated: 15 January , 2021

COUNTRY SQUIRE REALTY INC.

By: Catherine Rich-Duval
Catherine Rich-Duval, President

By: _____
Bryan T. Rich, Treasurer

COMMONWEAL TH OF MASSACHUSETTS

Essex, ss

On this day of January 2021, before me, the undersigned notary public, personally appeared Bryan T. Rich known to me to be the person whose name is signed on the foregoing instrument, and acknowledged to me that he signed voluntarily on behalf of Country Squire Realty, Inc. for the purpose stated herein.

_____
Notary Public
My commission expires:

COMMONWEAL TH OF MASSACHUSETTS

Essex, ss

On this 15 day of January 2021, before me, the undersigned notary public, personally appeared Catherine Rich Duval known to me to be the person whose name is signed on the foregoing instrument, and acknowledged to me that she signed voluntarily on behalf of Country Squire Realty, Inc. for the purpose stated herein.

Notary Public
My commission expires:

CARLA S. COX
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
November 22, 2024

EXHIBIT E
FORM OF TITLE AFFIDAVIT

OWNER'S AFFIDAVIT

COUNTRY SQUIRE REALTY INC., a Massachusetts corporation ("Owner"), the owner of the property known as 133 Essex Street, Hamilton, MA as further described on Exhibit A (the "Premises"), hereby represents and warrants as follows:

1. The undersigned is familiar with the Premises.

2. At the date hereof, there are no tenants, lessees or other parties who are in possession or who have the right to be in possession of the aforementioned premises, other than Meadow Brook Farm operated by Ron Vandi.

3. That there is not any action or proceeding, including but not limited to bankruptcy or insolvency proceedings, now pending in any state or federal court in the United States filed against Owner; nor is there any state or federal court judgment or state or federal tax lien against Owner, which could constitute a lien or charge upon the Premises.

4. There is no person for whom a debt is due for labor or materials furnished in the erection, alteration, repair or removal of a building or structure or other improvement or alteration upon the Premises by virtue of an agreement with, or by the consent of the undersigned, or of a person having authority from or rightfully acting for the undersigned in performing or furnishing such labor or materials for work actually performed during the past ninety-three (93) days, including the date hereof, which will not be paid in the ordinary course by Owner.

5. That, to the best of knowledge of the undersigned, any municipal assessments relating to the Property, including but not limited to taxes, betterments, water and municipal lighting plant charges due and owing as of the date hereof have been paid and that the undersigned has no knowledge of any taxes or special assessments which are not shown as existing liens by the public record other than those shown in the Certificate of Municipal Liens or closing Settlement Statement for the transaction to be insured

6. That Owner has received no written notice of past or present violations of any covenants, conditions or restrictions of record affecting the Premises which remains uncured or any charge or assessment provided for in the covenants, conditions and restriction which remains unpaid as of the date hereof.

This affidavit is made for the purpose of inducing [fill in TI company] to issue their policies of title insurance. The affidavit may be relied upon by [fill in TI company] but may not be relied upon by any other person or entity.

Dated this ____ day of [_____], 202.

COUNTRY SQUIRE REALTY INC.

By: _____
Catherine Rich-Duval, President

By: _____
Bryan T. Rich, Treasurer

COMMONWEALTH OF MASSCHUSETTS

ESSEX COUNTY

On this ___ day of 202 , before me, the undersigned notary public, personally appeared Catherine Rich-Duval, who proved to me through satisfactory identification, which was based on the undersigned's personal knowledge of the identity of the principal, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it voluntarily for its stated purpose On behalf of Country Squire Realty, Inc.

_____
(Official Signature and Seal of Notary)
My Commission Expires:

COMMONWEALTH OF MASSCHUSETTS
ESSEX COUNTY

On this ___ day of 202 , before me, the undersigned notary public, personally appeared Bryan T. Rich, who proved to me through satisfactory identification, which was based on the undersigned's personal knowledge of the identity of the principal, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose on behalf of Country Squire Realty, Inc.

_____
(Official Signature and Seal of Notary)
My Commission Expires:

EXHIBIT F

MANN & MANN, P.C.

COUNSELLORS AT LAW

JILL ELMSTROM MANN†*
KURT P. MANN†*
MELISSA GNOZA OGDEN†

†Admitted to practice in Massachusetts
*Admitted to practice in New York

December 8, 2020

Via Electronic Mail

Carla Cox, Esq.
Handly and Cox PC
9 Abbott Street
Beverly, MA 01915
carlacox@aol.com

RE: 133 Essex Street, Hamilton, Massachusetts

Dear Carla:

Reference is hereby made to that certain Letter of Intent dated September 13, 2020 (the "Agreement"), by and between Hatters Point Capital, LLC (or its affiliated designee) as the Buyer (the "Buyer") and Country Squire Realty Inc. as the Seller (the "Seller"), related to Seller's real property more commonly known and numbered as 133 Essex Street, Hamilton, Massachusetts (the "Property").

Please note that this office has completed a title examination of the Property and noted the following encumbrances and/or issues that must be satisfied prior to Closing:

1. Plan referred to in current owner's deed is not of record. *Survey is necessary to confirm area of property. Buyer will obtain a survey in order to confirm the actual Property boundaries and to reserve its right to object to the location of all boundaries, any possible encroachments.*

2. *Deed will need to be signed by President or Treasurer or alternatively Seller should provide vote, in recordable form, indicating has power to sign deed.*

3. *Certificate of Good Standing for Seller to be provided and recorded at Closing.*

191 South Main Street, Suite 104
Middleton, Massachusetts 01949
Telephone: 978-762-6238
Facsimile: 978-762-6434

Direct Email: jill@mannpc.com
kurt@mannpc.com
melissa@mannpc.com

4. *Waiver of Corporate Excise Tax to be provided at Closing in accordance with REBA Title Standard No. 15, Alternatively, deed to Buyer to comply with subsection (d) of REBA Title Standard No. 17 and include recitation in deed that (1) the grantor is not classified for the current taxable year as a corporation for federal income tax purposes, or (2) that the conveyance does not constitute the sale or transfer of all or substantially all of the grantor's assets within the Commonwealth of Massachusetts, or (3) that the conveyance does constitute a sale or transfer in the ordinary course of the grantor's business, absent other information to the contrary, is considered sufficient to avoid the necessity of obtaining a tax lien waiver.*

Please review and advise as to how and when we can expect the resolution of the above.

Should you have any questions, please call me.

Sincerely,
MANN & MANN, P.C.
Melissa Gnoza Ogden

cc: Lawrence Smith, Manager
Jill Elmstrom Mann, Esq.

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EXTENSION OF APPROVAL PERIOD

"AGREEMENT"	Purchase and Sale Agreement, dated January 15, 2021
"SELLER"	Country Squire Realty Inc.
"BUYER"	Chebacco Hill Capital Partners LLC
"PROPERTY"	66+ Acres of Land located at 133 Essex Street, Hamilton, MA

All capitalized terms not otherwise defined herein shall have the meanings given to them in the Agreement.

WHEREAS, BUYER has been diligently pursuing all Final Approvals necessary to develop the property as an age restricted residential development;

WHEREAS, the Approval Period expires on January 15, 2022; and

WHEREAS, Buyer has requested, and Seller has agreed to extend the Approval Period for a term of six (6) months;

NOWTHEREFOR, for good and valuable consideration, Buyer and Seller hereby agree as follows:

1. The Approval Period is hereby extended for a period of six (6) months through July 15, 2022. Buyer shall continue to have the right pursuant to Section 4(e) of the Agreement to request two (2) additional extension periods of ninety (90) days each upon the payment of the Extension Fee for each.
2. Time is of the essence.
3. In all other respects, the terms and provisions of the Agreement are hereby ratified and confirmed.

This extension, is intended to take effect as a sealed instrument.

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IN WITNESS WHEREOF, BUYER AND SELLER have caused this Extension to be duly executed on this 15 day of December 2021.

SELLER:

COUNTRY SQUIRE REALTY, INC.

DocuSigned by:
Catherine Rich-Duval
37D37198D807428...
Catherine Rich-Duval, President

DocuSigned by:
Bryan Rich
1879478805ED7470...
Bryan T. Rich, Treasurer

BUYER:

CHEBACCO HILL CAPITAL PARTNERS, LLC

BY: DocuSigned by:
Lawrence Smith
6F8309373BFC4AB...
Lawrence Smith, Manager

DocuSign Envelope ID: 09E0D733-DDB4-431F-9B13-4CC5B43F1CA1
DocuSign Envelope ID: 79ACC2D2-3676-465A-87D9-06E4013C8CCA

6/24/2022
6/20/2022
6/20/2022
6/20/2022

FIRST AMENDMENT TO PURCHASE AND SALE AGREEMENT

This First Amendment to Purchase and Sale Agreement (the "Amendment"), dated as of June _____, 2022 (the "Effective Date"), by and between Country Squire Realty Inc., a Massachusetts corporation, c/o Catherine Rich-Duval (the "Seller") with a mailing address of 103 River Road, Topsfield, MA 01983 (email address: crichduval@gmail.com), and Chebacco Hill Capital Partners, LLC, a Massachusetts limited liability company (the "Buyer") with a business address of 176 Barton Road, Stow, MA 01775 (email address: Lsmith@restorationcapital.net) .

WHEREAS, Seller and Buyer entered into a Purchase and Sale Agreement, dated January 15, 2021 as modified by an Extension of Approval Period dated as of December 15, 2021 (as modified, the "PSA");

WHEREAS, Seller has agreed to sell to Buyer and Buyer has agreed to purchase from Seller the sixty-six and two tenths (66.2+/-) acres of land known as 133 Essex Street, Hamilton, MA (Assessor's Map 65, Parcel 1) (the "Property") in consideration of the payment o[redacted]

WHEREAS, pursuant to the terms of the PSA, Buyer has until July 15, 2022 (the "Approval Period") to secure all approvals with the right to extend the Approval Period for two (2) periods of ninety (90) days each, s[redacted] (the "Extension Fee");

WHEREAS, Seller and Buyer desire to provide further rights to extend the Approval Period in the event of an Appeal, as defined below;

WHEREAS, Seller has applied for all local permits, orders and approvals, including but not limited to site plan approval, special permit, order of conditions and a stormwater management permit (collectively, the "Approvals") associated with developing the Property as a 50-unit Senior Housing Development (the "Project");

WHEREAS, Seller and Buyer have agreed to modify the terms of the PSA in accordance with a binding Memorandum of Understanding, dated March 8, 2022 (the "MOU"); and

WHEREAS, pursuant to the MOU the Seller has agreed to provide funding to assist in the defense of any Appeal filed in connection with the Approvals granted or denied by the respective Boards in connection with the Project.

NOW THEREFORE, in consideration of the mutual covenants herein contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Buyer and Seller agree to amend the PSA as follows:

1. Extension Rights. Seller hereby agrees to extend the Approval Period for up to an additional twelve (12) months to allow Buyer to secure all Final Approvals.

2. Appeal. If an Approval is denied by the Hamilton Planning Board or Conservation Commission and is appealed by the Buyer or if an Approval is granted by the Hamilton Planning Board

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or Conservation Commission and is appealed by an abutter or contains conditions that are unreasonable in the opinion of Buyer and is therefore appealed by the Buyer (hereinafter referred to as an "Appeal"), Seller has agreed to contribute toward the defense or prosecution of such Appeal an amount not to exceed [redacted]

3. Seller's Contribution. Seller shall be required to deliver Seller's Contribution for the costs and expenses (collectively, the "Litigation Expenses") incurred in: (i) defending or prosecuting an appeal before the Massachusetts Department of Environmental Protection and Division of the Administrative Law Appeals (Superseding Order of Conditions); and (ii) defending or prosecuting an appeal in either Land Court or Superior Court. Litigation Expenses shall include all costs of preparing the case to defend or prosecute an Appeal, including but not limited to the costs incurred by defense counsel and Buyer's permitting counsel; the costs of any experts; the costs associated with any testing, reports, plan preparation or any other production of evidence.

4. Funding Sources.

(a) Buyer's Deposits: Seller's Contribution shall be funded in part from Buyer's Deposits ([redacted] being held in accordance with the PSA. In the event of an Appeal, the Buyer and Seller shall direct the Escrow Agent to release the Buyer's Deposits to Seller's Counsel, Marshall J. Handly, Esq. (mhandly@aol.com/ (978) 815-7650).

(b) Seller's Funds: The balance of Seller's Contribution shall be funded by the Seller in an amount [redacted] (the "Additional Funds"). The Seller shall ensure that the Additional Funds are deposited with Seller's Counsel upon receipt of written notice of an Appeal and when [redacted]

(c) Following an Appeal, Buyer shall have the right to submit to Seller's Counsel written requests for a release of funds from Seller's Contribution to pay for the costs associated with any Appeal. Notwithstanding the foregoing, the Buyer's Deposits shall be credited against the Purchase Price at Closing. In no event will the Additional Funds result in any increase in the Purchase Price or any funds payable to the Seller at Closing. At the Closing any unexpended Seller Contribution shall be returned to Seller by Seller's Counsel.

(d) Buyer's Controller, Julia Dickinson, will collaborate directly with Seller's representative, Cathie Rich Duval, to review and approve monthly expenses for submittal to Seller's Counsel for payment from Seller's Contribution.

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5. Buyer's Obligations:

   (a) Deliver to Seller the Detailed Financial Forecast for the Project, dated as of March 1, 2022.

   (b) Ensure that the law firm hired to defend or prosecute any Appeal as well as permitting counsel communicates and copies Seller and its Legal Counsel on all formal correspondences regarding any Appeal.

   (c) Deliver monthly progress reports to Seller and its Legal Counsel on all progress with the Project and any Appeal.

   (d) Agree that if the Buyer decides to terminate the permitting process, before, during or after an Appeal , for any reason, all work product produced for the development permits, including engineering, soil tests, architectural plans, independent professional reports and assessments etc. shall be assigned by Buyer to the Seller.

6. Additional Consideration: If at the end of the Project the return on investment for Buyer's investors exceeds the Detailed Financial Forecast, dated as of 03/01/2022, Seller shall be entitled to a bonus payment equal to 25% of the excess return generated by the Project. Such payment shall be due and payable following the end of all financial obligations of the Buyer in connection with the Project.

7. Confirmation of the PSA. In all other respects, the terms and provisions of the PSA are hereby ratified and confirmed.

[Signatures appear on the following page]

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DocuSign Envelope ID: 79ACC2D2-3676-465A-87D9-06E4013C8CCA

IN WITNESS WHEREOF, the parties have caused this Amendment to be duly executed under seal as of the date first above written.

SELLER:
COUNTRY SQUIRE REALTY, INC.

DocuSigned by:
Catherine Rich-Duval
37D37198D867428...
Catherine Rich-Duval, President

DocuSigned by:
Bryan Rich
187949800FD7470...
Bryan T. Rich, Treasurer

BUYER:
CHEBACCO HILL CAPITAL PARTNERS, LLC

BY: DocuSigned by:
Lawrence Smith
6FB309373BFC4AB...
Lawrence Smith, Manager

LANDVEST, as Escrow Agent

BY: DocuSigned by:
Slater Anderson
9E5A72ECB08E40D...
Slater Anderson

SECOND AMENDMENT TO
PURCHASE AND SALE AGREEMENT

This Second Amendment to Purchase and Sale Agreement (the "Amendment"), dated as of June 9, 2023 (the "Effective Date"), by and between Country Squire Realty Inc., a Massachusetts corporation, c/o Catherine Rich-Duval (the "Seller") with a mailing address of 103 River Road, Topsfield, MA 01983 (email address: crichduval@gmail.com), and Chebacco Hill Capital Partners, LLC, a Massachusetts limited liability company (the "Buyer") with a business address of 176 Barton Road, Stow, MA 01775 (email address: Lsmith@restorationcapital.net).

WHEREAS, Seller and Buyer entered into a Purchase and Sale Agreement, dated January 15, 2021 as modified by an Extension of Approval Period dated as of December 15, 2021 as further amended by the First Amendment to the Purchase and Sale Agreement, dated June 20, 2022 (as modified and amended, the "PSA");

WHEREAS, Buyer applied for site plan approval, senior housing special permit, and stormwater management permit from the Hamilton Planning Board (the "Applications") for a 50-unit senior housing development (the "Project") at 133 Essex Street, Hamilton, MA (the "Property");

WHEREAS, the Hamilton Planning Board denied the Buyer's Applications (the "Denials") and the Buyer has appealed the Denials;

WHEREAS, Buyer applied for Orders of Condition from the Hamilton Conservation Commission (the "Orders") under M.G.L c.131, §40 (the "WPA") and under the Hamilton Conservation Bylaw (the "HC Bylaw") to perform certain work associated with the Project;

WHEREAS, the Hamilton Conservation Commission granted the Orders authorizing the work;

WHEREAS, the abutters appealed the Order issued under WPA (the "DEP Wetland Appeal") and the Order issued under the HC Bylaw (the "Local Wetland Appeal");

WHEREAS, DEP issued a superseding order of conditions (the "SOC") for the DEP Wetland Appeal confirming the issuance of the Order under the WPA by the Hamilton Conservation Commission;

WHEREAS, the abutters did not appeal the SOC;

WHEREAS, Buyer is defending against the Local Wetland Appeal;

WHEREAS, Buyer and Seller agree that the Buyer needs additional time to appeal the Denials and to defend against the Local Wetland Appeal (the "Appeals");

WHEREAS, under the PSA, as extended and amended, the Buyer has until January 11, 2024 (the "Approval Period Deadline") to resolve the Local Wetland Appeal and to secure a reversal of the Denials;

WHEREAS, the parties desire to further extend the Approval Period Deadline until January 15, 2026;

WHEREAS, Seller and Buyer desire to work together to develop alternative Residential Development options for the Property ("Alternative Residential Development Options") including but not limited to (i) a comprehensive permit under M.G.L. c. 40B for up to two hundred (200) units of housing with no less than 25% of such Units being offered to individuals with incomes at or below 80% of the area median income for Hamilton (the "40B Project"); and (ii) the subdivision of unrestricted single family home lots along Essex Street and Chebacco Road that do not require subdivision approval (the "ANR Lots");

WHEREAS, Seller agreed to [redacted]

WHEREAS, the balance of Seller's Contribution shall be advanced to Buyer [redacted]

WHEREAS, Seller and Buyer agree to expand the uses of the Seller's Contribution to include funding for the costs of exploring and permitting the Alternative Residential Development Options;

WHEREAS, Seller and Buyer desire to provide for additional funding by the Buyer and Seller in the event the Seller's Contribution is fully expended; and

WHEREAS, Seller and Buyer desire to work together to ensure a successful sale of the Property based on the Alternative Residential Development Options, the Project or any other third party proposed options.

NOW THEREFORE, in consideration of the mutual covenants herein contained and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Buyer and Seller enter into this Amendment as follows:

1. Extension Rights. Seller hereby agrees to extend the Approval Period Deadline until January 15, 2026.

2. Funding Sources - Seller's Contribution and Excess Costs and Expenses.

(a) Seller's Contribution. Seller hereby agrees to expand the uses of Seller's Contribution to include the investigation and permitting for any Alternative Residential Development Options. Seller further agrees to release the Seller's Contribution from Escrow and hereby directs the Escrow Agent to deliver the balance of the Seller's Contribution to Buyer.

(b) Excess Costs and Expenses. To the extent that Seller's Contribution is exhausted during the pendency of any of the Appeals or during the investigation of any Alternative Residential Development Option, Buyer and Seller hereby agree to

fund, on a pro rata basis, all third party expenses and costs (the "Excess Costs") incurred in connection with the defending against the Local Wetland Appeal and defending the Order issued under the HC Bylaw, or continuing the appeals of the Special Permit and Stormwater Permit Denials, PLUS the costs and expenses incurred investigating and applying for the Alternative Residential Development Options.

i. *Request for Funds.* After Seller's Contribution has been expended, Seller and Buyer agree that each party shall be required to advance its pro rata share of the Excess Costs within thirty (30) days of receiving Buyer's written request for funds.

1. [redacted]
2. [redacted]

ii. [redacted]

iii. [redacted]

If the Seller, at any time after the original Seller's Contribution is exhausted, determines that the Alternative Residential Development Options are futile, at the Seller's sole discretion, then the Seller can cease funding all future unbudgeted and approved work, after a 30-day notice to Buyer and all previously approved work performed is paid. Notwithstanding the foregoing, the appeal process will continue to be funded by both parties based on an allocation of seventy-five (75%) percent) Seller and twenty-five (25%) percent Buyer pursuant to the terms hereof, subject to the cap limitation identified in subsection 2(b) ii above.

3. Accounting. Buyer's Controller, Julia Dickinson, will collaborate directly with Seller's representative, Cathie Rich-Duval. All uses of the Seller's Contribution and the Excess Funds shall be documented, and monthly reports shall be prepared by Buyer and delivered to Ms. Rich-Duval.

[redacted]

[redacted]

[redacted]

[redacted]

5. [redacted]

6. Confirmation of PSA. In all other respects, the terms and provisions of the PSA are hereby ratified and confirmed.

[Signatures appear on the following page]

IN WITNESS WHEREOF, the parties have caused this Amendment to be duly executed under seal as of the date first above written.

SELLER:
COUNTRY SQUIRE REALTY, INC.

Catherine Rich-Duval
Catherine Rich-Duval, President

Bryan T. Rich
Bryan T. Rich, Treasurer

LANDVEST, as Escrow Agent

BY: _____

BUYER:
CHEBACCO HILL CAPITAL PARTNERS, LLC

BY: Larry Smith
Lawrence Smith, Manager

VILLAGE AT CHEBACCO HILL
CHAPTER 40B SITE PLAN
133 ESSEX STREET
TITLE SHEET

UNIT SUMMARY:

UNIT TOTALS
SINGLE: 12 BUILDINGS PROPOSED = 12 UNITS
DUPLEX: 13 BUILDINGS PROPOSED = 26 UNITS
TRIPLEX: 7 BUILDINGS PROPOSED = 21 UNITS
59 UNITS

BEDROOMS:
SINGLE: 2 BEDROOMS PER = 12 BUILDINGS * 2 BEDROOMS = 24 BEDROOMS
DUPLEX: 4 BEDROOMS PER = 13 BUILDINGS * 4 BEDROOMS = 52 BEDROOMS
TRIPLEX: 6 BEDROOMS PER = 7 BUILDINGS * 6 BEDROOMS = 42 BEDROOMS
118 BEDROOMS

AFFORDABLE UNITS:
TOTAL NUMBER OF AFFORDABLE UNITS = 15
AFFORDABLE UNIT NUMBERS: 1 11 16 20 23 27 30 32 36 38 43 44 47 55 56

GROSS FLOOR AREA TABLE

DEFINITION BASED ON HAMILTON BYLAW: SECTION 11.0

UNIT TYPE	GFA PER BUILDING	PROVIDED
SINGLE	2,859 S.F.	12 BUILDINGS * 2,859 S.F. = 34,308 S.F.
DUPLEX	5,143 S.F.	13 BUILDINGS * 5,143 S.F. = 66,859 S.F.
TRIPLEX	7,343 S.F	7 BUILDINGS * 7,343 S.F. = 51,401 S.F.

PARKING TABLE

PARKING REQUIREMENTS BASED ON HAMILTON BYLAW: SECTION 6.1

DESCRIPTION	REQUIREMENT	PROVIDED
MIN. PARKING	1 SPACE PER DWELLING 59 TOTAL SPACES	3 SPACE PER DWELLING 177 SPACES 22 VISITOR SPACES 199 TOTAL SPACES

ZONING INFORMATION

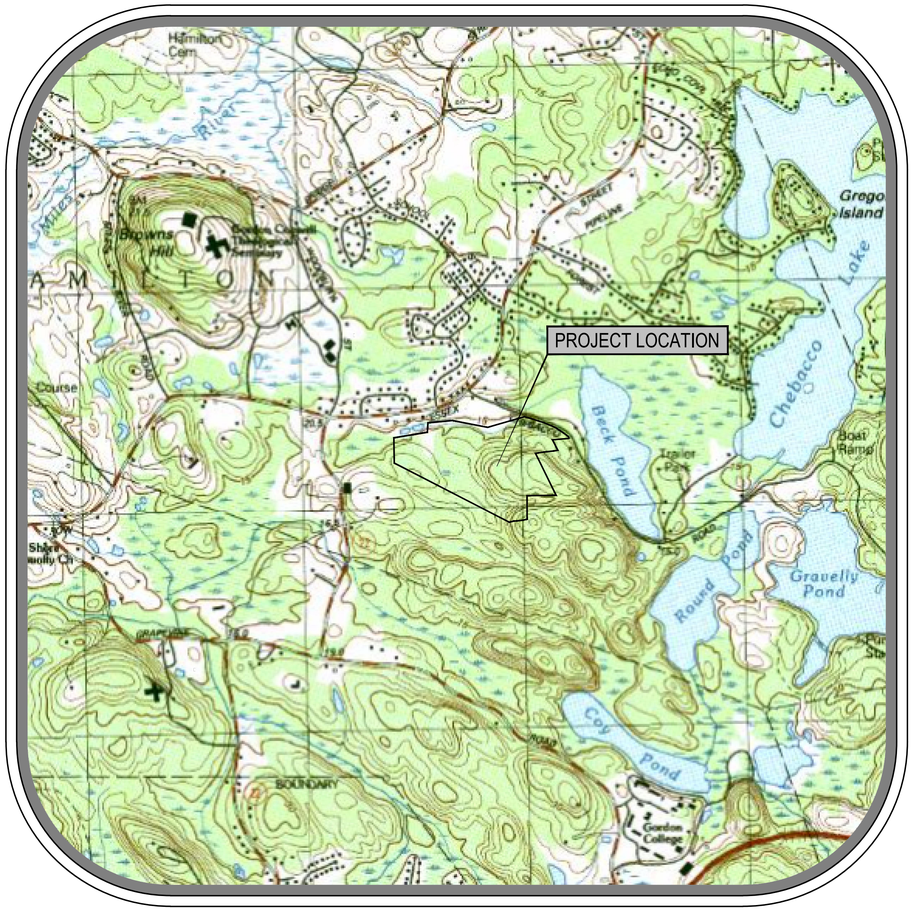
ZONING DISTRICT: SINGLE RESIDENTIAL (R-1B)

TABLE OF DIMENSIONAL REGULATIONS (SECTION 4.1.2 HAMILTON ZONING BYLAW)

DESCRIPTION	REQUIRED	EXISTING	PROPOSED
MIN. LOT AREA PER DWELLING	40,000 SF	N/A	50,500 SF
MIN. LOT FRONTAGE (FT)	175 FT	776.8 FT	776.8 FT
MIN. LOT WIDTH & DEPTH	100 FT	1,522 FT	1,522 FT
MIN. FRONT SETBACK (FT)	25 FT*	N/A	146.4 FT
MIN. SIDE SETBACK (FT)	15 FT	N/A	53.2 FT
MIN. REAR SETBACK (FT)	15 FT	N/A	37.4 FT
MAX. STORIES	3	N/A	2
MAX. BUILDING HEIGHT (FT)	35 FT	N/A	26.46'
MAX. LOT COVERAGE	NONE	N/A	9.2%
MAX. BLDG. COVERAGE	25%	N/A	4.7%
FLOOR AREA RATIO	NONE	N/A	0.07

OPEN SPACE CALCULATIONS

DESCRIPTION	PROPOSED
OPEN SPACE	1,777,473 SF (40.81 AC)
UPLAND OPEN SPACE	1,262,845 SF (28.99 AC)
WETLAND OPEN SPACE	530,829 SF (12.19 AC)
DEVELOPMENT AREA	697,024 SF (16.00 AC)
TOTAL LOT AREA	2,474,497 SF (56.81 AC)



LOCUS MAP
SCALE: 1" = 1,000'

SHEET INDEX

SHEET NUMBER	SHEET TITLE	REV. 0
C1.0	TITLE SHEET	3/04/2024
–	PLAN OF LAND IN HAMILTON, MA – ANR PLAN	9/29/2021
C1.1	PRELIMINARY KEY SHEET	3/04/2024
C2.0	EXISTING CONDITIONS PLAN 1	3/04/2024
C2.1	EXISTING CONDITIONS PLAN 2	3/04/2024
C2.2	EXISTING CONDITIONS PLAN 3	3/04/2024
C3.0	PRELIMINARY LAYOUT & MATERIALS PLAN 1	3/04/2024
C3.1	PRELIMINARY LAYOUT & MATERIALS PLAN 2	3/04/2024
C3.2	PRELIMINARY LAYOUT & MATERIALS PLAN 3	3/04/2024
C4.0	PRELIMINARY UTILITY PLAN 1	3/04/2024
C4.1	PRELIMINARY UTILITY PLAN 2	3/04/2024
C4.2	PRELIMINARY UTILITY PLAN 3	3/04/2024
C5.0	PRELIMINARY GRADING & DRAINAGE PLAN 1	3/04/2024
C5.1	PRELIMINARY GRADING & DRAINAGE PLAN 2	3/04/2024
C5.2	PRELIMINARY GRADING & DRAINAGE PLAN 3	3/04/2024
A240517	SITE PHOTOMETRIC PLAN	3/14/2024

ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

PREPARED BY:
DILLIS & ROY CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisandroy.com

OWNER:
COUNTRY SQUIRE REALTY, INC.
103 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:

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DIG SAFE 1-888-344-7233

COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
No. 49170
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

TITLE SHEET
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-TITLE
SHEET NO. C1.0

PLAN OF LAND
IN
HAMILTON, MA

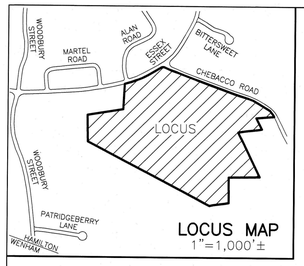
SCALE: 1" = 100' 0' 50' 100' 200' DATE: SEPTEMBER 29, 2021

OWNER:
OWNER: COUNTRY SQUIRE REALTY INC.
ADDRESS: 103 RIVER ROAD, TOPSFIELD, MA 01983
DEED REFERENCE: BOOK 4540 PAGE 467
ASSESSORS PARCEL NUMBER: 65-0001

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
PO BOX 1044
SUDBURY, MA 01776

WILLIAMS & SPARAGES
ENGINEERS | PLANNERS | SURVEYORS
189 NORTH MAIN STREET
SUITE 101
MIDDLETON, MA 01949
PHONE: (978) 539-8088
FAX: (978) 539-8200
WSENGINEERS.COM

COMMONWEALTH OF MASSACHUSETTS
JOHN J. O'ROURKE III
No. 49904
REGISTERED PROFESSIONAL LAND SURVEYOR
(9-30-2021)



LOCUS MAP
1"=1,000'±

N

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD83)

ESSEX STREET (PUBLIC)
MARTEL ROAD
ALAN ROAD
CHEBACCO ROAD (PUBLIC)

LOT 2
409,928 S.F.
9.411 ACRES
(CBA: 242,600± S.F.)
UPLAND AREA: 5.57± ACRES
WETLAND AREA: 3.84± ACRES

LOT 1
2,474,497 S.F.
56.807 ACRES
UPLAND AREA: 44.62± ACRES
WETLAND AREA: 12.18± ACRES

ORIGINAL 1985 GROUNDWATER PROTECTION OVERLAY DISTRICT (TYP) (AS SHOWN ON SUBDIVISION PLAN BY GRANITE ENGINEERING DATED APRIL 14, 2021)

LOUIS R. & ANDREA M. BROWN 296 ESSEX STREET 65-87
HENRY J. & DEBORAH FOSTER AMES 288 ESSEX STREET 65-86
THE 307 ESSEX STREET NOMINEE TRUST (ROBERT D. & LINDA F. SARKISIAN, TRUSTEES) 307 ESSEX STREET 65-126
DAVID R. & KATHERINE E. SULLIVAN 60 ALAN ROAD 65-85
PATRICK J. BIRCH & EMILY W. LUCKETTE 46 MARTEL ROAD 65-12
NICHOLAS P. COLLINS 61 ALAN ROAD 65-13
ROBERT D. & LINDA F. SARKISIAN 16 CHEBACCO ROAD 65-127
JONATHAN E. JANES 313 ESSEX STREET 65-128
LESLIE C. JANES 44 CHEBACCO ROAD 65-129
HILARY P. COLE 66 CHEBACCO ROAD 65-132
KENT J. WOSEPKA 74 CHEBACCO ROAD 65-132A-A
FREDERICK P. WESTMAN, JR. 94 CHEBACCO ROAD 70-6
JEFFREY D. & ELIZABETH ARTHURS 102 CHEBACCO ROAD 70-7
KERR FAMILY TRUST (WILLIAM D. & CAROLYN M. KERR, TRUSTEES) 101 CHEBACCO ROAD 70-5
TRUST OF THE RONALD J. VANDI 247 ESSEX STREET 65-131
MICHAEL P. DOLAN 245 ESSEX STREET 65-2
MANCHESTER-BY-THE-SEA (TOWN OF HAMILTON) GORDON WOODS 70-3
TOWN OF HAMILTON OFF CHEBACCO ROAD 70-2
TOWN OF HAMILTON 500 CHEBACCO ROAD 70-1

BORDERING VEGETATED WETLAND
ISOLATED WETLAND

N71°21'46"E 76.04
L=99.57 R=1350.00 Δ=4°13'33"
L=176.05 R=850.00 Δ=11°52'00"
N69°39'46"E 207.65
S65°45'04"E 89.37
L=47.78 R=50.00 Δ=54°45'10"
S70°32'21"E 101.31
S67°36'51"E 100.02
S69°56'31"E 200.05
S69°44'21"E 253.64
S70°32'01"E 100.42
S70°18'41"E 200.00
S70°49'21"E 100.00
S69°32'01"E 78.01
S60°03'01"E 50.81
S56°10'51"E 25.60
S55°51'01"E 192.57
S37°17'41"E 101.07
S16°28'41"E 10.41
N85°28'35"E 248.65
S26°28'41"E 175.00
N83°41'46"E 146.29
N77°34'18"E 44.13
N82°26'56"E 84.00
S79°58'26"W 59.33
S26°03'14"E 691.25
N89°20'06"E 430.00
S00°13'45"E 350.00
N89°14'18"E 14.56
N88°10'52"E 45.38
N77°34'48"E 44.57
N78°34'50"E 13.81
N82°16'53"E 97.35
N75°15'25"E 58.45
S62°45'27"E 1912.64
N84°42'56"E 367.95
S78°59'30"E 526.95
N70°29'49"E 573.67
N80°43'20"E 504.30
S00°54'09"E 374.89
N03°02'46"E 1140.45
S55°17 214.72

DH (FND)
IP (FND)
DISC (FND) CW-33
DISC (FND) CW-32
DISC (FND) CW-30
ECSB CBE (FND)

LEGEND OF ABBREVIATIONS

DH – DRILL HOLE
ECSB – ESSEX COUNTY STONE BOUND
CBE – CENTER BACK EDGE
IP – IRON PIPE
(FND) – FOUND

I CERTIFY THAT I HAVE CONFORMED WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS IN PREPARING THIS PLAN.

John J. O'Rourke III P.L.S.
WILLIAMS & SPARAGES LLC

NOTES:

WETLAND LINES SHOWN TAKEN FROM PLAN TO ACCOMPANY ABBREVIATED NOTICE OF RESOURCE AREA DELINEATION BY WILLIAMS AND SPARAGES DATED: MAY 11, 2021, REVISED THRU 8/18/2021.

PROPERTY DOES NOT LIE WITHIN A FLOOD HAZARD AREA (ZONE A) AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 25009C0427F, EFFECTIVE DATE: JULY 3, 2012.

PLAN REFERENCES:

–1949 COUNTY LAYOUT (ESSEX STREET)
–PLAN NO. 584 OF 1955
–PLAN NO. 287 OF 1958
–PLAN NO. 606 OF 1959
–PLAN NO. 405 OF 1961
–PLAN BOOK 326 PLAN 56
–PLAN BOOK 436 PLAN 9
–LC PLAN 25349E
–LC PLAN 25880D
–UNRECORDED PLAN BY CHAS. H. MORSE & SON DATED JAN. 24, 1959
(ALL PLANS FILED AT ESSEX SOUTH REGISTRY OF DEEDS UNLESS NOTED)

APPROVAL UNDER THE SUBDIVISION CONTROL LAW NOT REQUIRED
HAMILTON PLANNING BOARD

DATE: OCT. 5, 2021

PLANNING BOARD ENDORSEMENT OF THIS PLAN INDICATES ONLY THAT THE PLAN IS NOT A SUBDIVISION UNDER M.G.L. CH. 41, SEC. 81L, AND DOES NOT INDICATE THAT THE LOT IS BUILDABLE OR THAT IT MEETS ZONING, HEALTH, CONSERVATION OR GENERAL BY-LAW REQUIREMENTS.

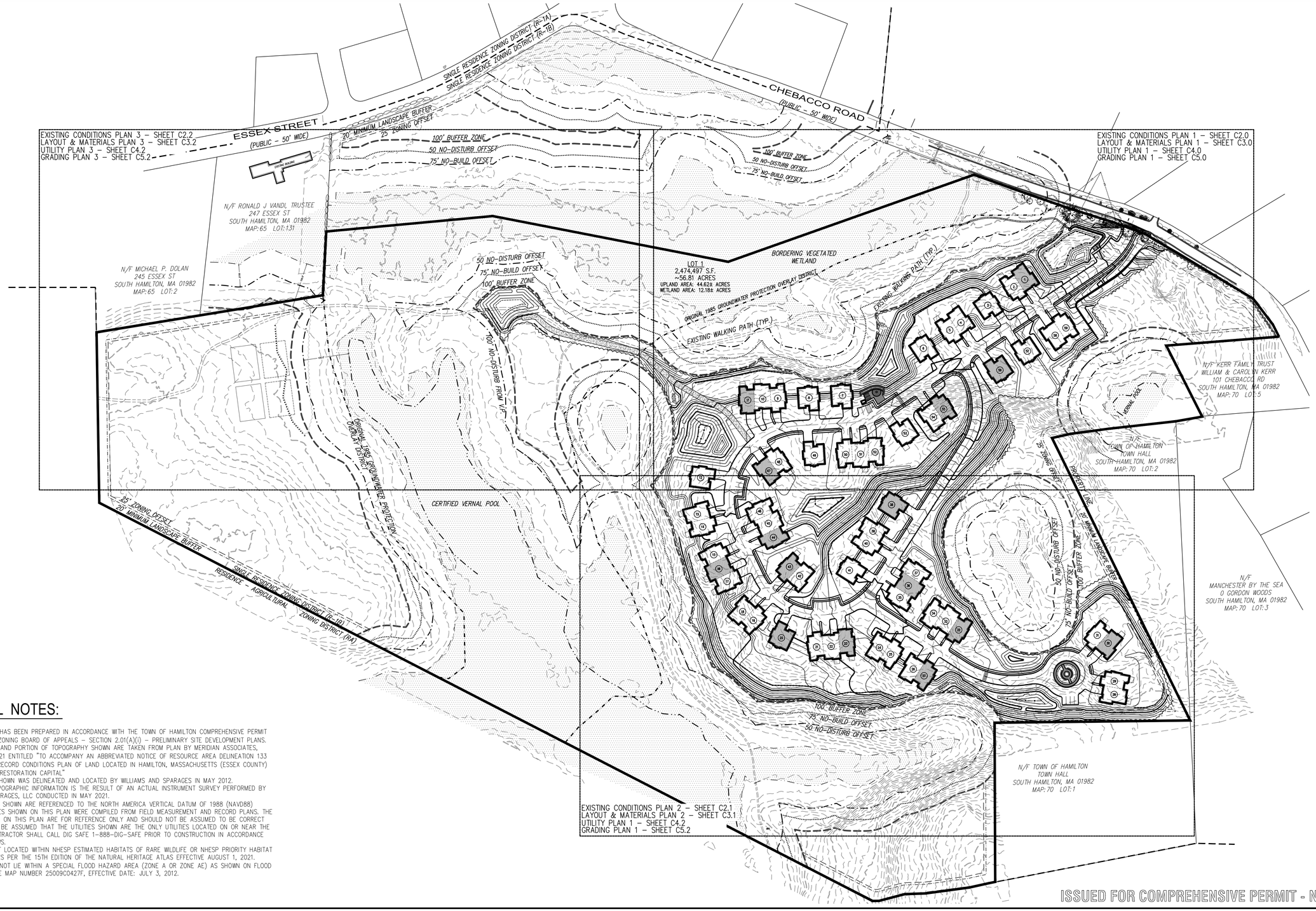
ZONE: R-1B

MINIMUM LOT AREA: 40,000 S.F. (80,000 S.F. IF IN GROUNDWATER PROTECTION OVERLAY DISTRICT)

MINIMUM CONTIGUOUS BUILDING AREA (CBA): 20,000 S.F. (80,000 S.F. IF IN GROUNDWATER PROTECTION OVERLAY DISTRICT)

MINIMUM LOT FRONTAGE: 175'
MINIMUM LOT WIDTH AND DEPTH: 100' AT BUILDING
MAXIMUM BUILDING HEIGHT: 35'
MAXIMUM NUMBER OF STORIES: 3
MINIMUM FRONT YARD: 25' (OR 50' FROM CENTERLINE)
MINIMUM SIDE YARD: 15'
MINIMUM REAR YARD: 15'
MAXIMUM BUILDING COVERAGE OF LOT: 25%

PROPERTY PARTIALLY LIES IN THE GROUNDWATER PROTECTION OVERLAY DISTRICT



GENERAL NOTES:

1. THIS PLAN SET HAS BEEN PREPARED IN ACCORDANCE WITH THE TOWN OF HAMILTON COMPREHENSIVE PERMIT RULES OF THE ZONING BOARD OF APPEALS – SECTION 2.01(A)(I) – PRELIMINARY SITE DEVELOPMENT PLANS.
2. WETLAND LINES AND PORTION OF TOPOGRAPHY SHOWN ARE TAKEN FROM PLAN BY MERIDIAN ASSOCIATES, DATED 1/25/2021 ENTITLED "TO ACCOMPANY AN ABBREVIATED NOTICE OF RESOURCE AREA DELINEATION 133 ESSEX STREET RECORD CONDITIONS PLAN OF LAND LOCATED IN HAMILTON, MASSACHUSETTS (ESSEX COUNTY) PREPARED FOR RESTORATION CAPITAL"
3. VERNAL POOL SHOWN WAS DELINEATED AND LOCATED BY WILLIAMS AND SPARAGES IN MAY 2012.
4. PORTION OF TOPOGRAPHIC INFORMATION IS THE RESULT OF AN ACTUAL INSTRUMENT SURVEY PERFORMED BY WILLIAMS & SPARAGES, LLC CONDUCTED IN MAY 2021.
5. ALL ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88)
6. EXISTING UTILITIES SHOWN ON THIS PLAN WERE COMPILED FROM FIELD MEASUREMENT AND RECORD PLANS. THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND SHOULD NOT BE ASSUMED TO BE CORRECT NOR SHOULD IT BE ASSUMED THAT THE UTILITIES SHOWN ARE THE ONLY UTILITIES LOCATED ON OR NEAR THE SITE. THE CONTRACTOR SHALL CALL DIG SAFE 1-888-DIG-SAFE PRIOR TO CONSTRUCTION IN ACCORDANCE WITH STATE LAWS.
7. THE SITE IS NOT LOCATED WITHIN NHESP ESTIMATED HABITATS OF RARE WILDLIFE OR NHESP PRIORITY HABITAT OF RARE SPECIES PER THE 15TH EDITION OF THE NATURAL HERITAGE ATLAS EFFECTIVE AUGUST 1, 2021.
8. THE SITE DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA (ZONE A OR ZONE AE) AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 25009C0427F, EFFECTIVE DATE: JULY 3, 2012.

ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

PREPARED BY:
DILLIS & ROY CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisandroy.com

OWNER:
COUNTRY SQUIRE REALTY, INC.
103 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
100 0 50 100 200 400
1 in. = 100 ft.

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DIG SAFE 1-888-344-7233

COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
No. 49470
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

PRELIMINARY KEY SHEET
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-KEY
SHEET NO. C1.1

MATCH LINE SHEET C2.2

MATCH LINE SHEET C2.1

CHEBACCO ROAD
(PUBLIC - 50' WIDE)

100' BUFFER ZONE (AURA)

75' NO-BUILD OFFSET

50' NO-DISTRUB OFFSET

50' NO-DISTURB OFFSET

75' NO-BUILD OFFSET

100' BUFFER ZONE (AURA)

ORIGINAL 1985 GROUNDWATER PROTECTION OVERLAY DISTRICT

25' ZONING OFFSET

20' MINIMUM LANDSCAPE BUFFER

100' BUFFER ZONE (AURA)

75' NO-BUILD OFFSET

50' NO-DISTURB OFFSET

100' NO DISTURB FROM VERNAL POOL

EDGE OF BVW

VERNAL POOL

100' BUFFER ZONE

75' NO-BUILD OFFSET

N/F KERR FAMILY TRUST
WILLIAM & CAROLYN KERR
101 CHEBACCO RD
SOUTH HAMILTON, MA 01982
MAP: 70 LOT: 5

N/F MANCHESTER BY THE SEA
0 GORDON WOODS
SOUTH HAMILTON, MA 01982
MAP: 70 LOT: 3

N/F TOWN OF HAMILTON
TOWN HALL
SOUTH HAMILTON, MA 01982
MAP: 70 LOT: 2

ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

PREPARED BY:
DILLIS & ROY CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisandroy.com

OWNER:
COUNTRY SQUIRE REALTY, INC.
103 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
No. 49170
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

EXISTING CONDITIONS PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-EXIST
SHEET NO. C2.0

MATCH LINE SHEET C2.2

MATCH LINE SHEET C2.0

100' BUFFER ZONE (AURA)

75' NO-BUILD OFFSET

50' NO-DISTURB OFFSET

BORDERING VEGETATED WETLAND

20' MINIMUM LANDSCAPE BUFFER

25' ZONING OFFSET

CERTIFIED VERNAL POOL

100' BUFFER ZONE (AURA)

75' NO-BUILD OFFSET

50' NO-DISTURB OFFSET

N/F TOWN OF HAMILTON
TOWN HALL
SOUTH HAMILTON, MA 01982
MAP: 70 LOT: 1

ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

PREPARED BY:

DILLIS & ROY
CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS

1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462

PHONE: (978) 779-6091
www.dillisandroy.com

OWNER:
COUNTRY SQUIRE REALTY, INC.
103 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

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DIG SAFE 1-888-344-7233

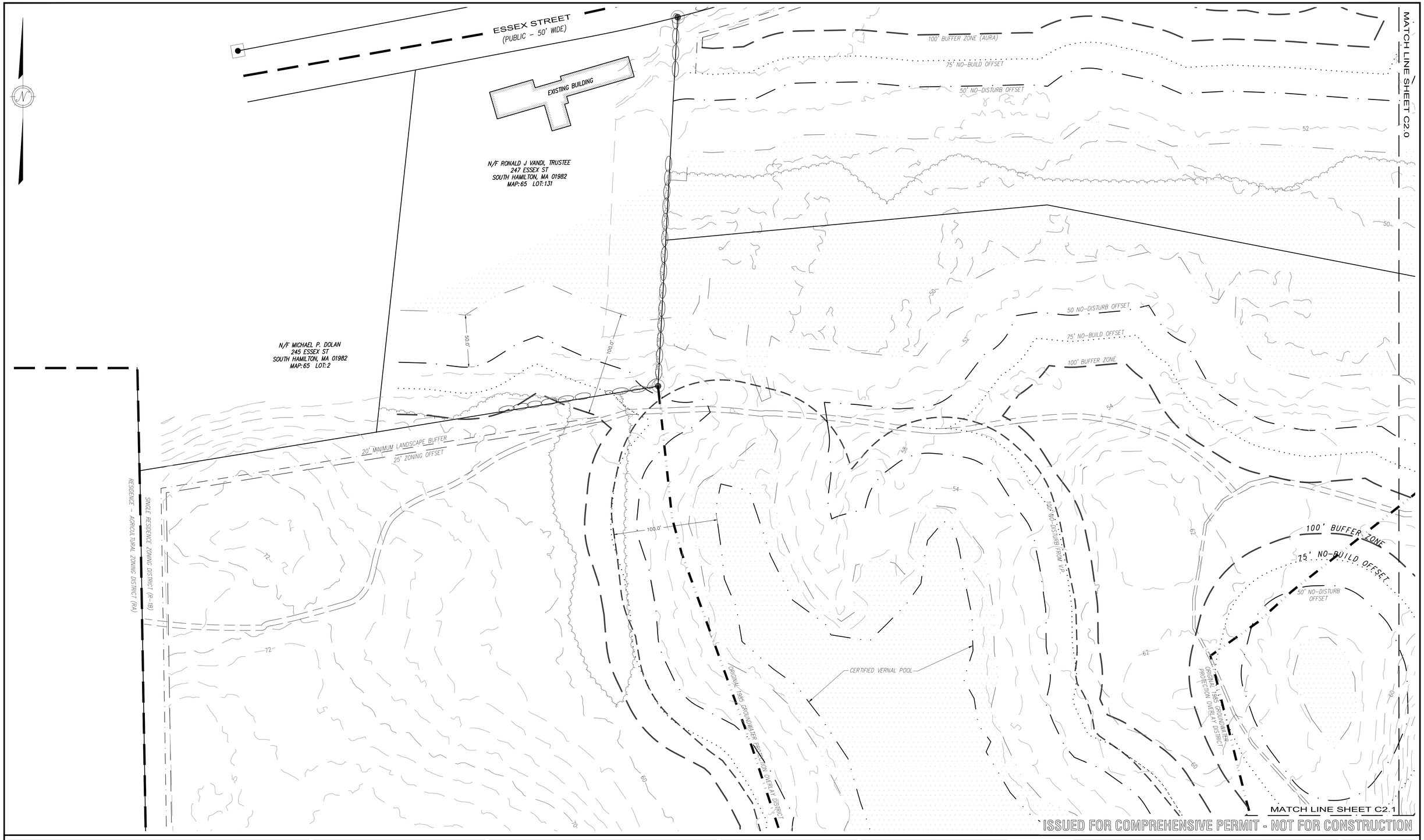
COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
No. 46470
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

EXISTING CONDITIONS PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-EXIST
SHEET NO. C2.1



ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

PREPARED BY:
DILLIS & ROY CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
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TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
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1 in. = 40 ft.

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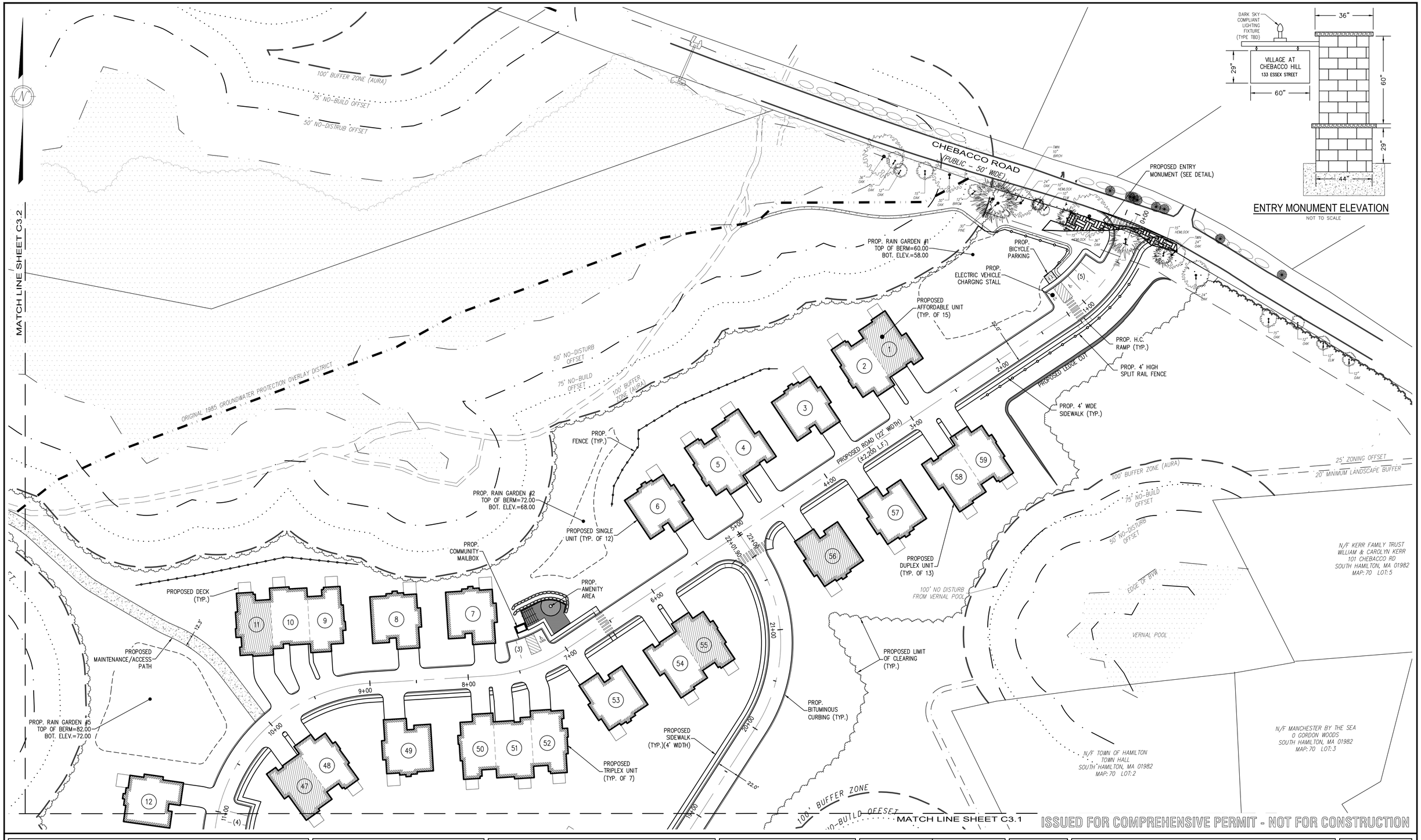
COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 46070
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

EXISTING CONDITIONS PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-EXIST
SHEET NO. C2.2



PREPARED BY:
DILLIS & ROY CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisandroy.com

OWNER:
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103 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
No. 49070
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

PRELIMINARY LAYOUT & MATERIAL PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-LAYOUT
SHEET NO. C3.0

MATCH LINE SHEET C3.2

MATCH LINE SHEET C3.0

PROP. RAIN GARDEN #4
TOP OF BERM=86.00
BOT. ELEV.=80.00

PROPOSED SINGLE UNIT (TYP. OF 12)

PROPOSED BITUMINOUS CURBING (TYP.)

PROPOSED DUPLEX UNIT (TYP. OF 13)

PROPOSED TRIPLEX UNIT (TYP. OF 7)

PROPOSED DECK (TYP.)

PROPOSED ROAD (22' WIDTH) (±2,200 L.F.)

PROPOSED AFFORDABLE UNIT (TYP. OF 15)

PROP. DETENTION BASIN
TOP OF BERM=116.00
BOT. ELEV.=110.00

PROPOSED SIDEWALK (TYP.)(4' WIDTH)

PROP. FOUNTAIN FEATURE

PROP. FENCE (TYP.)

PROPOSED LIMIT OF CLEARING (TYP.)

PROP. RAIN GARDEN #3
TOP OF BERM=110.00
BOT. ELEV.=106.00

100' BUFFER ZONE (AURA)

75' NO-BUILD OFFSET

50' NO-DISTURB OFFSET

BORDERING VEGETATED WETLAND

20' MINIMUM LANDSCAPE BUFFER
25' ZONING OFFSET

CERTIFIED VERNAL POOL

N/F TOWN OF HAMILTON
TOWN HALL
SOUTH HAMILTON, MA 01982
MAP: 70 LOT: 1

ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

PREPARED BY:
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1 in. = 40 ft.

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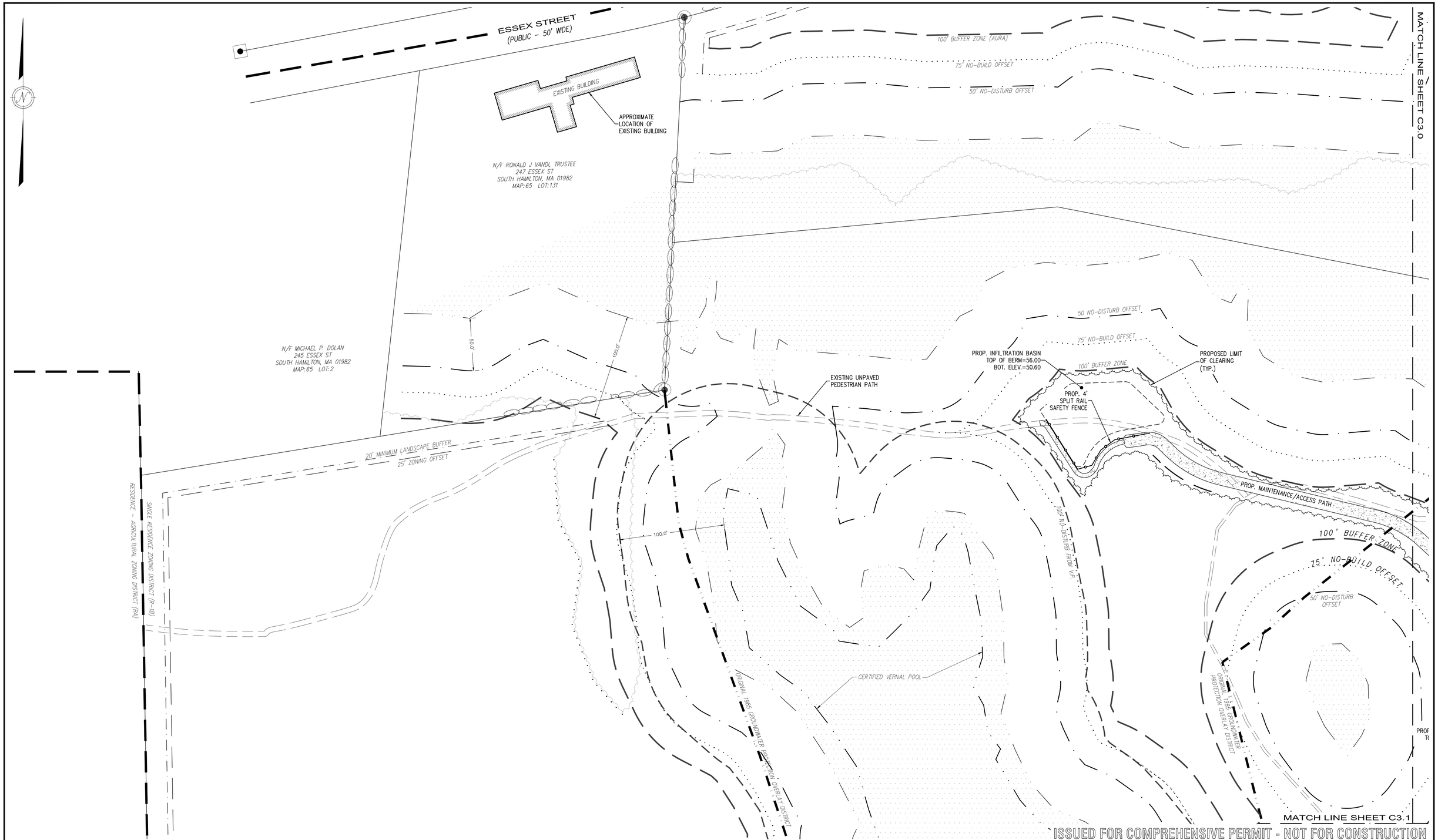
COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 46470
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

PRELIMINARY LAYOUT & MATERIAL PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-LAYOUT
SHEET NO. C3.1



ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

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SUDBURY, MASSACHUSETTS

SCALE:
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1 in. = 40 ft.

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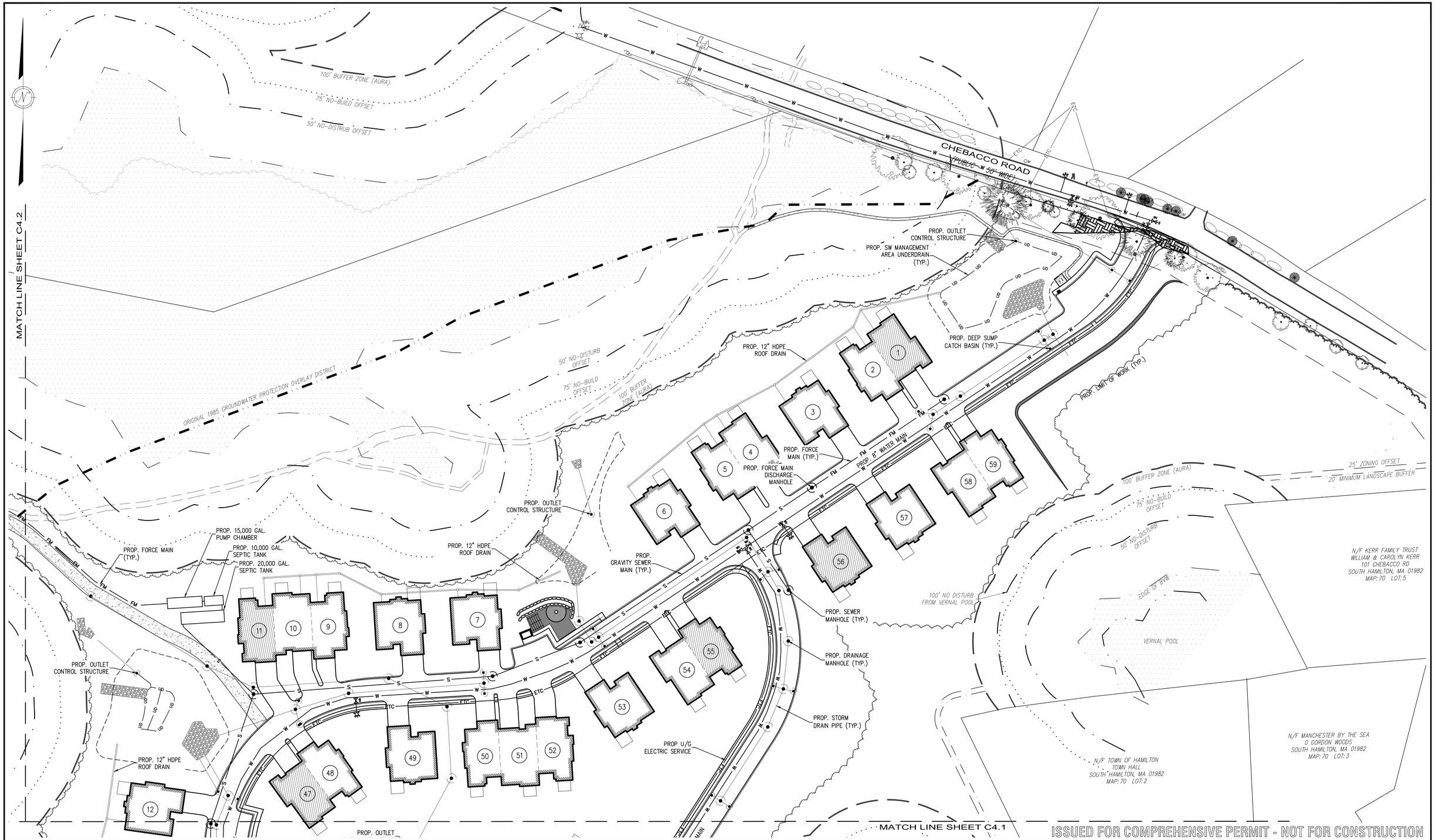
GREGORY S. ROY CIVIL 46376 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

PRELIMINARY LAYOUT & MATERIAL PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-LAYOUT
SHEET NO. C3.2



ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

PREPARED BY:
DILLIS & ROY CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462
PHONE: (978) 779-6091
www.dillisandroy.com

OWNER:
COUNTRY SQUIRE REALTY, INC.
103 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
40 0 20 40 80 160
1 in. = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
GREGORY S ROY
No. 46078
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
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PRELIMINARY UTILITY PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-UTILITY
SHEET NO. C4.0

MATCH LINE SHEET C4.2

MATCH LINE SHEET C4.0

PROP. OUTLET CONTROL STRUCTURE

PROP. AFFORDABLE UNIT (TYP. OF 15)

PROP. 8" WATER MAIN

PROP. SW MANAGEMENT AREA UNDERDRAIN (TYP.)

PROP. GRAVITY SEWER MAIN (TYP.)

BORDERING VEGETATED WETLAND

20' MINIMUM LANDSCAPE BUFFER
25' ZONING OFFSET

PROP U/C ELECTRIC SERVICE

PROP. STORM DRAIN PIPE (TYP.)

PROP. DEEP SUMP CATCH BASIN (TYP.)

100' BUFFER ZONE (AURA)

PROP. DRAINAGE MANHOLE (TYP.)

PROP. OUTLET CONTROL STRUCTURE

PROP. SEWER MANHOLE (TYP.)

PROP. 12" HDPE ROOF DRAIN

PROP. 12" HDPE ROOF DRAIN

PROP. LIMIT OF WORK (TYP.)

100' BUFFER ZONE (AURA)

75' NO-BUILD OFFSET

50' NO-DISTURB OFFSET

CERTIFIED VERNAL POOL

PROP. OUTLET CONTROL STRUCTURE

PROP. SW MANAGEMENT AREA UNDERDRAIN (TYP.)

N/F TOWN OF HAMILTON
TOWN HALL
SOUTH HAMILTON, MA 01982
MAP: 70 LOT: 1

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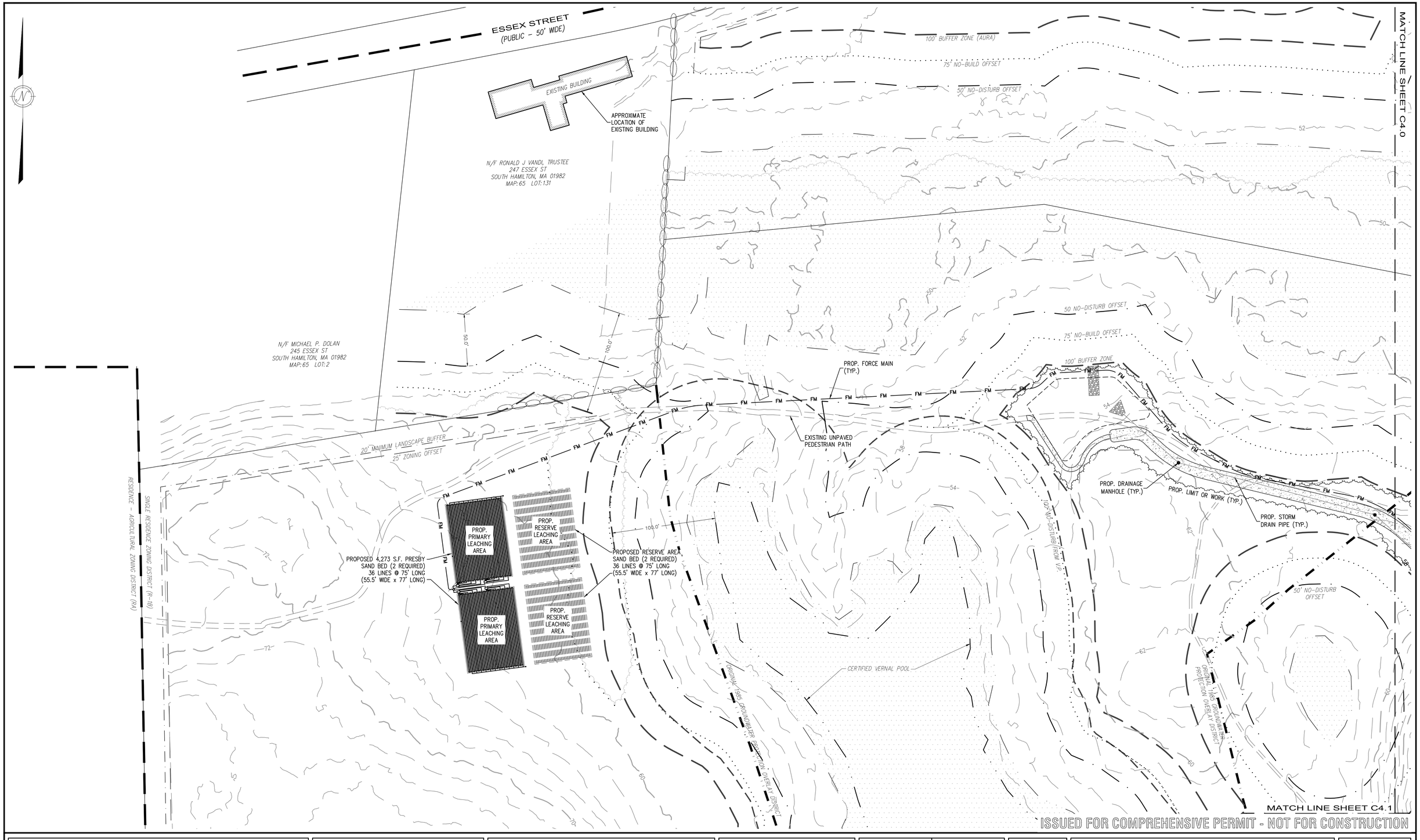
COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
NO. 46170
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
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PRELIMINARY UTILITY PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-UTILITY
SHEET NO. C4.1



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103 RIVER ROAD
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APPLICANT:
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P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
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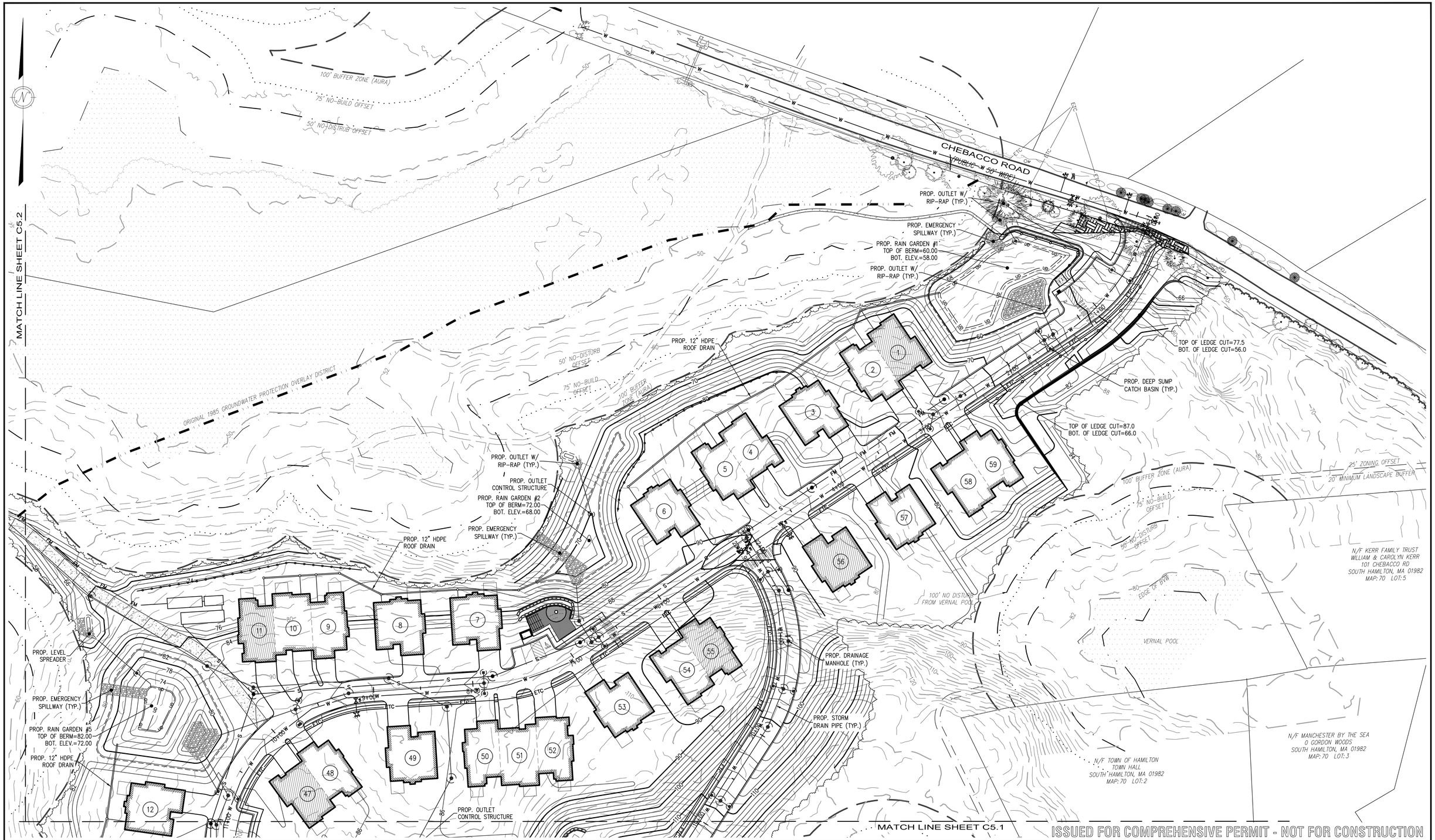
COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 46570
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
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CHECKED BY: GSR

PRELIMINARY UTILITY PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-UTILITY
SHEET NO. C4.2



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OWNER:
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APPLICANT:
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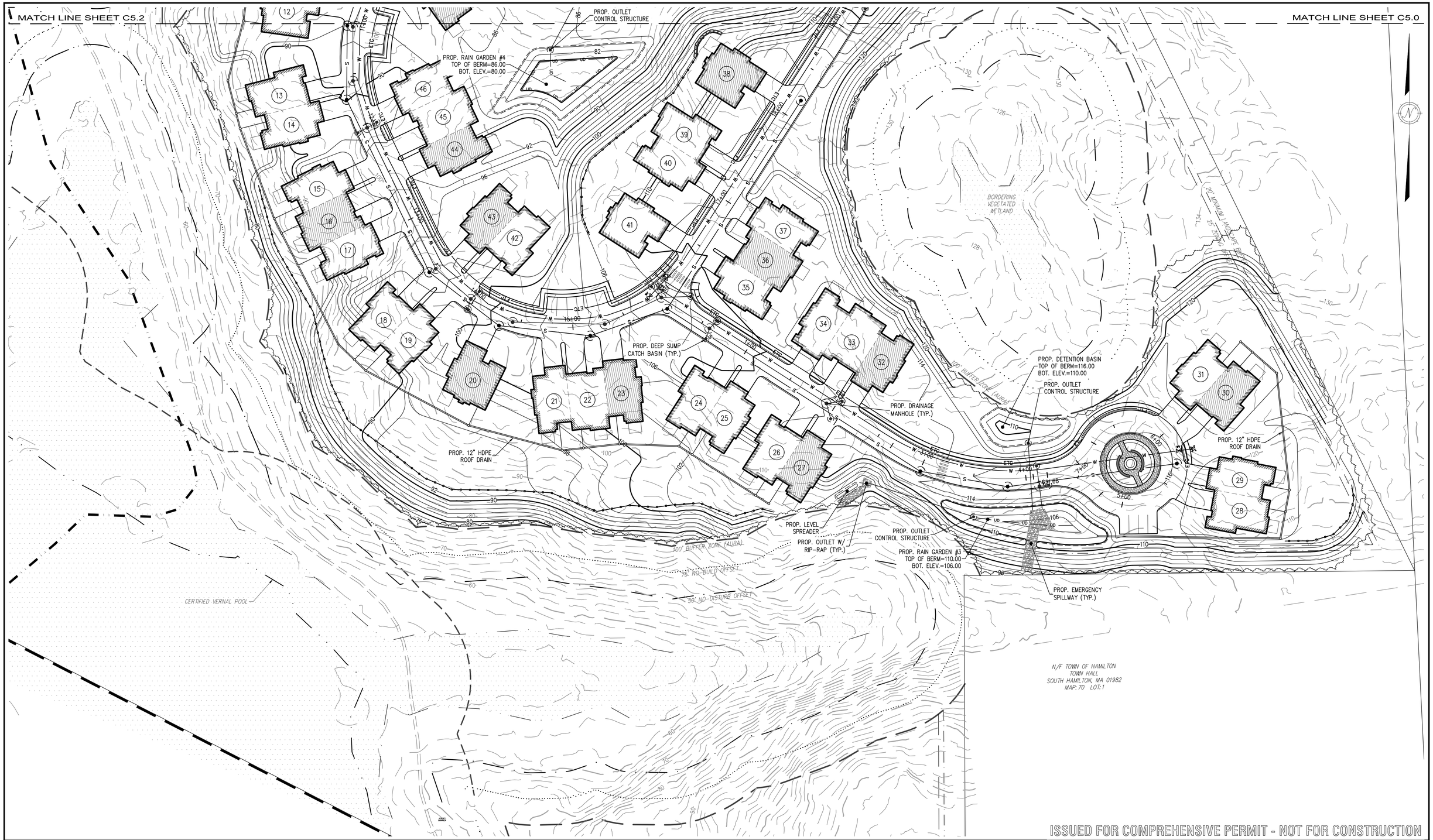
COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 49470
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

PRELIMINARY GRADING & DRAINAGE PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-GRADE
SHEET NO. C5.0



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TOPSFIELD, MASSACHUSETTS

APPLICANT:
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P.O. BOX 1044
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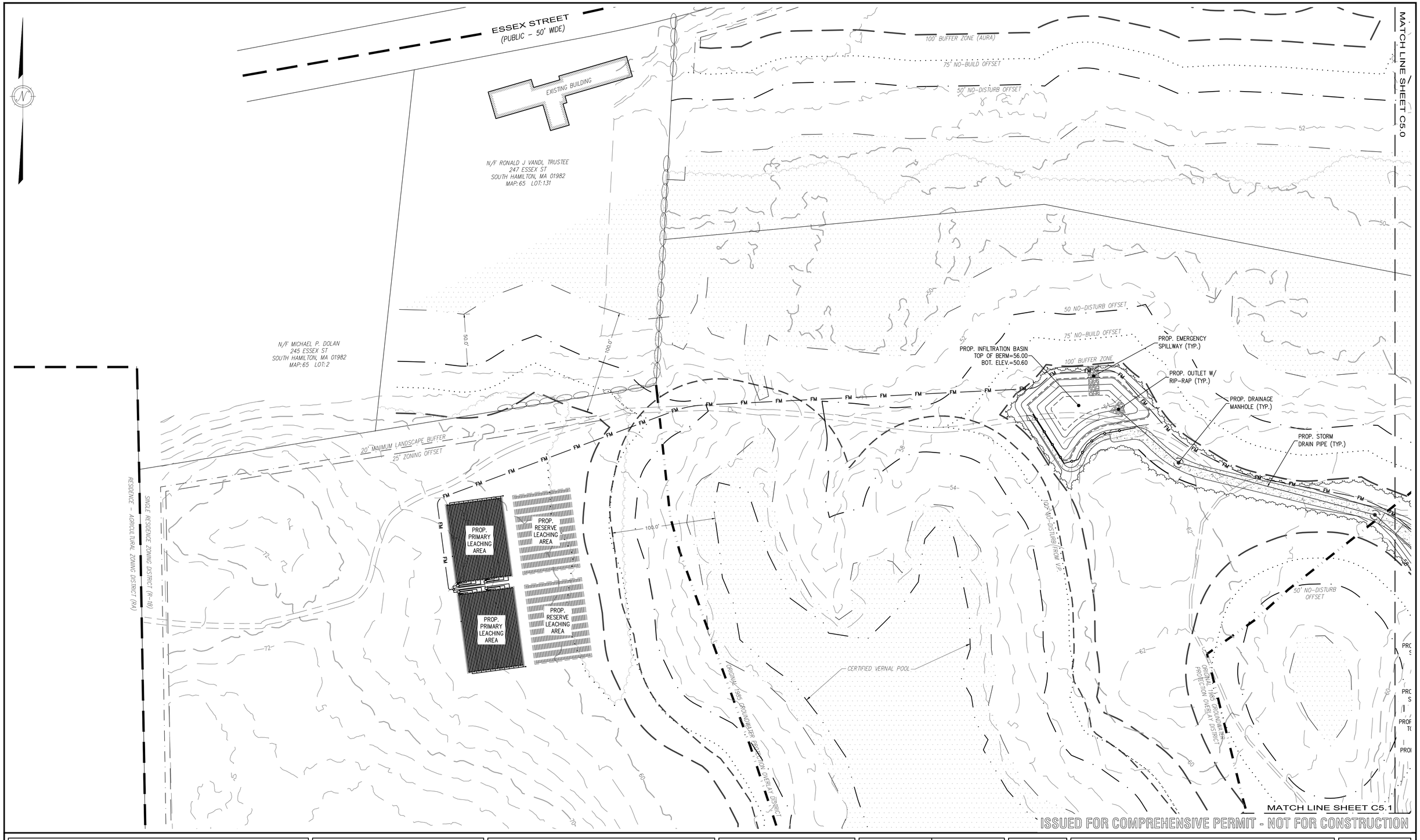
COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
No. 49470
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
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PRELIMINARY GRADING & DRAINAGE PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-GRADE
SHEET NO. C5.1



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PREPARED BY:

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P.O. BOX 1044
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COMMONWEALTH OF MASSACHUSETTS
GREGORY S. ROY
CIVIL
NO. 49070
REGISTERED PROFESSIONAL ENGINEER
3/4/24

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

PRELIMINARY GRADING & DRAINAGE PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-GRADE
SHEET NO. C5.2



Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
⏚	15	A3	12' - 0" AFG	0.900	3471	35	PROV2-36L-295-3K7-3
⏚	58	S5	8' - 0" AFG	0.900	3529	35	PROV2-36L-295-3K7-5W

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.12	5.0	0.0	N.A.	N.A.
Roadway	Illuminance	Fc	1.25	4.5	0.0	N.A.	N.A.



1. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO CURRENT. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC.) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.
2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.
3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

TITLE:

133 ESSEX STREET DEVELOPMENT
HAMILTON, MA
SITE PHOTOMETRIC PLAN

REVISED FROM DRAWING NUMBER(S):

Current

DN BY:	DATE:	CHK BY:
DHK	03/14/24	N/A
REV. BY:	DATE:	SCALE:
		AS NOTED
QUOTE:	DRAWING / DESIGN NO.:	
N/A	A240517	

architectural arealighting

PROV2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

FEATURES

- Reliable, uniform, glare free illumination
- Types 1, 2, 3, 4W, 5Q, and 5W distributions
- Amber, 3000K, 4000K, 5000K CCT
- 0-10V dimming ready
- Integral Surge protection: 10k in parallel, 20k in series
- Upgrade Kits

3000K and warmer CCTs only

See Certification Specifications

PROVIDENCE®



Providence Medium

SPECIFICATIONS

CONSTRUCTION

- All housing components aluminum 360 alloy, sealed with continuous silicone rubber gaskets
- Standard configurations do not require a flat lens, optional lenses are tempered glass
- All internal and external hardware is stainless steel
- Finish: fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat
- Optical bezel finish to match the luminaire housing

LED/OPTICS

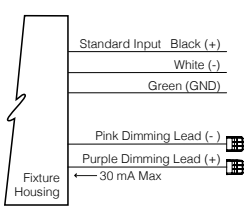
- Optical cartridge system consisting of a die cast heat sink, LED engine, TIR optics, gasket and bezel plate
- Optics are held in place without the use of adhesives
- Molded silicone gasket ensures a weather-proof seal around each individual LED.
- Features individual LED optical control based on high performance TIR optical designs
- House Side Shield is available on Standard and Clear Lens options except any Type 5 distribution. House Side Shield is not available for any distribution using a Diffused Lens

INSTALLATION

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury

ELECTRICAL

- Luminaires have UL recognized integral surge protection, and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J
- Drivers are UL recognized with an inrush current maximum of <20.0 Amps maximum at 230VAC
- 100%-1% dimming range. Fixture will be wired for low voltage 0-10V dimming control



- Driver and surge suppressor are mounted to a prewired tray with quick disconnects that may be removed from the gear compartment
- Surge protection: 10,000k in parallel, 20,000k in series

CONTROLS

- Egress adapter(s) will slip over a 4"/100mm DIA. pole with the luminaire or arm slipping over the adapter to add a total of 4.5"/114mm to the overall height. Adapter(s) are prewired, independently rotatable 359°, and have a cast access cover with an integral lens and lanyard

CONTROLS (CONTINUED)

- Egress adapter will require an auxiliary 120 volt supply for operation of an integral MR16 lamp in the event of emergency. The lamp may be aimed and locked into position with an adjustment range of 15°-45°. Adapter will have a socket that accepts miniature bi-pin MR16 lamps up to 50 watts, lamp by others
- Photocell adapter includes a 7-Pin internal twist lock receptacle. Photocell by others

CERTIFICATIONS

- ETL listed under UL 1598 and CSA C22.2 No. 250.0-08 for wet locations
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 5/29/2020

WARRANTY

- 5 year warranty

KEY DATA	
LUMEN RANGE	1,81–9,336
WATTAGE RANGE	31.52–71.6
EFFICACY RANGE (LPW)	44.9–118.9
INPUT CURRENT RANGE (mA)	295–615 mA
WEIGHT	29 lbs / 13.15 kg
EPA	1.33

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architectural arealighting

PROV2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

Example: PROV2-36L-325-3K7-4W-BL-SLA1-DF-HS-AD5-UNV

CATALOG #

HOUSING

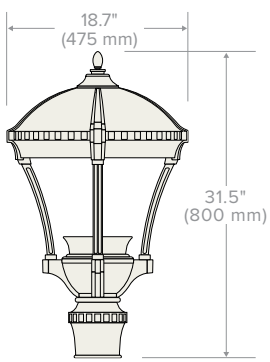
PROV2

Specify Stnd. finish

Housing	LED Quantity	Lumen output	CCT/CRI	Distribution	Finish
PROV2 Providence Medium 2.0	**36L** 36 LED	**295** 450mA Microcore Equivalent	**AMB** Amber-595nm Peak [1]	**1** Type I	**BLS** Black Gloss Smooth
		325 325mA, 4500 Lumens	**3K7** 3000K, 70 CRI	**2** Type II	**BLT** Black Matte Textured
		510 510mA, 6500 Lumens	**4K7** 4000K, 70 CRI	**3** Type III	**DBS** Dark Bronze Gloss Smooth
		525 700mA Microcore Equivalent	**5K7** 5000K, 70 CRI	**4W** Type IV Wide	**DBT** Dark Bronze Matte Textured
		615 615mA, 7500 Lumens	Contact factory for options listed below	**5Q** Type V Square	**GTT** Graphite Matte Textured
			27K8 2700K, 80 CRI	**5W** Type V Wide	**LGS** Light Grey Gloss Smooth
			80 or 90 CRI for standard color temperatures		**LGT** Light Grey Matte Textured
					PSS Platinum Silver Gloss Smooth
					VGT Verde Green Matte Textured
					WHS White Gloss Smooth
					WHT White Matte Textured
					Color Option
					CC [2] Custom Color

Mounting		Optional Lens		Options		Mounting Options		Voltage
Pole Mount		**CL**	Clear Lens	**HS**	House Side Shield [3,5]	**AD5**	Adaptor-5" OD Pole	**UNV** 120-277V
STND_MNT [6]	Standard Mount	**DL**	Diffused Lens [2]	**PFN**	Brass Colored Finish	**PCA-C**	Photocontrol Adapter Contemporary	
PT23	2 3/8" tenon			**SPK**	Cast Spikes	**PCA-T**	Rotatable photocell housing. The housing slips over a 4"/100mm o.d. pole.a fixture slips over the 4"/100mm O.D. tenon. Includes an internal twist lock receptacle, and an access cover with integral lens and stainless steel tether. Adds 5"/125mm to the overall height of the pole/fixtureassembly. Prewire don the load side and line side for easy installation. Photocell by others	
PT3	3" tenon			**BPS**	Brass Colored Struts			
PT4	4" tenon			**SF**	Single Fuse (120, 277)			
Arm Mount				**DF**	Double Fuse (208, 240)			
SLA1	4" pole or tenon					**EPA-C**	Egress Adapter Contemporary	
TRA5U-4	4" pole or tenon							
TRA6U-4	4" pole or tenon							
TRA8U-4	4" pole or tenon							
TRA55-4	4" pole or tenon							
TRA5U-5	5" pole or tenon							
TRA6U-5	5" pole or tenon							
TRA8U-5	5" pole or tenon							
TRA55-5	5" pole or tenon							
TRA56-5	5" pole or tenon							
Wall Mount								
WMA55	Wall Mount							
WMA56	Wall Mount							
Pier Mount								
PM1	Pier Mount 1							
PM2	Pier Mount 2							
PM3	Pier Mount 3							

DIMENSIONS



Notes:
1. Turtle Friendly
2. Diffused Lens is available only with T3 and T5W distribution
3. House side Shield is available only with T1, T2, T3 and T4W distributions
4. Consult factory for custom color, marine and corrosive finish options
5. Contact Factory for additional glare shield options
6. Slide over 4" OD Pole

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architectural arealighting

PROV2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

DELIVERED LUMENS

The table below shows the delivered lumens for the various lumen outputs and beam distributions. Use this chart in connection with the lumen factor (LF) capability to deliver any output required.

LED #	Drive Current	Lumen Package	Lens	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
					Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)
36	295	450mA Microcore Equivalent	None	1	3807	1	0	1	111.6	3960	1	0	1	116.1	4128	1	0	1	121.0
				2	3596	1	0	1	105.4	3740	1	0	1	109.7	3899	1	0	1	114.3
				3	3471	1	0	1	101.8	3611	1	0	1	105.9	3764	1	0	1	110.4
				4W	3501	1	0	1	102.7	3642	1	0	1	106.8	3796	1	0	1	111.3
				1-HS	2355	0	0	1	69.1	2450	0	0	1	71.8	2554	0	0	1	74.9
				2-HS	2049	0	0	1	60.1	2132	0	0	1	62.5	2222	0	0	1	65.2
				3-HS	1981	0	0	1	58.1	2061	0	0	1	60.4	2148	0	0	1	63.0
				4W-HS	2044	0	0	1	59.9	2126	0	0	1	62.3	2216	0	0	1	65.0
				5Q	3818	2	0	1	112.0	3971	2	0	1	116.5	4140	2	0	1	121.4
				5W	3529	2	0	1	103.5	3670	2	0	1	107.6	3826	2	0	1	112.2
			Clear	1-CL	3242	1	0	1	95.0	3373	1	0	1	98.8	3516	1	0	1	103.0
				2-CL	3062	1	0	1	89.7	3186	1	0	1	93.3	3321	1	0	1	97.3
				3-CL	2957	1	0	1	86.6	3075	1	0	1	90.1	3206	1	0	1	93.9
				4W-CL	2982	1	0	1	87.4	3102	1	0	1	90.9	3233	1	0	1	94.7
				1-CL-HS	2006	0	0	1	58.8	2087	0	0	1	61.1	2175	0	0	1	63.7
				2-CL-HS	1746	0	0	1	51.1	1816	0	0	1	53.2	1893	0	0	1	55.5
				3-CL-HS	1688	0	0	1	49.4	1755	0	0	1	51.4	1830	0	0	1	53.6
				4W-CL-HS	1740	0	0	1	51.0	1810	0	0	1	53.0	1887	0	0	1	55.3
				5Q-CL	3252	2	0	1	95.3	3382	2	0	1	99.1	3526	2	0	1	103.3
				5W-CL	3005	2	0	1	88.1	3126	2	0	1	91.6	3259	2	0	1	95.5
			Diffused	3-DL	2243	1	0	1	65.8	2334	1	0	1	68.4	2433	1	0	1	71.3
				5W-DL	2280	1	0	1	66.9	2372	1	0	1	69.6	2473	1	0	1	72.5
	325	4500	None	1	4147	1	0	1	110	4313	1	0	1	114	4496	1	0	1	118.9
				2	3917	1	0	1	104	4074	1	0	1	108	4247	1	0	1	112.3
				3	3781	1	0	1	100	3933	1	0	1	104	4100	1	0	1	108.4
				4W	3813	1	0	1	101	3967	1	0	2	105	4135	1	0	2	109.3
				1-HS	2566	0	0	1	68	2669	0	0	1	71	2782	0	0	1	73.6
				2-HS	2232	0	0	1	59	2322	0	0	1	61	2421	0	0	1	64.0
				3-HS	2158	0	0	1	57	2245	0	0	1	59	2340	0	0	1	61.9
				4W-HS	2226	0	0	1	59	2315	0	0	1	61	2414	0	0	1	63.8
				5Q	4158	2	0	1	110	4326	2	0	1	114	4509	2	0	1	119.2
				5W	3844	2	0	1	102	3998	2	0	1	106	4168	3	0	1	110.2
			Clear	1-CL	3532	1	0	1	93.4	3674	1	0	1	97.1	3829	1	0	1	101.3
				2-CL	3336	1	0	1	88.2	3470	1	0	1	91.7	3617	1	0	1	95.6
				3-CL	3220	1	0	1	85.2	3350	1	0	1	88.6	3492	1	0	1	92.3
				4W-CL	3248	1	0	1	85.9	3379	1	0	1	89.3	3522	1	0	1	93.1
				1-CL-HS	2185	0	0	1	57.8	2273	0	0	1	60.1	2369	0	0	1	62.6
				2-CL-HS	1901	0	0	1	50.3	1978	0	0	1	52.3	2062	0	0	1	54.5
				3-CL-HS	1838	0	0	1	48.6	1912	0	0	1	50.6	1993	0	0	1	52.7
				4W-CL-HS	1896	0	0	1	50.1	1972	0	0	1	52.1	2056	0	0	1	54.4
				5Q-CL	3542	2	0	1	93.6	3684	2	0	1	97.4	3840	2	0	1	101.5
				5W-CL	3274	2	0	1	86.6	3405	2	0	1	90.0	3550	2	0	1	93.9
			Diffused	3-DL	2459	1	0	1	65.0	2558	1	0	1	67.7	2666	1	0	1	70.7
				5W-DL	2469	1	0	1	65.3	2568	1	0	1	67.9	2677	1	0	1	70.9

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PROV2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

DELIVERED LUMENS (CONTINUED)

The table below shows the delivered lumens for the various lumen outputs and beam distributions. Use this chart in connection with the lumen factor (LF) capability to deliver any output required.

LED #	Drive Current	Lumen Package	Lens	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
					Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)
36	510	6500	None	1	6081	1	0	1	104.1	6326	1	0	1	108	6594	1	0	1	113
				2	5744	1	0	1	98.3	5975	1	0	1	102	6228	1	0	1	107
				3	5545	1	0	2	94.9	5768	1	0	2	99	6013	1	0	2	103
				4W	5593	1	0	2	95.7	5818	1	0	2	100	6064	1	0	2	104
				1-HS	3763	0	0	1	64.4	3914	0	0	1	67	4080	0	0	1	70
				2-HS	3274	0	0	1	56.1	3406	0	0	1	58	3550	0	0	1	61
				3-HS	3165	0	0	1	54.2	3292	0	0	1	56	3432	0	0	1	59
				4W-HS	3265	0	0	1	55.9	3396	0	0	1	58	3540	0	0	1	61
				5Q	6099	2	0	1	104.4	6344	2	0	1	109	6613	3	0	1	113
				5W	5637	3	0	1	96.5	5864	3	0	1	100	6112	3	0	1	105
			Clear	1-CL	5180	1	0	1	88.7	5388	1	0	1	92.2	5616	1	0	1	96.2
				2-CL	4892	1	0	1	83.8	5089	1	0	1	87.1	5305	1	0	1	90.8
				3-CL	4723	1	0	1	80.9	4913	1	0	1	84.1	5121	1	0	1	87.7
				4W-CL	4763	1	0	2	81.6	4955	1	0	2	84.8	5165	1	0	2	88.4
				1-CL-HS	3205	0	0	1	54.9	3334	0	0	1	57.1	3475	0	0	1	59.5
				2-CL-HS	2788	0	0	1	47.7	2901	0	0	1	49.7	3024	0	0	1	51.8
				3-CL-HS	2696	0	0	1	46.2	2804	0	0	1	48.0	2923	0	0	1	50.0
				4W-CL-HS	2780	0	0	1	47.6	2892	0	0	1	49.5	3015	0	0	1	51.6
				5Q-CL	5194	2	0	1	88.9	5403	2	0	1	92.5	5632	2	0	1	96.4
				5W-CL	4801	3	0	1	82.2	4994	3	0	1	85.5	5206	3	0	1	89.1
			Diffused	3-DL	3584	1	0	1	61.4	3728	1	0	1	63.8	3886	1	0	1	66.5
				5W-DL	3615	2	0	1	61.9	3760	2	0	1	64.4	3919	2	0	1	67.1
	525	700mA Microcore Equivalent	None	1	6235	1	0	1	103.6	6486	1	0	1	107.7	6761	1	0	1	112.3
				2	5889	1	0	1	97.8	6126	1	0	1	101.8	6386	1	0	1	106.1
				3	5686	1	0	2	94.4	5914	1	0	2	98.2	6165	1	0	2	102.4
				4W	5734	1	0	2	95.3	5965	1	0	2	99.1	6218	1	0	2	103.3
				1-HS	3858	0	0	1	64.1	4013	0	0	1	66.7	4183	0	0	1	69.5
				2-HS	3357	0	0	1	55.8	3492	0	0	1	58.0	3640	0	0	1	60.5
				3-HS	3245	0	0	1	53.9	3376	0	0	1	56.1	3519	0	0	1	58.5
				4W-HS	3347	0	0	1	55.6	3482	0	0	1	57.8	3629	1	0	1	60.3
				5Q	6253	2	0	1	103.9	6504	2	0	1	108.0	6780	3	0	1	112.6
				5W	5779	3	0	1	96.0	6012	3	0	1	99.9	6267	3	0	1	104.1
			Clear	1-CL	5311	1	0	1	88.2	5524	1	0	1	91.8	5758	1	0	1	95.7
				2-CL	5016	1	0	1	83.3	5218	1	0	1	86.7	5439	1	0	1	90.3
				3-CL	4842	1	0	1	80.4	5037	1	0	2	83.7	5251	1	0	2	87.2
				4W-CL	4884	1	0	2	81.1	5080	1	0	2	84.4	5296	1	0	2	88.0
				1-CL-HS	3286	0	0	1	54.6	3418	0	0	1	56.8	3563	0	0	1	59.2
				2-CL-HS	2859	0	0	1	47.5	2974	0	0	1	49.4	3100	0	0	1	51.5
				3-CL-HS	2764	0	0	1	45.9	2875	0	0	1	47.8	2997	0	0	1	49.8
				4W-CL-HS	2851	0	0	1	47.4	2965	0	0	1	49.3	3091	0	0	1	51.3
				5Q-CL	5326	2	0	1	88.5	5540	2	0	1	92.0	5775	2	0	1	95.9
				5W-CL	4922	3	0	1	81.8	5120	3	0	1	85.1	5337	3	0	1	88.7
			Diffused	3-DL	3675	1	0	1	61.0	3822	1	0	1	63.5	3984	1	0	1	66.2
				5W-DL	3735	2	0	1	62.0	3885	2	0	1	64.5	4050	2	0	1	67.3

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DELIVERED LUMENS (CONTINUED)

The table below shows the delivered lumens for the various lumen outputs and beam distributions. Use this chart in connection with the lumen factor (LF) capability to deliver any output required.

LED #	Drive Current	Lumen Package	Lens	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
					Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)
36	615	7500	None	1	7118	1	0	1	101.3	7404	1	0	1	105.4	7718	1	0	1	109.9
				2	6723	1	0	1	95.7	6994	1	0	2	99.6	7290	1	0	2	103.8
				3	6491	1	0	2	92.4	6752	1	0	2	96.1	7038	1	0	2	100.2
				4W	6546	1	0	2	93.2	6809	1	0	2	96.9	7098	1	0	2	101.0
				1-HS	4404	0	0	1	62.7	4581	0	0	1	65.2	4775	0	0	1	68.0
				2-HS	3832	0	0	1	54.5	3986	0	0	1	56.7	4155	0	0	1	59.1
				3-HS	3705	0	0	1	52.7	3854	0	0	1	54.9	4017	0	0	1	57.2
				4W-HS	3821	1	0	1	54.4	3975	1	0	1	56.6	4143	1	0	1	59.0
				5Q	7138	3	0	1	101.6	7425	3	0	1	105.7	7740	3	0	1	110.2
				5W	6598	3	0	1	93.9	6863	3	0	1	97.7	7154	3	0	1	101.8
			Clear	1-CL	6063	1	0	1	86.3	6306	1	0	1	89.8	6574	1	0	1	93.6
				2-CL	5726	1	0	1	81.5	5956	1	0	1	84.8	6209	1	0	1	88.4
				3-CL	5528	1	0	1	78.7	5750	1	0	1	81.9	5994	1	0	2	85.3
				4W-CL	5575	1	0	2	79.4	5800	1	0	2	82.6	6045	1	0	2	86.1
				1-CL-HS	3751	0	0	1	53.4	3902	0	0	1	55.5	4067	0	0	1	57.9
				2-CL-HS	3264	0	0	1	46.5	3395	0	0	1	48.3	3539	0	0	1	50.4
				3-CL-HS	3155	0	0	1	44.9	3282	0	0	1	46.7	3421	0	0	1	48.7
				4W-CL-HS	3254	0	0	1	46.3	3385	0	0	1	48.2	3529	0	0	1	50.2
				5Q-CL	6080	2	0	1	86.5	6324	2	0	1	90.0	6592	2	0	1	93.8
				5W-CL	5619	3	0	1	80.0	5845	3	0	1	83.2	6093	3	0	1	86.7
			Diffused	3-DL	4195	1	0	1	59.7	4364	1	0	1	62.1	4549	1	0	1	64.7
				5W-DL	4264	2	0	1	60.7	4436	2	0	1	63.1	4624	2	0	1	65.8

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ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PHOTOMETRY

PROV2-36L-615-4K7-1

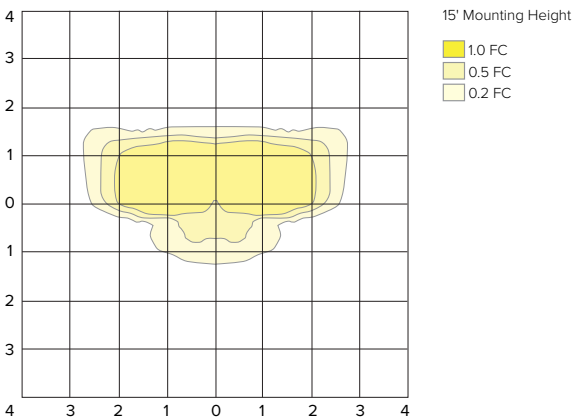
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**7405**
Watts	**70.25**
Efficacy	**105.4**
IES Type	**II**
BUG Rating	**B1-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	6403	86%
Downward House Side	1002	14%
Downward Total	7405	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	7405	100%

ISOFOOT CANDLE PLOT



PROV2-36L-615-4K7-2

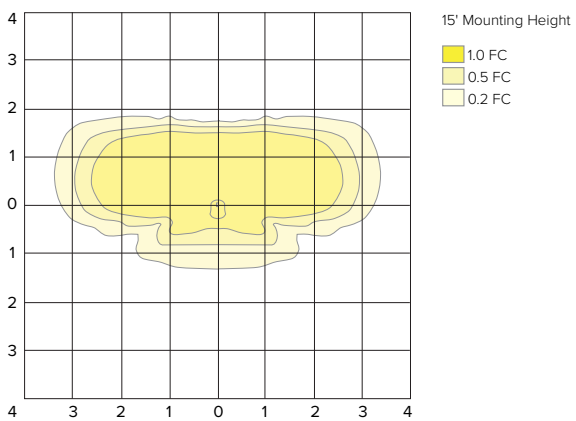
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**6994**
Watts	**70.25**
Efficacy	**99.6**
IES Type	**II**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5665	81%
Downward House Side	1329	19%
Downward Total	6994	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	6994	100%

ISOFOOT CANDLE PLOT



PROV2-36L-615-4K7-3

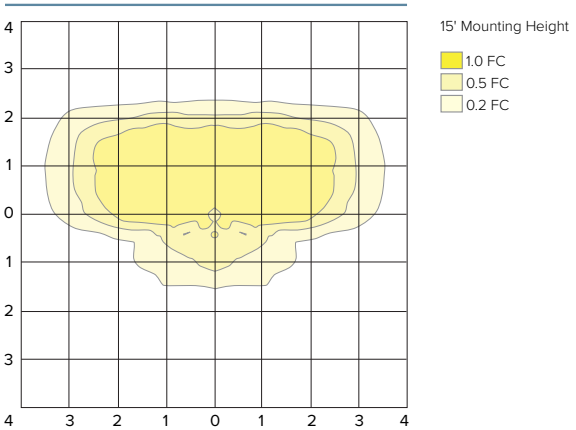
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**6752**
Watts	**70.25**
Efficacy	**96.1**
IES Type	**III**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5552	82%
Downward House Side	1200	18%
Downward Total	6752	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	6752	100%

ISOFOOT CANDLE PLOT



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DATE: LOCATION:

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CATALOG #:

PHOTOMETRY

PROV2-36L-615-4K7-4W

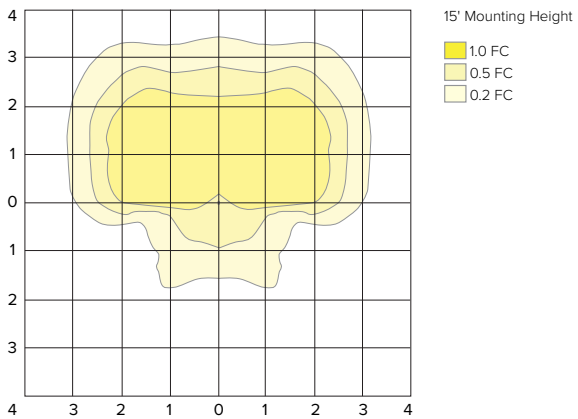
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**6809**
Watts	**70.25**
Efficacy	**96.9**
IES Type	**IV Wide**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5802	85%
Downward House Side	1007	15%
Downward Total	6809	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	6809	100%

ISOFOOT CANDLE PLOT



PROV2-36L-615-4K7-5Q

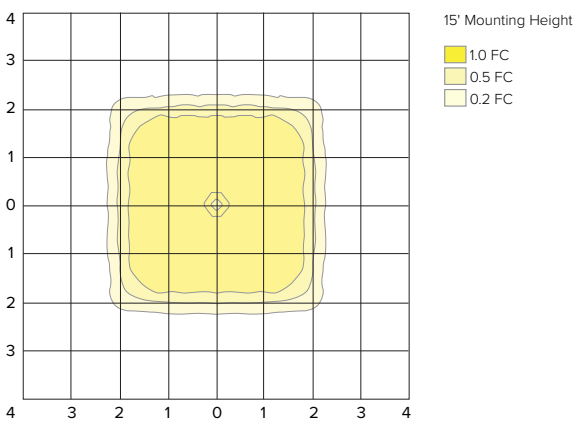
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**7425**
Watts	**70.25**
Efficacy	**105.7**
IES Type	**VS**
BUG Rating	**B3-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3713	50%
Downward House Side	3713	50%
Downward Total	7425	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	7425	100%

ISOFOOT CANDLE PLOT



PROV2-36L-615-4K7-5W

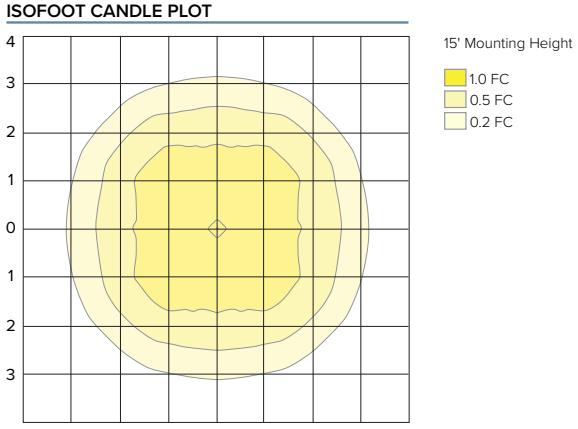
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**6863**
Watts	**70.25**
Efficacy	**97.7**
IES Type	**VS**
BUG Rating	**B3-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3432	50%
Downward House Side	3432	50%
Downward Total	6863	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	6863	100%

ISOFOOT CANDLE PLOT



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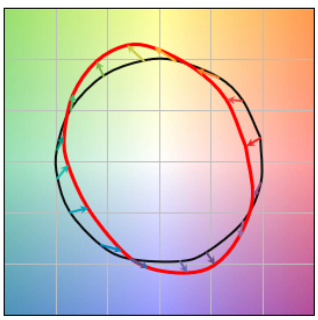
DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

TM-30 DATA

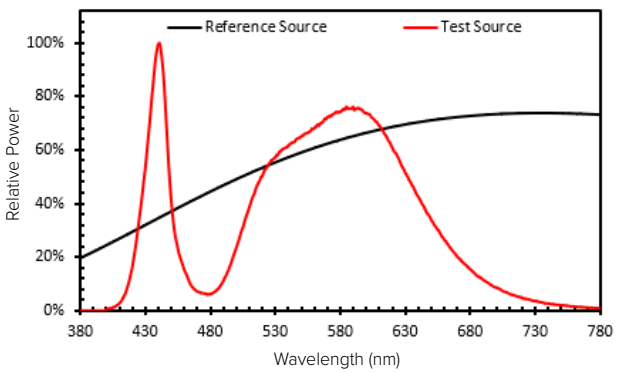
COLOR VECTOR GRAPHIC



TEST SOURCE

MBM TEST RESULTS	
CCT (K)	3947
CIE Ra	72
Duv	0.0004
x	0.3831
y	0.3793
Rf	68
Rg	99

SPECTRAL POWER DISTRIBUTION COMPARISON



ELECTRICAL DATA

Electrical											Dimming			
Light Engine	System Current	System Watts	Line Voltage		Amps AC				Min. Power Factor	Max THD (%)	Dimming Range	Source current out of 0-10V		Absolute voltage range on 0-10V (+)	
			VAC	HZ	120	208	240	277				Min	Max	Min	Max
36	295 mA	34.1	120-277	50/60	0.28	0.16	0.14	0.12	>0.9	20	10% to 100%	0mA	1mA	0V	10V
	325 mA	37.8			0.32	0.18	0.16	0.14							
	510 mA	58.4			0.49	0.28	0.24	0.21							
	525 mA	60.2			0.50	0.29	0.25	0.22							
	615 mA	70.3			0.59	0.34	0.29	0.25							

TM-21 LIFETIME CALCULATION - PROJECTED LUMEN MAINTENANCE (25°C / 77°F)						
HOURS	0	25,000	36,000	50,000	100,000	REPORTED L70
Projected Lumen Maintenance	100%	98.0%	96.9%	95.4%	90.5%	> 60,000

AMBER MULTIPLIER	
CCT	MULTIPLIER
5000K	1
AM	0.1727

2700K MULTIPLIER	
CCT	MULTIPLIER
5000K	1
2700K	0.897

LENS OPTION MULTIPLIER	
CLEAR LENS	DIFFUSED LENS
0.8517	0.6462

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BEACON
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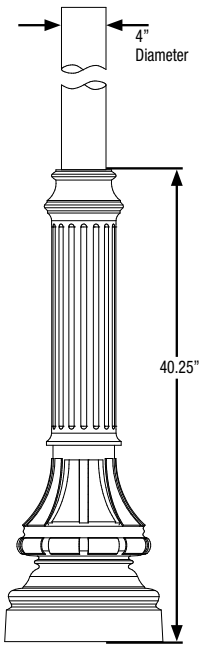
DATE: | LOCATION:

TYPE: | PROJECT:

CATALOG #:

RSA-B-CEAK Series Poles

ROUND STRAIGHT ALUMINUM



APPLICATIONS

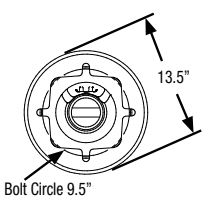
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

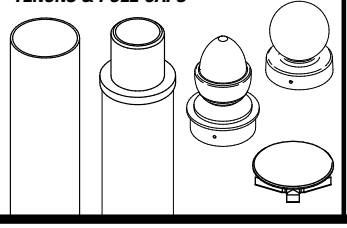
- SHAFT: One-piece straight aluminum with fluted or smooth cross section; Extruded shafts of 6061-T6 aluminum in 1/8", 3/16", or 1/4" thickness. Decorative base of 356 cast aluminum.
- POLE CAP OR FINALS: Cap or decorative finials available for side mounted luminaires. Open top or tenons provided for post top mounted luminaires.
- HAND HOLE: Hand hole provided in cast base; Mounting provisions for grounding lug located behind cover
- ANCHOR BOLTS: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

FINISH

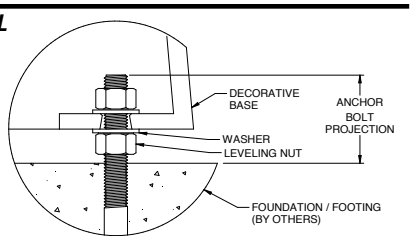
- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint finish coat available in twelve standard colors; Custom colors available; RAL number preferable.



TENONS & POLE CAPS



BASE DETAIL



ORDERING EXAMPLE:

RSA-B-CEAK - S/F - 16 - 40 - A/B/C - 2L - B3 - Specify Stnd. finish - VM2

SERIES	STYLE	HEIGHT	SHAFT	THICKNESS
RSA-B-CEAK Round Straight Aluminum Pole Beacon	**S** Smooth **F** Fluted	Reference page 2 Ordering matrix **12**	Reference page 2 Ordering matrix **40**	Reference page 2 Ordering matrix

MOUNTING	
1	Single arm mount
2	Two fixtures at 180˚
2L	Two fixtures at 90˚
3T	Three fixtures at 90˚
3Y	Three at 120˚
4	Four fixtures at 90˚
OT	Open top (includes pole cap)
TN3	Tenon 3 x 3
TN4	Tenon 3 x 4
CAP	Cap
ARC	Acorn Finial
BAL	Ball Finial

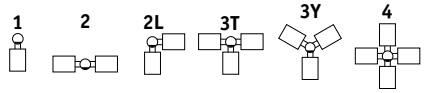
FINISH	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured

Color Option	
CC	Custom Color

OPTIONS	
GFI[1]	20 Amp GFCI Receptacle and Cover
EHH[1]	Extra Handhole
C05[1]	.5" Coupling
C07[1]	.75" Coupling
C20[1]	2" Coupling
VM2	2nd mode vibration damper
LAB	Less Anchor Bolts

MOUNTING ORIENTATION

Denotes handhole location



DRILL PATTERN	
B1	Cruzer, "AM" arm
B3	2 bolt (2-½" spacing), Viper "A" arm
S2	2 bolt (3-½" spacing), Viper "AD" arm

***ACCESSORIES*- Order Separately**

Catalog Number	Description
VM2SXX	2nd mode vibration damper

1 Specify option location using logic found on page 2 **(Option Orientation)**

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BEACON
design . performance . technology

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RSA-B-CEAK Series Poles

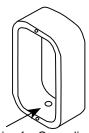
ROUND STRAIGHT ALUMINUM

ORDERING INFORMATION Cont.

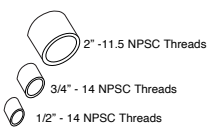
Catalog Number	Height		Nominal Shaft Dimensions	Wall Thickness	Bolt Circle (suggested)	Bolt Square	Base Plate Size	Anchor Bolt Size	Bolt Projection	Pole weight (lbs)
	Feet	Meters								
RSA-B-CEAK-S-10-40-A	10	3.0	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	63
RSA-B-CEAK-S-12-40-A	12	3.7	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	66
RSA-B-CEAK-S-14-40-A	14	4.3	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	70
RSA-B-CEAK-S-16-40-A	16	4.9	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	74
RSA-B-CEAK-S-18-40-A	18	5.5	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	77
RSA-B-CEAK-S-20-40-A	20	6.1	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	81
RSA-B-CEAK-S-10-40-B	10	3.0	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	70
RSA-B-CEAK-S-12-40-B	12	3.7	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	75
RSA-B-CEAK-S-14-40-B	14	4.3	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	81
RSA-B-CEAK-S-16-40-B	16	4.9	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	86
RSA-B-CEAK-S-18-40-B	18	5.5	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	91
RSA-B-CEAK-S-20-40-B	20	6.1	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	97
RSA-B-CEAK-S-22-40-B	22	6.7	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	102
RSA-B-CEAK-S-24-40-B	24	7.3	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	NR
RSA-B-CEAK-S-10-40-C	10	3.0	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	77
RSA-B-CEAK-S-12-40-C	12	3.7	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	84
RSA-B-CEAK-S-14-40-C	14	4.3	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	91
RSA-B-CEAK-S-16-40-C	16	4.9	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	98
RSA-B-CEAK-S-18-40-C	18	5.5	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	105
RSA-B-CEAK-S-20-40-C	20	6.1	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	112
RSA-B-CEAK-S-22-40-C	22	6.7	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	119
RSA-B-CEAK-S-24-40-C	24	7.3	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	126
RSA-B-CEAK-F-10-40-B	10	3.0	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	72
RSA-B-CEAK-F-12-40-B	12	3.7	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	78
RSA-B-CEAK-F-14-40-B	14	4.3	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	83
RSA-B-CEAK-F-16-40-B	16	4.9	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	89
RSA-B-CEAK-F-18-40-B	18	5.5	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	95
RSA-B-CEAK-F-20-40-B	20	6.1	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	101
RSA-B-CEAK-F-22-40-B	22	6.7	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	106
RSA-B-CEAK-F-24-40-B	24	7.3	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	112

NOTE Factory supplied template must be used when setting anchor bolts. Current will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

EHH - EXTRA HANDHOLE

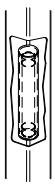


C05 - C07 - C20 - COUPLING

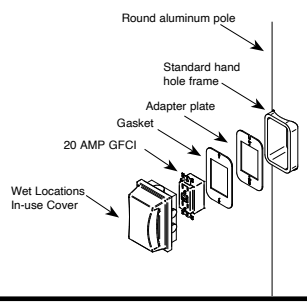


VM2 - VIBRATION DAMPER 2ND MODE

Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.



GFI – 20 AMP GFCI RECEPTACLE & COVER



OPTION ORIENTATION

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C07 should be ordered as: **RSA-CEAK-F16-40B-TN3-DBT-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1' spacing required between option. Consult factory for other configurations.

VM2SXX - VIBRATION DAMPER 2ND MODE

Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

For more information about pole vibration and vibration dampers, please consult Pole Vibration Application Guide.
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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DATE: | LOCATION:

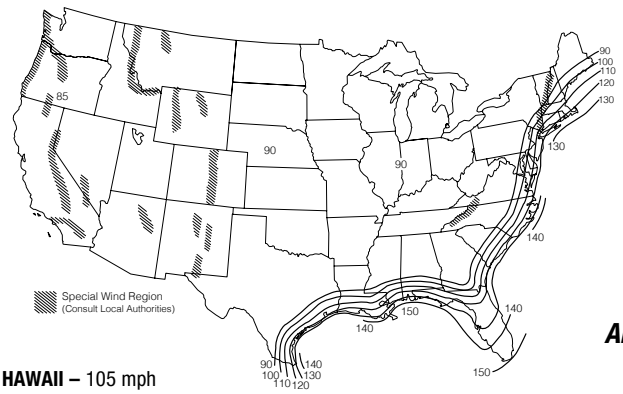
TYPE: | PROJECT:

CATALOG #:

RSA-B-CEAK Series Poles

ROUND STRAIGHT ALUMINUM

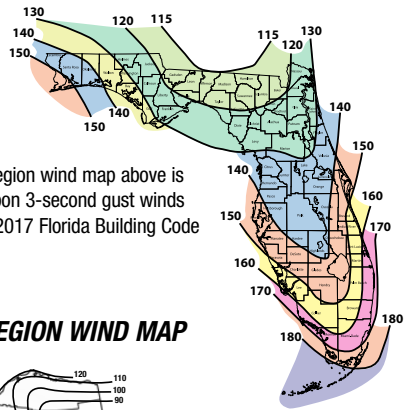
ASCE7-05 WIND MAP



HAWAII – 105 mph
PUERTO RICO – 145 mph

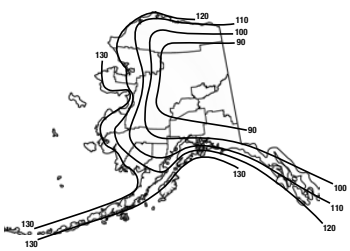
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FLORIDA REGION WIND MAP



- Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP



ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds										
Catalog Number	**85**	**90**	**100**	**105**	**110**	**120**	**130**	**140**	**145**	**150**
RSA-B-CEAK-S-10-40-A	14.6	13.1	10.6	9.6	8.7	7.2	6.1	5.3	4.9	4.6
RSA-B-CEAK-S-12-40-A	10.5	9.4	7.5	6.7	6.0	4.9	4.1	3.5	3.3	3.0
RSA-B-CEAK-S-14-40-A	7.9	6.9	5.4	4.8	4.2	3.4	2.8	2.3	2.2	2.0
RSA-B-CEAK-S-16-40-A	6.0	5.2	3.9	3.4	2.9	2.2	1.8	1.4	1.3	1.2
RSA-B-CEAK-S-18-40-A	4.4	3.8	2.7	2.2	1.8	1.2	0.9	0.7	0.6	0.5
RSA-B-CEAK-S-20-40-A	3.2	2.6	1.6	1.3	0.9	NR	NR	NR	NR	NR
RSA-B-CEAK-S-10-40-B	21.4	19.2	15.7	14.2	12.9	10.8	9.3	8.0	7.4	6.9
RSA-B-CEAK-S-12-40-B	15.8	14.1	11.4	10.2	9.3	7.7	6.5	5.6	5.2	4.9
RSA-B-CEAK-S-14-40-B	12.1	10.7	8.5	7.6	6.8	5.6	4.7	4.0	3.7	3.5
RSA-B-CEAK-S-16-40-B	9.4	8.3	6.5	5.7	5.1	4.0	3.4	2.8	2.6	2.4
RSA-B-CEAK-S-18-40-B	7.3	6.4	4.9	4.2	3.7	2.8	2.3	1.9	1.7	1.6
RSA-B-CEAK-S-20-40-B	5.7	4.8	3.5	3.0	2.5	1.8	1.4	1.1	1.0	0.9
RSA-B-CEAK-S-22-40-B	4.3	3.6	2.4	1.9	1.5	0.9	0.6	NR	NR	NR
RSA-B-CEAK-S-24-40-B	3.2	2.5	1.5	1.1	0.7	NR	NR	NR	NR	NR
RSA-B-CEAK-S-10-40-C	25.0	24.7	20.2	18.3	16.7	14.1	12.0	10.4	9.7	9.1
RSA-B-CEAK-S-12-40-C	20.4	18.3	14.8	13.4	12.2	10.2	8.7	7.5	6.9	6.5
RSA-B-CEAK-S-14-40-C	15.8	14.1	11.3	10.2	9.2	7.6	6.4	5.5	5.1	4.8
RSA-B-CEAK-S-16-40-C	12.5	11.1	8.8	7.9	7.0	5.7	4.8	4.1	3.8	3.5
RSA-B-CEAK-S-18-40-C	9.9	8.8	6.8	6.0	5.3	4.2	3.5	2.9	2.7	2.5
RSA-B-CEAK-S-20-40-C	7.9	6.8	5.2	4.5	3.9	3.0	2.4	2.0	1.8	1.6
RSA-B-CEAK-S-22-40-C	6.2	5.3	3.9	3.3	2.7	2.0	1.5	1.2	1.1	0.9
RSA-B-CEAK-S-24-40-C	4.8	4.0	2.8	2.2	1.8	1.1	0.8	0.5	NR	NR
RSA-B-CEAK-F-10-40-B	21.3	19.1	15.6	14.1	12.8	10.7	9.0	7.6	7.1	6.5
RSA-B-CEAK-F-12-40-B	15.6	14.0	11.2	10.1	9.1	7.5	6.2	5.2	4.7	4.3
RSA-B-CEAK-F-14-40-B	11.9	10.6	8.4	7.5	6.7	5.4	4.3	3.5	3.1	2.8
RSA-B-CEAK-F-16-40-B	9.3	8.1	6.3	5.6	4.9	3.8	2.9	2.2	1.9	1.6
RSA-B-CEAK-F-18-40-B	7.1	6.2	4.6	4.0	3.4	2.5	1.8	1.1	0.9	0.6
RSA-B-CEAK-F-20-40-B	5.4	4.6	3.3	2.7	2.3	1.4	0.8	NR	NR	NR
RSA-B-CEAK-F-22-40-B	4.0	3.3	2.2	1.7	1.3	0.5	NR	NR	NR	NR
RSA-B-CEAK-F-24-40-B	2.9	2.3	1.2	0.8	NR	NR	NR	NR	NR	NR

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds								
Catalog Number	**115**	**120**	**130**	**140**	**150**	**160**	**170**	**180**
RSA-B-CEAK-S-10-40-A	11.0	10.1	8.6	7.3	6.2	5.4	5.2	4.5
RSA-B-CEAK-S-12-40-A	7.8	7.1	5.9	4.9	4.1	3.4	3.5	3.1
RSA-B-CEAK-S-14-40-A	5.6	5.0	4.1	3.3	2.6	2.1	1.9	1.7
RSA-B-CEAK-S-16-40-A	4.0	3.5	2.7	2.0	1.5	1.0	0.8	0.5
RSA-B-CEAK-S-18-40-A	2.7	2.3	1.6	1.0	0.5	NR	NR	NR
RSA-B-CEAK-S-20-40-A	1.6	1.2	0.6	NR	NR	NR	NR	NR
RSA-B-CEAK-S-10-40-B	16.4	15.1	12.8	11.0	9.5	8.3	7.7	6.9
RSA-B-CEAK-S-12-40-B	11.9	10.9	9.1	7.8	6.6	5.6	5.5	4.8
RSA-B-CEAK-S-14-40-B	8.9	8.1	6.7	5.6	4.6	3.9	3.7	3.5
RSA-B-CEAK-S-16-40-B	6.7	6.0	4.9	3.9	3.1	2.5	2.3	2.1
RSA-B-CEAK-S-18-40-B	4.9	4.3	3.4	2.6	1.9	1.4	1.2	1.0
RSA-B-CEAK-S-20-40-B	3.5	3.0	2.2	1.5	0.9	0.5	NR	NR
RSA-B-CEAK-S-22-40-B	2.4	2.0	1.2	0.6	NR	NR	NR	NR
RSA-B-CEAK-S-24-40-B	1.4	1.0	NR	NR	NR	NR	NR	NR
RSA-B-CEAK-S-10-40-C	21.1	19.5	16.6	14.3	12.4	10.8	10.0	8.9
RSA-B-CEAK-S-12-40-C	15.5	14.2	12.0	10.3	8.8	7.6	7.3	6.4
RSA-B-CEAK-S-14-40-C	11.8	10.8	9.0	7.6	6.4	5.4	5.2	4.8
RSA-B-CEAK-S-16-40-C	9.1	8.2	6.8	5.6	4.6	3.8	3.6	3.4
RSA-B-CEAK-S-18-40-C	6.9	6.2	5.0	4.0	3.2	2.5	2.3	2.0
RSA-B-CEAK-S-20-40-C	5.2	4.6	3.6	2.7	2.0	1.4	1.2	1.0
RSA-B-CEAK-S-22-40-C	3.9	3.3	2.4	1.7	1.0	0.8	0.5	NR
RSA-B-CEAK-S-24-40-C	2.7	2.2	1.4	0.7	0.2	NR	NR	NR
RSA-B-CEAK-F-10-40-B	16.4	15.1	12.8	11.0	9.5	8.3	7.2	6.3
RSA-B-CEAK-F-12-40-B	11.9	10.9	9.1	7.8	6.6	5.6	4.8	4.2
RSA-B-CEAK-F-14-40-B	8.9	8.1	6.7	5.6	4.6	3.9	3.2	2.7
RSA-B-CEAK-F-16-40-B	6.7	6.0	4.9	3.9	3.1	2.5	2.0	1.5
RSA-B-CEAK-F-18-40-B	4.9	4.3	3.4	2.6	1.9	1.4	0.9	0.5
RSA-B-CEAK-F-20-40-B	3.5	3.0	2.2	1.5	0.9	0.5	NR	NR
RSA-B-CEAK-F-22-40-B	2.4	2.0	1.2	0.6	NR	NR	NR	NR
RSA-B-CEAK-F-24-40-B	1.4	1.0	NR	NR	NR	NR	NR	NR

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BEACON
design . performance . technology

RSA-B-CEAK Series Poles

ROUND STRAIGHT ALUMINUM

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

NOTES

Wind-speed Website disclaimer:
Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. http://windspeed.atcouncil.org

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings. Consult Pole Vibration Application Guide for environmental risk factors and design considerations.
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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architectural arealighting

PROV2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

FEATURES

- Reliable, uniform, glare free illumination
- Types 1, 2, 3, 4W, 5Q, and 5W distributions
- Amber, 3000K, 4000K, 5000K CCT
- 0-10V dimming ready
- Integral Surge protection: 10k in parallel, 20k in series
- Upgrade Kits

3000K and warmer CCTs only

See Certification Specifications

PROVIDENCE®



Providence Medium

SPECIFICATIONS

CONSTRUCTION

- All housing components aluminum 360 alloy, sealed with continuous silicone rubber gaskets
- Standard configurations do not require a flat lens, optional lenses are tempered glass
- All internal and external hardware is stainless steel
- Finish: fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat
- Optical bezel finish to match the luminaire housing

LED/OPTICS

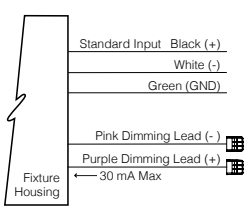
- Optical cartridge system consisting of a die cast heat sink, LED engine, TIR optics, gasket and bezel plate
- Optics are held in place without the use of adhesives
- Molded silicone gasket ensures a weather-proof seal around each individual LED.
- Features individual LED optical control based on high performance TIR optical designs
- House Side Shield is available on Standard and Clear Lens options except any Type 5 distribution. House Side Shield is not available for any distribution using a Diffused Lens

INSTALLATION

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury

ELECTRICAL

- Luminaires have UL recognized integral surge protection, and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J
- Drivers are UL recognized with an inrush current maximum of <20.0 Amps maximum at 230VAC
- 100%-1% dimming range. Fixture will be wired for low voltage 0-10V dimming control



- Driver and surge suppressor are mounted to a prewired tray with quick disconnects that may be removed from the gear compartment
- Surge protection: 10,000k in parallel, 20,000k in series

CONTROLS

- Egress adapter(s) will slip over a 4"/100mm DIA. pole with the luminaire or arm slipping over the adapter to add a total of 4.5"/114mm to the overall height. Adapter(s) are prewired, independently rotatable 359°, and have a cast access cover with an integral lens and lanyard

CONTROLS (CONTINUED)

- Egress adapter will require an auxiliary 120 volt supply for operation of an integral MR16 lamp in the event of emergency. The lamp may be aimed and locked into position with an adjustment range of 15°-45°. Adapter will have a socket that accepts miniature bi-pin MR16 lamps up to 50 watts, lamp by others
- Photocell adapter includes a 7-Pin internal twist lock receptacle. Photocell by others

CERTIFICATIONS

- ETL listed under UL 1598 and CSA C22.2 No. 250.0-08 for wet locations
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 5/29/2020

WARRANTY

- 5 year warranty

KEY DATA	
LUMEN RANGE	1,81–9,336
WATTAGE RANGE	31.52–71.6
EFFICACY RANGE (LPW)	44.9–118.9
INPUT CURRENT RANGE (mA)	295–615 mA
WEIGHT	29 lbs / 13.15 kg
EPA	1.33

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PROV2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

ORDERING GUIDE

Example: PROV2-36L-325-3K7-4W-BL-SLA1-DF-HS-AD5-UNV

CATALOG #

HOUSING

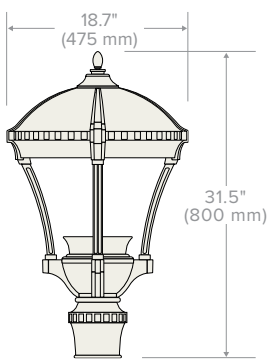
PROV2

Specify Stnd. finish

Housing	LED Quantity	Lumen output	CCT/CRI	Distribution	Finish
PROV2 Providence Medium 2.0	**36L** 36 LED	**295** 450mA Microcore Equivalent	**AMB** Amber-595nm Peak [1]	**1** Type I	**BLS** Black Gloss Smooth
		325 325mA, 4500 Lumens	**3K7** 3000K, 70 CRI	**2** Type II	**BLT** Black Matte Textured
		510 510mA, 6500 Lumens	**4K7** 4000K, 70 CRI	**3** Type III	**DBS** Dark Bronze Gloss Smooth
		525 700mA Microcore Equivalent	**5K7** 5000K, 70 CRI	**4W** Type IV Wide	**DBT** Dark Bronze Matte Textured
		615 615mA, 7500 Lumens	Contact factory for options listed below	**5Q** Type V Square	**GTT** Graphite Matte Textured
			27K8 2700K, 80 CRI	**5W** Type V Wide	**LGS** Light Grey Gloss Smooth
			80 or 90 CRI for standard color temperatures		**LGT** Light Grey Matte Textured
					PSS Platinum Silver Gloss Smooth
					VGT Verde Green Matte Textured
					WHS White Gloss Smooth
					WHT White Matte Textured
					Color Option
					CC [2] Custom Color

Mounting		Optional Lens		Options		Mounting Options		Voltage
Pole Mount		**CL**	Clear Lens	**HS**	House Side Shield [3,5]	**AD5**	Adaptor-5" OD Pole	**UNV** 120-277V
STND_MNT [6]	Standard Mount	**DL**	Diffused Lens [2]	**PFN**	Brass Colored Finish	**PCA-C**	Photocontrol Adapter Contemporary	
PT23	2 3/8" tenon			**SPK**	Cast Spikes	**PCA-T**	Rotatable photocell housing. The housing slips over a 4"/100mm o.d. pole.a fixture slips over the 4"/100mm O.D. tenon. Includes an internal twist lock receptacle, and an access cover with integral lens and stainless steel tether. Adds 5"/125mm to the overall height of the pole/fixtureassembly. Prewire don the load side and line side for easy installation. Photocell by others	
PT3	3" tenon			**BPS**	Brass Colored Struts			
PT4	4" tenon			**SF**	Single Fuse (120, 277)			
Arm Mount				**DF**	Double Fuse (208, 240)	**EPA-C**	Egress Adapter Contemporary	
SLA1	4" pole or tenon							
TRA5U-4	4" pole or tenon							
TRA6U-4	4" pole or tenon							
TRA8U-4	4" pole or tenon							
TRA55-4	4" pole or tenon							
TRA5U-5	5" pole or tenon							
TRA6U-5	5" pole or tenon							
TRA8U-5	5" pole or tenon							
TRA55-5	5" pole or tenon							
TRA56-5	5" pole or tenon							
Wall Mount								
WMA55	Wall Mount							
WMA56	Wall Mount							
Pier Mount								
PM1	Pier Mount 1							
PM2	Pier Mount 2							
PM3	Pier Mount 3							

DIMENSIONS



Notes:
1. Turtle Friendly
2. Diffused Lens is available only with T3 and T5W distribution
3. House side Shield is available only with T1, T2, T3 and T4W distributions
4. Consult factory for custom color, marine and corrosive finish options
5. Contact Factory for additional glare shield options
6. Slide over 4" OD Pole

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PROV2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

DELIVERED LUMENS

The table below shows the delivered lumens for the various lumen outputs and beam distributions. Use this chart in connection with the lumen factor (LF) capability to deliver any output required.

LED #	Drive Current	Lumen Package	Lens	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
					Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)
36	295	450mA Microcore Equivalent	None	1	3807	1	0	1	111.6	3960	1	0	1	116.1	4128	1	0	1	121.0
				2	3596	1	0	1	105.4	3740	1	0	1	109.7	3899	1	0	1	114.3
				3	3471	1	0	1	101.8	3611	1	0	1	105.9	3764	1	0	1	110.4
				4W	3501	1	0	1	102.7	3642	1	0	1	106.8	3796	1	0	1	111.3
				1-HS	2355	0	0	1	69.1	2450	0	0	1	71.8	2554	0	0	1	74.9
				2-HS	2049	0	0	1	60.1	2132	0	0	1	62.5	2222	0	0	1	65.2
				3-HS	1981	0	0	1	58.1	2061	0	0	1	60.4	2148	0	0	1	63.0
				4W-HS	2044	0	0	1	59.9	2126	0	0	1	62.3	2216	0	0	1	65.0
				5Q	3818	2	0	1	112.0	3971	2	0	1	116.5	4140	2	0	1	121.4
				5W	3529	2	0	1	103.5	3670	2	0	1	107.6	3826	2	0	1	112.2
			Clear	1-CL	3242	1	0	1	95.0	3373	1	0	1	98.8	3516	1	0	1	103.0
				2-CL	3062	1	0	1	89.7	3186	1	0	1	93.3	3321	1	0	1	97.3
				3-CL	2957	1	0	1	86.6	3075	1	0	1	90.1	3206	1	0	1	93.9
				4W-CL	2982	1	0	1	87.4	3102	1	0	1	90.9	3233	1	0	1	94.7
				1-CL-HS	2006	0	0	1	58.8	2087	0	0	1	61.1	2175	0	0	1	63.7
				2-CL-HS	1746	0	0	1	51.1	1816	0	0	1	53.2	1893	0	0	1	55.5
				3-CL-HS	1688	0	0	1	49.4	1755	0	0	1	51.4	1830	0	0	1	53.6
				4W-CL-HS	1740	0	0	1	51.0	1810	0	0	1	53.0	1887	0	0	1	55.3
				5Q-CL	3252	2	0	1	95.3	3382	2	0	1	99.1	3526	2	0	1	103.3
				5W-CL	3005	2	0	1	88.1	3126	2	0	1	91.6	3259	2	0	1	95.5
			Diffused	3-DL	2243	1	0	1	65.8	2334	1	0	1	68.4	2433	1	0	1	71.3
				5W-DL	2280	1	0	1	66.9	2372	1	0	1	69.6	2473	1	0	1	72.5
	325	4500	None	1	4147	1	0	1	110	4313	1	0	1	114	4496	1	0	1	118.9
				2	3917	1	0	1	104	4074	1	0	1	108	4247	1	0	1	112.3
				3	3781	1	0	1	100	3933	1	0	1	104	4100	1	0	1	108.4
				4W	3813	1	0	1	101	3967	1	0	2	105	4135	1	0	2	109.3
				1-HS	2566	0	0	1	68	2669	0	0	1	71	2782	0	0	1	73.6
				2-HS	2232	0	0	1	59	2322	0	0	1	61	2421	0	0	1	64.0
				3-HS	2158	0	0	1	57	2245	0	0	1	59	2340	0	0	1	61.9
				4W-HS	2226	0	0	1	59	2315	0	0	1	61	2414	0	0	1	63.8
				5Q	4158	2	0	1	110	4326	2	0	1	114	4509	2	0	1	119.2
				5W	3844	2	0	1	102	3998	2	0	1	106	4168	3	0	1	110.2
			Clear	1-CL	3532	1	0	1	93.4	3674	1	0	1	97.1	3829	1	0	1	101.3
				2-CL	3336	1	0	1	88.2	3470	1	0	1	91.7	3617	1	0	1	95.6
				3-CL	3220	1	0	1	85.2	3350	1	0	1	88.6	3492	1	0	1	92.3
				4W-CL	3248	1	0	1	85.9	3379	1	0	1	89.3	3522	1	0	1	93.1
				1-CL-HS	2185	0	0	1	57.8	2273	0	0	1	60.1	2369	0	0	1	62.6
				2-CL-HS	1901	0	0	1	50.3	1978	0	0	1	52.3	2062	0	0	1	54.5
				3-CL-HS	1838	0	0	1	48.6	1912	0	0	1	50.6	1993	0	0	1	52.7
				4W-CL-HS	1896	0	0	1	50.1	1972	0	0	1	52.1	2056	0	0	1	54.4
				5Q-CL	3542	2	0	1	93.6	3684	2	0	1	97.4	3840	2	0	1	101.5
				5W-CL	3274	2	0	1	86.6	3405	2	0	1	90.0	3550	2	0	1	93.9
			Diffused	3-DL	2459	1	0	1	65.0	2558	1	0	1	67.7	2666	1	0	1	70.7
				5W-DL	2469	1	0	1	65.3	2568	1	0	1	67.9	2677	1	0	1	70.9

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PROV2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

DELIVERED LUMENS (CONTINUED)

The table below shows the delivered lumens for the various lumen outputs and beam distributions. Use this chart in connection with the lumen factor (LF) capability to deliver any output required.

LED #	Drive Current	Lumen Package	Lens	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
					Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)
36	510	6500	None	1	6081	1	0	1	104.1	6326	1	0	1	108	6594	1	0	1	113
				2	5744	1	0	1	98.3	5975	1	0	1	102	6228	1	0	1	107
				3	5545	1	0	2	94.9	5768	1	0	2	99	6013	1	0	2	103
				4W	5593	1	0	2	95.7	5818	1	0	2	100	6064	1	0	2	104
				1-HS	3763	0	0	1	64.4	3914	0	0	1	67	4080	0	0	1	70
				2-HS	3274	0	0	1	56.1	3406	0	0	1	58	3550	0	0	1	61
				3-HS	3165	0	0	1	54.2	3292	0	0	1	56	3432	0	0	1	59
				4W-HS	3265	0	0	1	55.9	3396	0	0	1	58	3540	0	0	1	61
				5Q	6099	2	0	1	104.4	6344	2	0	1	109	6613	3	0	1	113
				5W	5637	3	0	1	96.5	5864	3	0	1	100	6112	3	0	1	105
			Clear	1-CL	5180	1	0	1	88.7	5388	1	0	1	92.2	5616	1	0	1	96.2
				2-CL	4892	1	0	1	83.8	5089	1	0	1	87.1	5305	1	0	1	90.8
				3-CL	4723	1	0	1	80.9	4913	1	0	1	84.1	5121	1	0	1	87.7
				4W-CL	4763	1	0	2	81.6	4955	1	0	2	84.8	5165	1	0	2	88.4
				1-CL-HS	3205	0	0	1	54.9	3334	0	0	1	57.1	3475	0	0	1	59.5
				2-CL-HS	2788	0	0	1	47.7	2901	0	0	1	49.7	3024	0	0	1	51.8
				3-CL-HS	2696	0	0	1	46.2	2804	0	0	1	48.0	2923	0	0	1	50.0
				4W-CL-HS	2780	0	0	1	47.6	2892	0	0	1	49.5	3015	0	0	1	51.6
				5Q-CL	5194	2	0	1	88.9	5403	2	0	1	92.5	5632	2	0	1	96.4
				5W-CL	4801	3	0	1	82.2	4994	3	0	1	85.5	5206	3	0	1	89.1
			Diffused	3-DL	3584	1	0	1	61.4	3728	1	0	1	63.8	3886	1	0	1	66.5
				5W-DL	3615	2	0	1	61.9	3760	2	0	1	64.4	3919	2	0	1	67.1
	525	700mA Microcore Equivalent	None	1	6235	1	0	1	103.6	6486	1	0	1	107.7	6761	1	0	1	112.3
				2	5889	1	0	1	97.8	6126	1	0	1	101.8	6386	1	0	1	106.1
				3	5686	1	0	2	94.4	5914	1	0	2	98.2	6165	1	0	2	102.4
				4W	5734	1	0	2	95.3	5965	1	0	2	99.1	6218	1	0	2	103.3
				1-HS	3858	0	0	1	64.1	4013	0	0	1	66.7	4183	0	0	1	69.5
				2-HS	3357	0	0	1	55.8	3492	0	0	1	58.0	3640	0	0	1	60.5
				3-HS	3245	0	0	1	53.9	3376	0	0	1	56.1	3519	0	0	1	58.5
				4W-HS	3347	0	0	1	55.6	3482	0	0	1	57.8	3629	1	0	1	60.3
				5Q	6253	2	0	1	103.9	6504	2	0	1	108.0	6780	3	0	1	112.6
				5W	5779	3	0	1	96.0	6012	3	0	1	99.9	6267	3	0	1	104.1
			Clear	1-CL	5311	1	0	1	88.2	5524	1	0	1	91.8	5758	1	0	1	95.7
				2-CL	5016	1	0	1	83.3	5218	1	0	1	86.7	5439	1	0	1	90.3
				3-CL	4842	1	0	1	80.4	5037	1	0	2	83.7	5251	1	0	2	87.2
				4W-CL	4884	1	0	2	81.1	5080	1	0	2	84.4	5296	1	0	2	88.0
				1-CL-HS	3286	0	0	1	54.6	3418	0	0	1	56.8	3563	0	0	1	59.2
				2-CL-HS	2859	0	0	1	47.5	2974	0	0	1	49.4	3100	0	0	1	51.5
				3-CL-HS	2764	0	0	1	45.9	2875	0	0	1	47.8	2997	0	0	1	49.8
				4W-CL-HS	2851	0	0	1	47.4	2965	0	0	1	49.3	3091	0	0	1	51.3
				5Q-CL	5326	2	0	1	88.5	5540	2	0	1	92.0	5775	2	0	1	95.9
				5W-CL	4922	3	0	1	81.8	5120	3	0	1	85.1	5337	3	0	1	88.7
			Diffused	3-DL	3675	1	0	1	61.0	3822	1	0	1	63.5	3984	1	0	1	66.2
				5W-DL	3735	2	0	1	62.0	3885	2	0	1	64.5	4050	2	0	1	67.3

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PROV2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

DELIVERED LUMENS (CONTINUED)

The table below shows the delivered lumens for the various lumen outputs and beam distributions. Use this chart in connection with the lumen factor (LF) capability to deliver any output required.

LED #	Drive Current	Lumen Package	Lens	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
					Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)	Lumen	Bug Rating			Efficancy (Lm/W)
36	615	7500	None	1	7118	1	0	1	101.3	7404	1	0	1	105.4	7718	1	0	1	109.9
				2	6723	1	0	1	95.7	6994	1	0	2	99.6	7290	1	0	2	103.8
				3	6491	1	0	2	92.4	6752	1	0	2	96.1	7038	1	0	2	100.2
				4W	6546	1	0	2	93.2	6809	1	0	2	96.9	7098	1	0	2	101.0
				1-HS	4404	0	0	1	62.7	4581	0	0	1	65.2	4775	0	0	1	68.0
				2-HS	3832	0	0	1	54.5	3986	0	0	1	56.7	4155	0	0	1	59.1
				3-HS	3705	0	0	1	52.7	3854	0	0	1	54.9	4017	0	0	1	57.2
				4W-HS	3821	1	0	1	54.4	3975	1	0	1	56.6	4143	1	0	1	59.0
				5Q	7138	3	0	1	101.6	7425	3	0	1	105.7	7740	3	0	1	110.2
				5W	6598	3	0	1	93.9	6863	3	0	1	97.7	7154	3	0	1	101.8
			Clear	1-CL	6063	1	0	1	86.3	6306	1	0	1	89.8	6574	1	0	1	93.6
				2-CL	5726	1	0	1	81.5	5956	1	0	1	84.8	6209	1	0	1	88.4
				3-CL	5528	1	0	1	78.7	5750	1	0	1	81.9	5994	1	0	2	85.3
				4W-CL	5575	1	0	2	79.4	5800	1	0	2	82.6	6045	1	0	2	86.1
				1-CL-HS	3751	0	0	1	53.4	3902	0	0	1	55.5	4067	0	0	1	57.9
				2-CL-HS	3264	0	0	1	46.5	3395	0	0	1	48.3	3539	0	0	1	50.4
				3-CL-HS	3155	0	0	1	44.9	3282	0	0	1	46.7	3421	0	0	1	48.7
				4W-CL-HS	3254	0	0	1	46.3	3385	0	0	1	48.2	3529	0	0	1	50.2
				5Q-CL	6080	2	0	1	86.5	6324	2	0	1	90.0	6592	2	0	1	93.8
				5W-CL	5619	3	0	1	80.0	5845	3	0	1	83.2	6093	3	0	1	86.7
			Diffused	3-DL	4195	1	0	1	59.7	4364	1	0	1	62.1	4549	1	0	1	64.7
				5W-DL	4264	2	0	1	60.7	4436	2	0	1	63.1	4624	2	0	1	65.8

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PROV2

ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PHOTOMETRY

PROV2-36L-615-4K7-1

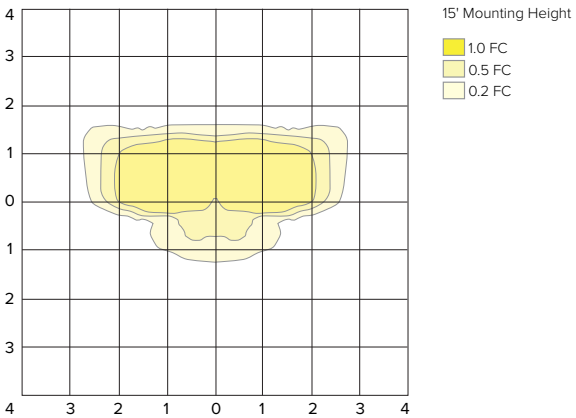
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**7405**
Watts	**70.25**
Efficacy	**105.4**
IES Type	**II**
BUG Rating	**B1-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	6403	86%
Downward House Side	1002	14%
Downward Total	7405	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	7405	100%

ISOFOOT CANDLE PLOT



PROV2-36L-615-4K7-2

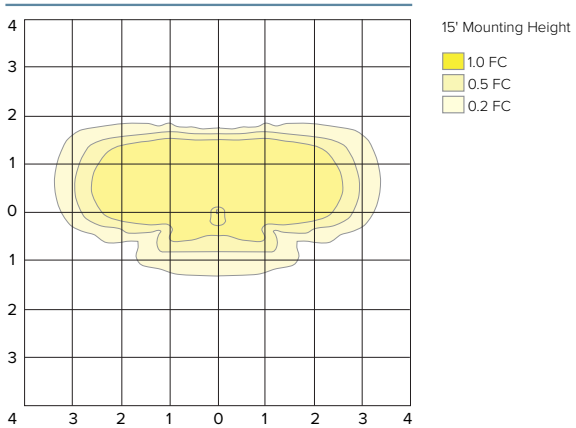
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**6994**
Watts	**70.25**
Efficacy	**99.6**
IES Type	**II**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5665	81%
Downward House Side	1329	19%
Downward Total	6994	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	6994	100%

ISOFOOT CANDLE PLOT



PROV2-36L-615-4K7-3

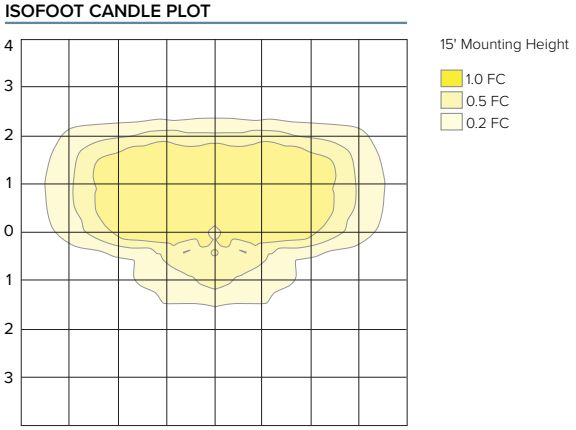
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**6752**
Watts	**70.25**
Efficacy	**96.1**
IES Type	**III**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5552	82%
Downward House Side	1200	18%
Downward Total	6752	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	6752	100%

ISOFOOT CANDLE PLOT



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ARCHITECTURAL AREA/SITE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

PHOTOMETRY

PROV2-36L-615-4K7-4W

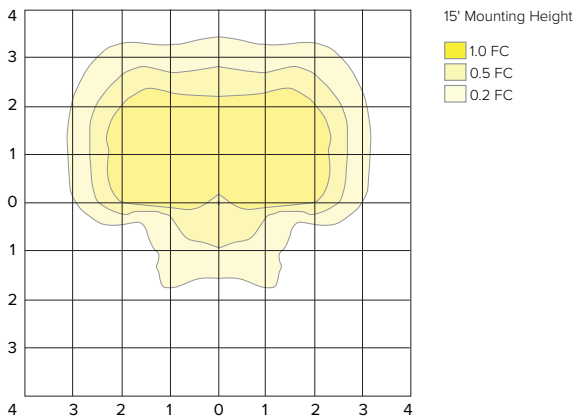
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**6809**
Watts	**70.25**
Efficacy	**96.9**
IES Type	**IV Wide**
BUG Rating	**B1-U0-G2**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	5802	85%
Downward House Side	1007	15%
Downward Total	6809	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	6809	100%

ISOFOOT CANDLE PLOT



PROV2-36L-615-4K7-5Q

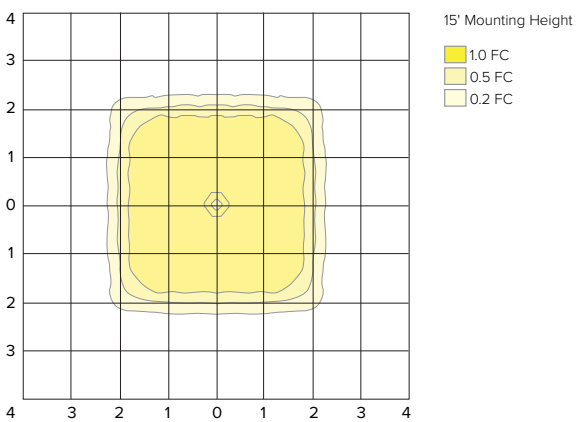
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**7425**
Watts	**70.25**
Efficacy	**105.7**
IES Type	**VS**
BUG Rating	**B3-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3713	50%
Downward House Side	3713	50%
Downward Total	7425	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	7425	100%

ISOFOOT CANDLE PLOT



PROV2-36L-615-4K7-5W

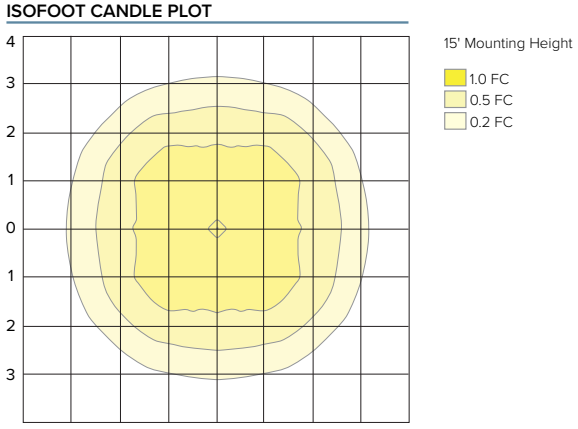
LUMINAIRE DATA

Description	**4000 Kelvin, 70CRI**
Delivered Lumens	**6863**
Watts	**70.25**
Efficacy	**97.7**
IES Type	**VS**
BUG Rating	**B3-U0-G1**
Mounting Height	**15 ft**
Grid Scale	**15 ft**

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3432	50%
Downward House Side	3432	50%
Downward Total	6863	100%
Upward Street Side	0	0%
Upward House Side	0	0%
Upward Total	0	0%
Total Flux	6863	100%

ISOFOOT CANDLE PLOT



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PROV2

ARCHITECTURAL AREA/SITE

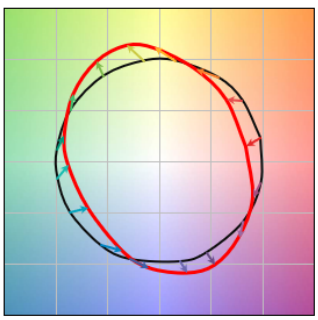
DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

TM-30 DATA

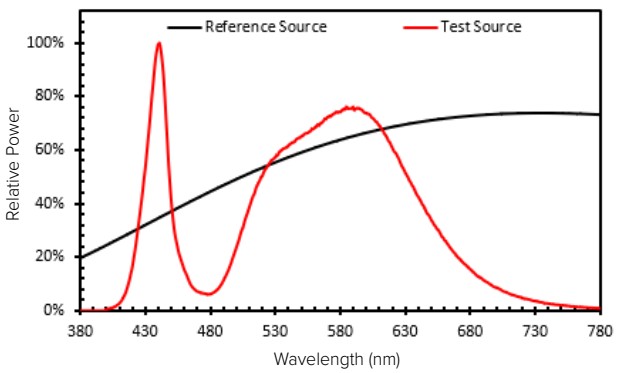
COLOR VECTOR GRAPHIC



TEST SOURCE

MBM TEST RESULTS	
CCT (K)	3947
CIE Ra	72
Duv	0.0004
x	0.3831
y	0.3793
Rf	68
Rg	99

SPECTRAL POWER DISTRIBUTION COMPARISON



ELECTRICAL DATA

Electrical											Dimming			
Light Engine	System Current	System Watts	Line Voltage		Amps AC				Min. Power Factor	Max THD (%)	Dimming Range	Source current out of 0-10V		Absolute voltage range on 0-10V (+)	
			VAC	HZ	120	208	240	277				Min	Max	Min	Max
36	295 mA	34.1	120-277	50/60	0.28	0.16	0.14	0.12	>0.9	20	10% to 100%	0mA	1mA	0V	10V
	325 mA	37.8			0.32	0.18	0.16	0.14							
	510 mA	58.4			0.49	0.28	0.24	0.21							
	525 mA	60.2			0.50	0.29	0.25	0.22							
	615 mA	70.3			0.59	0.34	0.29	0.25							

TM-21 LIFETIME CALCULATION - PROJECTED LUMEN MAINTENANCE (25°C / 77°F)						
HOURS	0	25,000	36,000	50,000	100,000	REPORTED L70
Projected Lumen Maintenance	100%	98.0%	96.9%	95.4%	90.5%	> 60,000

AMBER MULTIPLIER	
CCT	MULTIPLIER
5000K	1
AM	0.1727

2700K MULTIPLIER	
CCT	MULTIPLIER
5000K	1
2700K	0.897

LENS OPTION MULTIPLIER	
CLEAR LENS	DIFFUSED LENS
0.8517	0.6462

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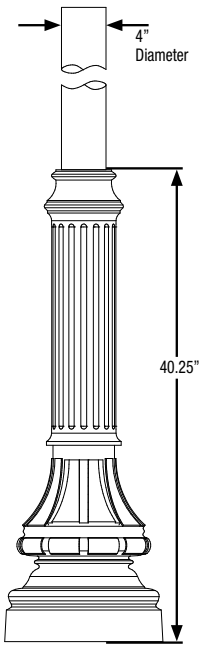
DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RSA-B-CEAK Series Poles

ROUND STRAIGHT ALUMINUM



APPLICATIONS

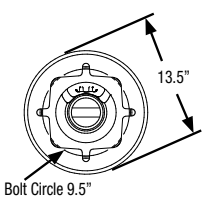
- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

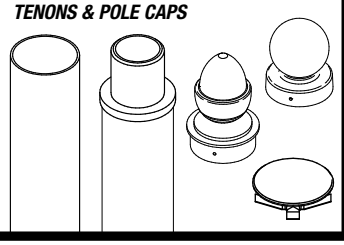
- SHAFT: One-piece straight aluminum with fluted or smooth cross section; Extruded shafts of 6061-T6 aluminum in 1/8", 3/16", or 1/4" thickness. Decorative base of 356 cast aluminum.
- POLE CAP OR FINALS: Cap or decorative finials available for side mounted luminaires. Open top or tenons provided for post top mounted luminaires.
- HAND HOLE: Hand hole provided in cast base; Mounting provisions for grounding lug located behind cover
- ANCHOR BOLTS: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

FINISH

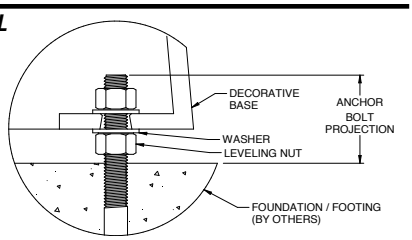
- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint finish coat available in twelve standard colors; Custom colors available; RAL number preferable.



TENONS & POLE CAPS



BASE DETAIL



ORDERING EXAMPLE:

RSA-B-CEAK - S/F - 16 - 40 - A/B/C - 2L - B3 - Specify Stnd. finish - VM2

SERIES	STYLE	HEIGHT	SHAFT	THICKNESS
RSA-B-CEAK Round Straight Aluminum Pole Beacon	**S** Smooth **F** Fluted	Reference page 2 Ordering matrix **8**	Reference page 2 Ordering matrix **40**	Reference page 2 Ordering matrix

MOUNTING	
1	Single arm mount
2	Two fixtures at 180˚
2L	Two fixtures at 90˚
3T	Three fixtures at 90˚
3Y	Three at 120˚
4	Four fixtures at 90˚
OT	Open top (includes pole cap)
TN3	Tenon 3 x 3
TN4	Tenon 3 x 4
CAP	Cap
ARC	Acorn Finial
BAL	Ball Finial

FINISH	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VGT	Verde Green Textured

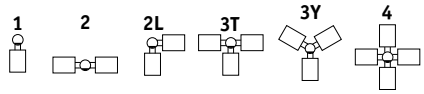
Color Option	
CC	Custom Color

OPTIONS	
GFI[1]	20 Amp GFCI Receptacle and Cover
EHH[1]	Extra Handhole
C05[1]	.5" Coupling
C07[1]	.75" Coupling
C20[1]	2" Coupling
VM2	2nd mode vibration damper
LAB	Less Anchor Bolts

DRILL PATTERN	
B1	Cruzer, "AM" arm
B3	2 bolt (2-½" spacing), Viper "A" arm
S2	2 bolt (3-½" spacing), Viper "AD" arm

MOUNTING ORIENTATION

Denotes handhole location



ACCESSORIES- Order Separately

Catalog Number	Description
VM2SXX	2nd mode vibration damper

1 Specify option location using logic found on page 2 **(Option Orientation)**

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RSA-B-CEAK Series Poles

ROUND STRAIGHT ALUMINUM

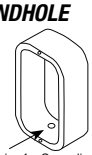
ORDERING INFORMATION Cont.

Catalog Number	Height		Nominal Shaft Dimensions	Wall Thickness	Bolt Circle (suggested)	Bolt Square	Base Plate Size	Anchor Bolt Size	Bolt Projection	Pole weight (lbs)
	Feet	Meters								
RSA-B-CEAK-S-10-40-A	10	3.0	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	63
RSA-B-CEAK-S-12-40-A	12	3.7	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	66
RSA-B-CEAK-S-14-40-A	14	4.3	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	70
RSA-B-CEAK-S-16-40-A	16	4.9	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	74
RSA-B-CEAK-S-18-40-A	18	5.5	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	77
RSA-B-CEAK-S-20-40-A	20	6.1	4" Round	0.125"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	81
RSA-B-CEAK-S-10-40-B	10	3.0	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	70
RSA-B-CEAK-S-12-40-B	12	3.7	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	75
RSA-B-CEAK-S-14-40-B	14	4.3	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	81
RSA-B-CEAK-S-16-40-B	16	4.9	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	86
RSA-B-CEAK-S-18-40-B	18	5.5	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	91
RSA-B-CEAK-S-20-40-B	20	6.1	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	97
RSA-B-CEAK-S-22-40-B	22	6.7	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	102
RSA-B-CEAK-S-24-40-B	24	7.3	4" Round	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	NR
RSA-B-CEAK-S-10-40-C	10	3.0	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	77
RSA-B-CEAK-S-12-40-C	12	3.7	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	84
RSA-B-CEAK-S-14-40-C	14	4.3	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	91
RSA-B-CEAK-S-16-40-C	16	4.9	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	98
RSA-B-CEAK-S-18-40-C	18	5.5	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	105
RSA-B-CEAK-S-20-40-C	20	6.1	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	112
RSA-B-CEAK-S-22-40-C	22	6.7	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	119
RSA-B-CEAK-S-24-40-C	24	7.3	4" Round	0.25"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	126
RSA-B-CEAK-F-10-40-B	10	3.0	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	72
RSA-B-CEAK-F-12-40-B	12	3.7	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	78
RSA-B-CEAK-F-14-40-B	14	4.3	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	83
RSA-B-CEAK-F-16-40-B	16	4.9	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	89
RSA-B-CEAK-F-18-40-B	18	5.5	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	95
RSA-B-CEAK-F-20-40-B	20	6.1	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	101
RSA-B-CEAK-F-22-40-B	22	6.7	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	106
RSA-B-CEAK-F-24-40-B	24	7.3	4" Fluted	0.188"	9.50"	6.72"	13-1/2" dia. X 40-1/4" Tall	5/8 x 24 x 3	3-1/4"	112

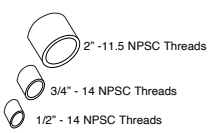
Cut to 8'

NOTE Factory supplied template must be used when setting anchor bolts. Current will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

EHH - EXTRA HANDHOLE

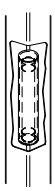


C05 - C07 - C20 - COUPLING

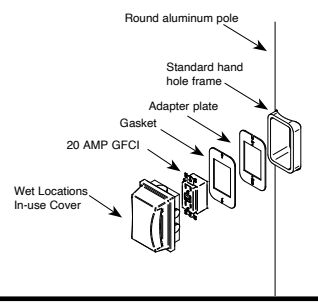


VM2 - VIBRATION DAMPER 2ND MODE

Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.



GFI – 20 AMP GFCI RECEPTACLE & COVER



OPTION ORIENTATION

Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C07 should be ordered as: **RSA-CEAK-F16-40B-TN3-DBT-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1' spacing required between option. Consult factory for other configurations.

VM2SXX - VIBRATION DAMPER 2ND MODE

Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2S08 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

For more information about pole vibration and vibration dampers, please consult Pole Vibration Application Guide.
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

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DATE: LOCATION:

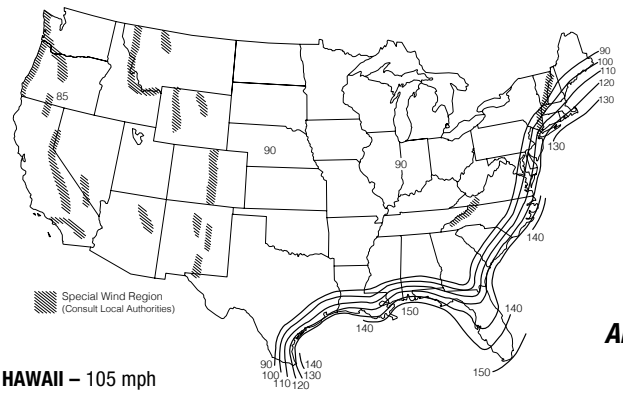
TYPE: PROJECT:

CATALOG #:

RSA-B-CEAK Series Poles

ROUND STRAIGHT ALUMINUM

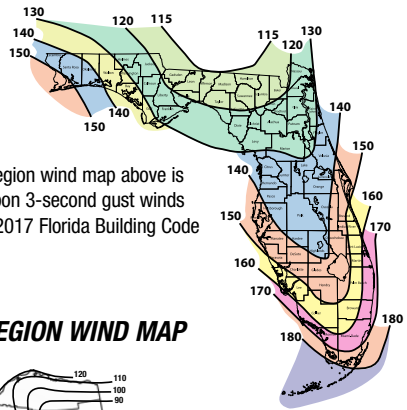
ASCE7-05 WIND MAP



HAWAII – 105 mph
PUERTO RICO – 145 mph

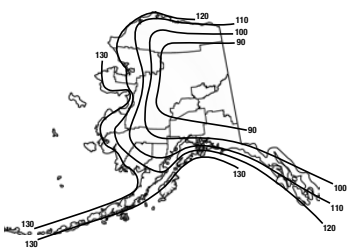
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FLORIDA REGION WIND MAP



- Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP



ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds										
Catalog Number	**85**	**90**	**100**	**105**	**110**	**120**	**130**	**140**	**145**	**150**
RSA-B-CEAK-S-10-40-A	14.6	13.1	10.6	9.6	8.7	7.2	6.1	5.3	4.9	4.6
RSA-B-CEAK-S-12-40-A	10.5	9.4	7.5	6.7	6.0	4.9	4.1	3.5	3.3	3.0
RSA-B-CEAK-S-14-40-A	7.9	6.9	5.4	4.8	4.2	3.4	2.8	2.3	2.2	2.0
RSA-B-CEAK-S-16-40-A	6.0	5.2	3.9	3.4	2.9	2.2	1.8	1.4	1.3	1.2
RSA-B-CEAK-S-18-40-A	4.4	3.8	2.7	2.2	1.8	1.2	0.9	0.7	0.6	0.5
RSA-B-CEAK-S-20-40-A	3.2	2.6	1.6	1.3	0.9	NR	NR	NR	NR	NR
RSA-B-CEAK-S-10-40-B	21.4	19.2	15.7	14.2	12.9	10.8	9.3	8.0	7.4	6.9
RSA-B-CEAK-S-12-40-B	15.8	14.1	11.4	10.2	9.3	7.7	6.5	5.6	5.2	4.9
RSA-B-CEAK-S-14-40-B	12.1	10.7	8.5	7.6	6.8	5.6	4.7	4.0	3.7	3.5
RSA-B-CEAK-S-16-40-B	9.4	8.3	6.5	5.7	5.1	4.0	3.4	2.8	2.6	2.4
RSA-B-CEAK-S-18-40-B	7.3	6.4	4.9	4.2	3.7	2.8	2.3	1.9	1.7	1.6
RSA-B-CEAK-S-20-40-B	5.7	4.8	3.5	3.0	2.5	1.8	1.4	1.1	1.0	0.9
RSA-B-CEAK-S-22-40-B	4.3	3.6	2.4	1.9	1.5	0.9	0.6	NR	NR	NR
RSA-B-CEAK-S-24-40-B	3.2	2.5	1.5	1.1	0.7	NR	NR	NR	NR	NR
RSA-B-CEAK-S-10-40-C	25.0	24.7	20.2	18.3	16.7	14.1	12.0	10.4	9.7	9.1
RSA-B-CEAK-S-12-40-C	20.4	18.3	14.8	13.4	12.2	10.2	8.7	7.5	6.9	6.5
RSA-B-CEAK-S-14-40-C	15.8	14.1	11.3	10.2	9.2	7.6	6.4	5.5	5.1	4.8
RSA-B-CEAK-S-16-40-C	12.5	11.1	8.8	7.9	7.0	5.7	4.8	4.1	3.8	3.5
RSA-B-CEAK-S-18-40-C	9.9	8.8	6.8	6.0	5.3	4.2	3.5	2.9	2.7	2.5
RSA-B-CEAK-S-20-40-C	7.9	6.8	5.2	4.5	3.9	3.0	2.4	2.0	1.8	1.6
RSA-B-CEAK-S-22-40-C	6.2	5.3	3.9	3.3	2.7	2.0	1.5	1.2	1.1	0.9
RSA-B-CEAK-S-24-40-C	4.8	4.0	2.8	2.2	1.8	1.1	0.8	0.5	NR	NR
RSA-B-CEAK-F-10-40-B	21.3	19.1	15.6	14.1	12.8	10.7	9.0	7.6	7.1	6.5
RSA-B-CEAK-F-12-40-B	15.6	14.0	11.2	10.1	9.1	7.5	6.2	5.2	4.7	4.3
RSA-B-CEAK-F-14-40-B	11.9	10.6	8.4	7.5	6.7	5.4	4.3	3.5	3.1	2.8
RSA-B-CEAK-F-16-40-B	9.3	8.1	6.3	5.6	4.9	3.8	2.9	2.2	1.9	1.6
RSA-B-CEAK-F-18-40-B	7.1	6.2	4.6	4.0	3.4	2.5	1.8	1.1	0.9	0.6
RSA-B-CEAK-F-20-40-B	5.4	4.6	3.3	2.7	2.3	1.4	0.8	NR	NR	NR
RSA-B-CEAK-F-22-40-B	4.0	3.3	2.2	1.7	1.3	0.5	NR	NR	NR	NR
RSA-B-CEAK-F-24-40-B	2.9	2.3	1.2	0.8	NR	NR	NR	NR	NR	NR

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds								
Catalog Number	**115**	**120**	**130**	**140**	**150**	**160**	**170**	**180**
RSA-B-CEAK-S-10-40-A	11.0	10.1	8.6	7.3	6.2	5.4	5.2	4.5
RSA-B-CEAK-S-12-40-A	7.8	7.1	5.9	4.9	4.1	3.4	3.5	3.1
RSA-B-CEAK-S-14-40-A	5.6	5.0	4.1	3.3	2.6	2.1	1.9	1.7
RSA-B-CEAK-S-16-40-A	4.0	3.5	2.7	2.0	1.5	1.0	0.8	0.5
RSA-B-CEAK-S-18-40-A	2.7	2.3	1.6	1.0	0.5	NR	NR	NR
RSA-B-CEAK-S-20-40-A	1.6	1.2	0.6	NR	NR	NR	NR	NR
RSA-B-CEAK-S-10-40-B	16.4	15.1	12.8	11.0	9.5	8.3	7.7	6.9
RSA-B-CEAK-S-12-40-B	11.9	10.9	9.1	7.8	6.6	5.6	5.5	4.8
RSA-B-CEAK-S-14-40-B	8.9	8.1	6.7	5.6	4.6	3.9	3.7	3.5
RSA-B-CEAK-S-16-40-B	6.7	6.0	4.9	3.9	3.1	2.5	2.3	2.1
RSA-B-CEAK-S-18-40-B	4.9	4.3	3.4	2.6	1.9	1.4	1.2	1.0
RSA-B-CEAK-S-20-40-B	3.5	3.0	2.2	1.5	0.9	0.5	NR	NR
RSA-B-CEAK-S-22-40-B	2.4	2.0	1.2	0.6	NR	NR	NR	NR
RSA-B-CEAK-S-24-40-B	1.4	1.0	NR	NR	NR	NR	NR	NR
RSA-B-CEAK-S-10-40-C	21.1	19.5	16.6	14.3	12.4	10.8	10.0	8.9
RSA-B-CEAK-S-12-40-C	15.5	14.2	12.0	10.3	8.8	7.6	7.3	6.4
RSA-B-CEAK-S-14-40-C	11.8	10.8	9.0	7.6	6.4	5.4	5.2	4.8
RSA-B-CEAK-S-16-40-C	9.1	8.2	6.8	5.6	4.6	3.8	3.6	3.4
RSA-B-CEAK-S-18-40-C	6.9	6.2	5.0	4.0	3.2	2.5	2.3	2.0
RSA-B-CEAK-S-20-40-C	5.2	4.6	3.6	2.7	2.0	1.4	1.2	1.0
RSA-B-CEAK-S-22-40-C	3.9	3.3	2.4	1.7	1.0	0.8	0.5	NR
RSA-B-CEAK-S-24-40-C	2.7	2.2	1.4	0.7	0.2	NR	NR	NR
RSA-B-CEAK-F-10-40-B	16.4	15.1	12.8	11.0	9.5	8.3	7.2	6.3
RSA-B-CEAK-F-12-40-B	11.9	10.9	9.1	7.8	6.6	5.6	4.8	4.2
RSA-B-CEAK-F-14-40-B	8.9	8.1	6.7	5.6	4.6	3.9	3.2	2.7
RSA-B-CEAK-F-16-40-B	6.7	6.0	4.9	3.9	3.1	2.5	2.0	1.5
RSA-B-CEAK-F-18-40-B	4.9	4.3	3.4	2.6	1.9	1.4	0.9	0.5
RSA-B-CEAK-F-20-40-B	3.5	3.0	2.2	1.5	0.9	0.5	NR	NR
RSA-B-CEAK-F-22-40-B	2.4	2.0	1.2	0.6	NR	NR	NR	NR
RSA-B-CEAK-F-24-40-B	1.4	1.0	NR	NR	NR	NR	NR	NR

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DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

RSA-B-CEAK Series Poles

ROUND STRAIGHT ALUMINUM

NOTES

Wind-speed Website disclaimer:
Current has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Current has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Current does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. http://windspeed.atcouncil.org

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings. Consult Pole Vibration Application Guide for environmental risk factors and design considerations.
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

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Style		Buildings	Units	Affordable	Market	
Single		12	12	3	9	
Duplex		13	26	6	20	
Tri-plex		7				
Tri-end			14	4	10	
Tri-middle			7	2	5	
		Totals	59	15	44	
						59

Affordable

50' NO-DISTURB OFFSET

75' NO-BUILD OFFSET

100' BUFFER ZONE

100' NO-DISTURB FROM VP

CERTIFIED VERNAL POOL

VERNAL POOL

SINGLE RESIDENCE ZONING DISTRICT (R-1B)

RESIDENCE - AGRICULTURAL ZONING DISTRICT (RA)

PREPARED BY:

DILLIS & ROY CIVIL DESIGN GROUP

CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS

1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462

PHONE: (978) 779-6091
www.dillisandroy.com

OWNER:
COUNTRY SQUIRE REALTY, INC.
130 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
60 0 30 60 120 240
1 in. = 60 ft.

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DATE: 9/08/23
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

PRELIMINARY SITE PLAN
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-SP
SHEET NO. 1 OF 1



Intersection of Essex Street and Chebacco Road



Looking down Chebacco Road towards development site



Development Site



Development SIte



Driveway entrance to home on Chebacco Road


Martel Rd
Alan Rd
22
Meadowbrook Farm
Chebacco Rd
Chebacco Rd
Chebacco Rd
Chebacco Rd
Chebacco Rd
Beck Pond
Veranda Cir
the Bend
ue North Gallery
mporarily closed
Chebacco Woods
Villa Rd
Chebacco
dgeberry Ln



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CIVIL DESIGN GROUP

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APPLICANT:
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P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
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1 in. = 100 ft.

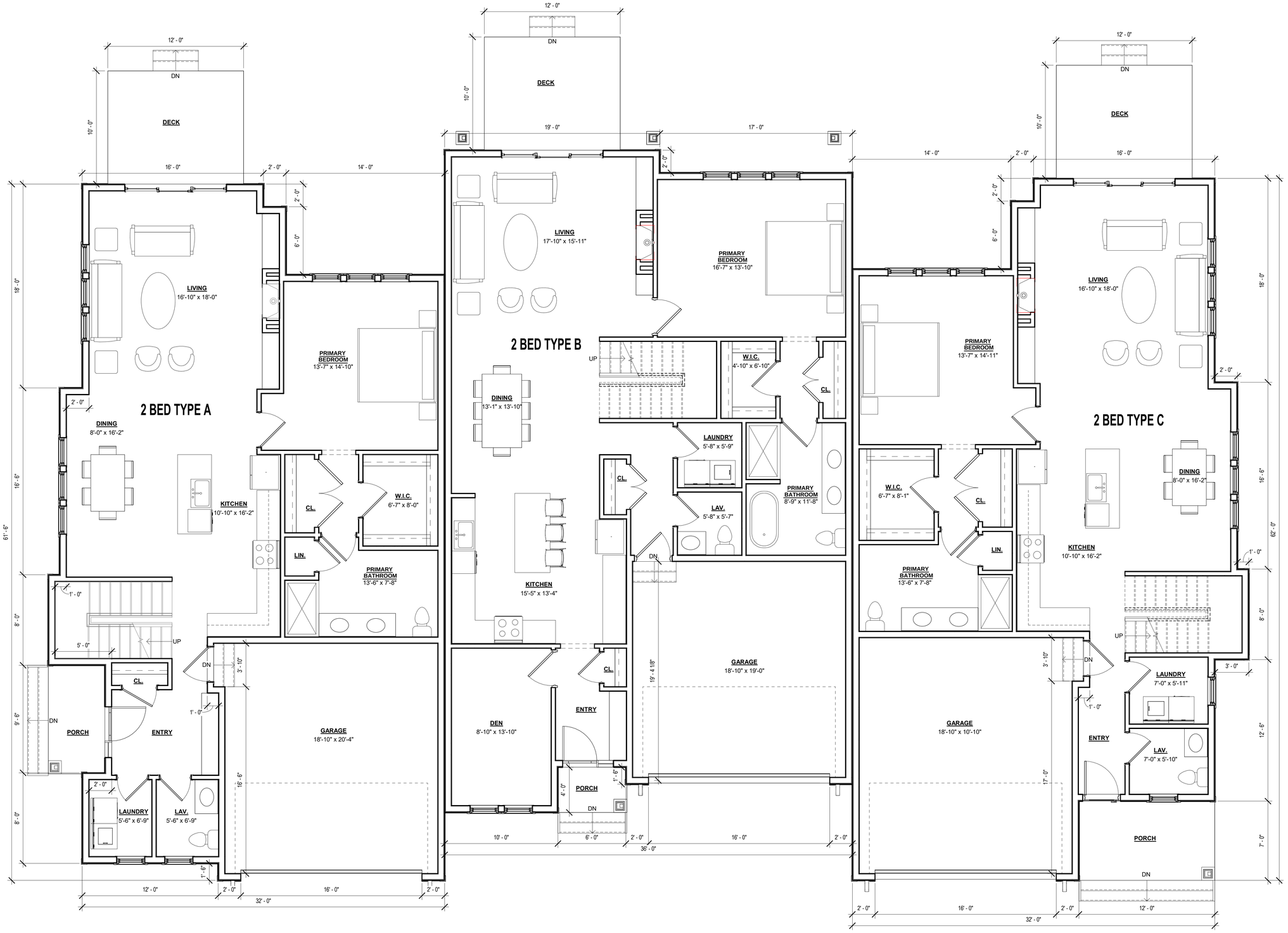
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DATE: 3/19/23
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DRAWN BY: RPV
CHECKED BY: GSR

ORTHOGRAPHIC SITE PLAN
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-ORTHO
SHEET NO. EX



1 TRIPLEX FIRST FLOOR PLAN
1/4" = 1'-0"

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No. 20010
SALEM
COMMONWEALTH OF MASSACHUSETTS

Stamp:

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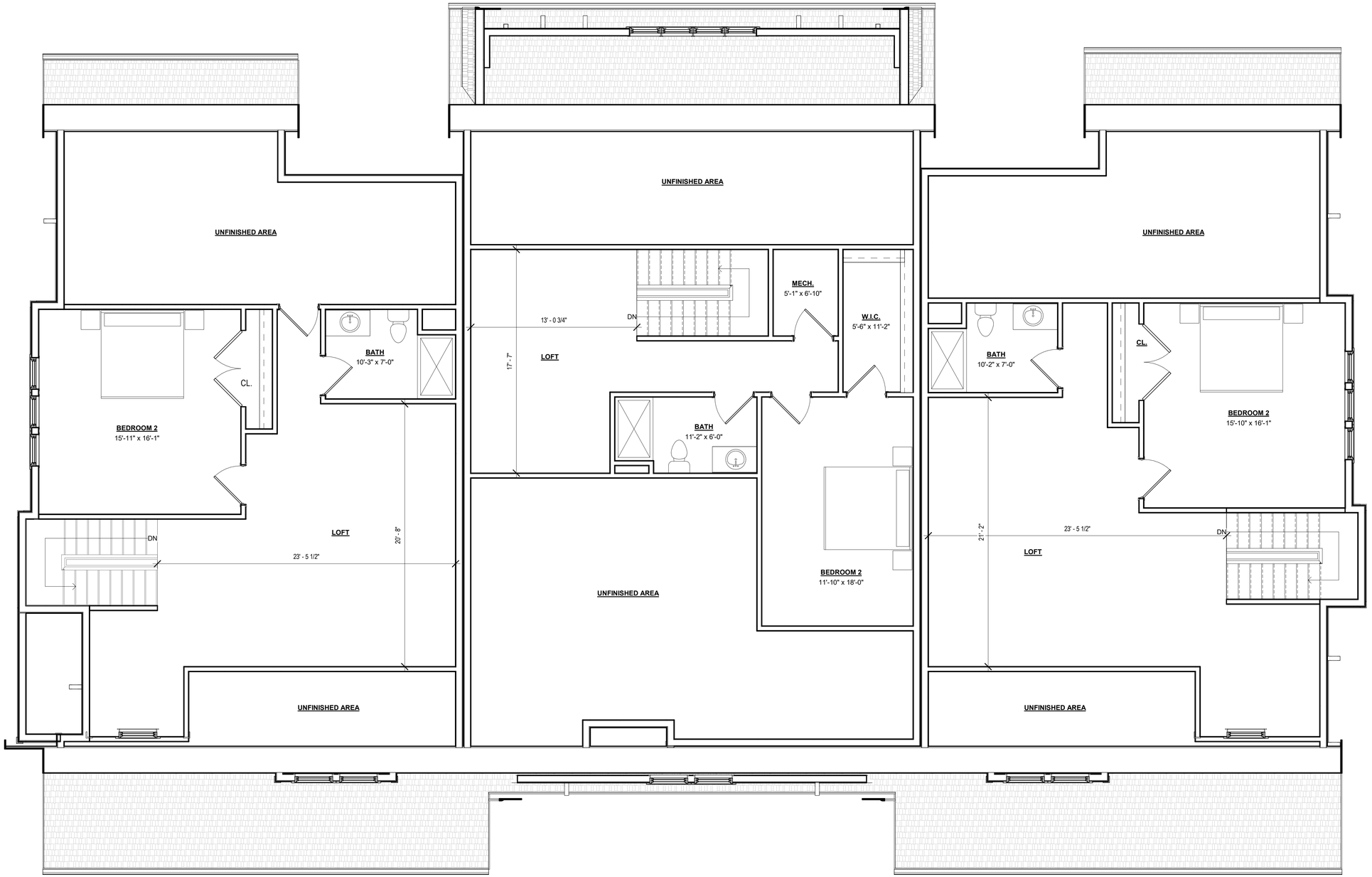
TRIPLEX FIRST FLOOR PLAN

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Mark	Date

REVISIONS

Date	26 SEPT 2023
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Job No.	3222
Sheet No.	A101



1 TRIPLEX SECOND FLOOR PLAN
1/4" = 1'-0"

TRIPLEX SQUARE FOOT CALCULATION (NET SF*)

FIRST FLOOR

2 BED TYPE A	1,160 NSF
2 BED TYPE B	1,221 NSF
2 BED TYPE A	1,160 NSF
FIRST FL NET SF	**3,541 NSF SUB-TOTAL**

SECOND FLOOR

2 BED TYPE A	840 NSF
2 BED TYPE B	629 NSF
2 BED TYPE A	840 NSF
SECOND FL NET SF	**2,309 NSF SUB-TOTAL**
TOTAL BLDG NET SF	**5,850 NSF TOTAL**

* NET SF IS MEASURED AT INTERIOR WALL FINISH AND **DOES NOT** INCLUDE GARAGE OR UNFINISHED SPACES

TRIPLEX SQUARE FOOT CALCULATION (GROSS SF)

FIRST FLOOR	**4,846 GSF**
SECOND FLOOR	**2,497 GSF**
TOTAL BLDG GROSS SF	**7,343 GSF TOTAL**

LYFarchitects
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One Elm Square | Andover | MA | 01810
(978) 470.3675 | www.LYFarchitects.com

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HAMILTON, MA

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location: Approver

TRIPLEX SECOND FLOOR PLAN

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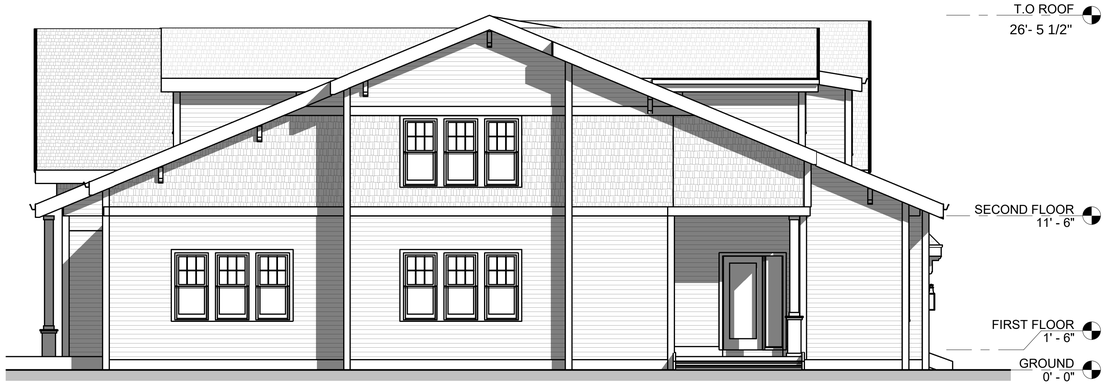
Mark	Date

REVISIONS

Date: 26 SEPT 2023
Scale: 1/4" = 1'-0"
Job No.: 3222
Sheet No.: A101A



1 TRIPLEX FRONT ELEVATION
3/16" = 1'-0"



2 TRIPLEX LEFT ELEVATION
3/16" = 1'-0"



3 TRIPLEX RIGHT ELEVATION
3/16" = 1'-0"



4 TRIPLEX BACK ELEVATION
3/16" = 1'-0"

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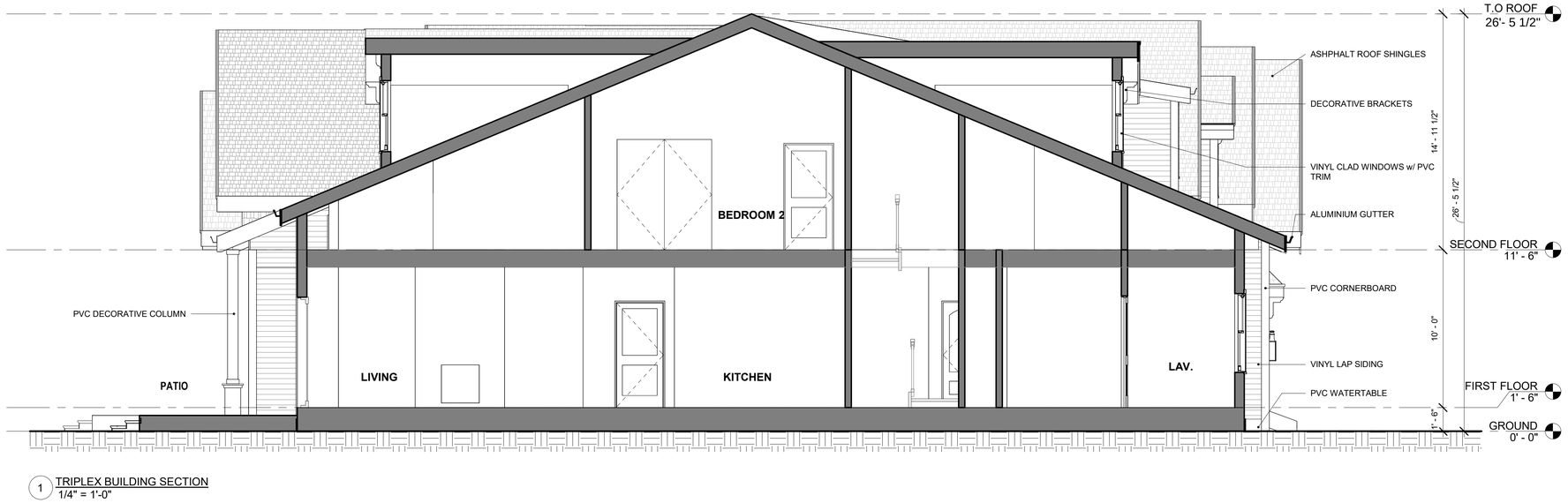
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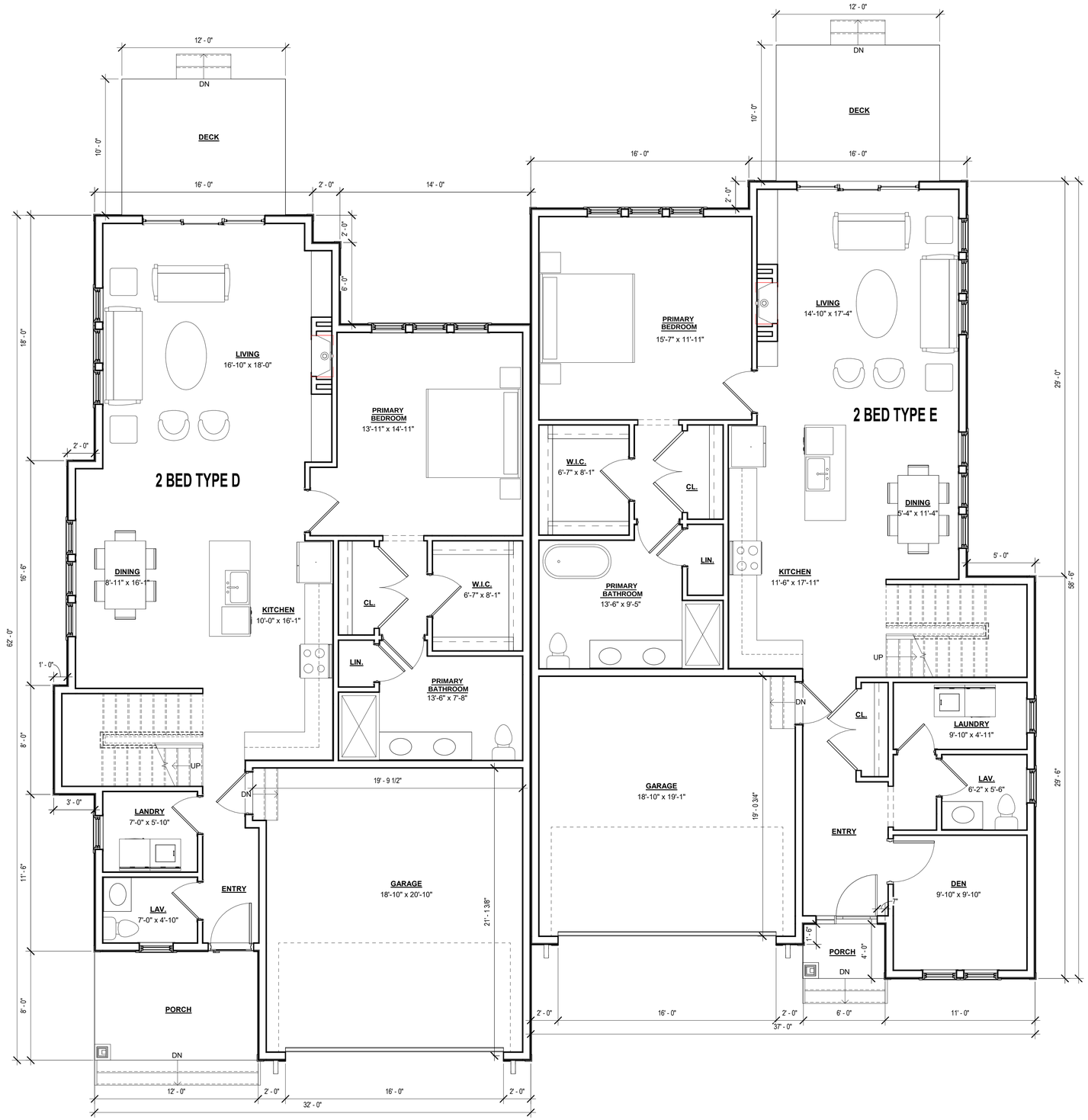
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1 DUPLEX FIRST FLOOR PLAN
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DUPLEX SQUARE FOOT CALCULATION (NET SF*)

FIRST FLOOR

2 BED TYPE D	1,168 NSF
2 BED TYPE E	1,168 NSF
FIRST FL NET SF	**2,336 NSF SUB-TOTAL**

SECOND FLOOR

2 BED TYPE D	882 NSF
2 BED TYPE E	882 NSF
SECOND FL NET SF	**1,764 NSF SUB-TOTAL**
TOTAL BLDG NET SF	**4,100 NSF TOTAL**

* NET SF IS MEASURED AT INTERIOR WALL FINISH AND **DOES NOT** INCLUDE GARAGE OR UNFINISHED SPACES

DUPLEX SQUARE FOOT CALCULATION (GROSS SF)

FIRST FLOOR	**3,343 GSF**
SECOND FLOOR	**1,800 GSF**
TOTAL BLDG GROSS SF	**5,143 GSF TOTAL**

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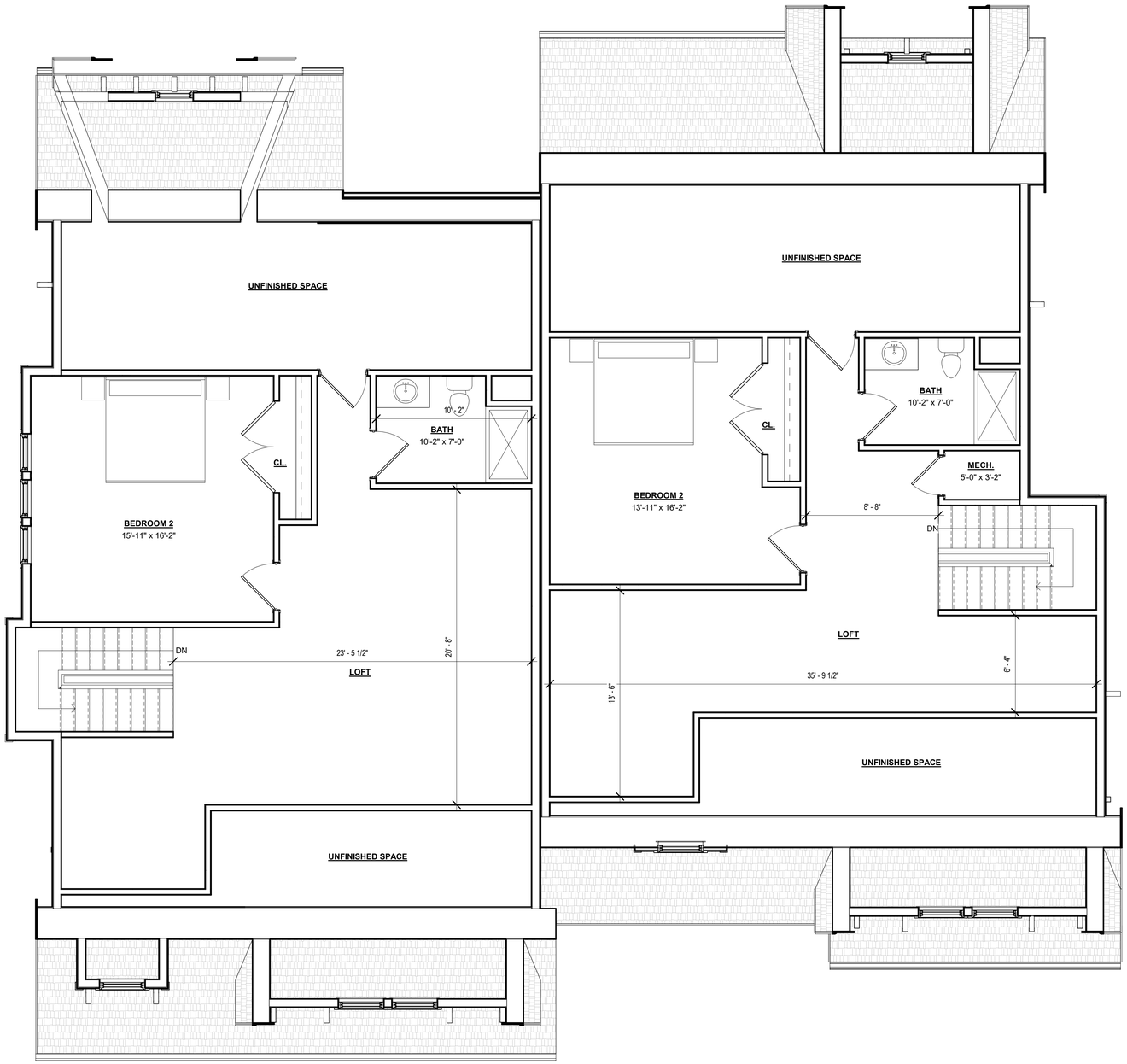
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1 DUPLEX SECOND FLOOR PLAN
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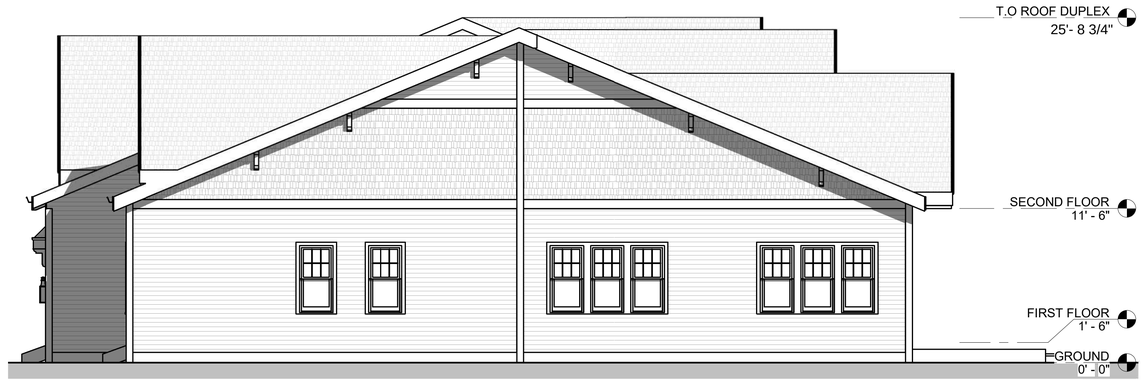
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1 DUPLEX FRONT ELEVATION
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2 DUPLEX LEFT ELEVATION
3/16" = 1'-0"



3 DUPLEX RIGHT ELEVATION
3/16" = 1'-0"



4 DUPLEX BACK ELEVATION
3/16" = 1'-0"

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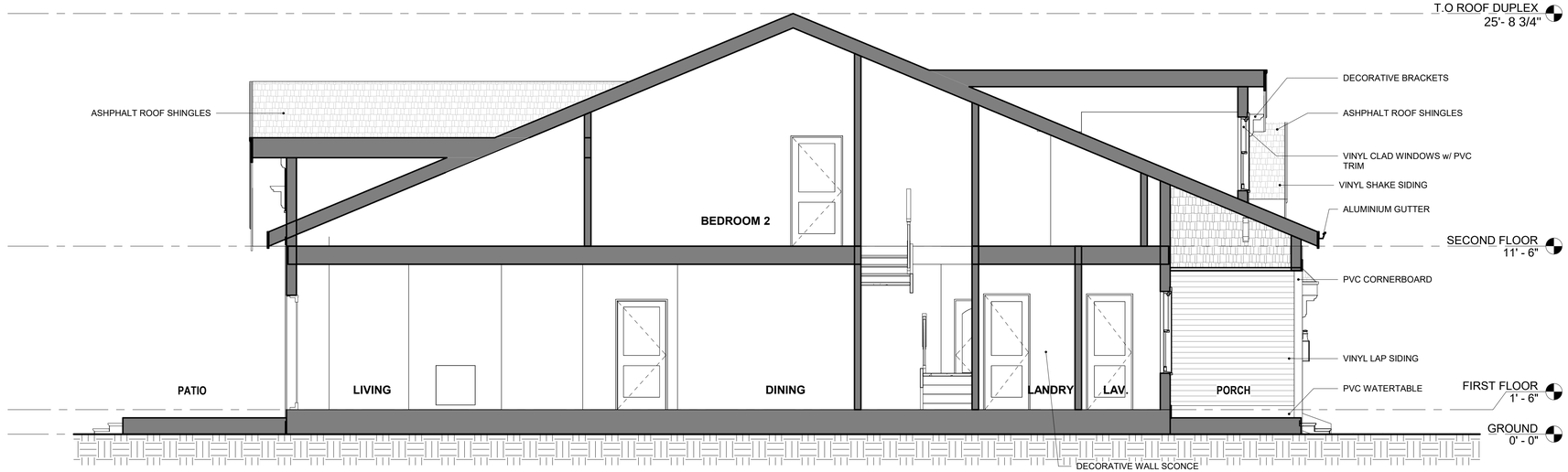
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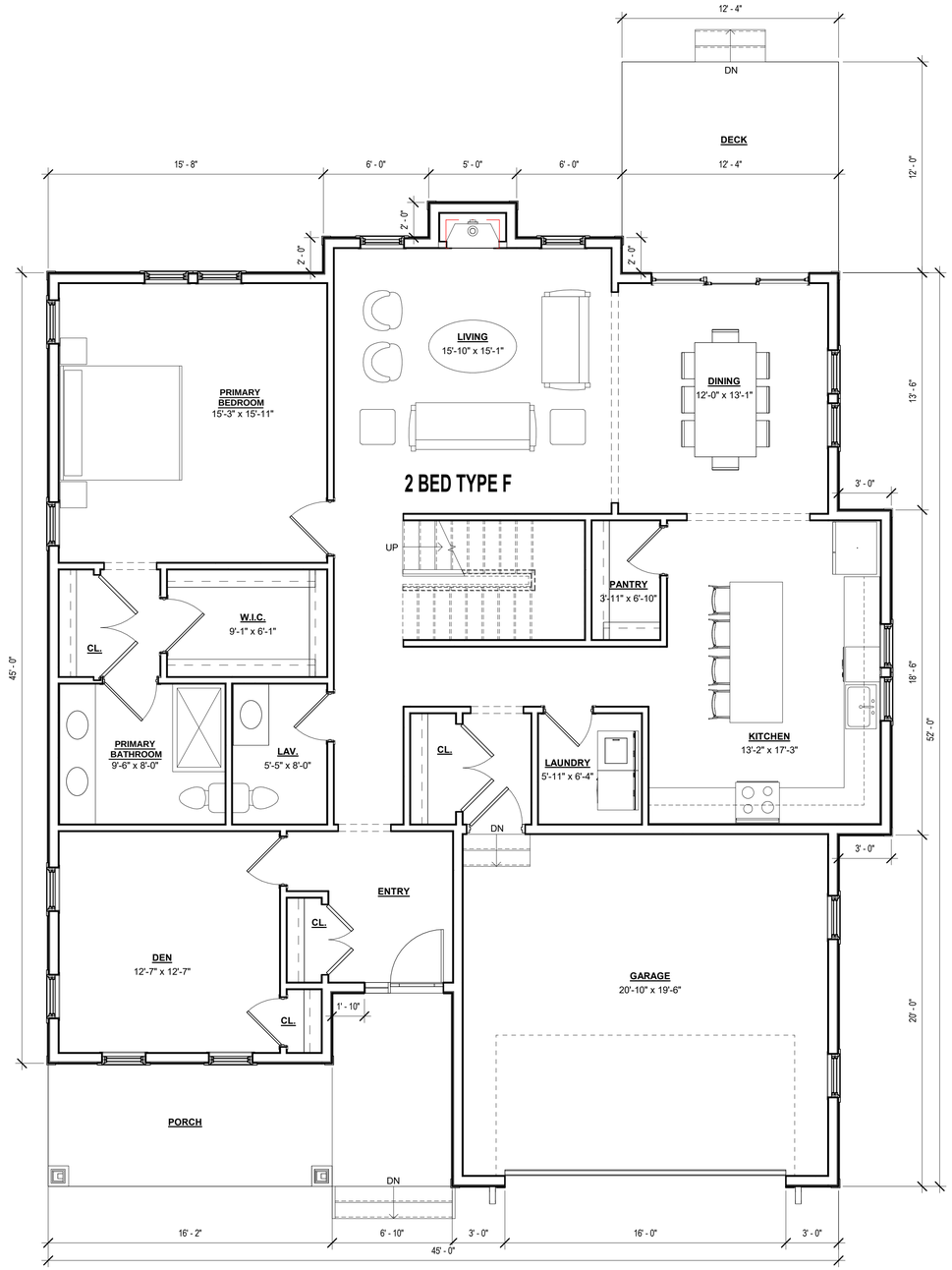
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1 SINGLE FAMILY FIRST FLOOR PLAN
1/4" = 1'-0"

SINGLE SQUARE FOOT CALCULATION (NET SF*)

FIRST FLOOR

2 BED TYPE F	1,168 NSF

SECOND FLOOR

2 BED TYPE F	987 NSF
TOTAL BLDG NET SF	**2,350 NSF TOTAL**

* NET SF IS MEASURED AT INTERIOR WALL FINISH AND **DOES NOT** INCLUDE GARAGE OR UNFINISHED SPACES

SINGLE SQUARE FOOT CALCULATION (GROSS SF)

FIRST FLOOR	**1,801 GSF**
SECOND FLOOR	**1,058 GSF**
TOTAL BLDG GROSS SF	**2,859 GSF TOTAL**

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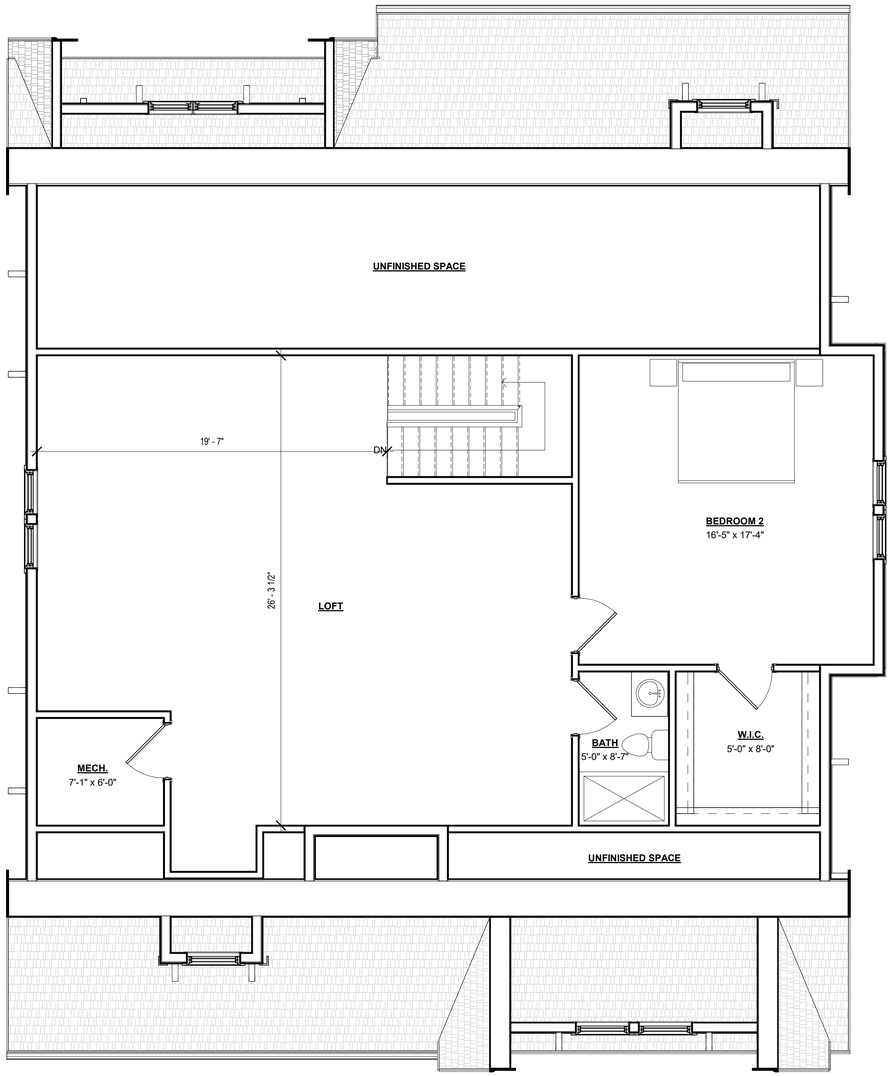
SINGLE FAMILY FIRST FLOOR PLAN

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1 SINGLE FAMILY SECOND FLOOR PLAN
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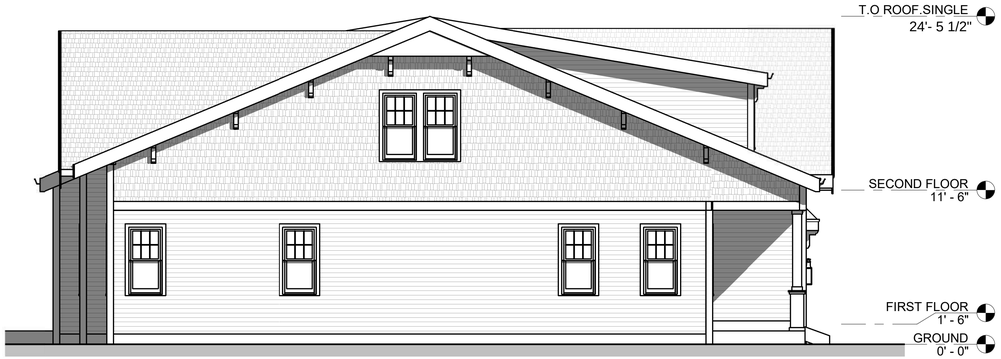
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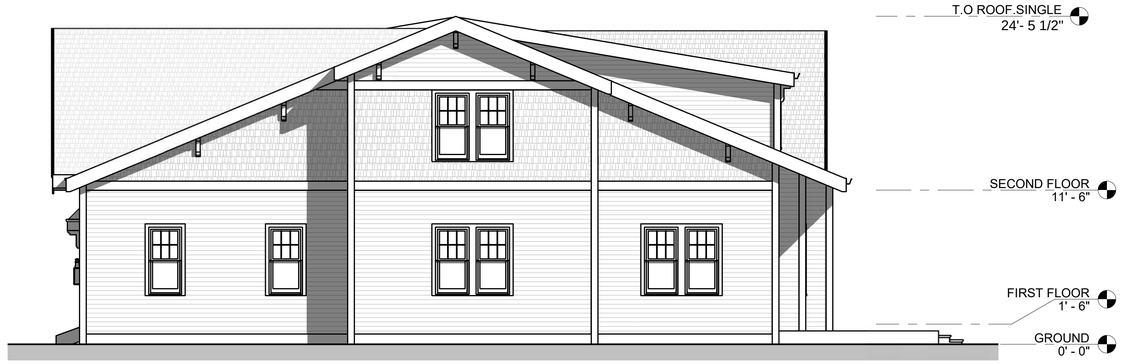
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2 SINGLE FAMILY LEFT ELEVATION
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3 SINGLE FAMILY RIGHT ELEVATION
3/16" = 1'-0"



4 SINGLE FAMILY BACK ELEVATION
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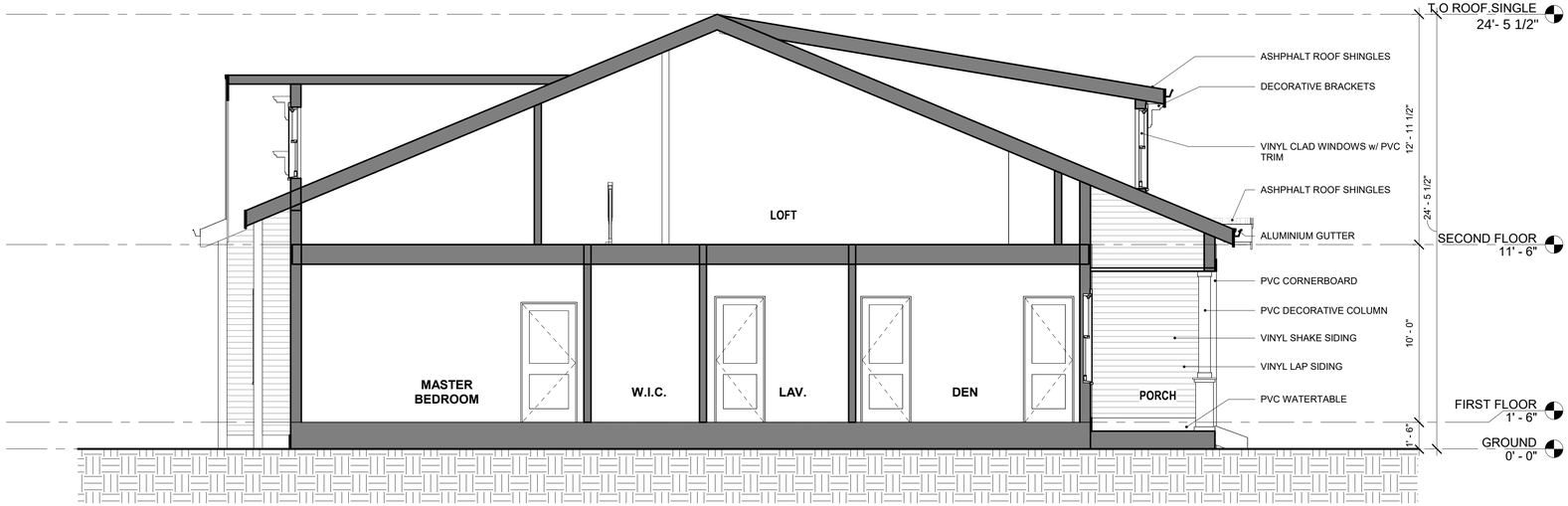
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PRELIMINARY STORMWATER REPORT

FOR

VILLAGE AT CHEBACCO HILL
133 ESSEX STREET

IN

HAMILTON,
MASSACHUSETTS

PREPARED BY: DILLIS & ROY
CIVIL DESIGN GROUP, INC.
1 MAIN STREET, SUITE 1
LUNENBURG, MA 01462

PREPARED FOR: CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MA

MARCH 4TH, 2024
CDG PROJECT #7465

DILLIS & ROY CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS

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1.0 Project Narrative

1.1 Project Type

The Applicant, Chebacco Hill Capital Partners, LLC., is proposing the construction of a residential development on the southern side of Chebacco Hill Road at the Intersection of Essex Street. The proposed development consists of 59 single family homes and the associated roadways for access. The 59 units are proposed in the following configuration of single, duplex & triplex units: 12 singles, 13 duplexes & 7 triplexes. The improvements include measures to mitigate stormwater impacts from the proposed Chapter 40B development. The project will include approximately ±2,200 lineal feet of new roadway for residential access. The proposed residential homes include driveways & garages for resident parking and an additional 22 visitor parking spaces located throughout the development. The access is proposed along Chebacco Road where the lot derives frontage from. The proposed scope of construction also includes a recreation area with associated amenities, a private on-site sewage disposal system, and new utility connections with their associated appurtenances.

1.2 Purpose and Scope

This report is preliminary and is intended to address general compliance of the proposed development with regards to the Massachusetts Stormwater Manual & provides calculations to support basic compliance information. This report will be updated by Dillis & Roy Civil Design Group, Inc. and will include all required forms, calculations, narratives & reports to satisfy the requirements of the Stormwater Management Standards incorporated in the Massachusetts Wetlands Protection Act Regulations, 310 CMR 10.00. These standards are intended to promote increased groundwater recharge and prevent stormwater discharges from causing or contributing to the pollution of surface waters and ground waters of the Commonwealth. The standards aim to accomplish these goals by encouraging the greater use of low impact development (LID) techniques and improving the operation and maintenance of stormwater best management practices (BMP). The above-mentioned updated Stormwater Report shall be submitted under separate cover.

1.3 LID Measures

Care has been taken to lay out the proposed site in a manner that works with existing topography. BMPs, have been specified to manage the stormwater runoff. Stormwater from the proposed impervious surface locations is routed to rain gardens or an infiltration basin via land flow, curb and gutter systems, or the proposed drainage pipe system. The stormwater areas will reduce run off rates below pre-developed rates while providing water quality pre-treatment by sediment forebays.

1.4 Site Description

The subject property is located at 133 Essex Street in Hamilton, Massachusetts. The property is located at the intersection of Chebacco Road & Essex Street and contains (2) lots identified as Parcel ID No. 65-0001 as shown on the Town of Hamilton Assessors maps. The proposed scope of work is entirely located on Lot 1 as shown on Plan of Land in Hamilton, MA prepared by Williams & Sparages, dated September 29, 2021 which can be found within the attached Comprehensive Plan Set.

The property consists of a total of ±56.8 acres with ~776.8-feet of frontage along Chebacco Road. The land is located within the Town of Hamilton's Single Residence Zoning District (R-1B) and is abutted by agricultural uses to the south and the west and by Single Residence Zoning (R-1A) to the northwest. The site has a dense canopy of undeveloped woodland with a network of meandering pedestrian trail paths throughout the area. There is currently no vehicular access drive for the property.

According to the current Massachusetts GIS information, the subject property is not mapped as Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife. There is one certified vernal pool on the property, though other vernal pools have been identified during a prior ANRAD process & remain uncertified. According to FEMA Community Panel, 25009C0427F, effective date 07/03/2012, there are no areas mapped as 100-year FEMA floodplain on the subject property. Pursuant to the Massachusetts Wetlands Protection Act, the property contains the following resource areas; Bordering Vegetated Wetlands, Inland Bank, and a Vernal Pool. Resource areas defined by the Town of Hamilton Wetland Bylaw are as follows: Freshwater Wetlands greater than 1000 SF and Associated Upland Resource Area (AURA).

The existing drainage patterns of the site shed water toward existing wetland areas and to Chebacco Road. There are no existing stormwater management controls (BMP's) installed on site for conveyance, collection or attenuation. The majority of the stormwater runoff sheet flows downgradient towards the wetland areas while Chebacco Road receives the runoff associated with the remaining portion of the property.

According to the Natural Resources Conservation Services soils maps, much of the site consists of soils belonging to the Chatfield-Hollis-Rock Outcrop variety. A portion of the site also contains Merrimac & Canton fine sandy loams. The wetland portions of the site are classified as Scarboro mucky fine sandy loam. The NRCS survey indicates that a large majority of the site is located on Hydrologic Soil Group (HSG) (D) soil, while the remaining portion of property is located on either HSG (B) or HSG (A) soils.

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Soils belonging to group D have a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Please refer to Appendix C for further information regarding the soils on-site. On-site soil test hole data will be provided under separate cover which will be included within the updated Stormwater Report.

1.5 Proposed Stormwater Management System

Runoff from the proposed development will be conveyed and treated through a combination of Best Management Practices (BMP's). The following is a brief discussion of each conveyance and treatment BMP proposed.

Deep Sump Hooded Catch Basin

Deep sump hooded catch basins are proposed to convey the runoff from the proposed paved areas and roofs to the rain gardens. These catch basins will discharge to manholes and conventional storm drains.

Rain Garden

Five (5) rain gardens have been designed to capture stormwater runoff from the proposed development area. Each rain garden will be underlain with a layer of mulch to provide additional treatment of stormwater as it infiltrates. Various plantings are proposed within the rain garden to stabilize the area and provide additional total suspended solids (TSS) removal prior to infiltration within the rain garden. The runoff captured by the rain garden will infiltrate through the soil media which will act as a filter, removing TSS, nitrogen, and phosphorus. Sediment forebays designed at the entrance of each rain garden were included to decrease the velocity of flow and increase the settlement of heavy solids prior to the rain garden. Riprap will also be installed at the inlet of the sediment forebays

and the outlet of the stormwater management areas to control the overflow of stormwater into the adjacent wetlands and will reduce the potential for scouring.

Infiltration Basin

The infiltration basin is designed to reduce the runoff rates and increase the groundwater recharge rates. Sediment forebays designed at the entrance of each basin were included to decrease the velocity of flow and increase the settlement of heavy solids prior to the infiltration basin. Riprap will also be installed at the inlet of the sediment forebays and the outlet of the basins to control the overflow of stormwater into the adjacent wetlands and will reduce the potential for scouring.

Detention Basin

The detention basin is designed to attenuate overland undeveloped flow & convey the runoff to the adjacent rain garden. Due to high groundwater tables on site & HSG D Soils, infiltration cannot be accounted for in the hydrologic design. The basin will discharge via a 12" culvert with a low-flow restriction in the form of an orifice. An emergency spillway has been designed to allow for overflow during sever rainfall events. Riprap will also be installed at the outlet of the basin to control the overflow of stormwater into the adjacent areas and will reduce the potential for scouring.

1.6 Methods of Analysis

The United States Department of Agriculture Natural Resources Conservation Service (NRCS) soil cover complex methods (TR-20) were employed to compute runoff quantities for the subject property. Watershed analysis demonstrate that natural drainage patterns drain towards three (3) different design points. Design Point-A has been specified as the large wetland system on the property to the north, south & west. Design Point-B has been specified as the wetland system located on the eastern portion of the property, and Design Point-C has been designated as Chebacco Road which receives the remaining runoff from the site. As mentioned, three design points were modeled to analyze the total runoff from the site. HydroCAD 10.0 computer software was employed in this hydrologic analysis.

A comparison of pre- and post-development runoff quantities at the analysis points were performed in order to design a stormwater management system that will limit peak rates of runoff from the development to predevelopment levels for 24-hour rainfall events of 2-, 10-, 25- and 100-year return frequencies. Watershed boundaries for existing conditions are depicted on the attached Preliminary Pre-development Watershed Plan. Preliminary Post-Developed watershed boundaries are indicated on the Preliminary Post-development Watershed Plan.

2.0 Stormwater Standards Compliance

2.1 Standard 1 – Untreated Discharge

The stormwater management system for the proposed development will not result in any new discharges of untreated stormwater to wetland resource areas. Stormwater management structures have been designed such that there is no erosion or scour to wetland resource areas or waters of the Commonwealth.

2.2 Standard 2 – Peak Rate Attenuation

Hydrologic calculations for existing and proposed site conditions are included in Appendices D and E respectively. Calculations for 24-hour rainfall events of 2-, 10-, 25- and 100-year return frequencies are provided. The "NRCC Extreme Precipitation in New York & New England" rainfall rates were used in the hydraulic model. The following table provides a summary of peak rates of runoff related to each of these storms for the design point through which all runoff from the subject property must flow. For all rainfall events considered, the proposed stormwater management system will control runoff from the development such that corresponding peak flows at the design point will be lower than pre-developed rates.

Table 1: Wetland Design Point Runoff Summary

	Pre-Developed (ft^3 / sec)	**Post-Developed (ft^3 / sec)**
Design Point "A"		
2-Year	9.71	7.53
10-Year	40.04	27.42
25-Year	55.33	42.82
100-Year	144.46	123.19

Table 2: Eastern Wetland Design Point Runoff Summary

	Pre-Developed (ft^3 / sec)	**Post-Developed (ft^3 / sec)**
Design Point "B"		
2-Year	1.34	1.31
10-Year	2.82	2.75
25-Year	3.46	3.37
100-Year	6.73	6.54

Table 3: Chebacco Road Design Point Runoff Summary

	Pre-Developed (ft^3 / sec)	**Post-Developed (ft^3 / sec)**
Design Point "C"		
2-Year	2.04	1.92
10-Year	4.27	3.94
25-Year	5.24	4.81
100-Year	10.18	9.29

2.3 Standard 3 – Recharge

Standard 3 compliance will be documented in the updated Stormwater Report submitted under separate cover. Stormwater recharge calculations & narration will be provided in the final Stormwater Report.

2.4 Standard 4 – Water Quality

TSS removal calculations have been provided (Appendix F) showing that the proposed TSS removal efficiency from these areas will be >80% using the rain garden and infiltration basin with the sediment forebay & deep sump hooded catch basins for pretreatment. This BMP train is proposed for all rain gardens & infiltration basin. Additional information will be provided in the updated Stormwater Report.

2.5 Standard 5 – Land Uses with Higher Pollutant Loads

The current and proposed uses of the subject site do not constitute land use with higher potential pollutant load, thus Standard 5 does not apply to the proposed project.

2.6 Standard 6 –Critical Areas

The proposed project does not discharge stormwater to areas outlined in Standard 6.

2.7 Standard 7 – Redevelopment

The proposed project does meet the standards to be considered a Redevelopment project.

2.8 Standard 8 – Construction Period Pollution Prevention Plan and Erosion and Sediment Control

The project is subject to the filing of an Environmental Protection Agency Notice of Intent (EPA NOI), and the work will be pursuant to the NPDES Construction General Permit for disturbance to an area greater than 1 acre, a copy of the Stormwater Pollution Prevention Plan (SWPPP) will be submitted prior to construction. The SWPPP will satisfy the Standard 8 Construction Period Pollution prevention. An Erosion and Sediment Control Plan will be included in the final Plan Set.

2.9 Standard 9 – Operation and Maintenance Plan

This report shall be updated by Dillis & Roy Civil Design Group, Inc. and will include a Stormwater Operation & Maintenance Plan for the proposed scope of work & will be submitted under separate cover.

2.10 Standard 10 – Prohibition of Illicit Discharge

An illicit discharge statement will be prepared after approvals are received and prior to construction.

3.0 Appendices

Appendix A - Locus Map

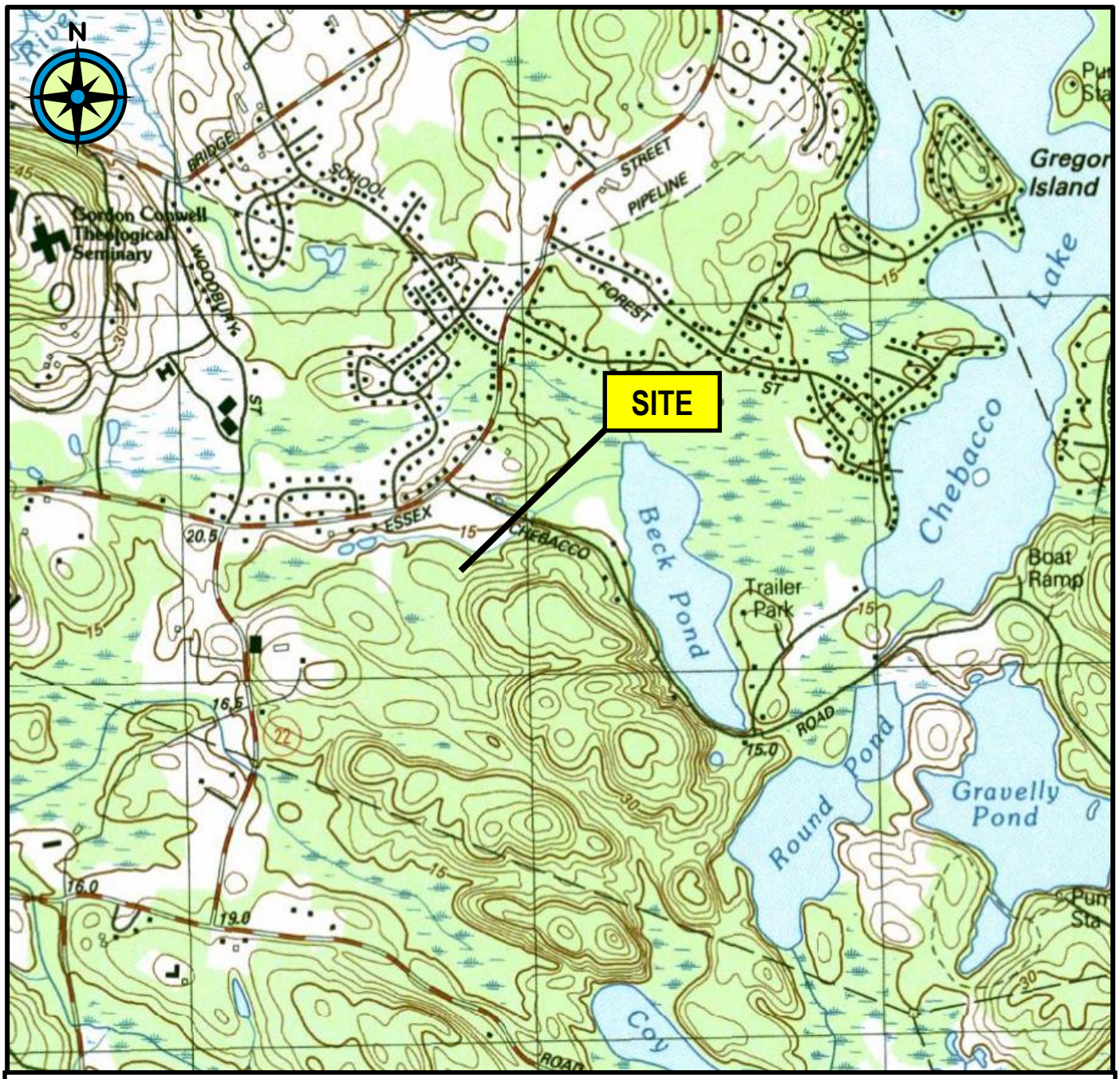


FIGURE 1 – Locus Map

1' = 1000'

Prepared By: Dillis & Roy Civil Design Group, Inc.
1 Main Street, Suite 1
Lunenburg, MA 01462

Prepared For: Chebacco Hill Capital Partners
P.O. Box 1044
Sudbury, MA

References: Massachusetts Topographic Map

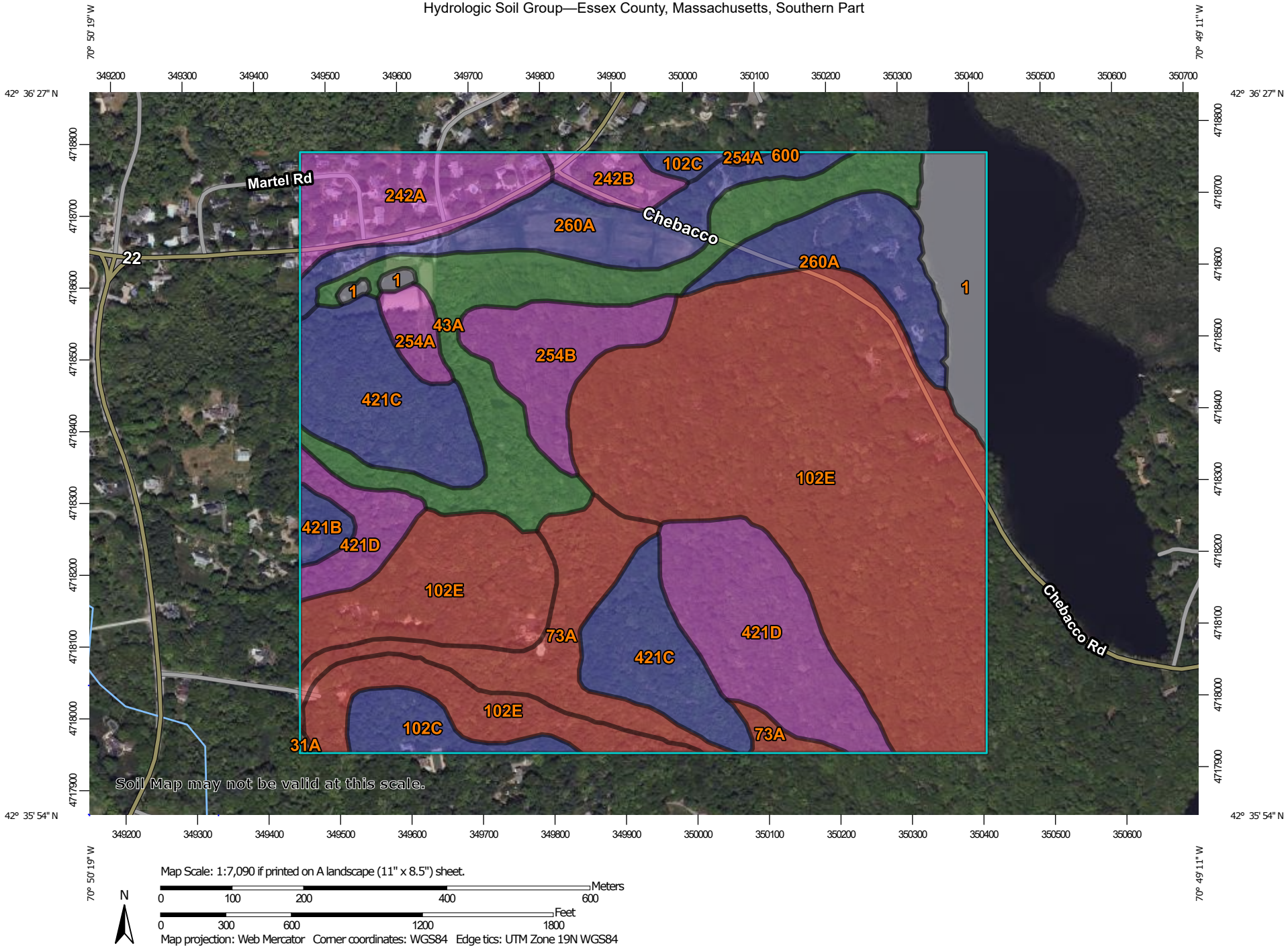
DILLIS & ROY CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS

CDG #: 7465

Appendix B - Checklist for Stormwater Report

This information will be provided with the final Stormwater Report.

Appendix C - Soils Data


70° 50' 19" W
70° 49' 11" W
42° 36' 27" N
42° 35' 54" N
349200
349300
349400
349500
349600
349700
349800
349900
350000
350100
350200
350300
350400
350500
350600
350700
4718800
4718700
4718600
4718500
4718400
4718300
4718200
4718100
4718000
4717900
Martel Rd
Chebacco
Chebacco Rd
22
242A
242B
102C
254A
600
260A
1
43A
254B
421C
102E
421B
421D
73A
31A
Soil Map may not be valid at this scale.
Map Scale: 1:7,090 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0
100
200
400
600
Feet
0
300
600
1200
1800
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 Rating Polygons

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Lines

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Points

A
A/D
B
B/D
C
C/D
D
Not rated or not available

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 1:15,800.

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: Essex County, Massachusetts, Southern Part
Survey Area Data: Version 20, Sep 10, 2023

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

Date(s) aerial images were photographed: May 22, 2022—Jun 5, 2022

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Water		7.6	3.8%
31A	Walpole sandy loam, 0 to 3 percent slopes	B/D	0.1	0.1%
43A	Scarboro mucky fine sandy loam, 0 to 3 percent slopes	A/D	19.9	10.0%
73A	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	D	11.7	5.9%
102C	Chatfield-Hollis-Rock outcrop complex, 0 to 15 percent slopes	B	4.6	2.3%
102E	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	D	76.7	38.4%
242A	Hinckley loamy sand, 0 to 3 percent slopes	A	9.7	4.9%
242B	Hinckley gravelly fine sandy loam, 3 to 8 percent slopes	A	2.6	1.3%
254A	Merrimac fine sandy loam, 0 to 3 percent slopes	A	2.2	1.1%
254B	Merrimac fine sandy loam, 3 to 8 percent slopes	A	7.9	4.0%
260A	Sudbury fine sandy loam, 0 to 3 percent slopes	B	18.5	9.3%
421B	Canton fine sandy loam, 0 to 8 percent slopes, very stony	B	1.5	0.7%
421C	Canton fine sandy loam, 8 to 15 percent slopes, very stony	B	18.6	9.3%
421D	Canton fine sandy loam, 15 to 25 percent slopes, very stony	A	17.9	9.0%
600	Pits, gravel		0.0	0.0%
Totals for Area of Interest			**199.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

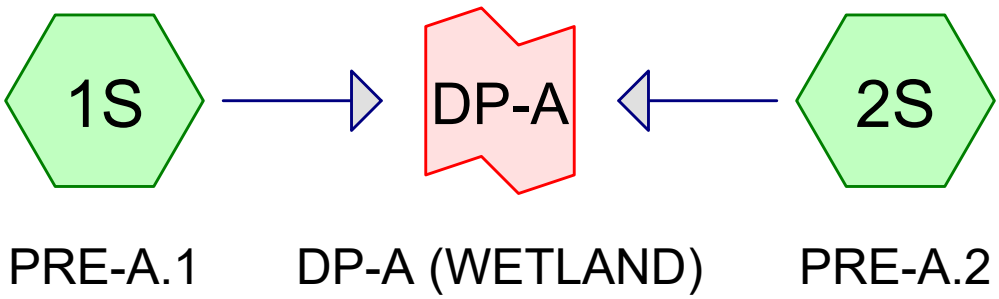
Rating Options

Aggregation Method: Dominant Condition

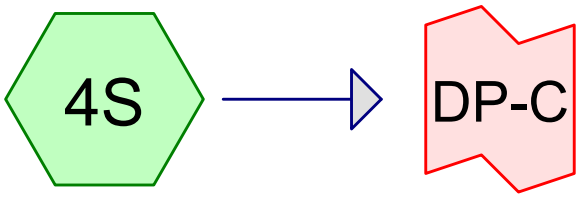
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

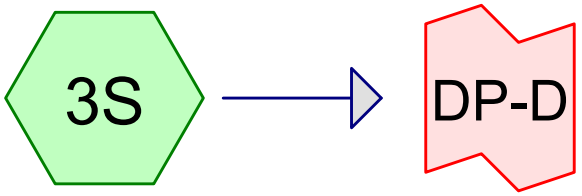
Appendix D - Existing Conditions Hydrologic Calculations



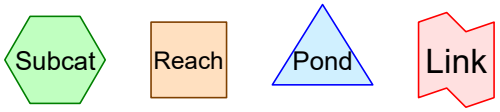
PRE-A.1 DP-A (WETLAND) PRE-A.2



PRE-B.1 DP-B (EASTERN WETLAND)



PRE-C.1 DP-C (CHEBACCO ROAD)



Routing Diagram for 7465-PRE
Prepared by Dillis & Roy Civil Design Group, Printed 3/19/2024
HydroCAD® 10.20-4a s/n 03590 © 2023 HydroCAD Software Solutions LLC

Rainfall Events Listing

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	3.23	2
2	10-yr	Type III 24-hr		Default	24.00	1	4.88	2
3	25-yr	Type III 24-hr		Default	24.00	1	5.55	2
4	100-yr	Type III 24-hr		Default	24.00	1	8.87	2

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

Subcatchment1S: PRE-A.1 Runoff Area=566,763 sf 0.00% Impervious Runoff Depth=0.53"
Tc=16.1 min CN=63 Runoff=4.27 cfs 0.578 af

Subcatchment2S: PRE-A.2 Runoff Area=1,269,318 sf 0.00% Impervious Runoff Depth=0.39"
Flow Length=561' Tc=15.8 min CN=59 Runoff=5.57 cfs 0.936 af

Subcatchment3S: PRE-C.1 Runoff Area=71,384 sf 0.00% Impervious Runoff Depth=1.23"
Flow Length=249' Tc=9.1 min CN=77 Runoff=2.04 cfs 0.168 af

Subcatchment4S: PRE-B.1 Runoff Area=45,500 sf 0.00% Impervious Runoff Depth=1.23"
Flow Length=274' Tc=8.2 min CN=77 Runoff=1.34 cfs 0.107 af

Link DP-A: DP-A (WETLAND) Inflow=9.71 cfs 1.513 af
Primary=9.71 cfs 1.513 af

Link DP-C: DP-B (EASTERN WETLAND) Inflow=1.34 cfs 0.107 af
Primary=1.34 cfs 0.107 af

Link DP-D: DP-C (CHEBACCO ROAD) Inflow=2.04 cfs 0.168 af
Primary=2.04 cfs 0.168 af

Total Runoff Area = 44.834 ac Runoff Volume = 1.789 af Average Runoff Depth = 0.48"
100.00% Pervious = 44.834 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: PRE-A.1

Runoff = 4.27 cfs @ 12.30 hrs, Volume= 0.578 af, Depth= 0.53"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
155,902	30	Woods, Good, HSG A
26,706	55	Woods, Good, HSG B
384,155	77	Woods, Good, HSG D
566,763	63	Weighted Average
566,763		100.00% Pervious Area

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

Summary for Subcatchment 2S: PRE-A.2

Runoff = 5.57 cfs @ 12.37 hrs, Volume= 0.936 af, Depth= 0.39"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
361,749	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
613,618	77	Woods, Good, HSG D
1,269,318	59	Weighted Average
1,269,318		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	50	0.0300	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
4.9	511	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.8	561	Total			

Summary for Subcatchment 3S: PRE-C.1

Runoff = 2.04 cfs @ 12.14 hrs, Volume= 0.168 af, Depth= 1.23"
Routed to Link DP-D : DP-C (CHEBACCO ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
71,384	77	Woods, Good, HSG D
71,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0700	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.3	199	0.2700	2.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.1	249	Total			

Summary for Subcatchment 4S: PRE-B.1

Runoff = 1.34 cfs @ 12.12 hrs, Volume= 0.107 af, Depth= 1.23"
Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
45,500	77	Woods, Good, HSG D
45,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.1100	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.7	224	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	274	Total			

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.151 ac, 0.00% Impervious, Inflow Depth = 0.43" for 2-yr event
Inflow = 9.71 cfs @ 12.33 hrs, Volume= 1.513 af
Primary = 9.71 cfs @ 12.33 hrs, Volume= 1.513 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 1.045 ac, 0.00% Impervious, Inflow Depth = 1.23" for 2-yr event
Inflow = 1.34 cfs @ 12.12 hrs, Volume= 0.107 af
Primary = 1.34 cfs @ 12.12 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (CHEBACCO ROAD)

Inflow Area = 1.639 ac, 0.00% Impervious, Inflow Depth = 1.23" for 2-yr event
Inflow = 2.04 cfs @ 12.14 hrs, Volume= 0.168 af
Primary = 2.04 cfs @ 12.14 hrs, Volume= 0.168 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

Subcatchment1S: PRE-A.1 Runoff Area=566,763 sf 0.00% Impervious Runoff Depth=1.43"
Tc=16.1 min CN=63 Runoff=14.70 cfs 1.554 af

Subcatchment2S: PRE-A.2 Runoff Area=1,269,318 sf 0.00% Impervious Runoff Depth=1.17"
Flow Length=561' Tc=15.8 min CN=59 Runoff=25.35 cfs 2.833 af

Subcatchment3S: PRE-C.1 Runoff Area=71,384 sf 0.00% Impervious Runoff Depth=2.52"
Flow Length=249' Tc=9.1 min CN=77 Runoff=4.27 cfs 0.345 af

Subcatchment4S: PRE-B.1 Runoff Area=45,500 sf 0.00% Impervious Runoff Depth=2.52"
Flow Length=274' Tc=8.2 min CN=77 Runoff=2.82 cfs 0.220 af

Link DP-A: DP-A (WETLAND) Inflow=40.04 cfs 4.388 af
Primary=40.04 cfs 4.388 af

Link DP-C: DP-B (EASTERN WETLAND) Inflow=2.82 cfs 0.220 af
Primary=2.82 cfs 0.220 af

Link DP-D: DP-C (CHEBACCO ROAD) Inflow=4.27 cfs 0.345 af
Primary=4.27 cfs 0.345 af

Total Runoff Area = 44.834 ac Runoff Volume = 4.952 af Average Runoff Depth = 1.33"
100.00% Pervious = 44.834 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: PRE-A.1

Runoff = 14.70 cfs @ 12.25 hrs, Volume= 1.554 af, Depth= 1.43"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
155,902	30	Woods, Good, HSG A
26,706	55	Woods, Good, HSG B
384,155	77	Woods, Good, HSG D
566,763	63	Weighted Average
566,763		100.00% Pervious Area

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

Summary for Subcatchment 2S: PRE-A.2

Runoff = 25.35 cfs @ 12.25 hrs, Volume= 2.833 af, Depth= 1.17"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
361,749	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
613,618	77	Woods, Good, HSG D
1,269,318	59	Weighted Average
1,269,318		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	50	0.0300	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
4.9	511	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.8	561	Total			

Summary for Subcatchment 3S: PRE-C.1

Runoff = 4.27 cfs @ 12.13 hrs, Volume= 0.345 af, Depth= 2.52"
Routed to Link DP-D : DP-C (CHEBACCO ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
71,384	77	Woods, Good, HSG D
71,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0700	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.3	199	0.2700	2.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.1	249	Total			

Summary for Subcatchment 4S: PRE-B.1

Runoff = 2.82 cfs @ 12.12 hrs, Volume= 0.220 af, Depth= 2.52"
Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
45,500	77	Woods, Good, HSG D
45,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.1100	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.7	224	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	274	Total			

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.151 ac, 0.00% Impervious, Inflow Depth = 1.25" for 10-yr event
Inflow = 40.04 cfs @ 12.25 hrs, Volume= 4.388 af
Primary = 40.04 cfs @ 12.25 hrs, Volume= 4.388 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 1.045 ac, 0.00% Impervious, Inflow Depth = 2.52" for 10-yr event
Inflow = 2.82 cfs @ 12.12 hrs, Volume= 0.220 af
Primary = 2.82 cfs @ 12.12 hrs, Volume= 0.220 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (CHEBACCO ROAD)

Inflow Area = 1.639 ac, 0.00% Impervious, Inflow Depth = 2.52" for 10-yr event
Inflow = 4.27 cfs @ 12.13 hrs, Volume= 0.345 af
Primary = 4.27 cfs @ 12.13 hrs, Volume= 0.345 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

Subcatchment1S: PRE-A.1 Runoff Area=566,763 sf 0.00% Impervious Runoff Depth=1.87"
Tc=16.1 min CN=63 Runoff=19.75 cfs 2.025 af

Subcatchment2S: PRE-A.2 Runoff Area=1,269,318 sf 0.00% Impervious Runoff Depth=1.56"
Flow Length=561' Tc=15.8 min CN=59 Runoff=35.59 cfs 3.783 af

Subcatchment3S: PRE-C.1 Runoff Area=71,384 sf 0.00% Impervious Runoff Depth=3.09"
Flow Length=249' Tc=9.1 min CN=77 Runoff=5.24 cfs 0.422 af

Subcatchment4S: PRE-B.1 Runoff Area=45,500 sf 0.00% Impervious Runoff Depth=3.09"
Flow Length=274' Tc=8.2 min CN=77 Runoff=3.46 cfs 0.269 af

Link DP-A: DP-A (WETLAND) Inflow=55.33 cfs 5.808 af
Primary=55.33 cfs 5.808 af

Link DP-C: DP-B (EASTERN WETLAND) Inflow=3.46 cfs 0.269 af
Primary=3.46 cfs 0.269 af

Link DP-D: DP-C (CHEBACCO ROAD) Inflow=5.24 cfs 0.422 af
Primary=5.24 cfs 0.422 af

Total Runoff Area = 44.834 ac Runoff Volume = 6.499 af Average Runoff Depth = 1.74"
100.00% Pervious = 44.834 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: PRE-A.1

Runoff = 19.75 cfs @ 12.24 hrs, Volume= 2.025 af, Depth= 1.87"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
155,902	30	Woods, Good, HSG A
26,706	55	Woods, Good, HSG B
384,155	77	Woods, Good, HSG D
566,763	63	Weighted Average
566,763		100.00% Pervious Area

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

Summary for Subcatchment 2S: PRE-A.2

Runoff = 35.59 cfs @ 12.24 hrs, Volume= 3.783 af, Depth= 1.56"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
361,749	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
613,618	77	Woods, Good, HSG D
1,269,318	59	Weighted Average
1,269,318		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	50	0.0300	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
4.9	511	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.8	561	Total			

Summary for Subcatchment 3S: PRE-C.1

Runoff = 5.24 cfs @ 12.13 hrs, Volume= 0.422 af, Depth= 3.09"
Routed to Link DP-D : DP-C (CHEBACCO ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
71,384	77	Woods, Good, HSG D
71,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0700	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.3	199	0.2700	2.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.1	249	Total			

Summary for Subcatchment 4S: PRE-B.1

Runoff = 3.46 cfs @ 12.12 hrs, Volume= 0.269 af, Depth= 3.09"
Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
45,500	77	Woods, Good, HSG D
45,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.1100	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.7	224	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	274	Total			

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.151 ac, 0.00% Impervious, Inflow Depth = 1.65" for 25-yr event
Inflow = 55.33 cfs @ 12.24 hrs, Volume= 5.808 af
Primary = 55.33 cfs @ 12.24 hrs, Volume= 5.808 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 1.045 ac, 0.00% Impervious, Inflow Depth = 3.09" for 25-yr event
Inflow = 3.46 cfs @ 12.12 hrs, Volume= 0.269 af
Primary = 3.46 cfs @ 12.12 hrs, Volume= 0.269 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (CHEBACCO ROAD)

Inflow Area = 1.639 ac, 0.00% Impervious, Inflow Depth = 3.09" for 25-yr event
Inflow = 5.24 cfs @ 12.13 hrs, Volume= 0.422 af
Primary = 5.24 cfs @ 12.13 hrs, Volume= 0.422 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

Subcatchment1S: PRE-A.1 Runoff Area=566,763 sf 0.00% Impervious Runoff Depth=4.36"
Tc=16.1 min CN=63 Runoff=48.42 cfs 4.732 af

Subcatchment2S: PRE-A.2 Runoff Area=1,269,318 sf 0.00% Impervious Runoff Depth=3.88"
Flow Length=561' Tc=15.8 min CN=59 Runoff=96.04 cfs 9.416 af

Subcatchment3S: PRE-C.1 Runoff Area=71,384 sf 0.00% Impervious Runoff Depth=6.08"
Flow Length=249' Tc=9.1 min CN=77 Runoff=10.18 cfs 0.830 af

Subcatchment4S: PRE-B.1 Runoff Area=45,500 sf 0.00% Impervious Runoff Depth=6.08"
Flow Length=274' Tc=8.2 min CN=77 Runoff=6.73 cfs 0.529 af

Link DP-A: DP-A (WETLAND) Inflow=144.46 cfs 14.148 af
Primary=144.46 cfs 14.148 af

Link DP-C: DP-B (EASTERN WETLAND) Inflow=6.73 cfs 0.529 af
Primary=6.73 cfs 0.529 af

Link DP-D: DP-C (CHEBACCO ROAD) Inflow=10.18 cfs 0.830 af
Primary=10.18 cfs 0.830 af

Total Runoff Area = 44.834 ac Runoff Volume = 15.508 af Average Runoff Depth = 4.15"
100.00% Pervious = 44.834 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment 1S: PRE-A.1

Runoff = 48.42 cfs @ 12.23 hrs, Volume= 4.732 af, Depth= 4.36"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
155,902	30	Woods, Good, HSG A
26,706	55	Woods, Good, HSG B
384,155	77	Woods, Good, HSG D
566,763	63	Weighted Average
566,763		100.00% Pervious Area

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

Summary for Subcatchment 2S: PRE-A.2

Runoff = 96.04 cfs @ 12.23 hrs, Volume= 9.416 af, Depth= 3.88"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
361,749	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
613,618	77	Woods, Good, HSG D
1,269,318	59	Weighted Average
1,269,318		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.9	50	0.0300	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
4.9	511	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.8	561	Total			

Summary for Subcatchment 3S: PRE-C.1

Runoff = 10.18 cfs @ 12.13 hrs, Volume= 0.830 af, Depth= 6.08"
Routed to Link DP-D : DP-C (CHEBACCO ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
71,384	77	Woods, Good, HSG D
71,384		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	50	0.0700	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.3	199	0.2700	2.60		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
9.1	249	Total			

Summary for Subcatchment 4S: PRE-B.1

Runoff = 6.73 cfs @ 12.12 hrs, Volume= 0.529 af, Depth= 6.08"
Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
45,500	77	Woods, Good, HSG D
45,500		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	50	0.1100	0.13		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.7	224	0.2000	2.24		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.2	274	Total			

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.151 ac, 0.00% Impervious, Inflow Depth = 4.03" for 100-yr event
Inflow = 144.46 cfs @ 12.23 hrs, Volume= 14.148 af
Primary = 144.46 cfs @ 12.23 hrs, Volume= 14.148 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 1.045 ac, 0.00% Impervious, Inflow Depth = 6.08" for 100-yr event
Inflow = 6.73 cfs @ 12.12 hrs, Volume= 0.529 af
Primary = 6.73 cfs @ 12.12 hrs, Volume= 0.529 af, Atten= 0%, Lag= 0.0 min

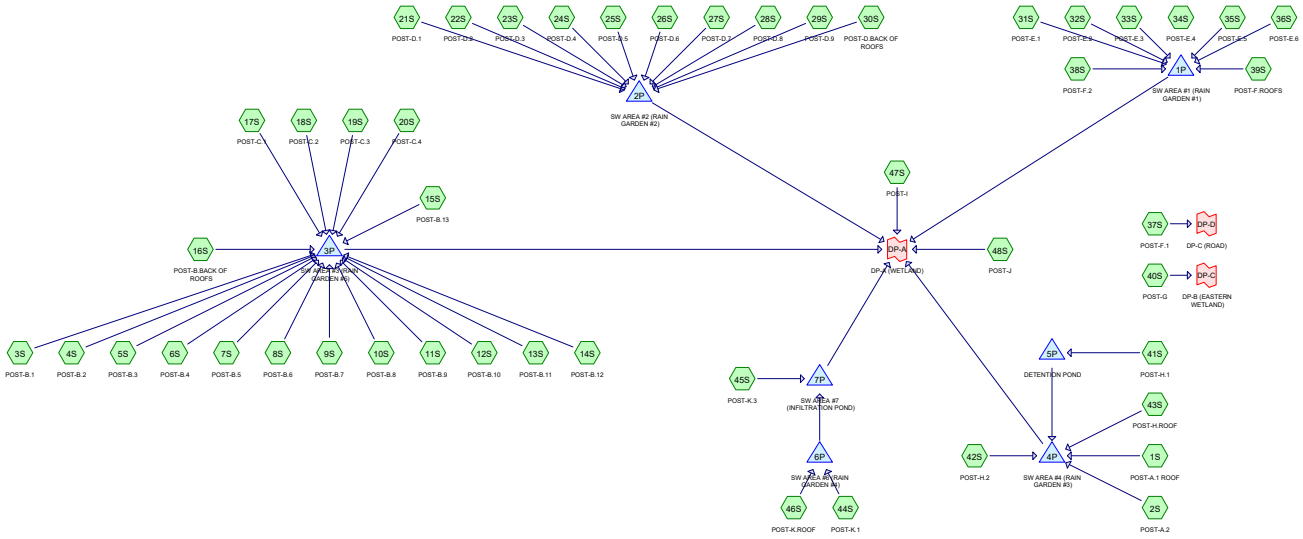
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (CHEBACCO ROAD)

Inflow Area = 1.639 ac, 0.00% Impervious, Inflow Depth = 6.08" for 100-yr event
Inflow = 10.18 cfs @ 12.13 hrs, Volume= 0.830 af
Primary = 10.18 cfs @ 12.13 hrs, Volume= 0.830 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Appendix E - Proposed Conditions Hydrologic Calculations



Subcat Reach Pond Link

Routing Diagram for 7465-PRELIMINARY POST

Prepared by Dillis & Roy Civil Design Group, Printed 3/19/2024

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Rainfall Events Listing

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	3.23	2
2	10-yr	Type III 24-hr		Default	24.00	1	4.88	2
3	25-yr	Type III 24-hr		Default	24.00	1	5.55	2
4	100-yr	Type III 24-hr		Default	24.00	1	8.87	2

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

Subcatchment1S: POST-A.1ROOF Runoff Area=21,839 sf 29.46% Impervious Runoff Depth=1.78"
Tc=6.0 min CN=85 Runoff=1.03 cfs 0.075 af

Subcatchment2S: POST-A.2 Runoff Area=5,394 sf 74.36% Impervious Runoff Depth=2.47"
Tc=6.0 min CN=93 Runoff=0.34 cfs 0.026 af

Subcatchment3S: POST-B.1 Runoff Area=4,301 sf 100.00% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=98 Runoff=0.30 cfs 0.025 af

Subcatchment4S: POST-B.2 Runoff Area=3,444 sf 100.00% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=98 Runoff=0.24 cfs 0.020 af

Subcatchment5S: POST-B.3 Runoff Area=8,158 sf 75.19% Impervious Runoff Depth=2.57"
Tc=6.0 min CN=94 Runoff=0.53 cfs 0.040 af

Subcatchment6S: POST-B.4 Runoff Area=22,683 sf 44.65% Impervious Runoff Depth=2.02"
Tc=6.0 min CN=88 Runoff=1.21 cfs 0.088 af

Subcatchment7S: POST-B.5 Runoff Area=14,740 sf 51.65% Impervious Runoff Depth=2.11"
Tc=6.0 min CN=89 Runoff=0.81 cfs 0.059 af

Subcatchment8S: POST-B.6 Runoff Area=12,782 sf 66.60% Impervious Runoff Depth=2.38"
Tc=6.0 min CN=92 Runoff=0.78 cfs 0.058 af

Subcatchment9S: POST-B.7 Runoff Area=4,452 sf 88.07% Impervious Runoff Depth=2.78"
Tc=6.0 min CN=96 Runoff=0.30 cfs 0.024 af

Subcatchment10S: POST-B.8 Runoff Area=16,186 sf 58.64% Impervious Runoff Depth=2.29"
Tc=6.0 min CN=91 Runoff=0.96 cfs 0.071 af

Subcatchment11S: POST-B.9 Runoff Area=13,230 sf 71.85% Impervious Runoff Depth=2.47"
Tc=6.0 min CN=93 Runoff=0.83 cfs 0.063 af

Subcatchment12S: POST-B.10 Runoff Area=13,781 sf 68.78% Impervious Runoff Depth=2.38"
Tc=6.0 min CN=92 Runoff=0.84 cfs 0.063 af

Subcatchment13S: POST-B.11 Runoff Area=4,784 sf 82.50% Impervious Runoff Depth=2.67"
Tc=6.0 min CN=95 Runoff=0.32 cfs 0.024 af

Subcatchment14S: POST-B.12 Runoff Area=9,045 sf 70.23% Impervious Runoff Depth=2.47"
Tc=6.0 min CN=93 Runoff=0.57 cfs 0.043 af

Subcatchment15S: POST-B.13 Runoff Area=16,536 sf 0.36% Impervious Runoff Depth=1.56"
Tc=6.0 min CN=82 Runoff=0.68 cfs 0.049 af

Subcatchment16S: POST-B.BACKOF Runoff Area=15,196 sf 100.00% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=98 Runoff=1.07 cfs 0.087 af

Subcatchment17S: POST-C.1 Runoff Area=10,285 sf 72.16% Impervious Runoff Depth=2.47"
Tc=6.0 min CN=93 Runoff=0.65 cfs 0.049 af

Subcatchment18S: POST-C.2 Runoff Area=3,125 sf 100.00% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=98 Runoff=0.22 cfs 0.018 af

Subcatchment19S: POST-C.3 Runoff Area=15,128 sf 68.73% Impervious Runoff Depth=2.47"
Tc=6.0 min CN=93 Runoff=0.95 cfs 0.072 af

Subcatchment20S: POST-C.4 Runoff Area=18,753 sf 51.27% Impervious Runoff Depth=2.11"
Tc=6.0 min CN=89 Runoff=1.03 cfs 0.076 af

Subcatchment21S: POST-D.1 Runoff Area=8,298 sf 60.20% Impervious Runoff Depth=2.29"
Tc=6.0 min CN=91 Runoff=0.49 cfs 0.036 af

Subcatchment22S: POST-D.2 Runoff Area=4,540 sf 75.18% Impervious Runoff Depth=2.57"
Tc=6.0 min CN=94 Runoff=0.29 cfs 0.022 af

Subcatchment23S: POST-D.3 Runoff Area=2,887 sf 89.23% Impervious Runoff Depth=2.78"
Tc=6.0 min CN=96 Runoff=0.20 cfs 0.015 af

Subcatchment24S: POST-D.4 Runoff Area=8,058 sf 17.37% Impervious Runoff Depth=1.63"
Tc=6.0 min CN=83 Runoff=0.35 cfs 0.025 af

Subcatchment25S: POST-D.5 Runoff Area=13,488 sf 11.14% Impervious Runoff Depth=1.49"
Tc=6.0 min CN=81 Runoff=0.53 cfs 0.039 af

Subcatchment26S: POST-D.6 Runoff Area=2,243 sf 86.58% Impervious Runoff Depth=2.78"
Tc=6.0 min CN=96 Runoff=0.15 cfs 0.012 af

Subcatchment27S: POST-D.7 Runoff Area=3,293 sf 92.29% Impervious Runoff Depth=2.89"
Tc=6.0 min CN=97 Runoff=0.23 cfs 0.018 af

Subcatchment28S: POST-D.8 Runoff Area=8,095 sf 18.59% Impervious Runoff Depth=1.63"
Tc=6.0 min CN=83 Runoff=0.35 cfs 0.025 af

Subcatchment29S: POST-D.9 Runoff Area=16,511 sf 0.55% Impervious Runoff Depth=1.49"
Tc=6.0 min CN=81 Runoff=0.65 cfs 0.047 af

Subcatchment30S: POST-D.BACKOF Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=98 Runoff=0.36 cfs 0.029 af

Subcatchment31S: POST-E.1 Runoff Area=14,096 sf 63.32% Impervious Runoff Depth=2.29"
Tc=6.0 min CN=91 Runoff=0.83 cfs 0.062 af

Subcatchment32S: POST-E.2 Runoff Area=38,272 sf 26.80% Impervious Runoff Depth=1.71"
Tc=6.0 min CN=84 Runoff=1.72 cfs 0.125 af

Subcatchment33S: POST-E.3 Runoff Area=16,029 sf 38.93% Impervious Runoff Depth=1.94"
Tc=6.0 min CN=87 Runoff=0.82 cfs 0.060 af

Subcatchment34S: POST-E.4 Runoff Area=1,858 sf 86.28% Impervious Runoff Depth=2.78"
Tc=6.0 min CN=96 Runoff=0.13 cfs 0.010 af

Subcatchment35S: POST-E.5 Runoff Area=2,066 sf 100.00% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=98 Runoff=0.15 cfs 0.012 af

Subcatchment36S: POST-E.6 Runoff Area=2,119 sf 100.00% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=98 Runoff=0.15 cfs 0.012 af

Subcatchment37S: POST-F.1 Runoff Area=63,225 sf 2.81% Impervious Runoff Depth=1.30"
Flow Length=240' Tc=8.9 min CN=78 Runoff=1.92 cfs 0.157 af

Subcatchment38S: POST-F.2 Runoff Area=15,868 sf 5.18% Impervious Runoff Depth=1.56"
Tc=6.0 min CN=82 Runoff=0.65 cfs 0.047 af

Subcatchment39S: POST-F.ROOFS Runoff Area=5,892 sf 100.00% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=98 Runoff=0.41 cfs 0.034 af

Subcatchment40S: POST-G Runoff Area=41,336 sf 0.00% Impervious Runoff Depth=1.23"
Tc=6.0 min CN=77 Runoff=1.31 cfs 0.098 af

Subcatchment41S: POST-H.1 Runoff Area=113,550 sf 1.06% Impervious Runoff Depth=1.30"
Flow Length=175' Tc=10.9 min CN=78 Runoff=3.26 cfs 0.281 af

Subcatchment42S: POST-H.2 Runoff Area=7,958 sf 2.39% Impervious Runoff Depth=1.49"
Tc=6.0 min CN=81 Runoff=0.31 cfs 0.023 af

Subcatchment43S: POST-H.ROOF Runoff Area=5,475 sf 100.00% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=98 Runoff=0.38 cfs 0.031 af

Subcatchment44S: POST-K.1 Runoff Area=75,855 sf 0.00% Impervious Runoff Depth=1.43"
Tc=6.0 min CN=80 Runoff=2.83 cfs 0.207 af

Subcatchment45S: POST-K.3 Runoff Area=12,015 sf 0.00% Impervious Runoff Depth=0.02"
Tc=6.0 min CN=42 Runoff=0.00 cfs 0.000 af

Subcatchment46S: POST-K.ROOF Runoff Area=16,139 sf 100.00% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=98 Runoff=1.13 cfs 0.093 af

Subcatchment47S: POST-I Runoff Area=923,567 sf 0.14% Impervious Runoff Depth=0.18"
Flow Length=323' Tc=16.1 min CN=52 Runoff=1.01 cfs 0.319 af

Subcatchment48S: POST-J Runoff Area=291,359 sf 0.00% Impervious Runoff Depth=0.21"
Flow Length=230' Tc=12.4 min CN=53 Runoff=0.44 cfs 0.115 af

Pond 1P: SW AREA #1 (RAIN GARDEN #1) Peak Elev=56.59' Storage=11,335 cf Inflow=4.74 cfs 0.351 af
Outflow=0.11 cfs 0.309 af

Pond 2P: SW AREA #2 (RAIN GARDEN #2) Peak Elev=71.15' Storage=4,658 cf Inflow=3.59 cfs 0.269 af
Outflow=1.83 cfs 0.236 af

Pond 3P: SW AREA#3 (RAIN GARDEN#5) Peak Elev=77.45' Storage=17,567 cf Inflow=12.30 cfs 0.928 af
Outflow=4.55 cfs 0.833 af

Pond 4P: SW AREA#4 (RAIN GARDEN#3) Peak Elev=107.22' Storage=3,224 cf Inflow=2.06 cfs 0.259 af
Outflow=0.34 cfs 0.259 af

Pond 5P: DETENTION POND Peak Elev=115.28' Storage=7,787 cf Inflow=3.26 cfs 0.281 af
Outflow=0.30 cfs 0.105 af

Pond 6P: SW AREA#6 (RAIN GARDEN#4) Peak Elev=80.86' Storage=10,505 cf Inflow=3.96 cfs 0.299 af
Outflow=0.09 cfs 0.106 af

Pond 7P: SW AREA#7 (INFILTRATIONPOND) Peak Elev=51.76' Storage=1,604 cf Inflow=0.09 cfs 0.106 af
Discarded=0.05 cfs 0.106 af Primary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.106 af

Link DP-A: DP-A (WETLAND) Inflow=7.53 cfs 2.071 af
Primary=7.53 cfs 2.071 af

Link DP-C: DP-B (EASTERN WETLAND) Inflow=1.31 cfs 0.098 af
Primary=1.31 cfs 0.098 af

Link DP-D: DP-C (ROAD) Inflow=1.92 cfs 0.157 af
Primary=1.92 cfs 0.157 af

Total Runoff Area = 44.834 ac Runoff Volume = 2.981 af Average Runoff Depth = 0.80"
88.29% Pervious = 39.586 ac 11.71% Impervious = 5.248 ac

Summary for Subcatchment 1S: POST-A.1 ROOF

Runoff = 1.03 cfs @ 12.09 hrs, Volume= 0.075 af, Depth= 1.78"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,714	98	Paved parking, HSG D
14,433	80	>75% Grass cover, Good, HSG D
972	77	Woods, Good, HSG D
1,720	98	Roofs, HSG D
21,839	85	Weighted Average
15,405		70.54% Pervious Area
6,434		29.46% Impervious Area

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

Summary for Subcatchment 2S: POST-A.2

Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.026 af, Depth= 2.47"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,011	98	Paved parking, HSG D
1,383	80	>75% Grass cover, Good, HSG D
5,394	93	Weighted Average
1,383		25.64% Pervious Area
4,011		74.36% Impervious Area

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

Summary for Subcatchment 3S: POST-B.1

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 3.00"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,604	98	Paved parking, HSG D
1,697	98	Roofs, HSG D
4,301	98	Weighted Average
4,301		100.00% Impervious Area

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

Summary for Subcatchment 4S: POST-B.2

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.020 af, Depth= 3.00"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,606	98	Paved parking, HSG D
838	98	Roofs, HSG D
3,444	98	Weighted Average
3,444		100.00% Impervious Area

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

Summary for Subcatchment 5S: POST-B.3

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.040 af, Depth= 2.57"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,251	98	Paved parking, HSG D
2,024	80	>75% Grass cover, Good, HSG D
2,883	98	Roofs, HSG D
8,158	94	Weighted Average
2,024		24.81% Pervious Area
6,134		75.19% Impervious Area

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

Summary for Subcatchment 6S: POST-B.4

Runoff = 1.21 cfs @ 12.09 hrs, Volume= 0.088 af, Depth= 2.02"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,023	98	Paved parking, HSG D
9,260	80	>75% Grass cover, Good, HSG D
3,294	77	Woods, Good, HSG D
7,106	98	Roofs, HSG D
22,683	88	Weighted Average
12,554		55.35% Pervious Area
10,129		44.65% Impervious Area

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

Summary for Subcatchment 7S: POST-B.5

Runoff = 0.81 cfs @ 12.09 hrs, Volume= 0.059 af, Depth= 2.11"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,392	98	Paved parking, HSG D
6,885	80	>75% Grass cover, Good, HSG D
242	77	Woods, Good, HSG D
3,221	98	Roofs, HSG D
14,740	89	Weighted Average
7,127		48.35% Pervious Area
7,613		51.65% Impervious Area

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

Summary for Subcatchment 8S: POST-B.6

Runoff = 0.78 cfs @ 12.09 hrs, Volume= 0.058 af, Depth= 2.38"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,699	98	Paved parking, HSG D
4,269	80	>75% Grass cover, Good, HSG D
3,814	98	Roofs, HSG D
12,782	92	Weighted Average
4,269		33.40% Pervious Area
8,513		66.60% Impervious Area

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

Summary for Subcatchment 9S: POST-B.7

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 2.78"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,921	98	Paved parking, HSG D
531	80	>75% Grass cover, Good, HSG D
4,452	96	Weighted Average
531		11.93% Pervious Area
3,921		88.07% Impervious Area

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

Summary for Subcatchment 10S: POST-B.8

Runoff = 0.96 cfs @ 12.09 hrs, Volume= 0.071 af, Depth= 2.29"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,068	98	Paved parking, HSG D
6,694	80	>75% Grass cover, Good, HSG D
4,424	98	Roofs, HSG D
16,186	91	Weighted Average
6,694		41.36% Pervious Area
9,492		58.64% Impervious Area

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

Summary for Subcatchment 11S: POST-B.9

Runoff = 0.83 cfs @ 12.09 hrs, Volume= 0.063 af, Depth= 2.47"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,919	98	Paved parking, HSG D
3,724	80	>75% Grass cover, Good, HSG D
4,587	98	Roofs, HSG D
13,230	93	Weighted Average
3,724		28.15% Pervious Area
9,506		71.85% Impervious Area

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

Summary for Subcatchment 12S: POST-B.10

Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.063 af, Depth= 2.38"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,074	98	Paved parking, HSG D
4,302	80	>75% Grass cover, Good, HSG D
4,405	98	Roofs, HSG D
13,781	92	Weighted Average
4,302		31.22% Pervious Area
9,479		68.78% Impervious Area

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

Summary for Subcatchment 13S: POST-B.11

Runoff = 0.32 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 2.67"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,021	98	Paved parking, HSG D
837	80	>75% Grass cover, Good, HSG D
926	98	Roofs, HSG D
4,784	95	Weighted Average
837		17.50% Pervious Area
3,947		82.50% Impervious Area

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

Summary for Subcatchment 14S: POST-B.12

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 0.043 af, Depth= 2.47"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,184	98	Paved parking, HSG D
2,693	80	>75% Grass cover, Good, HSG D
3,168	98	Roofs, HSG D
9,045	93	Weighted Average
2,693		29.77% Pervious Area
6,352		70.23% Impervious Area

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

Summary for Subcatchment 15S: POST-B.13

Runoff = 0.68 cfs @ 12.09 hrs, Volume= 0.049 af, Depth= 1.56"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
59	98	Paved parking, HSG D
14,780	80	>75% Grass cover, Good, HSG D
1,697	96	Gravel surface, HSG D
16,536	82	Weighted Average
16,477		99.64% Pervious Area
59		0.36% Impervious Area

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

Summary for Subcatchment 16S: POST-B.BACK OF ROOFS

Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.087 af, Depth= 3.00"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
15,196	98	Roofs, HSG D
15,196		100.00% Impervious Area

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

Summary for Subcatchment 17S: POST-C.1

Runoff = 0.65 cfs @ 12.09 hrs, Volume= 0.049 af, Depth= 2.47"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,667	98	Paved parking, HSG D
2,863	80	>75% Grass cover, Good, HSG D
3,755	98	Roofs, HSG D
10,285	93	Weighted Average
2,863		27.84% Pervious Area
7,422		72.16% Impervious Area

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

Summary for Subcatchment 18S: POST-C.2

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 3.00"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,395	98	Paved parking, HSG D
730	98	Roofs, HSG D
3,125	98	Weighted Average
3,125		100.00% Impervious Area

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

Summary for Subcatchment 19S: POST-C.3

Runoff = 0.95 cfs @ 12.09 hrs, Volume= 0.072 af, Depth= 2.47"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,966	98	Paved parking, HSG D
4,414	80	>75% Grass cover, Good, HSG D
317	96	Gravel surface, HSG D
4,431	98	Roofs, HSG D
15,128	93	Weighted Average
4,731		31.27% Pervious Area
10,397		68.73% Impervious Area

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

Summary for Subcatchment 20S: POST-C.4

Runoff = 1.03 cfs @ 12.09 hrs, Volume= 0.076 af, Depth= 2.11"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,662	98	Paved parking, HSG D
9,139	80	>75% Grass cover, Good, HSG D
3,952	98	Roofs, HSG D
18,753	89	Weighted Average
9,139		48.73% Pervious Area
9,614		51.27% Impervious Area

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

Summary for Subcatchment 21S: POST-D.1

Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.036 af, Depth= 2.29"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,187	98	Paved parking, HSG D
3,303	80	>75% Grass cover, Good, HSG D
1,808	98	Roofs, HSG D
8,298	91	Weighted Average
3,303		39.80% Pervious Area
4,995		60.20% Impervious Area

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

Summary for Subcatchment 22S: POST-D.2

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 0.022 af, Depth= 2.57"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,161	98	Paved parking, HSG D
1,127	80	>75% Grass cover, Good, HSG D
1,252	98	Roofs, HSG D
4,540	94	Weighted Average
1,127		24.82% Pervious Area
3,413		75.18% Impervious Area

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

Summary for Subcatchment 23S: POST-D.3

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.015 af, Depth= 2.78"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,576	98	Paved parking, HSG D
311	80	>75% Grass cover, Good, HSG D
2,887	96	Weighted Average
311		10.77% Pervious Area
2,576		89.23% Impervious Area

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

Summary for Subcatchment 24S: POST-D.4

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 1.63"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,400	98	Paved parking, HSG D
6,658	80	>75% Grass cover, Good, HSG D
8,058	83	Weighted Average
6,658		82.63% Pervious Area
1,400		17.37% Impervious Area

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

Summary for Subcatchment 25S: POST-D.5

Runoff = 0.53 cfs @ 12.10 hrs, Volume= 0.039 af, Depth= 1.49"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,502	98	Paved parking, HSG D
7,754	80	>75% Grass cover, Good, HSG D
4,232	77	Woods, Good, HSG D
13,488	81	Weighted Average
11,986		88.86% Pervious Area
1,502		11.14% Impervious Area

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

Summary for Subcatchment 26S: POST-D.6

Runoff = 0.15 cfs @ 12.09 hrs, Volume= 0.012 af, Depth= 2.78"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,942	98	Paved parking, HSG D
301	80	>75% Grass cover, Good, HSG D
2,243	96	Weighted Average
301		13.42% Pervious Area
1,942		86.58% Impervious Area

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

Summary for Subcatchment 27S: POST-D.7

Runoff = 0.23 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 2.89"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,391	98	Paved parking, HSG D
254	80	>75% Grass cover, Good, HSG D
648	98	Roofs, HSG D
3,293	97	Weighted Average
254		7.71% Pervious Area
3,039		92.29% Impervious Area

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

Summary for Subcatchment 28S: POST-D.8

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.025 af, Depth= 1.63"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,505	98	Paved parking, HSG D
4,734	80	>75% Grass cover, Good, HSG D
1,856	77	Woods, Good, HSG D
8,095	83	Weighted Average
6,590		81.41% Pervious Area
1,505		18.59% Impervious Area

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

Summary for Subcatchment 29S: POST-D.9

Runoff = 0.65 cfs @ 12.10 hrs, Volume= 0.047 af, Depth= 1.49"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
91	98	Paved parking, HSG D
15,963	80	>75% Grass cover, Good, HSG D
457	96	Gravel surface, HSG D
16,511	81	Weighted Average
16,420		99.45% Pervious Area
91		0.55% Impervious Area

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

Summary for Subcatchment 30S: POST-D.BACK OF ROOFS

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.029 af, Depth= 3.00"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,053	98	Roofs, HSG D
5,053		100.00% Impervious Area

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

Summary for Subcatchment 31S: POST-E.1

Runoff = 0.83 cfs @ 12.09 hrs, Volume= 0.062 af, Depth= 2.29"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
4,689	98	Paved parking, HSG D
5,171	80	>75% Grass cover, Good, HSG D
4,236	98	Roofs, HSG D
14,096	91	Weighted Average
5,171		36.68% Pervious Area
8,925		63.32% Impervious Area

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

Summary for Subcatchment 32S: POST-E.2

Runoff = 1.72 cfs @ 12.09 hrs, Volume= 0.125 af, Depth= 1.71"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,754	98	Paved parking, HSG D
18,939	80	>75% Grass cover, Good, HSG D
9,077	77	Woods, Good, HSG D
4,502	98	Roofs, HSG D
38,272	84	Weighted Average
28,016		73.20% Pervious Area
10,256		26.80% Impervious Area

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

Summary for Subcatchment 33S: POST-E.3

Runoff = 0.82 cfs @ 12.09 hrs, Volume= 0.060 af, Depth= 1.94"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
3,579	98	Paved parking, HSG D
8,806	80	>75% Grass cover, Good, HSG D
983	77	Woods, Good, HSG D
2,661	98	Roofs, HSG D
16,029	87	Weighted Average
9,789		61.07% Pervious Area
6,240		38.93% Impervious Area

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

Summary for Subcatchment 34S: POST-E.4

Runoff = 0.13 cfs @ 12.09 hrs, Volume= 0.010 af, Depth= 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,603	98	Paved parking, HSG D
255	80	>75% Grass cover, Good, HSG D
1,858	96	Weighted Average
255		13.72% Pervious Area
1,603		86.28% Impervious Area

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

Summary for Subcatchment 35S: POST-E.5

Runoff = 0.15 cfs @ 12.09 hrs, Volume= 0.012 af, Depth= 3.00"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,066	98	Paved parking, HSG D
2,066		100.00% Impervious Area

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

Summary for Subcatchment 36S: POST-E.6

Runoff = 0.15 cfs @ 12.09 hrs, Volume= 0.012 af, Depth= 3.00"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
2,119	98	Paved parking, HSG D
2,119		100.00% Impervious Area

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

Summary for Subcatchment 37S: POST-F.1

Runoff = 1.92 cfs @ 12.14 hrs, Volume= 0.157 af, Depth= 1.30"
Routed to Link DP-D : DP-C (ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,775	98	Paved parking, HSG D
10,665	80	>75% Grass cover, Good, HSG D
690	96	Gravel surface, HSG D
50,095	77	Woods, Good, HSG D
63,225	78	Weighted Average
61,450		97.19% Pervious Area
1,775		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0800	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.5	190	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.9	240	Total			

Summary for Subcatchment 38S: POST-F.2

Runoff = 0.65 cfs @ 12.09 hrs, Volume= 0.047 af, Depth= 1.56"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
189	98	Paved parking, HSG D
13,769	80	>75% Grass cover, Good, HSG D
1,172	96	Gravel surface, HSG D
105	77	Woods, Good, HSG D
633	98	Roofs, HSG D
15,868	82	Weighted Average
15,046		94.82% Pervious Area
822		5.18% Impervious Area

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

Summary for Subcatchment 39S: POST-F.ROOFS

Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.034 af, Depth= 3.00"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,892	98	Roofs, HSG D
5,892		100.00% Impervious Area

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

Summary for Subcatchment 40S: POST-G

Runoff = 1.31 cfs @ 12.10 hrs, Volume= 0.098 af, Depth= 1.23"
Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
41,336	77	Woods, Good, HSG D
41,336		100.00% Pervious Area

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

Summary for Subcatchment 41S: POST-H.1

Runoff = 3.26 cfs @ 12.16 hrs, Volume= 0.281 af, Depth= 1.30"
Routed to Pond 5P : DETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,207	98	Paved parking, HSG D
12,449	80	>75% Grass cover, Good, HSG D
99,894	77	Woods, Good, HSG D
113,550	78	Weighted Average
112,343		98.94% Pervious Area
1,207		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.2	125	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.9	175	Total			

Summary for Subcatchment 42S: POST-H.2

Runoff = 0.31 cfs @ 12.10 hrs, Volume= 0.023 af, Depth= 1.49"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
190	98	Paved parking, HSG D
7,268	80	>75% Grass cover, Good, HSG D
500	96	Gravel surface, HSG D
7,958	81	Weighted Average
7,768		97.61% Pervious Area
190		2.39% Impervious Area

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

Summary for Subcatchment 43S: POST-H.ROOF

Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.031 af, Depth= 3.00"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
5,475	98	Roofs, HSG D
5,475		100.00% Impervious Area

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

Summary for Subcatchment 44S: POST-K.1

Runoff = 2.83 cfs @ 12.10 hrs, Volume= 0.207 af, Depth= 1.43"
Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
75,855	80	>75% Grass cover, Good, HSG D
75,855		100.00% Pervious Area

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

Summary for Subcatchment 45S: POST-K.3

Runoff = 0.00 cfs @ 21.24 hrs, Volume= 0.000 af, Depth= 0.02"
Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
6,994	39	>75% Grass cover, Good, HSG A
1,262	96	Gravel surface, HSG A
3,759	30	Woods, Good, HSG A
12,015	42	Weighted Average
12,015		100.00% Pervious Area

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

Summary for Subcatchment 46S: POST-K.ROOF

Runoff = 1.13 cfs @ 12.09 hrs, Volume= 0.093 af, Depth= 3.00"
Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
16,139	98	Roofs, HSG D
16,139		100.00% Impervious Area

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

Summary for Subcatchment 47S: POST-I

Runoff = 1.01 cfs @ 12.56 hrs, Volume= 0.319 af, Depth= 0.18"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
1,935	39	>75% Grass cover, Good, HSG A
825	96	Gravel surface, HSG A
359,384	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
1,308	98	Paved parking, HSG D
118,096	80	>75% Grass cover, Good, HSG D
1,655	96	Gravel surface, HSG D
146,413	77	Woods, Good, HSG D
923,567	52	Weighted Average
922,259		99.86% Pervious Area
1,308		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
6.4	273	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.1	323	Total			

Summary for Subcatchment 48S: POST-J

Runoff = 0.44 cfs @ 12.48 hrs, Volume= 0.115 af, Depth= 0.21"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.23"

Area (sf)	CN	Description
7,237	39	>75% Grass cover, Good, HSG A
3,266	96	Gravel surface, HSG A
134,145	30	Woods, Good, HSG A
223	96	Gravel surface, HSG B
26,483	55	Woods, Good, HSG B
42,094	80	>75% Grass cover, Good, HSG D
1,814	96	Gravel surface, HSG D
76,097	77	Woods, Good, HSG D
291,359	53	Weighted Average
291,359		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
2.7	180	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	230	Total			

Summary for Pond 1P: SW AREA #1 (RAIN GARDEN #1)

Inflow Area = 2.166 ac, 38.50% Impervious, Inflow Depth = 1.95" for 2-yr event
Inflow = 4.74 cfs @ 12.09 hrs, Volume= 0.351 af
Outflow = 0.11 cfs @ 17.52 hrs, Volume= 0.309 af, Atten= 98%, Lag= 325.9 min
Primary = 0.11 cfs @ 17.52 hrs, Volume= 0.309 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 56.59' @ 17.52 hrs Surf.Area= 4,376 sf Storage= 11,335 cf

Plug-Flow detention time= 1,229.8 min calculated for 0.309 af (88% of inflow)
Center-of-Mass det. time= 1,174.9 min (1,986.3 - 811.5)

Volume	Invert	Avail.Storage	Storage Description
#1	54.00'	31,979 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.00	4,376	317.0	0	0	4,376
57.00	4,376	317.0	13,128	13,128	5,327
58.00	5,356	337.0	4,858	17,986	6,418
60.00	8,777	385.0	13,993	31,979	9,269

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 53.80' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	58.00'	**20.0" W x 15.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.00'	**6.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 54.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	54.00'	**6.000 in/hr Exfiltration over Wetted area above 54.00'** Excluded Wetted area = 4,376 sf
#5	Device 1	59.60'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	59.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.11 cfs @ 17.52 hrs HW=56.59' (Free Discharge)
- **1=Culvert** (Passes 0.11 cfs of 11.54 cfs potential flow)
  - **2=Orifice/Grate** (Controls 0.00 cfs)
  - **3=Culvert** (Passes 0.11 cfs of 0.74 cfs potential flow)
    - **4=Exfiltration** (Exfiltration Controls 0.11 cfs)
  - **5=Orifice/Grate** (Controls 0.00 cfs)
- **6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2P: SW AREA #2 (RAIN GARDEN #2)

Inflow Area = 1.664 ac, 35.21% Impervious, Inflow Depth = 1.94" for 2-yr event
Inflow = 3.59 cfs @ 12.09 hrs, Volume= 0.269 af
Outflow = 1.83 cfs @ 12.26 hrs, Volume= 0.236 af, Atten= 49%, Lag= 10.0 min
Primary = 1.83 cfs @ 12.26 hrs, Volume= 0.236 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 71.15' @ 12.26 hrs Surf.Area= 2,020 sf Storage= 4,658 cf

Plug-Flow detention time= 238.4 min calculated for 0.236 af (88% of inflow)
Center-of-Mass det. time= 180.7 min (988.7 - 808.0)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	6,724 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	361	94.0	0	0	361
68.00	361	94.0	1,444	1,444	737
70.00	1,140	165.0	1,428	2,872	2,223
72.00	2,839	377.0	3,852	6,724	11,383

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	**15.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 63.75' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	70.75'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.00'	**6.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 64.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	64.00'	**6.000 in/hr Exfiltration over Surface area above 64.00'** Excluded Surface area = 361 sf Phase-In= 0.01'
#5	Device 1	71.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	71.55'	**10.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=1.81 cfs @ 12.26 hrs HW=71.14' (Free Discharge)
- **1=Culvert** (Passes 1.81 cfs of 15.09 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 1.58 cfs @ 2.01 fps)
  - **3=Culvert** (Passes 0.23 cfs of 1.88 cfs potential flow)
    - **4=Exfiltration** (Exfiltration Controls 0.23 cfs)
  - **5=Orifice/Grate** (Controls 0.00 cfs)
- **6=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 3P: SW AREA #3 (RAIN GARDEN #5)

Inflow Area = 4.743 ac, 62.26% Impervious, Inflow Depth = 2.35" for 2-yr event
Inflow = 12.30 cfs @ 12.09 hrs, Volume= 0.928 af
Outflow = 4.55 cfs @ 12.35 hrs, Volume= 0.833 af, Atten= 63%, Lag= 15.8 min
Primary = 4.55 cfs @ 12.35 hrs, Volume= 0.833 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 77.45' @ 12.35 hrs Surf.Area= 4,220 sf Storage= 17,567 cf

Plug-Flow detention time= 254.8 min calculated for 0.833 af (90% of inflow)
Center-of-Mass det. time= 205.2 min (999.2 - 794.0)

Volume	Invert	Avail.Storage	Storage Description
#1	68.00'	51,339 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
68.00	1,026	130.0	0	0	1,026
72.00	1,026	130.0	4,104	4,104	1,546
74.00	2,000	178.0	2,972	7,076	2,762
76.00	3,184	217.0	5,138	12,215	4,050
78.00	4,651	262.0	7,789	20,003	5,831
78.01	5,875	302.0	53	20,056	7,626
80.00	7,805	340.0	13,566	33,622	9,670
82.00	9,955	380.0	17,716	51,339	12,072

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**18.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 67.30' S= 0.0233 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	75.00'	**4.0" W x 36.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	78.00'	**7.0" W x 36.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	68.00'	**6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 68.00' S= 0.0000 '/' Cc= 0.900

			n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#5	Device 4	68.00'	**6.000 in/hr Exfiltration over Surface area above 68.00'**
			Excluded Surface area = 1,026 sf
#6	Device 1	81.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads
#7	Primary	81.25'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=4.55 cfs @ 12.35 hrs HW=77.45' (Free Discharge)
- **1=Culvert** (Passes 4.55 cfs of 25.10 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 4.10 cfs @ 5.02 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
  - **4=Culvert** (Passes 0.44 cfs of 2.02 cfs potential flow)
    - **5=Exfiltration** (Exfiltration Controls 0.44 cfs)
  - **6=Orifice/Grate** (Controls 0.00 cfs)
- **7=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 4P: SW AREA #4 (RAIN GARDEN #3)

Inflow Area = 3.540 ac, 11.23% Impervious, Inflow Depth = 0.88" for 2-yr event
Inflow = 2.06 cfs @ 12.09 hrs, Volume= 0.259 af
Outflow = 0.34 cfs @ 12.59 hrs, Volume= 0.259 af, Atten= 84%, Lag= 29.9 min
Primary = 0.34 cfs @ 12.59 hrs, Volume= 0.259 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 107.22' @ 12.59 hrs Surf.Area= 1,254 sf Storage= 3,224 cf

Plug-Flow detention time= 255.2 min calculated for 0.259 af (100% of inflow)
Center-of-Mass det. time= 256.6 min (1,162.0 - 905.3)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	10,120 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
102.00	540	156.0	0	0	540
106.00	540	156.0	2,160	2,160	1,164
108.00	1,865	255.0	2,272	4,432	4,428
110.00	3,952	345.0	5,688	10,120	8,767

Device	Routing	Invert	Outlet Devices
#1	Primary	102.00'	**18.0" Round Culvert**
			L= 30.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 102.00' / 101.70' S= 0.0100 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	102.00'	**6.0" Round Culvert**
			L= 100.0' CPP, square edge headwall, Ke= 0.500

			Inlet / Outlet Invert= 102.00' / 102.00' S= 0.0000 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	102.00'	**6.000 in/hr Exfiltration over Wetted area above 102.00'**
			Excluded Wetted area = 540 sf
#4	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads
#5	Primary	109.50'	**10.0' long x 6.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.34 cfs @ 12.59 hrs HW=107.22' (Free Discharge)
- **1=Culvert** (Passes 0.34 cfs of 17.99 cfs potential flow)
  - **2=Culvert** (Passes 0.34 cfs of 1.12 cfs potential flow)
    - **3=Exfiltration** (Exfiltration Controls 0.34 cfs)
  - **4=Orifice/Grate** (Controls 0.00 cfs)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 5P: DETENTION POND

Inflow Area = 2.607 ac, 1.06% Impervious, Inflow Depth = 1.30" for 2-yr event
Inflow = 3.26 cfs @ 12.16 hrs, Volume= 0.281 af
Outflow = 0.30 cfs @ 14.00 hrs, Volume= 0.105 af, Atten= 91%, Lag= 110.5 min
Primary = 0.30 cfs @ 14.00 hrs, Volume= 0.105 af
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 115.28' @ 14.00 hrs Surf.Area= 3,477 sf Storage= 7,787 cf

Plug-Flow detention time= 326.4 min calculated for 0.105 af (37% of inflow)
Center-of-Mass det. time= 194.9 min (1,048.1 - 853.2)

Volume	Invert	Avail.Storage	Storage Description
#1	110.00'	10,602 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
110.00	219	76.0	0	0	219
112.00	1,022	162.0	1,143	1,143	1,865
114.00	2,131	203.0	3,086	4,229	3,111
116.00	4,376	269.0	6,374	10,602	5,634

Device	Routing	Invert	Outlet Devices
#1	Primary	109.00'	**15.0" Round Culvert**
			L= 65.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 109.00' / 108.00' S= 0.0154 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	115.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads

Primary OutFlow Max=0.29 cfs @ 14.00 hrs HW=115.28' (Free Discharge)
└**1=Culvert** (Passes 0.29 cfs of 13.93 cfs potential flow)
└**2=Orifice/Grate** (Weir Controls 0.29 cfs @ 0.58 fps)

Summary for Pond 6P: SW AREA #6 (RAIN GARDEN #4)

Inflow Area = 2.112 ac, 17.54% Impervious, Inflow Depth = 1.70" for 2-yr event
Inflow = 3.96 cfs @ 12.09 hrs, Volume= 0.299 af
Outflow = 0.09 cfs @ 18.23 hrs, Volume= 0.106 af, Atten= 98%, Lag= 367.9 min
Primary = 0.09 cfs @ 18.23 hrs, Volume= 0.106 af
Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 80.86' @ 18.23 hrs Surf.Area= 2,731 sf Storage= 10,505 cf

Plug-Flow detention time= 730.4 min calculated for 0.106 af (35% of inflow)
Center-of-Mass det. time= 589.2 min (1,404.9 - 815.7)

Volume	Invert	Avail.Storage	Storage Description
#1	76.00'	23,471 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
76.00	2,110	218.0	0	0	2,110
80.00	2,110	218.0	8,440	8,440	2,982
82.00	3,687	295.0	5,724	14,164	6,167
84.00	5,692	358.0	9,307	23,471	9,505

Device	Routing	Invert	Outlet Devices
#1	Primary	76.00'	**15.0" Round Culvert** L= 158.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 74.00' S= 0.0127 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	76.00'	**6.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 76.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	76.00'	**6.000 in/hr Exfiltration over Surface area above 76.00'** Excluded Surface area = 2,110 sf Phase-In= 0.01'
#4	Device 1	82.50'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	83.50'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 18.23 hrs HW=80.86' (Free Discharge)
└**1=Culvert** (Passes 0.09 cfs of 10.24 cfs potential flow)
├**2=Culvert** (Passes 0.09 cfs of 1.07 cfs potential flow)
│└**3=Exfiltration** (Exfiltration Controls 0.09 cfs)
├**4=Orifice/Grate** (Controls 0.00 cfs)
└**5=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 7P: SW AREA #7 (INFILTRATION POND)

Inflow Area = 2.388 ac, 15.52% Impervious, Inflow Depth > 0.53" for 2-yr event
Inflow = 0.09 cfs @ 18.27 hrs, Volume= 0.106 af
Outflow = 0.05 cfs @ 27.06 hrs, Volume= 0.106 af, Atten= 45%, Lag= 527.2 min
Discarded = 0.05 cfs @ 27.06 hrs, Volume= 0.106 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 51.76' @ 27.06 hrs Surf.Area= 1,704 sf Storage= 1,604 cf

Plug-Flow detention time= 378.1 min calculated for 0.106 af (100% of inflow)
Center-of-Mass det. time= 378.1 min (1,782.3 - 1,404.2)

Volume	Invert	Avail.Storage	Storage Description
#1	50.60'	15,152 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.60	1,088	157.0	0	0	1,088
52.00	1,850	191.0	2,033	2,033	2,061
54.00	3,229	247.0	5,015	7,049	4,061
56.00	4,935	302.0	8,104	15,152	6,526

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.60'	**1.200 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	55.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.05 cfs @ 27.06 hrs HW=51.76' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.60' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.391 ac, 12.20% Impervious, Inflow Depth > 0.59" for 2-yr event
Inflow = 7.53 cfs @ 12.41 hrs, Volume= 2.071 af
Primary = 7.53 cfs @ 12.41 hrs, Volume= 2.071 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 0.949 ac, 0.00% Impervious, Inflow Depth = 1.23" for 2-yr event
Inflow = 1.31 cfs @ 12.10 hrs, Volume= 0.098 af
Primary = 1.31 cfs @ 12.10 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (ROAD)

Inflow Area = 1.451 ac, 2.81% Impervious, Inflow Depth = 1.30" for 2-yr event
Inflow = 1.92 cfs @ 12.14 hrs, Volume= 0.157 af
Primary = 1.92 cfs @ 12.14 hrs, Volume= 0.157 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

Subcatchment1S: POST-A.1ROOF Runoff Area=21,839 sf 29.46% Impervious Runoff Depth=3.26"
Tc=6.0 min CN=85 Runoff=1.86 cfs 0.136 af

Subcatchment2S: POST-A.2 Runoff Area=5,394 sf 74.36% Impervious Runoff Depth=4.08"
Tc=6.0 min CN=93 Runoff=0.54 cfs 0.042 af

Subcatchment3S: POST-B.1 Runoff Area=4,301 sf 100.00% Impervious Runoff Depth=4.64"
Tc=6.0 min CN=98 Runoff=0.46 cfs 0.038 af

Subcatchment4S: POST-B.2 Runoff Area=3,444 sf 100.00% Impervious Runoff Depth=4.64"
Tc=6.0 min CN=98 Runoff=0.37 cfs 0.031 af

Subcatchment5S: POST-B.3 Runoff Area=8,158 sf 75.19% Impervious Runoff Depth=4.19"
Tc=6.0 min CN=94 Runoff=0.84 cfs 0.065 af

Subcatchment6S: POST-B.4 Runoff Area=22,683 sf 44.65% Impervious Runoff Depth=3.56"
Tc=6.0 min CN=88 Runoff=2.08 cfs 0.154 af

Subcatchment7S: POST-B.5 Runoff Area=14,740 sf 51.65% Impervious Runoff Depth=3.66"
Tc=6.0 min CN=89 Runoff=1.38 cfs 0.103 af

Subcatchment8S: POST-B.6 Runoff Area=12,782 sf 66.60% Impervious Runoff Depth=3.97"
Tc=6.0 min CN=92 Runoff=1.27 cfs 0.097 af

Subcatchment9S: POST-B.7 Runoff Area=4,452 sf 88.07% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=96 Runoff=0.47 cfs 0.038 af

Subcatchment10S: POST-B.8 Runoff Area=16,186 sf 58.64% Impervious Runoff Depth=3.87"
Tc=6.0 min CN=91 Runoff=1.58 cfs 0.120 af

Subcatchment11S: POST-B.9 Runoff Area=13,230 sf 71.85% Impervious Runoff Depth=4.08"
Tc=6.0 min CN=93 Runoff=1.34 cfs 0.103 af

Subcatchment12S: POST-B.10 Runoff Area=13,781 sf 68.78% Impervious Runoff Depth=3.97"
Tc=6.0 min CN=92 Runoff=1.37 cfs 0.105 af

Subcatchment13S: POST-B.11 Runoff Area=4,784 sf 82.50% Impervious Runoff Depth=4.30"
Tc=6.0 min CN=95 Runoff=0.50 cfs 0.039 af

Subcatchment14S: POST-B.12 Runoff Area=9,045 sf 70.23% Impervious Runoff Depth=4.08"
Tc=6.0 min CN=93 Runoff=0.91 cfs 0.071 af

Subcatchment15S: POST-B.13 Runoff Area=16,536 sf 0.36% Impervious Runoff Depth=2.97"
Tc=6.0 min CN=82 Runoff=1.29 cfs 0.094 af

Subcatchment16S: POST-B.BACKOF Runoff Area=15,196 sf 100.00% Impervious Runoff Depth=4.64"
Tc=6.0 min CN=98 Runoff=1.63 cfs 0.135 af

Subcatchment17S: POST-C.1 Runoff Area=10,285 sf 72.16% Impervious Runoff Depth=4.08"
Tc=6.0 min CN=93 Runoff=1.04 cfs 0.080 af

Subcatchment18S: POST-C.2 Runoff Area=3,125 sf 100.00% Impervious Runoff Depth=4.64"
Tc=6.0 min CN=98 Runoff=0.33 cfs 0.028 af

Subcatchment19S: POST-C.3 Runoff Area=15,128 sf 68.73% Impervious Runoff Depth=4.08"
Tc=6.0 min CN=93 Runoff=1.53 cfs 0.118 af

Subcatchment20S: POST-C.4 Runoff Area=18,753 sf 51.27% Impervious Runoff Depth=3.66"
Tc=6.0 min CN=89 Runoff=1.76 cfs 0.131 af

Subcatchment21S: POST-D.1 Runoff Area=8,298 sf 60.20% Impervious Runoff Depth=3.87"
Tc=6.0 min CN=91 Runoff=0.81 cfs 0.061 af

Subcatchment22S: POST-D.2 Runoff Area=4,540 sf 75.18% Impervious Runoff Depth=4.19"
Tc=6.0 min CN=94 Runoff=0.47 cfs 0.036 af

Subcatchment23S: POST-D.3 Runoff Area=2,887 sf 89.23% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=96 Runoff=0.30 cfs 0.024 af

Subcatchment24S: POST-D.4 Runoff Area=8,058 sf 17.37% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=83 Runoff=0.65 cfs 0.047 af

Subcatchment25S: POST-D.5 Runoff Area=13,488 sf 11.14% Impervious Runoff Depth=2.88"
Tc=6.0 min CN=81 Runoff=1.02 cfs 0.074 af

Subcatchment26S: POST-D.6 Runoff Area=2,243 sf 86.58% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=96 Runoff=0.24 cfs 0.019 af

Subcatchment27S: POST-D.7 Runoff Area=3,293 sf 92.29% Impervious Runoff Depth=4.53"
Tc=6.0 min CN=97 Runoff=0.35 cfs 0.029 af

Subcatchment28S: POST-D.8 Runoff Area=8,095 sf 18.59% Impervious Runoff Depth=3.07"
Tc=6.0 min CN=83 Runoff=0.65 cfs 0.047 af

Subcatchment29S: POST-D.9 Runoff Area=16,511 sf 0.55% Impervious Runoff Depth=2.88"
Tc=6.0 min CN=81 Runoff=1.25 cfs 0.091 af

Subcatchment30S: POST-D.BACKOF Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=4.64"
Tc=6.0 min CN=98 Runoff=0.54 cfs 0.045 af

Subcatchment31S: POST-E.1 Runoff Area=14,096 sf 63.32% Impervious Runoff Depth=3.87"
Tc=6.0 min CN=91 Runoff=1.37 cfs 0.104 af

Subcatchment32S: POST-E.2 Runoff Area=38,272 sf 26.80% Impervious Runoff Depth=3.16"
Tc=6.0 min CN=84 Runoff=3.17 cfs 0.231 af

Subcatchment33S: POST-E.3 Runoff Area=16,029 sf 38.93% Impervious Runoff Depth=3.45"
Tc=6.0 min CN=87 Runoff=1.43 cfs 0.106 af

Subcatchment34S: POST-E.4 Runoff Area=1,858 sf 86.28% Impervious Runoff Depth=4.41"
Tc=6.0 min CN=96 Runoff=0.20 cfs 0.016 af

Subcatchment35S: POST-E.5 Runoff Area=2,066 sf 100.00% Impervious Runoff Depth=4.64"
Tc=6.0 min CN=98 Runoff=0.22 cfs 0.018 af

Subcatchment36S: POST-E.6 Runoff Area=2,119 sf 100.00% Impervious Runoff Depth=4.64"
Tc=6.0 min CN=98 Runoff=0.23 cfs 0.019 af

Subcatchment37S: POST-F.1 Runoff Area=63,225 sf 2.81% Impervious Runoff Depth=2.61"
Flow Length=240' Tc=8.9 min CN=78 Runoff=3.94 cfs 0.316 af

Subcatchment38S: POST-F.2 Runoff Area=15,868 sf 5.18% Impervious Runoff Depth=2.97"
Tc=6.0 min CN=82 Runoff=1.24 cfs 0.090 af

Subcatchment39S: POST-F.ROOFS Runoff Area=5,892 sf 100.00% Impervious Runoff Depth=4.64"
Tc=6.0 min CN=98 Runoff=0.63 cfs 0.052 af

Subcatchment40S: POST-G Runoff Area=41,336 sf 0.00% Impervious Runoff Depth=2.52"
Tc=6.0 min CN=77 Runoff=2.75 cfs 0.200 af

Subcatchment41S: POST-H.1 Runoff Area=113,550 sf 1.06% Impervious Runoff Depth=2.61"
Flow Length=175' Tc=10.9 min CN=78 Runoff=6.72 cfs 0.567 af

Subcatchment42S: POST-H.2 Runoff Area=7,958 sf 2.39% Impervious Runoff Depth=2.88"
Tc=6.0 min CN=81 Runoff=0.60 cfs 0.044 af

Subcatchment43S: POST-H.ROOF Runoff Area=5,475 sf 100.00% Impervious Runoff Depth=4.64"
Tc=6.0 min CN=98 Runoff=0.59 cfs 0.049 af

Subcatchment44S: POST-K.1 Runoff Area=75,855 sf 0.00% Impervious Runoff Depth=2.79"
Tc=6.0 min CN=80 Runoff=5.58 cfs 0.405 af

Subcatchment45S: POST-K.3 Runoff Area=12,015 sf 0.00% Impervious Runoff Depth=0.28"
Tc=6.0 min CN=42 Runoff=0.02 cfs 0.006 af

Subcatchment46S: POST-K.ROOF Runoff Area=16,139 sf 100.00% Impervious Runoff Depth=4.64"
Tc=6.0 min CN=98 Runoff=1.73 cfs 0.143 af

Subcatchment47S: POST-I Runoff Area=923,567 sf 0.14% Impervious Runoff Depth=0.75"
Flow Length=323' Tc=16.1 min CN=52 Runoff=9.39 cfs 1.326 af

Subcatchment48S: POST-J Runoff Area=291,359 sf 0.00% Impervious Runoff Depth=0.81"
Flow Length=230' Tc=12.4 min CN=53 Runoff=3.64 cfs 0.449 af

Pond 1P: SW AREA #1 (RAIN GARDEN #1) Peak Elev=58.07' Storage=18,375 cf Inflow=8.29 cfs 0.621 af
Outflow=0.40 cfs 0.561 af

Pond 2P: SW AREA #2 (RAIN GARDEN #2) Peak Elev=71.40' Storage=5,192 cf Inflow=6.28 cfs 0.474 af
Outflow=6.21 cfs 0.441 af

Pond 3P: SW AREA#3 (RAIN GARDEN#5) Peak Elev=78.75' Storage=24,655 cf Inflow=20.13 cfs 1.550 af
Outflow=9.06 cfs 1.456 af

Pond 4P: SW AREA#4 (RAIN GARDEN#3) Peak Elev=109.42' Storage=8,017 cf Inflow=7.05 cfs 0.661 af
Outflow=4.56 cfs 0.661 af

Pond 5P: DETENTION POND Peak Elev=115.46' Storage=8,418 cf Inflow=6.72 cfs 0.567 af
Outflow=5.42 cfs 0.391 af

Pond 6P: SW AREA#6 (RAIN GARDEN#4) Peak Elev=82.55' Storage=16,330 cf Inflow=7.30 cfs 0.548 af
Outflow=0.33 cfs 0.354 af

Pond 7P: SW AREA#7 (INFILTRATIONPOND) Peak Elev=54.47' Storage=8,648 cf Inflow=0.34 cfs 0.361 af
Discarded=0.10 cfs 0.354 af Primary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.354 af

Link DP-A: DP-A (WETLAND) Inflow=27.42 cfs 4.895 af
Primary=27.42 cfs 4.895 af

Link DP-C: DP-B (EASTERN WETLAND) Inflow=2.75 cfs 0.200 af
Primary=2.75 cfs 0.200 af

Link DP-D: DP-C (ROAD) Inflow=3.94 cfs 0.316 af
Primary=3.94 cfs 0.316 af

Total Runoff Area = 44.834 ac Runoff Volume = 6.344 af Average Runoff Depth = 1.70"
88.29% Pervious = 39.586 ac 11.71% Impervious = 5.248 ac

Summary for Subcatchment 1S: POST-A.1 ROOF

Runoff = 1.86 cfs @ 12.09 hrs, Volume= 0.136 af, Depth= 3.26"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
4,714	98	Paved parking, HSG D
14,433	80	>75% Grass cover, Good, HSG D
972	77	Woods, Good, HSG D
1,720	98	Roofs, HSG D
21,839	85	Weighted Average
15,405		70.54% Pervious Area
6,434		29.46% Impervious Area

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

Summary for Subcatchment 2S: POST-A.2

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.042 af, Depth= 4.08"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
4,011	98	Paved parking, HSG D
1,383	80	>75% Grass cover, Good, HSG D
5,394	93	Weighted Average
1,383		25.64% Pervious Area
4,011		74.36% Impervious Area

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

Summary for Subcatchment 3S: POST-B.1

Runoff = 0.46 cfs @ 12.09 hrs, Volume= 0.038 af, Depth= 4.64"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,604	98	Paved parking, HSG D
1,697	98	Roofs, HSG D
4,301	98	Weighted Average
4,301		100.00% Impervious Area

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

Summary for Subcatchment 4S: POST-B.2

Runoff = 0.37 cfs @ 12.09 hrs, Volume= 0.031 af, Depth= 4.64"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,606	98	Paved parking, HSG D
838	98	Roofs, HSG D
3,444	98	Weighted Average
3,444		100.00% Impervious Area

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

Summary for Subcatchment 5S: POST-B.3

Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.065 af, Depth= 4.19"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,251	98	Paved parking, HSG D
2,024	80	>75% Grass cover, Good, HSG D
2,883	98	Roofs, HSG D
8,158	94	Weighted Average
2,024		24.81% Pervious Area
6,134		75.19% Impervious Area

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

Summary for Subcatchment 6S: POST-B.4

Runoff = 2.08 cfs @ 12.09 hrs, Volume= 0.154 af, Depth= 3.56"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,023	98	Paved parking, HSG D
9,260	80	>75% Grass cover, Good, HSG D
3,294	77	Woods, Good, HSG D
7,106	98	Roofs, HSG D
22,683	88	Weighted Average
12,554		55.35% Pervious Area
10,129		44.65% Impervious Area

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

Summary for Subcatchment 7S: POST-B.5

Runoff = 1.38 cfs @ 12.09 hrs, Volume= 0.103 af, Depth= 3.66"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
4,392	98	Paved parking, HSG D
6,885	80	>75% Grass cover, Good, HSG D
242	77	Woods, Good, HSG D
3,221	98	Roofs, HSG D
14,740	89	Weighted Average
7,127		48.35% Pervious Area
7,613		51.65% Impervious Area

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

Summary for Subcatchment 8S: POST-B.6

Runoff = 1.27 cfs @ 12.09 hrs, Volume= 0.097 af, Depth= 3.97"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
4,699	98	Paved parking, HSG D
4,269	80	>75% Grass cover, Good, HSG D
3,814	98	Roofs, HSG D
12,782	92	Weighted Average
4,269		33.40% Pervious Area
8,513		66.60% Impervious Area

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

Summary for Subcatchment 9S: POST-B.7

Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.038 af, Depth= 4.41"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,921	98	Paved parking, HSG D
531	80	>75% Grass cover, Good, HSG D
4,452	96	Weighted Average
531		11.93% Pervious Area
3,921		88.07% Impervious Area

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

Summary for Subcatchment 10S: POST-B.8

Runoff = 1.58 cfs @ 12.09 hrs, Volume= 0.120 af, Depth= 3.87"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,068	98	Paved parking, HSG D
6,694	80	>75% Grass cover, Good, HSG D
4,424	98	Roofs, HSG D
16,186	91	Weighted Average
6,694		41.36% Pervious Area
9,492		58.64% Impervious Area

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

Summary for Subcatchment 11S: POST-B.9

Runoff = 1.34 cfs @ 12.09 hrs, Volume= 0.103 af, Depth= 4.08"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
4,919	98	Paved parking, HSG D
3,724	80	>75% Grass cover, Good, HSG D
4,587	98	Roofs, HSG D
13,230	93	Weighted Average
3,724		28.15% Pervious Area
9,506		71.85% Impervious Area

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

Summary for Subcatchment 12S: POST-B.10

Runoff = 1.37 cfs @ 12.09 hrs, Volume= 0.105 af, Depth= 3.97"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,074	98	Paved parking, HSG D
4,302	80	>75% Grass cover, Good, HSG D
4,405	98	Roofs, HSG D
13,781	92	Weighted Average
4,302		31.22% Pervious Area
9,479		68.78% Impervious Area

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

Summary for Subcatchment 13S: POST-B.11

Runoff = 0.50 cfs @ 12.09 hrs, Volume= 0.039 af, Depth= 4.30"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,021	98	Paved parking, HSG D
837	80	>75% Grass cover, Good, HSG D
926	98	Roofs, HSG D
4,784	95	Weighted Average
837		17.50% Pervious Area
3,947		82.50% Impervious Area

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

Summary for Subcatchment 14S: POST-B.12

Runoff = 0.91 cfs @ 12.09 hrs, Volume= 0.071 af, Depth= 4.08"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,184	98	Paved parking, HSG D
2,693	80	>75% Grass cover, Good, HSG D
3,168	98	Roofs, HSG D
9,045	93	Weighted Average
2,693		29.77% Pervious Area
6,352		70.23% Impervious Area

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

Summary for Subcatchment 15S: POST-B.13

Runoff = 1.29 cfs @ 12.09 hrs, Volume= 0.094 af, Depth= 2.97"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
59	98	Paved parking, HSG D
14,780	80	>75% Grass cover, Good, HSG D
1,697	96	Gravel surface, HSG D
16,536	82	Weighted Average
16,477		99.64% Pervious Area
59		0.36% Impervious Area

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

Summary for Subcatchment 16S: POST-B.BACK OF ROOFS

Runoff = 1.63 cfs @ 12.09 hrs, Volume= 0.135 af, Depth= 4.64"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
15,196	98	Roofs, HSG D
15,196		100.00% Impervious Area

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

Summary for Subcatchment 17S: POST-C.1

Runoff = 1.04 cfs @ 12.09 hrs, Volume= 0.080 af, Depth= 4.08"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,667	98	Paved parking, HSG D
2,863	80	>75% Grass cover, Good, HSG D
3,755	98	Roofs, HSG D
10,285	93	Weighted Average
2,863		27.84% Pervious Area
7,422		72.16% Impervious Area

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

Summary for Subcatchment 18S: POST-C.2

Runoff = 0.33 cfs @ 12.09 hrs, Volume= 0.028 af, Depth= 4.64"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,395	98	Paved parking, HSG D
730	98	Roofs, HSG D
3,125	98	Weighted Average
3,125		100.00% Impervious Area

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

Summary for Subcatchment 19S: POST-C.3

Runoff = 1.53 cfs @ 12.09 hrs, Volume= 0.118 af, Depth= 4.08"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,966	98	Paved parking, HSG D
4,414	80	>75% Grass cover, Good, HSG D
317	96	Gravel surface, HSG D
4,431	98	Roofs, HSG D
15,128	93	Weighted Average
4,731		31.27% Pervious Area
10,397		68.73% Impervious Area

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

Summary for Subcatchment 20S: POST-C.4

Runoff = 1.76 cfs @ 12.09 hrs, Volume= 0.131 af, Depth= 3.66"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,662	98	Paved parking, HSG D
9,139	80	>75% Grass cover, Good, HSG D
3,952	98	Roofs, HSG D
18,753	89	Weighted Average
9,139		48.73% Pervious Area
9,614		51.27% Impervious Area

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

Summary for Subcatchment 21S: POST-D.1

Runoff = 0.81 cfs @ 12.09 hrs, Volume= 0.061 af, Depth= 3.87"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,187	98	Paved parking, HSG D
3,303	80	>75% Grass cover, Good, HSG D
1,808	98	Roofs, HSG D
8,298	91	Weighted Average
3,303		39.80% Pervious Area
4,995		60.20% Impervious Area

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

Summary for Subcatchment 22S: POST-D.2

Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.036 af, Depth= 4.19"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,161	98	Paved parking, HSG D
1,127	80	>75% Grass cover, Good, HSG D
1,252	98	Roofs, HSG D
4,540	94	Weighted Average
1,127		24.82% Pervious Area
3,413		75.18% Impervious Area

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

Summary for Subcatchment 23S: POST-D.3

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.024 af, Depth= 4.41"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,576	98	Paved parking, HSG D
311	80	>75% Grass cover, Good, HSG D
2,887	96	Weighted Average
311		10.77% Pervious Area
2,576		89.23% Impervious Area

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

Summary for Subcatchment 24S: POST-D.4

Runoff = 0.65 cfs @ 12.09 hrs, Volume= 0.047 af, Depth= 3.07"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,400	98	Paved parking, HSG D
6,658	80	>75% Grass cover, Good, HSG D
8,058	83	Weighted Average
6,658		82.63% Pervious Area
1,400		17.37% Impervious Area

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

Summary for Subcatchment 25S: POST-D.5

Runoff = 1.02 cfs @ 12.09 hrs, Volume= 0.074 af, Depth= 2.88"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,502	98	Paved parking, HSG D
7,754	80	>75% Grass cover, Good, HSG D
4,232	77	Woods, Good, HSG D
13,488	81	Weighted Average
11,986		88.86% Pervious Area
1,502		11.14% Impervious Area

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

Summary for Subcatchment 26S: POST-D.6

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 4.41"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,942	98	Paved parking, HSG D
301	80	>75% Grass cover, Good, HSG D
2,243	96	Weighted Average
301		13.42% Pervious Area
1,942		86.58% Impervious Area

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

Summary for Subcatchment 27S: POST-D.7

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.029 af, Depth= 4.53"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,391	98	Paved parking, HSG D
254	80	>75% Grass cover, Good, HSG D
648	98	Roofs, HSG D
3,293	97	Weighted Average
254		7.71% Pervious Area
3,039		92.29% Impervious Area

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

Summary for Subcatchment 28S: POST-D.8

Runoff = 0.65 cfs @ 12.09 hrs, Volume= 0.047 af, Depth= 3.07"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,505	98	Paved parking, HSG D
4,734	80	>75% Grass cover, Good, HSG D
1,856	77	Woods, Good, HSG D
8,095	83	Weighted Average
6,590		81.41% Pervious Area
1,505		18.59% Impervious Area

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

Summary for Subcatchment 29S: POST-D.9

Runoff = 1.25 cfs @ 12.09 hrs, Volume= 0.091 af, Depth= 2.88"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
91	98	Paved parking, HSG D
15,963	80	>75% Grass cover, Good, HSG D
457	96	Gravel surface, HSG D
16,511	81	Weighted Average
16,420		99.45% Pervious Area
91		0.55% Impervious Area

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

Summary for Subcatchment 30S: POST-D.BACK OF ROOFS

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.045 af, Depth= 4.64"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,053	98	Roofs, HSG D
5,053		100.00% Impervious Area

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

Summary for Subcatchment 31S: POST-E.1

Runoff = 1.37 cfs @ 12.09 hrs, Volume= 0.104 af, Depth= 3.87"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
4,689	98	Paved parking, HSG D
5,171	80	>75% Grass cover, Good, HSG D
4,236	98	Roofs, HSG D
14,096	91	Weighted Average
5,171		36.68% Pervious Area
8,925		63.32% Impervious Area

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

Summary for Subcatchment 32S: POST-E.2

Runoff = 3.17 cfs @ 12.09 hrs, Volume= 0.231 af, Depth= 3.16"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,754	98	Paved parking, HSG D
18,939	80	>75% Grass cover, Good, HSG D
9,077	77	Woods, Good, HSG D
4,502	98	Roofs, HSG D
38,272	84	Weighted Average
28,016		73.20% Pervious Area
10,256		26.80% Impervious Area

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

Summary for Subcatchment 33S: POST-E.3

Runoff = 1.43 cfs @ 12.09 hrs, Volume= 0.106 af, Depth= 3.45"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
3,579	98	Paved parking, HSG D
8,806	80	>75% Grass cover, Good, HSG D
983	77	Woods, Good, HSG D
2,661	98	Roofs, HSG D
16,029	87	Weighted Average
9,789		61.07% Pervious Area
6,240		38.93% Impervious Area

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

Summary for Subcatchment 34S: POST-E.4

Runoff = 0.20 cfs @ 12.09 hrs, Volume= 0.016 af, Depth= 4.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,603	98	Paved parking, HSG D
255	80	>75% Grass cover, Good, HSG D
1,858	96	Weighted Average
255		13.72% Pervious Area
1,603		86.28% Impervious Area

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

Summary for Subcatchment 35S: POST-E.5

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 4.64"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,066	98	Paved parking, HSG D
2,066		100.00% Impervious Area

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

Summary for Subcatchment 36S: POST-E.6

Runoff = 0.23 cfs @ 12.09 hrs, Volume= 0.019 af, Depth= 4.64"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
2,119	98	Paved parking, HSG D
2,119		100.00% Impervious Area

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

Summary for Subcatchment 37S: POST-F.1

Runoff = 3.94 cfs @ 12.13 hrs, Volume= 0.316 af, Depth= 2.61"
Routed to Link DP-D : DP-C (ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,775	98	Paved parking, HSG D
10,665	80	>75% Grass cover, Good, HSG D
690	96	Gravel surface, HSG D
50,095	77	Woods, Good, HSG D
63,225	78	Weighted Average
61,450		97.19% Pervious Area
1,775		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0800	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.5	190	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.9	240	Total			

Summary for Subcatchment 38S: POST-F.2

Runoff = 1.24 cfs @ 12.09 hrs, Volume= 0.090 af, Depth= 2.97"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
189	98	Paved parking, HSG D
13,769	80	>75% Grass cover, Good, HSG D
1,172	96	Gravel surface, HSG D
105	77	Woods, Good, HSG D
633	98	Roofs, HSG D
15,868	82	Weighted Average
15,046		94.82% Pervious Area
822		5.18% Impervious Area

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

Summary for Subcatchment 39S: POST-F.ROOFS

Runoff = 0.63 cfs @ 12.09 hrs, Volume= 0.052 af, Depth= 4.64"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,892	98	Roofs, HSG D
5,892		100.00% Impervious Area

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

Summary for Subcatchment 40S: POST-G

Runoff = 2.75 cfs @ 12.09 hrs, Volume= 0.200 af, Depth= 2.52"
Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
41,336	77	Woods, Good, HSG D
41,336		100.00% Pervious Area

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

Summary for Subcatchment 41S: POST-H.1

Runoff = 6.72 cfs @ 12.16 hrs, Volume= 0.567 af, Depth= 2.61"
Routed to Pond 5P : DETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,207	98	Paved parking, HSG D
12,449	80	>75% Grass cover, Good, HSG D
99,894	77	Woods, Good, HSG D
113,550	78	Weighted Average
112,343		98.94% Pervious Area
1,207		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.2	125	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.9	175	Total			

Summary for Subcatchment 42S: POST-H.2

Runoff = 0.60 cfs @ 12.09 hrs, Volume= 0.044 af, Depth= 2.88"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
190	98	Paved parking, HSG D
7,268	80	>75% Grass cover, Good, HSG D
500	96	Gravel surface, HSG D
7,958	81	Weighted Average
7,768		97.61% Pervious Area
190		2.39% Impervious Area

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

Summary for Subcatchment 43S: POST-H.ROOF

Runoff = 0.59 cfs @ 12.09 hrs, Volume= 0.049 af, Depth= 4.64"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
5,475	98	Roofs, HSG D
5,475		100.00% Impervious Area

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

Summary for Subcatchment 44S: POST-K.1

Runoff = 5.58 cfs @ 12.09 hrs, Volume= 0.405 af, Depth= 2.79"
Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
75,855	80	>75% Grass cover, Good, HSG D
75,855		100.00% Pervious Area

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

Summary for Subcatchment 45S: POST-K.3

Runoff = 0.02 cfs @ 12.40 hrs, Volume= 0.006 af, Depth= 0.28"
Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
6,994	39	>75% Grass cover, Good, HSG A
1,262	96	Gravel surface, HSG A
3,759	30	Woods, Good, HSG A
12,015	42	Weighted Average
12,015		100.00% Pervious Area

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

Summary for Subcatchment 46S: POST-K.ROOF

Runoff = 1.73 cfs @ 12.09 hrs, Volume= 0.143 af, Depth= 4.64"
Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
16,139	98	Roofs, HSG D
16,139		100.00% Impervious Area

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

Summary for Subcatchment 47S: POST-I

Runoff = 9.39 cfs @ 12.31 hrs, Volume= 1.326 af, Depth= 0.75"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
1,935	39	>75% Grass cover, Good, HSG A
825	96	Gravel surface, HSG A
359,384	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
1,308	98	Paved parking, HSG D
118,096	80	>75% Grass cover, Good, HSG D
1,655	96	Gravel surface, HSG D
146,413	77	Woods, Good, HSG D
923,567	52	Weighted Average
922,259		99.86% Pervious Area
1,308		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
6.4	273	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.1	323	Total			

Summary for Subcatchment 48S: POST-J

Runoff = 3.64 cfs @ 12.22 hrs, Volume= 0.449 af, Depth= 0.81"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.88"

Area (sf)	CN	Description
7,237	39	>75% Grass cover, Good, HSG A
3,266	96	Gravel surface, HSG A
134,145	30	Woods, Good, HSG A
223	96	Gravel surface, HSG B
26,483	55	Woods, Good, HSG B
42,094	80	>75% Grass cover, Good, HSG D
1,814	96	Gravel surface, HSG D
76,097	77	Woods, Good, HSG D
291,359	53	Weighted Average
291,359		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
2.7	180	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	230	Total			

Summary for Pond 1P: SW AREA #1 (RAIN GARDEN #1)

Inflow Area = 2.166 ac, 38.50% Impervious, Inflow Depth = 3.44" for 10-yr event
Inflow = 8.29 cfs @ 12.09 hrs, Volume= 0.621 af
Outflow = 0.40 cfs @ 14.73 hrs, Volume= 0.561 af, Atten= 95%, Lag= 158.6 min
Primary = 0.40 cfs @ 14.73 hrs, Volume= 0.561 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 58.07' @ 14.73 hrs Surf.Area= 5,464 sf Storage= 18,375 cf

Plug-Flow detention time= 1,022.0 min calculated for 0.561 af (90% of inflow)
Center-of-Mass det. time= 974.4 min (1,772.0 - 797.7)

Volume	Invert	Avail.Storage	Storage Description
#1	54.00'	31,979 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.00	4,376	317.0	0	0	4,376
57.00	4,376	317.0	13,128	13,128	5,327
58.00	5,356	337.0	4,858	17,986	6,418
60.00	8,777	385.0	13,993	31,979	9,269

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 53.80' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	58.00'	**20.0" W x 15.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.00'	**6.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 54.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	54.00'	**6.000 in/hr Exfiltration over Wetted area above 54.00'** Excluded Wetted area = 4,376 sf
#5	Device 1	59.60'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	59.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.40 cfs @ 14.73 hrs HW=58.07' (Free Discharge)
- **1=Culvert** (Passes 0.40 cfs of 15.51 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.10 cfs @ 0.86 fps)
  - **3=Culvert** (Passes 0.30 cfs of 0.97 cfs potential flow)
    - **4=Exfiltration** (Exfiltration Controls 0.30 cfs)
  - **5=Orifice/Grate** (Controls 0.00 cfs)
- **6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2P: SW AREA #2 (RAIN GARDEN #2)

Inflow Area = 1.664 ac, 35.21% Impervious, Inflow Depth = 3.42" for 10-yr event
Inflow = 6.28 cfs @ 12.09 hrs, Volume= 0.474 af
Outflow = 6.21 cfs @ 12.11 hrs, Volume= 0.441 af, Atten= 1%, Lag= 1.3 min
Primary = 6.21 cfs @ 12.11 hrs, Volume= 0.441 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 71.40' @ 12.11 hrs Surf.Area= 2,245 sf Storage= 5,192 cf

Plug-Flow detention time= 163.9 min calculated for 0.441 af (93% of inflow)
Center-of-Mass det. time= 126.2 min (921.6 - 795.4)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	6,724 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	361	94.0	0	0	361
68.00	361	94.0	1,444	1,444	737
70.00	1,140	165.0	1,428	2,872	2,223
72.00	2,839	377.0	3,852	6,724	11,383

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	**15.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 63.75' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	70.75'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.00'	**6.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 64.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	64.00'	**6.000 in/hr Exfiltration over Surface area above 64.00'** Excluded Surface area = 361 sf Phase-In= 0.01'
#5	Device 1	71.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	71.55'	**10.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=5.94 cfs @ 12.11 hrs HW=71.39' (Free Discharge)
- **1=Culvert** (Passes 5.94 cfs of 15.37 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 2.95 cfs @ 2.95 fps)
  - **3=Culvert** (Passes 0.26 cfs of 1.92 cfs potential flow)
    - **4=Exfiltration** (Exfiltration Controls 0.26 cfs)
  - **5=Orifice/Grate** (Weir Controls 2.73 cfs @ 1.22 fps)
- **6=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 3P: SW AREA #3 (RAIN GARDEN #5)

Inflow Area = 4.743 ac, 62.26% Impervious, Inflow Depth = 3.92" for 10-yr event
Inflow = 20.13 cfs @ 12.09 hrs, Volume= 1.550 af
Outflow = 9.06 cfs @ 12.27 hrs, Volume= 1.456 af, Atten= 55%, Lag= 11.1 min
Primary = 9.06 cfs @ 12.27 hrs, Volume= 1.456 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 78.75' @ 12.27 hrs Surf.Area= 6,561 sf Storage= 24,655 cf

Plug-Flow detention time= 181.6 min calculated for 1.456 af (94% of inflow)
Center-of-Mass det. time= 148.1 min (929.7 - 781.6)

Volume	Invert	Avail.Storage	Storage Description
#1	68.00'	51,339 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
68.00	1,026	130.0	0	0	1,026
72.00	1,026	130.0	4,104	4,104	1,546
74.00	2,000	178.0	2,972	7,076	2,762
76.00	3,184	217.0	5,138	12,215	4,050
78.00	4,651	262.0	7,789	20,003	5,831
78.01	5,875	302.0	53	20,056	7,626
80.00	7,805	340.0	13,566	33,622	9,670
82.00	9,955	380.0	17,716	51,339	12,072

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**18.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 67.30' S= 0.0233 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	75.00'	**4.0" W x 36.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	78.00'	**7.0" W x 36.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	68.00'	**6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 68.00' S= 0.0000 '/' Cc= 0.900

			n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#5	Device 4	68.00'	**6.000 in/hr Exfiltration over Surface area above 68.00'**
			Excluded Surface area = 1,026 sf
#6	Device 1	81.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads
#7	Primary	81.25'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=9.03 cfs @ 12.27 hrs HW=78.74' (Free Discharge)
- **1=Culvert** (Passes 9.03 cfs of 26.90 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 7.06 cfs @ 7.06 fps)
  - **3=Orifice/Grate** (Orifice Controls 1.20 cfs @ 2.77 fps)
  - **4=Culvert** (Passes 0.77 cfs of 2.16 cfs potential flow)
    - **5=Exfiltration** (Exfiltration Controls 0.77 cfs)
  - **6=Orifice/Grate** (Controls 0.00 cfs)
- **7=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 4P: SW AREA #4 (RAIN GARDEN #3)

Inflow Area = 3.540 ac, 11.23% Impervious, Inflow Depth = 2.24" for 10-yr event
Inflow = 7.05 cfs @ 12.27 hrs, Volume= 0.661 af
Outflow = 4.56 cfs @ 12.44 hrs, Volume= 0.661 af, Atten= 35%, Lag= 10.0 min
Primary = 4.56 cfs @ 12.44 hrs, Volume= 0.661 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 109.42' @ 12.44 hrs Surf.Area= 3,263 sf Storage= 8,017 cf

Plug-Flow detention time= 153.0 min calculated for 0.661 af (100% of inflow)
Center-of-Mass det. time= 154.4 min (1,009.2 - 854.8)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	10,120 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
102.00	540	156.0	0	0	540
106.00	540	156.0	2,160	2,160	1,164
108.00	1,865	255.0	2,272	4,432	4,428
110.00	3,952	345.0	5,688	10,120	8,767

Device	Routing	Invert	Outlet Devices
#1	Primary	102.00'	**18.0" Round Culvert**
			L= 30.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 102.00' / 101.70' S= 0.0100 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	102.00'	**6.0" Round Culvert**
			L= 100.0' CPP, square edge headwall, Ke= 0.500

			Inlet / Outlet Invert= 102.00' / 102.00' S= 0.0000 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	102.00'	**6.000 in/hr Exfiltration over Wetted area above 102.00'**
			Excluded Wetted area = 540 sf
#4	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads
#5	Primary	109.50'	**10.0' long x 6.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=4.42 cfs @ 12.44 hrs HW=109.41' (Free Discharge)
- **1=Culvert** (Passes 4.42 cfs of 21.97 cfs potential flow)
  - **2=Culvert** (Passes 0.95 cfs of 1.35 cfs potential flow)
    - **3=Exfiltration** (Exfiltration Controls 0.95 cfs)
  - **4=Orifice/Grate** (Weir Controls 3.47 cfs @ 1.32 fps)
- **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 5P: DETENTION POND

Inflow Area = 2.607 ac, 1.06% Impervious, Inflow Depth = 2.61" for 10-yr event
Inflow = 6.72 cfs @ 12.16 hrs, Volume= 0.567 af
Outflow = 5.42 cfs @ 12.27 hrs, Volume= 0.391 af, Atten= 19%, Lag= 7.1 min
Primary = 5.42 cfs @ 12.27 hrs, Volume= 0.391 af
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 115.46' @ 12.25 hrs Surf.Area= 3,688 sf Storage= 8,418 cf

Plug-Flow detention time= 162.4 min calculated for 0.391 af (69% of inflow)
Center-of-Mass det. time= 63.5 min (896.2 - 832.8)

Volume	Invert	Avail.Storage	Storage Description
#1	110.00'	10,602 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
110.00	219	76.0	0	0	219
112.00	1,022	162.0	1,143	1,143	1,865
114.00	2,131	203.0	3,086	4,229	3,111
116.00	4,376	269.0	6,374	10,602	5,634

Device	Routing	Invert	Outlet Devices
#1	Primary	109.00'	**15.0" Round Culvert**
			L= 65.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 109.00' / 108.00' S= 0.0154 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	115.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads

Primary OutFlow Max=4.91 cfs @ 12.27 hrs HW=115.46' (Free Discharge)
└**1=Culvert** (Passes 4.91 cfs of 14.13 cfs potential flow)
└**2=Orifice/Grate** (Weir Controls 4.91 cfs @ 1.49 fps)

Summary for Pond 6P: SW AREA #6 (RAIN GARDEN #4)

Inflow Area = 2.112 ac, 17.54% Impervious, Inflow Depth = 3.11" for 10-yr event
Inflow = 7.30 cfs @ 12.09 hrs, Volume= 0.548 af
Outflow = 0.33 cfs @ 15.17 hrs, Volume= 0.354 af, Atten= 95%, Lag= 184.8 min
Primary = 0.33 cfs @ 15.17 hrs, Volume= 0.354 af
Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 82.55' @ 15.17 hrs Surf.Area= 4,195 sf Storage= 16,330 cf

Plug-Flow detention time= 602.4 min calculated for 0.354 af (65% of inflow)
Center-of-Mass det. time= 500.4 min (1,303.8 - 803.4)

Volume	Invert	Avail.Storage	Storage Description
#1	76.00'	23,471 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
76.00	2,110	218.0	0	0	2,110
80.00	2,110	218.0	8,440	8,440	2,982
82.00	3,687	295.0	5,724	14,164	6,167
84.00	5,692	358.0	9,307	23,471	9,505

Device	Routing	Invert	Outlet Devices
#1	Primary	76.00'	**15.0" Round Culvert** L= 158.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 74.00' S= 0.0127 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	76.00'	**6.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 76.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	76.00'	**6.000 in/hr Exfiltration over Surface area above 76.00'** Excluded Surface area = 2,110 sf Phase-In= 0.01'
#4	Device 1	82.50'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	83.50'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.33 cfs @ 15.17 hrs HW=82.55' (Free Discharge)
└**1=Culvert** (Passes 0.33 cfs of 11.69 cfs potential flow)
├**2=Culvert** (Passes 0.29 cfs of 1.26 cfs potential flow)
│└**3=Exfiltration** (Exfiltration Controls 0.29 cfs)
├**4=Orifice/Grate** (Orifice Controls 0.04 cfs @ 0.72 fps)
└**5=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 7P: SW AREA #7 (INFILTRATION POND)

Inflow Area = 2.388 ac, 15.52% Impervious, Inflow Depth > 1.81" for 10-yr event
Inflow = 0.34 cfs @ 15.15 hrs, Volume= 0.361 af
Outflow = 0.10 cfs @ 28.66 hrs, Volume= 0.354 af, Atten= 70%, Lag= 810.5 min
Discarded = 0.10 cfs @ 28.66 hrs, Volume= 0.354 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 54.47' @ 28.66 hrs Surf.Area= 3,597 sf Storage= 8,648 cf

Plug-Flow detention time= 1,075.0 min calculated for 0.354 af (98% of inflow)
Center-of-Mass det. time= 1,044.4 min (2,342.3 - 1,298.0)

Volume	Invert	Avail.Storage	Storage Description
#1	50.60'	15,152 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.60	1,088	157.0	0	0	1,088
52.00	1,850	191.0	2,033	2,033	2,061
54.00	3,229	247.0	5,015	7,049	4,061
56.00	4,935	302.0	8,104	15,152	6,526

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.60'	**1.200 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	55.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.10 cfs @ 28.66 hrs HW=54.47' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.10 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.60' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.391 ac, 12.20% Impervious, Inflow Depth > 1.39" for 10-yr event
Inflow = 27.42 cfs @ 12.41 hrs, Volume= 4.895 af
Primary = 27.42 cfs @ 12.41 hrs, Volume= 4.895 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 0.949 ac, 0.00% Impervious, Inflow Depth = 2.52" for 10-yr event
Inflow = 2.75 cfs @ 12.09 hrs, Volume= 0.200 af
Primary = 2.75 cfs @ 12.09 hrs, Volume= 0.200 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (ROAD)

Inflow Area = 1.451 ac, 2.81% Impervious, Inflow Depth = 2.61" for 10-yr event
Inflow = 3.94 cfs @ 12.13 hrs, Volume= 0.316 af
Primary = 3.94 cfs @ 12.13 hrs, Volume= 0.316 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

Subcatchment1S: POST-A.1ROOF Runoff Area=21,839 sf 29.46% Impervious Runoff Depth=3.88"
Tc=6.0 min CN=85 Runoff=2.20 cfs 0.162 af

Subcatchment2S: POST-A.2 Runoff Area=5,394 sf 74.36% Impervious Runoff Depth=4.74"
Tc=6.0 min CN=93 Runoff=0.63 cfs 0.049 af

Subcatchment3S: POST-B.1 Runoff Area=4,301 sf 100.00% Impervious Runoff Depth=5.31"
Tc=6.0 min CN=98 Runoff=0.52 cfs 0.044 af

Subcatchment4S: POST-B.2 Runoff Area=3,444 sf 100.00% Impervious Runoff Depth=5.31"
Tc=6.0 min CN=98 Runoff=0.42 cfs 0.035 af

Subcatchment5S: POST-B.3 Runoff Area=8,158 sf 75.19% Impervious Runoff Depth=4.85"
Tc=6.0 min CN=94 Runoff=0.96 cfs 0.076 af

Subcatchment6S: POST-B.4 Runoff Area=22,683 sf 44.65% Impervious Runoff Depth=4.19"
Tc=6.0 min CN=88 Runoff=2.43 cfs 0.182 af

Subcatchment7S: POST-B.5 Runoff Area=14,740 sf 51.65% Impervious Runoff Depth=4.30"
Tc=6.0 min CN=89 Runoff=1.61 cfs 0.121 af

Subcatchment8S: POST-B.6 Runoff Area=12,782 sf 66.60% Impervious Runoff Depth=4.63"
Tc=6.0 min CN=92 Runoff=1.47 cfs 0.113 af

Subcatchment9S: POST-B.7 Runoff Area=4,452 sf 88.07% Impervious Runoff Depth=5.08"
Tc=6.0 min CN=96 Runoff=0.54 cfs 0.043 af

Subcatchment10S: POST-B.8 Runoff Area=16,186 sf 58.64% Impervious Runoff Depth=4.52"
Tc=6.0 min CN=91 Runoff=1.83 cfs 0.140 af

Subcatchment11S: POST-B.9 Runoff Area=13,230 sf 71.85% Impervious Runoff Depth=4.74"
Tc=6.0 min CN=93 Runoff=1.54 cfs 0.120 af

Subcatchment12S: POST-B.10 Runoff Area=13,781 sf 68.78% Impervious Runoff Depth=4.63"
Tc=6.0 min CN=92 Runoff=1.58 cfs 0.122 af

Subcatchment13S: POST-B.11 Runoff Area=4,784 sf 82.50% Impervious Runoff Depth=4.96"
Tc=6.0 min CN=95 Runoff=0.57 cfs 0.045 af

Subcatchment14S: POST-B.12 Runoff Area=9,045 sf 70.23% Impervious Runoff Depth=4.74"
Tc=6.0 min CN=93 Runoff=1.05 cfs 0.082 af

Subcatchment15S: POST-B.13 Runoff Area=16,536 sf 0.36% Impervious Runoff Depth=3.58"
Tc=6.0 min CN=82 Runoff=1.55 cfs 0.113 af

Subcatchment16S: POST-B.BACKOF Runoff Area=15,196 sf 100.00% Impervious Runoff Depth=5.31"
Tc=6.0 min CN=98 Runoff=1.85 cfs 0.154 af

Subcatchment17S: POST-C.1 Runoff Area=10,285 sf 72.16% Impervious Runoff Depth=4.74"
Tc=6.0 min CN=93 Runoff=1.20 cfs 0.093 af

Subcatchment18S: POST-C.2 Runoff Area=3,125 sf 100.00% Impervious Runoff Depth=5.31"
Tc=6.0 min CN=98 Runoff=0.38 cfs 0.032 af

Subcatchment19S: POST-C.3 Runoff Area=15,128 sf 68.73% Impervious Runoff Depth=4.74"
Tc=6.0 min CN=93 Runoff=1.76 cfs 0.137 af

Subcatchment20S: POST-C.4 Runoff Area=18,753 sf 51.27% Impervious Runoff Depth=4.30"
Tc=6.0 min CN=89 Runoff=2.05 cfs 0.154 af

Subcatchment21S: POST-D.1 Runoff Area=8,298 sf 60.20% Impervious Runoff Depth=4.52"
Tc=6.0 min CN=91 Runoff=0.94 cfs 0.072 af

Subcatchment22S: POST-D.2 Runoff Area=4,540 sf 75.18% Impervious Runoff Depth=4.85"
Tc=6.0 min CN=94 Runoff=0.53 cfs 0.042 af

Subcatchment23S: POST-D.3 Runoff Area=2,887 sf 89.23% Impervious Runoff Depth=5.08"
Tc=6.0 min CN=96 Runoff=0.35 cfs 0.028 af

Subcatchment24S: POST-D.4 Runoff Area=8,058 sf 17.37% Impervious Runoff Depth=3.68"
Tc=6.0 min CN=83 Runoff=0.77 cfs 0.057 af

Subcatchment25S: POST-D.5 Runoff Area=13,488 sf 11.14% Impervious Runoff Depth=3.48"
Tc=6.0 min CN=81 Runoff=1.23 cfs 0.090 af

Subcatchment26S: POST-D.6 Runoff Area=2,243 sf 86.58% Impervious Runoff Depth=5.08"
Tc=6.0 min CN=96 Runoff=0.27 cfs 0.022 af

Subcatchment27S: POST-D.7 Runoff Area=3,293 sf 92.29% Impervious Runoff Depth=5.20"
Tc=6.0 min CN=97 Runoff=0.40 cfs 0.033 af

Subcatchment28S: POST-D.8 Runoff Area=8,095 sf 18.59% Impervious Runoff Depth=3.68"
Tc=6.0 min CN=83 Runoff=0.78 cfs 0.057 af

Subcatchment29S: POST-D.9 Runoff Area=16,511 sf 0.55% Impervious Runoff Depth=3.48"
Tc=6.0 min CN=81 Runoff=1.51 cfs 0.110 af

Subcatchment30S: POST-D.BACKOF Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=5.31"
Tc=6.0 min CN=98 Runoff=0.62 cfs 0.051 af

Subcatchment31S: POST-E.1 Runoff Area=14,096 sf 63.32% Impervious Runoff Depth=4.52"
Tc=6.0 min CN=91 Runoff=1.59 cfs 0.122 af

Subcatchment32S: POST-E.2 Runoff Area=38,272 sf 26.80% Impervious Runoff Depth=3.78"
Tc=6.0 min CN=84 Runoff=3.76 cfs 0.277 af

Subcatchment33S: POST-E.3 Runoff Area=16,029 sf 38.93% Impervious Runoff Depth=4.09"
Tc=6.0 min CN=87 Runoff=1.68 cfs 0.125 af

Subcatchment34S: POST-E.4 Runoff Area=1,858 sf 86.28% Impervious Runoff Depth=5.08"
Tc=6.0 min CN=96 Runoff=0.22 cfs 0.018 af

Subcatchment35S: POST-E.5 Runoff Area=2,066 sf 100.00% Impervious Runoff Depth=5.31"
Tc=6.0 min CN=98 Runoff=0.25 cfs 0.021 af

Subcatchment36S: POST-E.6 Runoff Area=2,119 sf 100.00% Impervious Runoff Depth=5.31"
Tc=6.0 min CN=98 Runoff=0.26 cfs 0.022 af

Subcatchment37S: POST-F.1 Runoff Area=63,225 sf 2.81% Impervious Runoff Depth=3.18"
Flow Length=240' Tc=8.9 min CN=78 Runoff=4.81 cfs 0.385 af

Subcatchment38S: POST-F.2 Runoff Area=15,868 sf 5.18% Impervious Runoff Depth=3.58"
Tc=6.0 min CN=82 Runoff=1.49 cfs 0.109 af

Subcatchment39S: POST-F.ROOFS Runoff Area=5,892 sf 100.00% Impervious Runoff Depth=5.31"
Tc=6.0 min CN=98 Runoff=0.72 cfs 0.060 af

Subcatchment40S: POST-G Runoff Area=41,336 sf 0.00% Impervious Runoff Depth=3.09"
Tc=6.0 min CN=77 Runoff=3.37 cfs 0.244 af

Subcatchment41S: POST-H.1 Runoff Area=113,550 sf 1.06% Impervious Runoff Depth=3.18"
Flow Length=175' Tc=10.9 min CN=78 Runoff=8.21 cfs 0.692 af

Subcatchment42S: POST-H.2 Runoff Area=7,958 sf 2.39% Impervious Runoff Depth=3.48"
Tc=6.0 min CN=81 Runoff=0.73 cfs 0.053 af

Subcatchment43S: POST-H.ROOF Runoff Area=5,475 sf 100.00% Impervious Runoff Depth=5.31"
Tc=6.0 min CN=98 Runoff=0.67 cfs 0.056 af

Subcatchment44S: POST-K.1 Runoff Area=75,855 sf 0.00% Impervious Runoff Depth=3.38"
Tc=6.0 min CN=80 Runoff=6.74 cfs 0.490 af

Subcatchment45S: POST-K.3 Runoff Area=12,015 sf 0.00% Impervious Runoff Depth=0.47"
Tc=6.0 min CN=42 Runoff=0.06 cfs 0.011 af

Subcatchment46S: POST-K.ROOF Runoff Area=16,139 sf 100.00% Impervious Runoff Depth=5.31"
Tc=6.0 min CN=98 Runoff=1.97 cfs 0.164 af

Subcatchment47S: POST-I Runoff Area=923,567 sf 0.14% Impervious Runoff Depth=1.06"
Flow Length=323' Tc=16.1 min CN=52 Runoff=15.12 cfs 1.874 af

Subcatchment48S: POST-J Runoff Area=291,359 sf 0.00% Impervious Runoff Depth=1.13"
Flow Length=230' Tc=12.4 min CN=53 Runoff=5.74 cfs 0.629 af

Pond 1P: SW AREA #1 (RAIN GARDEN #1) Peak Elev=58.24' Storage=19,294 cf Inflow=9.75 cfs 0.735 af
Outflow=0.95 cfs 0.674 af

Pond 2P: SW AREA #2 (RAIN GARDEN #2) Peak Elev=71.43' Storage=5,260 cf Inflow=7.39 cfs 0.561 af
Outflow=7.27 cfs 0.528 af

Pond 3P: SW AREA#3 (RAIN GARDEN#5) Peak Elev=79.12' Storage=27,127 cf Inflow=23.30 cfs 1.807 af
Outflow=10.71 cfs 1.713 af

Pond 4P: SW AREA#4 (RAIN GARDEN#3) Peak Elev=109.52' Storage=8,367 cf Inflow=10.31 cfs 0.835 af
Outflow=8.46 cfs 0.835 af

Pond 5P: DETENTION POND Peak Elev=115.53' Storage=8,705 cf Inflow=8.21 cfs 0.692 af
Outflow=7.94 cfs 0.515 af

Pond 6P: SW AREA#6 (RAIN GARDEN#4) Peak Elev=82.77' Storage=17,296 cf Inflow=8.70 cfs 0.654 af
Outflow=0.78 cfs 0.460 af

Pond 7P: SW AREA#7 (INFILTRATION Peak Elev=55.31' Storage=11,978 cf Inflow=0.81 cfs 0.471 af
Discarded=0.12 cfs 0.439 af Primary=0.00 cfs 0.000 af Outflow=0.12 cfs 0.439 af

Link DP-A: DP-A (WETLAND) Inflow=42.82 cfs 6.252 af
Primary=42.82 cfs 6.252 af

Link DP-C: DP-B (EASTERN WETLAND) Inflow=3.37 cfs 0.244 af
Primary=3.37 cfs 0.244 af

Link DP-D: DP-C (ROAD) Inflow=4.81 cfs 0.385 af
Primary=4.81 cfs 0.385 af

Total Runoff Area = 44.834 ac Runoff Volume = 7.929 af Average Runoff Depth = 2.12"
88.29% Pervious = 39.586 ac 11.71% Impervious = 5.248 ac

Summary for Subcatchment 1S: POST-A.1 ROOF

Runoff = 2.20 cfs @ 12.09 hrs, Volume= 0.162 af, Depth= 3.88"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
4,714	98	Paved parking, HSG D
14,433	80	>75% Grass cover, Good, HSG D
972	77	Woods, Good, HSG D
1,720	98	Roofs, HSG D
21,839	85	Weighted Average
15,405		70.54% Pervious Area
6,434		29.46% Impervious Area

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

Summary for Subcatchment 2S: POST-A.2

Runoff = 0.63 cfs @ 12.09 hrs, Volume= 0.049 af, Depth= 4.74"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
4,011	98	Paved parking, HSG D
1,383	80	>75% Grass cover, Good, HSG D
5,394	93	Weighted Average
1,383		25.64% Pervious Area
4,011		74.36% Impervious Area

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

Summary for Subcatchment 3S: POST-B.1

Runoff = 0.52 cfs @ 12.09 hrs, Volume= 0.044 af, Depth= 5.31"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,604	98	Paved parking, HSG D
1,697	98	Roofs, HSG D
4,301	98	Weighted Average
4,301		100.00% Impervious Area

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

Summary for Subcatchment 4S: POST-B.2

Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.035 af, Depth= 5.31"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,606	98	Paved parking, HSG D
838	98	Roofs, HSG D
3,444	98	Weighted Average
3,444		100.00% Impervious Area

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

Summary for Subcatchment 5S: POST-B.3

Runoff = 0.96 cfs @ 12.09 hrs, Volume= 0.076 af, Depth= 4.85"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,251	98	Paved parking, HSG D
2,024	80	>75% Grass cover, Good, HSG D
2,883	98	Roofs, HSG D
8,158	94	Weighted Average
2,024		24.81% Pervious Area
6,134		75.19% Impervious Area

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

Summary for Subcatchment 6S: POST-B.4

Runoff = 2.43 cfs @ 12.09 hrs, Volume= 0.182 af, Depth= 4.19"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,023	98	Paved parking, HSG D
9,260	80	>75% Grass cover, Good, HSG D
3,294	77	Woods, Good, HSG D
7,106	98	Roofs, HSG D
22,683	88	Weighted Average
12,554		55.35% Pervious Area
10,129		44.65% Impervious Area

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

Summary for Subcatchment 7S: POST-B.5

Runoff = 1.61 cfs @ 12.09 hrs, Volume= 0.121 af, Depth= 4.30"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
4,392	98	Paved parking, HSG D
6,885	80	>75% Grass cover, Good, HSG D
242	77	Woods, Good, HSG D
3,221	98	Roofs, HSG D
14,740	89	Weighted Average
7,127		48.35% Pervious Area
7,613		51.65% Impervious Area

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

Summary for Subcatchment 8S: POST-B.6

Runoff = 1.47 cfs @ 12.09 hrs, Volume= 0.113 af, Depth= 4.63"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
4,699	98	Paved parking, HSG D
4,269	80	>75% Grass cover, Good, HSG D
3,814	98	Roofs, HSG D
12,782	92	Weighted Average
4,269		33.40% Pervious Area
8,513		66.60% Impervious Area

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

Summary for Subcatchment 9S: POST-B.7

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.043 af, Depth= 5.08"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,921	98	Paved parking, HSG D
531	80	>75% Grass cover, Good, HSG D
4,452	96	Weighted Average
531		11.93% Pervious Area
3,921		88.07% Impervious Area

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

Summary for Subcatchment 10S: POST-B.8

Runoff = 1.83 cfs @ 12.09 hrs, Volume= 0.140 af, Depth= 4.52"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,068	98	Paved parking, HSG D
6,694	80	>75% Grass cover, Good, HSG D
4,424	98	Roofs, HSG D
16,186	91	Weighted Average
6,694		41.36% Pervious Area
9,492		58.64% Impervious Area

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

Summary for Subcatchment 11S: POST-B.9

Runoff = 1.54 cfs @ 12.09 hrs, Volume= 0.120 af, Depth= 4.74"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
4,919	98	Paved parking, HSG D
3,724	80	>75% Grass cover, Good, HSG D
4,587	98	Roofs, HSG D
13,230	93	Weighted Average
3,724		28.15% Pervious Area
9,506		71.85% Impervious Area

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

Summary for Subcatchment 12S: POST-B.10

Runoff = 1.58 cfs @ 12.09 hrs, Volume= 0.122 af, Depth= 4.63"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,074	98	Paved parking, HSG D
4,302	80	>75% Grass cover, Good, HSG D
4,405	98	Roofs, HSG D
13,781	92	Weighted Average
4,302		31.22% Pervious Area
9,479		68.78% Impervious Area

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

Summary for Subcatchment 13S: POST-B.11

Runoff = 0.57 cfs @ 12.09 hrs, Volume= 0.045 af, Depth= 4.96"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,021	98	Paved parking, HSG D
837	80	>75% Grass cover, Good, HSG D
926	98	Roofs, HSG D
4,784	95	Weighted Average
837		17.50% Pervious Area
3,947		82.50% Impervious Area

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

Summary for Subcatchment 14S: POST-B.12

Runoff = 1.05 cfs @ 12.09 hrs, Volume= 0.082 af, Depth= 4.74"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,184	98	Paved parking, HSG D
2,693	80	>75% Grass cover, Good, HSG D
3,168	98	Roofs, HSG D
9,045	93	Weighted Average
2,693		29.77% Pervious Area
6,352		70.23% Impervious Area

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

Summary for Subcatchment 15S: POST-B.13

Runoff = 1.55 cfs @ 12.09 hrs, Volume= 0.113 af, Depth= 3.58"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
59	98	Paved parking, HSG D
14,780	80	>75% Grass cover, Good, HSG D
1,697	96	Gravel surface, HSG D
16,536	82	Weighted Average
16,477		99.64% Pervious Area
59		0.36% Impervious Area

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

Summary for Subcatchment 16S: POST-B.BACK OF ROOFS

Runoff = 1.85 cfs @ 12.09 hrs, Volume= 0.154 af, Depth= 5.31"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
15,196	98	Roofs, HSG D
15,196		100.00% Impervious Area

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

Summary for Subcatchment 17S: POST-C.1

Runoff = 1.20 cfs @ 12.09 hrs, Volume= 0.093 af, Depth= 4.74"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,667	98	Paved parking, HSG D
2,863	80	>75% Grass cover, Good, HSG D
3,755	98	Roofs, HSG D
10,285	93	Weighted Average
2,863		27.84% Pervious Area
7,422		72.16% Impervious Area

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

Summary for Subcatchment 18S: POST-C.2

Runoff = 0.38 cfs @ 12.09 hrs, Volume= 0.032 af, Depth= 5.31"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,395	98	Paved parking, HSG D
730	98	Roofs, HSG D
3,125	98	Weighted Average
3,125		100.00% Impervious Area

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

Summary for Subcatchment 19S: POST-C.3

Runoff = 1.76 cfs @ 12.09 hrs, Volume= 0.137 af, Depth= 4.74"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,966	98	Paved parking, HSG D
4,414	80	>75% Grass cover, Good, HSG D
317	96	Gravel surface, HSG D
4,431	98	Roofs, HSG D
15,128	93	Weighted Average
4,731		31.27% Pervious Area
10,397		68.73% Impervious Area

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

Summary for Subcatchment 20S: POST-C.4

Runoff = 2.05 cfs @ 12.09 hrs, Volume= 0.154 af, Depth= 4.30"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,662	98	Paved parking, HSG D
9,139	80	>75% Grass cover, Good, HSG D
3,952	98	Roofs, HSG D
18,753	89	Weighted Average
9,139		48.73% Pervious Area
9,614		51.27% Impervious Area

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

Summary for Subcatchment 21S: POST-D.1

Runoff = 0.94 cfs @ 12.09 hrs, Volume= 0.072 af, Depth= 4.52"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,187	98	Paved parking, HSG D
3,303	80	>75% Grass cover, Good, HSG D
1,808	98	Roofs, HSG D
8,298	91	Weighted Average
3,303		39.80% Pervious Area
4,995		60.20% Impervious Area

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

Summary for Subcatchment 22S: POST-D.2

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.042 af, Depth= 4.85"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,161	98	Paved parking, HSG D
1,127	80	>75% Grass cover, Good, HSG D
1,252	98	Roofs, HSG D
4,540	94	Weighted Average
1,127		24.82% Pervious Area
3,413		75.18% Impervious Area

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

Summary for Subcatchment 23S: POST-D.3

Runoff = 0.35 cfs @ 12.09 hrs, Volume= 0.028 af, Depth= 5.08"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,576	98	Paved parking, HSG D
311	80	>75% Grass cover, Good, HSG D
2,887	96	Weighted Average
311		10.77% Pervious Area
2,576		89.23% Impervious Area

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

Summary for Subcatchment 24S: POST-D.4

Runoff = 0.77 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 3.68"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,400	98	Paved parking, HSG D
6,658	80	>75% Grass cover, Good, HSG D
8,058	83	Weighted Average
6,658		82.63% Pervious Area
1,400		17.37% Impervious Area

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

Summary for Subcatchment 25S: POST-D.5

Runoff = 1.23 cfs @ 12.09 hrs, Volume= 0.090 af, Depth= 3.48"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,502	98	Paved parking, HSG D
7,754	80	>75% Grass cover, Good, HSG D
4,232	77	Woods, Good, HSG D
13,488	81	Weighted Average
11,986		88.86% Pervious Area
1,502		11.14% Impervious Area

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

Summary for Subcatchment 26S: POST-D.6

Runoff = 0.27 cfs @ 12.09 hrs, Volume= 0.022 af, Depth= 5.08"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,942	98	Paved parking, HSG D
301	80	>75% Grass cover, Good, HSG D
2,243	96	Weighted Average
301		13.42% Pervious Area
1,942		86.58% Impervious Area

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

Summary for Subcatchment 27S: POST-D.7

Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 5.20"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,391	98	Paved parking, HSG D
254	80	>75% Grass cover, Good, HSG D
648	98	Roofs, HSG D
3,293	97	Weighted Average
254		7.71% Pervious Area
3,039		92.29% Impervious Area

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

Summary for Subcatchment 28S: POST-D.8

Runoff = 0.78 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 3.68"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,505	98	Paved parking, HSG D
4,734	80	>75% Grass cover, Good, HSG D
1,856	77	Woods, Good, HSG D
8,095	83	Weighted Average
6,590		81.41% Pervious Area
1,505		18.59% Impervious Area

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

Summary for Subcatchment 29S: POST-D.9

Runoff = 1.51 cfs @ 12.09 hrs, Volume= 0.110 af, Depth= 3.48"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
91	98	Paved parking, HSG D
15,963	80	>75% Grass cover, Good, HSG D
457	96	Gravel surface, HSG D
16,511	81	Weighted Average
16,420		99.45% Pervious Area
91		0.55% Impervious Area

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

Summary for Subcatchment 30S: POST-D.BACK OF ROOFS

Runoff = 0.62 cfs @ 12.09 hrs, Volume= 0.051 af, Depth= 5.31"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,053	98	Roofs, HSG D
5,053		100.00% Impervious Area

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

Summary for Subcatchment 31S: POST-E.1

Runoff = 1.59 cfs @ 12.09 hrs, Volume= 0.122 af, Depth= 4.52"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
4,689	98	Paved parking, HSG D
5,171	80	>75% Grass cover, Good, HSG D
4,236	98	Roofs, HSG D
14,096	91	Weighted Average
5,171		36.68% Pervious Area
8,925		63.32% Impervious Area

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

Summary for Subcatchment 32S: POST-E.2

Runoff = 3.76 cfs @ 12.09 hrs, Volume= 0.277 af, Depth= 3.78"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,754	98	Paved parking, HSG D
18,939	80	>75% Grass cover, Good, HSG D
9,077	77	Woods, Good, HSG D
4,502	98	Roofs, HSG D
38,272	84	Weighted Average
28,016		73.20% Pervious Area
10,256		26.80% Impervious Area

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

Summary for Subcatchment 33S: POST-E.3

Runoff = 1.68 cfs @ 12.09 hrs, Volume= 0.125 af, Depth= 4.09"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
3,579	98	Paved parking, HSG D
8,806	80	>75% Grass cover, Good, HSG D
983	77	Woods, Good, HSG D
2,661	98	Roofs, HSG D
16,029	87	Weighted Average
9,789		61.07% Pervious Area
6,240		38.93% Impervious Area

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

Summary for Subcatchment 34S: POST-E.4

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.018 af, Depth= 5.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,603	98	Paved parking, HSG D
255	80	>75% Grass cover, Good, HSG D
1,858	96	Weighted Average
255		13.72% Pervious Area
1,603		86.28% Impervious Area

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

Summary for Subcatchment 35S: POST-E.5

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.021 af, Depth= 5.31"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,066	98	Paved parking, HSG D
2,066		100.00% Impervious Area

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

Summary for Subcatchment 36S: POST-E.6

Runoff = 0.26 cfs @ 12.09 hrs, Volume= 0.022 af, Depth= 5.31"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
2,119	98	Paved parking, HSG D
2,119		100.00% Impervious Area

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

Summary for Subcatchment 37S: POST-F.1

Runoff = 4.81 cfs @ 12.13 hrs, Volume= 0.385 af, Depth= 3.18"
Routed to Link DP-D : DP-C (ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,775	98	Paved parking, HSG D
10,665	80	>75% Grass cover, Good, HSG D
690	96	Gravel surface, HSG D
50,095	77	Woods, Good, HSG D
63,225	78	Weighted Average
61,450		97.19% Pervious Area
1,775		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0800	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.5	190	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.9	240	Total			

Summary for Subcatchment 38S: POST-F.2

Runoff = 1.49 cfs @ 12.09 hrs, Volume= 0.109 af, Depth= 3.58"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
189	98	Paved parking, HSG D
13,769	80	>75% Grass cover, Good, HSG D
1,172	96	Gravel surface, HSG D
105	77	Woods, Good, HSG D
633	98	Roofs, HSG D
15,868	82	Weighted Average
15,046		94.82% Pervious Area
822		5.18% Impervious Area

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

Summary for Subcatchment 39S: POST-F.ROOFS

Runoff = 0.72 cfs @ 12.09 hrs, Volume= 0.060 af, Depth= 5.31"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,892	98	Roofs, HSG D
5,892		100.00% Impervious Area

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

Summary for Subcatchment 40S: POST-G

Runoff = 3.37 cfs @ 12.09 hrs, Volume= 0.244 af, Depth= 3.09"
Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
41,336	77	Woods, Good, HSG D
41,336		100.00% Pervious Area

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

Summary for Subcatchment 41S: POST-H.1

Runoff = 8.21 cfs @ 12.15 hrs, Volume= 0.692 af, Depth= 3.18"
Routed to Pond 5P : DETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,207	98	Paved parking, HSG D
12,449	80	>75% Grass cover, Good, HSG D
99,894	77	Woods, Good, HSG D
113,550	78	Weighted Average
112,343		98.94% Pervious Area
1,207		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.2	125	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.9	175	Total			

Summary for Subcatchment 42S: POST-H.2

Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.053 af, Depth= 3.48"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
190	98	Paved parking, HSG D
7,268	80	>75% Grass cover, Good, HSG D
500	96	Gravel surface, HSG D
7,958	81	Weighted Average
7,768		97.61% Pervious Area
190		2.39% Impervious Area

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

Summary for Subcatchment 43S: POST-H.ROOF

Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.056 af, Depth= 5.31"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
5,475	98	Roofs, HSG D
5,475		100.00% Impervious Area

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

Summary for Subcatchment 44S: POST-K.1

Runoff = 6.74 cfs @ 12.09 hrs, Volume= 0.490 af, Depth= 3.38"
Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
75,855	80	>75% Grass cover, Good, HSG D
75,855		100.00% Pervious Area

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

Summary for Subcatchment 45S: POST-K.3

Runoff = 0.06 cfs @ 12.32 hrs, Volume= 0.011 af, Depth= 0.47"
Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
6,994	39	>75% Grass cover, Good, HSG A
1,262	96	Gravel surface, HSG A
3,759	30	Woods, Good, HSG A
12,015	42	Weighted Average
12,015		100.00% Pervious Area

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

Summary for Subcatchment 46S: POST-K.ROOF

Runoff = 1.97 cfs @ 12.09 hrs, Volume= 0.164 af, Depth= 5.31"
Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
16,139	98	Roofs, HSG D
16,139		100.00% Impervious Area

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

Summary for Subcatchment 47S: POST-I

Runoff = 15.12 cfs @ 12.27 hrs, Volume= 1.874 af, Depth= 1.06"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
1,935	39	>75% Grass cover, Good, HSG A
825	96	Gravel surface, HSG A
359,384	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
1,308	98	Paved parking, HSG D
118,096	80	>75% Grass cover, Good, HSG D
1,655	96	Gravel surface, HSG D
146,413	77	Woods, Good, HSG D
923,567	52	Weighted Average
922,259		99.86% Pervious Area
1,308		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
6.4	273	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.1	323	Total			

Summary for Subcatchment 48S: POST-J

Runoff = 5.74 cfs @ 12.21 hrs, Volume= 0.629 af, Depth= 1.13"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=5.55"

Area (sf)	CN	Description
7,237	39	>75% Grass cover, Good, HSG A
3,266	96	Gravel surface, HSG A
134,145	30	Woods, Good, HSG A
223	96	Gravel surface, HSG B
26,483	55	Woods, Good, HSG B
42,094	80	>75% Grass cover, Good, HSG D
1,814	96	Gravel surface, HSG D
76,097	77	Woods, Good, HSG D
291,359	53	Weighted Average
291,359		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
2.7	180	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	230	Total			

Summary for Pond 1P: SW AREA #1 (RAIN GARDEN #1)

Inflow Area = 2.166 ac, 38.50% Impervious, Inflow Depth = 4.07" for 25-yr event
Inflow = 9.75 cfs @ 12.09 hrs, Volume= 0.735 af
Outflow = 0.95 cfs @ 12.96 hrs, Volume= 0.674 af, Atten= 90%, Lag= 52.0 min
Primary = 0.95 cfs @ 12.96 hrs, Volume= 0.674 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 58.24' @ 12.96 hrs Surf.Area= 5,716 sf Storage= 19,294 cf

Plug-Flow detention time= 881.3 min calculated for 0.674 af (92% of inflow)
Center-of-Mass det. time= 838.7 min (1,632.3 - 793.5)

Volume	Invert	Avail.Storage	Storage Description
#1	54.00'	31,979 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.00	4,376	317.0	0	0	4,376
57.00	4,376	317.0	13,128	13,128	5,327
58.00	5,356	337.0	4,858	17,986	6,418
60.00	8,777	385.0	13,993	31,979	9,269

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 53.80' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	58.00'	**20.0" W x 15.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.00'	**6.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 54.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	54.00'	**6.000 in/hr Exfiltration over Wetted area above 54.00'** Excluded Wetted area = 4,376 sf
#5	Device 1	59.60'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	59.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=0.94 cfs @ 12.96 hrs HW=58.24' (Free Discharge)
- **1=Culvert** (Passes 0.94 cfs of 15.89 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.61 cfs @ 1.56 fps)
  - **3=Culvert** (Passes 0.33 cfs of 0.99 cfs potential flow)
    - **4=Exfiltration** (Exfiltration Controls 0.33 cfs)
  - **5=Orifice/Grate** (Controls 0.00 cfs)
- **6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2P: SW AREA #2 (RAIN GARDEN #2)

Inflow Area = 1.664 ac, 35.21% Impervious, Inflow Depth = 4.05" for 25-yr event
Inflow = 7.39 cfs @ 12.09 hrs, Volume= 0.561 af
Outflow = 7.27 cfs @ 12.11 hrs, Volume= 0.528 af, Atten= 2%, Lag= 1.1 min
Primary = 7.27 cfs @ 12.11 hrs, Volume= 0.528 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 71.43' @ 12.11 hrs Surf.Area= 2,273 sf Storage= 5,260 cf

Plug-Flow detention time= 147.3 min calculated for 0.528 af (94% of inflow)
Center-of-Mass det. time= 114.3 min (905.9 - 791.6)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	6,724 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	361	94.0	0	0	361
68.00	361	94.0	1,444	1,444	737
70.00	1,140	165.0	1,428	2,872	2,223
72.00	2,839	377.0	3,852	6,724	11,383

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	**15.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 63.75' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	70.75'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.00'	**6.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 64.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	64.00'	**6.000 in/hr Exfiltration over Surface area above 64.00'** Excluded Surface area = 361 sf Phase-In= 0.01'
#5	Device 1	71.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	71.55'	**10.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=7.07 cfs @ 12.11 hrs HW=71.42' (Free Discharge)
- **1=Culvert** (Passes 7.07 cfs of 15.40 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 3.08 cfs @ 3.08 fps)
  - **3=Culvert** (Passes 0.27 cfs of 1.92 cfs potential flow)
    - **4=Exfiltration** (Exfiltration Controls 0.27 cfs)
  - **5=Orifice/Grate** (Weir Controls 3.73 cfs @ 1.36 fps)
- **6=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 3P: SW AREA #3 (RAIN GARDEN #5)

Inflow Area = 4.743 ac, 62.26% Impervious, Inflow Depth = 4.57" for 25-yr event
Inflow = 23.30 cfs @ 12.09 hrs, Volume= 1.807 af
Outflow = 10.71 cfs @ 12.27 hrs, Volume= 1.713 af, Atten= 54%, Lag= 10.8 min
Primary = 10.71 cfs @ 12.27 hrs, Volume= 1.713 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 79.12' @ 12.27 hrs Surf.Area= 6,915 sf Storage= 27,127 cf

Plug-Flow detention time= 164.5 min calculated for 1.713 af (95% of inflow)
Center-of-Mass det. time= 134.9 min (912.8 - 778.0)

Volume	Invert	Avail.Storage	Storage Description
#1	68.00'	51,339 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
68.00	1,026	130.0	0	0	1,026
72.00	1,026	130.0	4,104	4,104	1,546
74.00	2,000	178.0	2,972	7,076	2,762
76.00	3,184	217.0	5,138	12,215	4,050
78.00	4,651	262.0	7,789	20,003	5,831
78.01	5,875	302.0	53	20,056	7,626
80.00	7,805	340.0	13,566	33,622	9,670
82.00	9,955	380.0	17,716	51,339	12,072

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**18.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 67.30' S= 0.0233 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	75.00'	**4.0" W x 36.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	78.00'	**7.0" W x 36.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	68.00'	**6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 68.00' S= 0.0000 '/' Cc= 0.900

			n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#5	Device 4	68.00'	**6.000 in/hr Exfiltration over Surface area above 68.00'**
			Excluded Surface area = 1,026 sf
#6	Device 1	81.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads
#7	Primary	81.25'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=10.68 cfs @ 12.27 hrs HW=79.11' (Free Discharge)
- **1=Culvert** (Passes 10.68 cfs of 27.39 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 7.67 cfs @ 7.67 fps)
  - **3=Orifice/Grate** (Orifice Controls 2.19 cfs @ 3.38 fps)
  - **4=Culvert** (Passes 0.82 cfs of 2.20 cfs potential flow)
    - **5=Exfiltration** (Exfiltration Controls 0.82 cfs)
  - **6=Orifice/Grate** (Controls 0.00 cfs)
- **7=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 4P: SW AREA #4 (RAIN GARDEN #3)

Inflow Area = 3.540 ac, 11.23% Impervious, Inflow Depth = 2.83" for 25-yr event
Inflow = 10.31 cfs @ 12.21 hrs, Volume= 0.835 af
Outflow = 8.46 cfs @ 12.30 hrs, Volume= 0.835 af, Atten= 18%, Lag= 5.9 min
Primary = 8.46 cfs @ 12.30 hrs, Volume= 0.835 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 109.52' @ 12.30 hrs Surf.Area= 3,382 sf Storage= 8,367 cf

Plug-Flow detention time= 131.0 min calculated for 0.835 af (100% of inflow)
Center-of-Mass det. time= 130.8 min (975.7 - 844.9)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	10,120 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
102.00	540	156.0	0	0	540
106.00	540	156.0	2,160	2,160	1,164
108.00	1,865	255.0	2,272	4,432	4,428
110.00	3,952	345.0	5,688	10,120	8,767

Device	Routing	Invert	Outlet Devices
#1	Primary	102.00'	**18.0" Round Culvert**
			L= 30.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 102.00' / 101.70' S= 0.0100 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	102.00'	**6.0" Round Culvert**
			L= 100.0' CPP, square edge headwall, Ke= 0.500

			Inlet / Outlet Invert= 102.00' / 102.00' S= 0.0000 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	102.00'	**6.000 in/hr Exfiltration over Wetted area above 102.00'**
			Excluded Wetted area = 540 sf
#4	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads
#5	Primary	109.50'	**10.0' long x 6.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=8.34 cfs @ 12.30 hrs HW=109.52' (Free Discharge)
- **1=Culvert** (Passes 8.28 cfs of 22.14 cfs potential flow)
  - **2=Culvert** (Passes 0.98 cfs of 1.36 cfs potential flow)
    - **3=Exfiltration** (Exfiltration Controls 0.98 cfs)
  - **4=Orifice/Grate** (Weir Controls 7.30 cfs @ 1.70 fps)
- **5=Broad-Crested Rectangular Weir** (Weir Controls 0.06 cfs @ 0.33 fps)

Summary for Pond 5P: DETENTION POND

Inflow Area = 2.607 ac, 1.06% Impervious, Inflow Depth = 3.18" for 25-yr event
Inflow = 8.21 cfs @ 12.15 hrs, Volume= 0.692 af
Outflow = 7.94 cfs @ 12.21 hrs, Volume= 0.515 af, Atten= 3%, Lag= 3.5 min
Primary = 7.94 cfs @ 12.21 hrs, Volume= 0.515 af
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 115.53' @ 12.21 hrs Surf.Area= 3,782 sf Storage= 8,705 cf

Plug-Flow detention time= 139.7 min calculated for 0.515 af (75% of inflow)
Center-of-Mass det. time= 51.2 min (878.3 - 827.0)

Volume	Invert	Avail.Storage	Storage Description
#1	110.00'	10,602 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
110.00	219	76.0	0	0	219
112.00	1,022	162.0	1,143	1,143	1,865
114.00	2,131	203.0	3,086	4,229	3,111
116.00	4,376	269.0	6,374	10,602	5,634

Device	Routing	Invert	Outlet Devices
#1	Primary	109.00'	**15.0" Round Culvert**
			L= 65.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 109.00' / 108.00' S= 0.0154 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	115.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads

Primary OutFlow Max=7.56 cfs @ 12.21 hrs HW=115.53' (Free Discharge)
└**1=Culvert** (Passes 7.56 cfs of 14.21 cfs potential flow)
└**2=Orifice/Grate** (Weir Controls 7.56 cfs @ 1.72 fps)

Summary for Pond 6P: SW AREA #6 (RAIN GARDEN #4)

Inflow Area = 2.112 ac, 17.54% Impervious, Inflow Depth = 3.72" for 25-yr event
Inflow = 8.70 cfs @ 12.09 hrs, Volume= 0.654 af
Outflow = 0.78 cfs @ 13.06 hrs, Volume= 0.460 af, Atten= 91%, Lag= 58.0 min
Primary = 0.78 cfs @ 13.06 hrs, Volume= 0.460 af
Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 82.77' @ 13.06 hrs Surf.Area= 4,412 sf Storage= 17,296 cf

Plug-Flow detention time= 515.0 min calculated for 0.460 af (70% of inflow)
Center-of-Mass det. time= 421.6 min (1,221.2 - 799.5)

Volume	Invert	Avail.Storage	Storage Description
#1	76.00'	23,471 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
76.00	2,110	218.0	0	0	2,110
80.00	2,110	218.0	8,440	8,440	2,982
82.00	3,687	295.0	5,724	14,164	6,167
84.00	5,692	358.0	9,307	23,471	9,505

Device	Routing	Invert	Outlet Devices
#1	Primary	76.00'	**15.0" Round Culvert** L= 158.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 74.00' S= 0.0127 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	76.00'	**6.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 76.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	76.00'	**6.000 in/hr Exfiltration over Surface area above 76.00'** Excluded Surface area = 2,110 sf Phase-In= 0.01'
#4	Device 1	82.50'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	83.50'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.78 cfs @ 13.06 hrs HW=82.77' (Free Discharge)
└**1=Culvert** (Passes 0.78 cfs of 11.86 cfs potential flow)
├**2=Culvert** (Passes 0.32 cfs of 1.29 cfs potential flow)
│└**3=Exfiltration** (Exfiltration Controls 0.32 cfs)
├**4=Orifice/Grate** (Orifice Controls 0.46 cfs @ 1.68 fps)
└**5=Orifice/Grate** (Controls 0.00 cfs)

Summary for Pond 7P: SW AREA #7 (INFILTRATION POND)

Inflow Area = 2.388 ac, 15.52% Impervious, Inflow Depth > 2.37" for 25-yr event
Inflow = 0.81 cfs @ 13.05 hrs, Volume= 0.471 af
Outflow = 0.12 cfs @ 27.93 hrs, Volume= 0.439 af, Atten= 85%, Lag= 892.7 min
Discarded = 0.12 cfs @ 27.93 hrs, Volume= 0.439 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 55.31' @ 27.93 hrs Surf.Area= 4,308 sf Storage= 11,978 cf

Plug-Flow detention time= 1,207.1 min calculated for 0.439 af (93% of inflow)
Center-of-Mass det. time= 1,125.1 min (2,340.1 - 1,215.0)

Volume	Invert	Avail.Storage	Storage Description
#1	50.60'	15,152 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.60	1,088	157.0	0	0	1,088
52.00	1,850	191.0	2,033	2,033	2,061
54.00	3,229	247.0	5,015	7,049	4,061
56.00	4,935	302.0	8,104	15,152	6,526

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.60'	**1.200 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	55.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.12 cfs @ 27.93 hrs HW=55.31' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.12 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.60' (Free Discharge)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.391 ac, 12.20% Impervious, Inflow Depth > 1.77" for 25-yr event
Inflow = 42.82 cfs @ 12.28 hrs, Volume= 6.252 af
Primary = 42.82 cfs @ 12.28 hrs, Volume= 6.252 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 0.949 ac, 0.00% Impervious, Inflow Depth = 3.09" for 25-yr event
Inflow = 3.37 cfs @ 12.09 hrs, Volume= 0.244 af
Primary = 3.37 cfs @ 12.09 hrs, Volume= 0.244 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (ROAD)

Inflow Area = 1.451 ac, 2.81% Impervious, Inflow Depth = 3.18" for 25-yr event
Inflow = 4.81 cfs @ 12.13 hrs, Volume= 0.385 af
Primary = 4.81 cfs @ 12.13 hrs, Volume= 0.385 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

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

Subcatchment1S: POST-A.1ROOF Runoff Area=21,839 sf 29.46% Impervious Runoff Depth=7.06"
Tc=6.0 min CN=85 Runoff=3.88 cfs 0.295 af

Subcatchment2S: POST-A.2 Runoff Area=5,394 sf 74.36% Impervious Runoff Depth=8.03"
Tc=6.0 min CN=93 Runoff=1.03 cfs 0.083 af

Subcatchment3S: POST-B.1 Runoff Area=4,301 sf 100.00% Impervious Runoff Depth=8.63"
Tc=6.0 min CN=98 Runoff=0.84 cfs 0.071 af

Subcatchment4S: POST-B.2 Runoff Area=3,444 sf 100.00% Impervious Runoff Depth=8.63"
Tc=6.0 min CN=98 Runoff=0.67 cfs 0.057 af

Subcatchment5S: POST-B.3 Runoff Area=8,158 sf 75.19% Impervious Runoff Depth=8.15"
Tc=6.0 min CN=94 Runoff=1.57 cfs 0.127 af

Subcatchment6S: POST-B.4 Runoff Area=22,683 sf 44.65% Impervious Runoff Depth=7.42"
Tc=6.0 min CN=88 Runoff=4.17 cfs 0.322 af

Subcatchment7S: POST-B.5 Runoff Area=14,740 sf 51.65% Impervious Runoff Depth=7.54"
Tc=6.0 min CN=89 Runoff=2.73 cfs 0.213 af

Subcatchment8S: POST-B.6 Runoff Area=12,782 sf 66.60% Impervious Runoff Depth=7.91"
Tc=6.0 min CN=92 Runoff=2.43 cfs 0.193 af

Subcatchment9S: POST-B.7 Runoff Area=4,452 sf 88.07% Impervious Runoff Depth=8.39"
Tc=6.0 min CN=96 Runoff=0.86 cfs 0.071 af

Subcatchment10S: POST-B.8 Runoff Area=16,186 sf 58.64% Impervious Runoff Depth=7.78"
Tc=6.0 min CN=91 Runoff=3.05 cfs 0.241 af

Subcatchment11S: POST-B.9 Runoff Area=13,230 sf 71.85% Impervious Runoff Depth=8.03"
Tc=6.0 min CN=93 Runoff=2.53 cfs 0.203 af

Subcatchment12S: POST-B.10 Runoff Area=13,781 sf 68.78% Impervious Runoff Depth=7.91"
Tc=6.0 min CN=92 Runoff=2.62 cfs 0.208 af

Subcatchment13S: POST-B.11 Runoff Area=4,784 sf 82.50% Impervious Runoff Depth=8.27"
Tc=6.0 min CN=95 Runoff=0.93 cfs 0.076 af

Subcatchment14S: POST-B.12 Runoff Area=9,045 sf 70.23% Impervious Runoff Depth=8.03"
Tc=6.0 min CN=93 Runoff=1.73 cfs 0.139 af

Subcatchment15S: POST-B.13 Runoff Area=16,536 sf 0.36% Impervious Runoff Depth=6.69"
Tc=6.0 min CN=82 Runoff=2.83 cfs 0.212 af

Subcatchment16S: POST-B.BACKOF Runoff Area=15,196 sf 100.00% Impervious Runoff Depth=8.63"
Tc=6.0 min CN=98 Runoff=2.97 cfs 0.251 af

Subcatchment17S: POST-C.1 Runoff Area=10,285 sf 72.16% Impervious Runoff Depth=8.03"
Tc=6.0 min CN=93 Runoff=1.97 cfs 0.158 af

Subcatchment18S: POST-C.2 Runoff Area=3,125 sf 100.00% Impervious Runoff Depth=8.63"
Tc=6.0 min CN=98 Runoff=0.61 cfs 0.052 af

Subcatchment19S: POST-C.3 Runoff Area=15,128 sf 68.73% Impervious Runoff Depth=8.03"
Tc=6.0 min CN=93 Runoff=2.89 cfs 0.232 af

Subcatchment20S: POST-C.4 Runoff Area=18,753 sf 51.27% Impervious Runoff Depth=7.54"
Tc=6.0 min CN=89 Runoff=3.48 cfs 0.271 af

Subcatchment21S: POST-D.1 Runoff Area=8,298 sf 60.20% Impervious Runoff Depth=7.78"
Tc=6.0 min CN=91 Runoff=1.57 cfs 0.124 af

Subcatchment22S: POST-D.2 Runoff Area=4,540 sf 75.18% Impervious Runoff Depth=8.15"
Tc=6.0 min CN=94 Runoff=0.87 cfs 0.071 af

Subcatchment23S: POST-D.3 Runoff Area=2,887 sf 89.23% Impervious Runoff Depth=8.39"
Tc=6.0 min CN=96 Runoff=0.56 cfs 0.046 af

Subcatchment24S: POST-D.4 Runoff Area=8,058 sf 17.37% Impervious Runoff Depth=6.81"
Tc=6.0 min CN=83 Runoff=1.40 cfs 0.105 af

Subcatchment25S: POST-D.5 Runoff Area=13,488 sf 11.14% Impervious Runoff Depth=6.57"
Tc=6.0 min CN=81 Runoff=2.27 cfs 0.169 af

Subcatchment26S: POST-D.6 Runoff Area=2,243 sf 86.58% Impervious Runoff Depth=8.39"
Tc=6.0 min CN=96 Runoff=0.44 cfs 0.036 af

Subcatchment27S: POST-D.7 Runoff Area=3,293 sf 92.29% Impervious Runoff Depth=8.51"
Tc=6.0 min CN=97 Runoff=0.64 cfs 0.054 af

Subcatchment28S: POST-D.8 Runoff Area=8,095 sf 18.59% Impervious Runoff Depth=6.81"
Tc=6.0 min CN=83 Runoff=1.40 cfs 0.105 af

Subcatchment29S: POST-D.9 Runoff Area=16,511 sf 0.55% Impervious Runoff Depth=6.57"
Tc=6.0 min CN=81 Runoff=2.78 cfs 0.207 af

Subcatchment30S: POST-D.BACKOF Runoff Area=5,053 sf 100.00% Impervious Runoff Depth=8.63"
Tc=6.0 min CN=98 Runoff=0.99 cfs 0.083 af

Subcatchment31S: POST-E.1 Runoff Area=14,096 sf 63.32% Impervious Runoff Depth=7.78"
Tc=6.0 min CN=91 Runoff=2.66 cfs 0.210 af

Subcatchment32S: POST-E.2 Runoff Area=38,272 sf 26.80% Impervious Runoff Depth=6.93"
Tc=6.0 min CN=84 Runoff=6.72 cfs 0.508 af

Subcatchment33S: POST-E.3 Runoff Area=16,029 sf 38.93% Impervious Runoff Depth=7.30"
Tc=6.0 min CN=87 Runoff=2.91 cfs 0.224 af

Subcatchment34S: POST-E.4 Runoff Area=1,858 sf 86.28% Impervious Runoff Depth=8.39"
Tc=6.0 min CN=96 Runoff=0.36 cfs 0.030 af

Subcatchment35S: POST-E.5 Runoff Area=2,066 sf 100.00% Impervious Runoff Depth=8.63"
Tc=6.0 min CN=98 Runoff=0.40 cfs 0.034 af

Subcatchment36S: POST-E.6 Runoff Area=2,119 sf 100.00% Impervious Runoff Depth=8.63"
Tc=6.0 min CN=98 Runoff=0.41 cfs 0.035 af

Subcatchment37S: POST-F.1 Runoff Area=63,225 sf 2.81% Impervious Runoff Depth=6.20"
Flow Length=240' Tc=8.9 min CN=78 Runoff=9.29 cfs 0.750 af

Subcatchment38S: POST-F.2 Runoff Area=15,868 sf 5.18% Impervious Runoff Depth=6.69"
Tc=6.0 min CN=82 Runoff=2.71 cfs 0.203 af

Subcatchment39S: POST-F.ROOFS Runoff Area=5,892 sf 100.00% Impervious Runoff Depth=8.63"
Tc=6.0 min CN=98 Runoff=1.15 cfs 0.097 af

Subcatchment40S: POST-G Runoff Area=41,336 sf 0.00% Impervious Runoff Depth=6.08"
Tc=6.0 min CN=77 Runoff=6.54 cfs 0.481 af

Subcatchment41S: POST-H.1 Runoff Area=113,550 sf 1.06% Impervious Runoff Depth=6.20"
Flow Length=175' Tc=10.9 min CN=78 Runoff=15.76 cfs 1.347 af

Subcatchment42S: POST-H.2 Runoff Area=7,958 sf 2.39% Impervious Runoff Depth=6.57"
Tc=6.0 min CN=81 Runoff=1.34 cfs 0.100 af

Subcatchment43S: POST-H.ROOF Runoff Area=5,475 sf 100.00% Impervious Runoff Depth=8.63"
Tc=6.0 min CN=98 Runoff=1.07 cfs 0.090 af

Subcatchment44S: POST-K.1 Runoff Area=75,855 sf 0.00% Impervious Runoff Depth=6.44"
Tc=6.0 min CN=80 Runoff=12.59 cfs 0.935 af

Subcatchment45S: POST-K.3 Runoff Area=12,015 sf 0.00% Impervious Runoff Depth=1.87"
Tc=6.0 min CN=42 Runoff=0.50 cfs 0.043 af

Subcatchment46S: POST-K.ROOF Runoff Area=16,139 sf 100.00% Impervious Runoff Depth=8.63"
Tc=6.0 min CN=98 Runoff=3.15 cfs 0.266 af

Subcatchment47S: POST-I Runoff Area=923,567 sf 0.14% Impervious Runoff Depth=3.04"
Flow Length=323' Tc=16.1 min CN=52 Runoff=52.46 cfs 5.363 af

Subcatchment48S: POST-J Runoff Area=291,359 sf 0.00% Impervious Runoff Depth=3.15"
Flow Length=230' Tc=12.4 min CN=53 Runoff=19.03 cfs 1.758 af

Pond 1P: SW AREA #1 (RAIN GARDEN #1) Peak Elev=59.21' Storage=25,637 cf Inflow=16.97 cfs 1.311 af
Outflow=7.65 cfs 1.245 af

Pond 2P: SW AREA #2 (RAIN GARDEN #2) Peak Elev=71.56' Storage=5,567 cf Inflow=12.92 cfs 1.001 af
Outflow=12.81 cfs 0.968 af

Pond 3P: SW AREA#3 (RAIN GARDEN#5) Peak Elev=80.60' Storage=38,474 cf Inflow=38.87 cfs 3.097 af
Outflow=18.56 cfs 3.002 af

Pond 4P: SW AREA#4 (RAIN GARDEN#3) Peak Elev=109.72' Storage=9,057 cf Inflow=20.26 cfs 1.739 af
Outflow=20.36 cfs 1.739 af

Pond 5P: DETENTION POND Peak Elev=115.74' Storage=9,489 cf Inflow=15.76 cfs 1.347 af
Outflow=14.48 cfs 1.171 af

Pond 6P: SW AREA#6 (RAIN GARDEN#4) Peak Elev=83.74' Storage=22,020 cf Inflow=15.74 cfs 1.202 af
Outflow=10.65 cfs 1.008 af

Pond 7P: SW AREA#7 (INFILTRATION Peak Elev=55.73' Storage=13,875 cf Inflow=11.02 cfs 1.051 af
Discarded=0.13 cfs 0.499 af Primary=2.69 cfs 0.506 af Outflow=2.82 cfs 1.005 af

Link DP-A: DP-A (WETLAND) Inflow=123.19 cfs 14.581 af
Primary=123.19 cfs 14.581 af

Link DP-C: DP-B (EASTERN WETLAND) Inflow=6.54 cfs 0.481 af
Primary=6.54 cfs 0.481 af

Link DP-D: DP-C (ROAD) Inflow=9.29 cfs 0.750 af
Primary=9.29 cfs 0.750 af

Total Runoff Area = 44.834 ac Runoff Volume = 16.949 af Average Runoff Depth = 4.54"
88.29% Pervious = 39.586 ac 11.71% Impervious = 5.248 ac

Summary for Subcatchment 1S: POST-A.1 ROOF

Runoff = 3.88 cfs @ 12.09 hrs, Volume= 0.295 af, Depth= 7.06"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
4,714	98	Paved parking, HSG D
14,433	80	>75% Grass cover, Good, HSG D
972	77	Woods, Good, HSG D
1,720	98	Roofs, HSG D
21,839	85	Weighted Average
15,405		70.54% Pervious Area
6,434		29.46% Impervious Area

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

Summary for Subcatchment 2S: POST-A.2

Runoff = 1.03 cfs @ 12.09 hrs, Volume= 0.083 af, Depth= 8.03"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
4,011	98	Paved parking, HSG D
1,383	80	>75% Grass cover, Good, HSG D
5,394	93	Weighted Average
1,383		25.64% Pervious Area
4,011		74.36% Impervious Area

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

Summary for Subcatchment 3S: POST-B.1

Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.071 af, Depth= 8.63"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,604	98	Paved parking, HSG D
1,697	98	Roofs, HSG D
4,301	98	Weighted Average
4,301		100.00% Impervious Area

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

Summary for Subcatchment 4S: POST-B.2

Runoff = 0.67 cfs @ 12.09 hrs, Volume= 0.057 af, Depth= 8.63"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,606	98	Paved parking, HSG D
838	98	Roofs, HSG D
3,444	98	Weighted Average
3,444		100.00% Impervious Area

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

Summary for Subcatchment 5S: POST-B.3

Runoff = 1.57 cfs @ 12.09 hrs, Volume= 0.127 af, Depth= 8.15"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,251	98	Paved parking, HSG D
2,024	80	>75% Grass cover, Good, HSG D
2,883	98	Roofs, HSG D
8,158	94	Weighted Average
2,024		24.81% Pervious Area
6,134		75.19% Impervious Area

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

Summary for Subcatchment 6S: POST-B.4

Runoff = 4.17 cfs @ 12.09 hrs, Volume= 0.322 af, Depth= 7.42"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,023	98	Paved parking, HSG D
9,260	80	>75% Grass cover, Good, HSG D
3,294	77	Woods, Good, HSG D
7,106	98	Roofs, HSG D
22,683	88	Weighted Average
12,554		55.35% Pervious Area
10,129		44.65% Impervious Area

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

Summary for Subcatchment 7S: POST-B.5

Runoff = 2.73 cfs @ 12.09 hrs, Volume= 0.213 af, Depth= 7.54"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
4,392	98	Paved parking, HSG D
6,885	80	>75% Grass cover, Good, HSG D
242	77	Woods, Good, HSG D
3,221	98	Roofs, HSG D
14,740	89	Weighted Average
7,127		48.35% Pervious Area
7,613		51.65% Impervious Area

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

Summary for Subcatchment 8S: POST-B.6

Runoff = 2.43 cfs @ 12.09 hrs, Volume= 0.193 af, Depth= 7.91"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
4,699	98	Paved parking, HSG D
4,269	80	>75% Grass cover, Good, HSG D
3,814	98	Roofs, HSG D
12,782	92	Weighted Average
4,269		33.40% Pervious Area
8,513		66.60% Impervious Area

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

Summary for Subcatchment 9S: POST-B.7

Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.071 af, Depth= 8.39"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,921	98	Paved parking, HSG D
531	80	>75% Grass cover, Good, HSG D
4,452	96	Weighted Average
531		11.93% Pervious Area
3,921		88.07% Impervious Area

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

Summary for Subcatchment 10S: POST-B.8

Runoff = 3.05 cfs @ 12.09 hrs, Volume= 0.241 af, Depth= 7.78"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,068	98	Paved parking, HSG D
6,694	80	>75% Grass cover, Good, HSG D
4,424	98	Roofs, HSG D
16,186	91	Weighted Average
6,694		41.36% Pervious Area
9,492		58.64% Impervious Area

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

Summary for Subcatchment 11S: POST-B.9

Runoff = 2.53 cfs @ 12.09 hrs, Volume= 0.203 af, Depth= 8.03"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
4,919	98	Paved parking, HSG D
3,724	80	>75% Grass cover, Good, HSG D
4,587	98	Roofs, HSG D
13,230	93	Weighted Average
3,724		28.15% Pervious Area
9,506		71.85% Impervious Area

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

Summary for Subcatchment 12S: POST-B.10

Runoff = 2.62 cfs @ 12.09 hrs, Volume= 0.208 af, Depth= 7.91"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,074	98	Paved parking, HSG D
4,302	80	>75% Grass cover, Good, HSG D
4,405	98	Roofs, HSG D
13,781	92	Weighted Average
4,302		31.22% Pervious Area
9,479		68.78% Impervious Area

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

Summary for Subcatchment 13S: POST-B.11

Runoff = 0.93 cfs @ 12.09 hrs, Volume= 0.076 af, Depth= 8.27"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,021	98	Paved parking, HSG D
837	80	>75% Grass cover, Good, HSG D
926	98	Roofs, HSG D
4,784	95	Weighted Average
837		17.50% Pervious Area
3,947		82.50% Impervious Area

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

Summary for Subcatchment 14S: POST-B.12

Runoff = 1.73 cfs @ 12.09 hrs, Volume= 0.139 af, Depth= 8.03"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,184	98	Paved parking, HSG D
2,693	80	>75% Grass cover, Good, HSG D
3,168	98	Roofs, HSG D
9,045	93	Weighted Average
2,693		29.77% Pervious Area
6,352		70.23% Impervious Area

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

Summary for Subcatchment 15S: POST-B.13

Runoff = 2.83 cfs @ 12.09 hrs, Volume= 0.212 af, Depth= 6.69"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
59	98	Paved parking, HSG D
14,780	80	>75% Grass cover, Good, HSG D
1,697	96	Gravel surface, HSG D
16,536	82	Weighted Average
16,477		99.64% Pervious Area
59		0.36% Impervious Area

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

Summary for Subcatchment 16S: POST-B.BACK OF ROOFS

Runoff = 2.97 cfs @ 12.09 hrs, Volume= 0.251 af, Depth= 8.63"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
15,196	98	Roofs, HSG D
15,196		100.00% Impervious Area

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

Summary for Subcatchment 17S: POST-C.1

Runoff = 1.97 cfs @ 12.09 hrs, Volume= 0.158 af, Depth= 8.03"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,667	98	Paved parking, HSG D
2,863	80	>75% Grass cover, Good, HSG D
3,755	98	Roofs, HSG D
10,285	93	Weighted Average
2,863		27.84% Pervious Area
7,422		72.16% Impervious Area

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

Summary for Subcatchment 18S: POST-C.2

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.052 af, Depth= 8.63"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,395	98	Paved parking, HSG D
730	98	Roofs, HSG D
3,125	98	Weighted Average
3,125		100.00% Impervious Area

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

Summary for Subcatchment 19S: POST-C.3

Runoff = 2.89 cfs @ 12.09 hrs, Volume= 0.232 af, Depth= 8.03"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,966	98	Paved parking, HSG D
4,414	80	>75% Grass cover, Good, HSG D
317	96	Gravel surface, HSG D
4,431	98	Roofs, HSG D
15,128	93	Weighted Average
4,731		31.27% Pervious Area
10,397		68.73% Impervious Area

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

Summary for Subcatchment 20S: POST-C.4

Runoff = 3.48 cfs @ 12.09 hrs, Volume= 0.271 af, Depth= 7.54"
Routed to Pond 3P : SW AREA #3 (RAIN GARDEN #5)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,662	98	Paved parking, HSG D
9,139	80	>75% Grass cover, Good, HSG D
3,952	98	Roofs, HSG D
18,753	89	Weighted Average
9,139		48.73% Pervious Area
9,614		51.27% Impervious Area

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

Summary for Subcatchment 21S: POST-D.1

Runoff = 1.57 cfs @ 12.09 hrs, Volume= 0.124 af, Depth= 7.78"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,187	98	Paved parking, HSG D
3,303	80	>75% Grass cover, Good, HSG D
1,808	98	Roofs, HSG D
8,298	91	Weighted Average
3,303		39.80% Pervious Area
4,995		60.20% Impervious Area

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

Summary for Subcatchment 22S: POST-D.2

Runoff = 0.87 cfs @ 12.09 hrs, Volume= 0.071 af, Depth= 8.15"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,161	98	Paved parking, HSG D
1,127	80	>75% Grass cover, Good, HSG D
1,252	98	Roofs, HSG D
4,540	94	Weighted Average
1,127		24.82% Pervious Area
3,413		75.18% Impervious Area

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

Summary for Subcatchment 23S: POST-D.3

Runoff = 0.56 cfs @ 12.09 hrs, Volume= 0.046 af, Depth= 8.39"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,576	98	Paved parking, HSG D
311	80	>75% Grass cover, Good, HSG D
2,887	96	Weighted Average
311		10.77% Pervious Area
2,576		89.23% Impervious Area

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

Summary for Subcatchment 24S: POST-D.4

Runoff = 1.40 cfs @ 12.09 hrs, Volume= 0.105 af, Depth= 6.81"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,400	98	Paved parking, HSG D
6,658	80	>75% Grass cover, Good, HSG D
8,058	83	Weighted Average
6,658		82.63% Pervious Area
1,400		17.37% Impervious Area

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

Summary for Subcatchment 25S: POST-D.5

Runoff = 2.27 cfs @ 12.09 hrs, Volume= 0.169 af, Depth= 6.57"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,502	98	Paved parking, HSG D
7,754	80	>75% Grass cover, Good, HSG D
4,232	77	Woods, Good, HSG D
13,488	81	Weighted Average
11,986		88.86% Pervious Area
1,502		11.14% Impervious Area

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

Summary for Subcatchment 26S: POST-D.6

Runoff = 0.44 cfs @ 12.09 hrs, Volume= 0.036 af, Depth= 8.39"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,942	98	Paved parking, HSG D
301	80	>75% Grass cover, Good, HSG D
2,243	96	Weighted Average
301		13.42% Pervious Area
1,942		86.58% Impervious Area

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

Summary for Subcatchment 27S: POST-D.7

Runoff = 0.64 cfs @ 12.09 hrs, Volume= 0.054 af, Depth= 8.51"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,391	98	Paved parking, HSG D
254	80	>75% Grass cover, Good, HSG D
648	98	Roofs, HSG D
3,293	97	Weighted Average
254		7.71% Pervious Area
3,039		92.29% Impervious Area

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

Summary for Subcatchment 28S: POST-D.8

Runoff = 1.40 cfs @ 12.09 hrs, Volume= 0.105 af, Depth= 6.81"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,505	98	Paved parking, HSG D
4,734	80	>75% Grass cover, Good, HSG D
1,856	77	Woods, Good, HSG D
8,095	83	Weighted Average
6,590		81.41% Pervious Area
1,505		18.59% Impervious Area

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

Summary for Subcatchment 29S: POST-D.9

Runoff = 2.78 cfs @ 12.09 hrs, Volume= 0.207 af, Depth= 6.57"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
91	98	Paved parking, HSG D
15,963	80	>75% Grass cover, Good, HSG D
457	96	Gravel surface, HSG D
16,511	81	Weighted Average
16,420		99.45% Pervious Area
91		0.55% Impervious Area

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

Summary for Subcatchment 30S: POST-D.BACK OF ROOFS

Runoff = 0.99 cfs @ 12.09 hrs, Volume= 0.083 af, Depth= 8.63"
Routed to Pond 2P : SW AREA #2 (RAIN GARDEN #2)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,053	98	Roofs, HSG D
5,053		100.00% Impervious Area

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

Summary for Subcatchment 31S: POST-E.1

Runoff = 2.66 cfs @ 12.09 hrs, Volume= 0.210 af, Depth= 7.78"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
4,689	98	Paved parking, HSG D
5,171	80	>75% Grass cover, Good, HSG D
4,236	98	Roofs, HSG D
14,096	91	Weighted Average
5,171		36.68% Pervious Area
8,925		63.32% Impervious Area

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

Summary for Subcatchment 32S: POST-E.2

Runoff = 6.72 cfs @ 12.09 hrs, Volume= 0.508 af, Depth= 6.93"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,754	98	Paved parking, HSG D
18,939	80	>75% Grass cover, Good, HSG D
9,077	77	Woods, Good, HSG D
4,502	98	Roofs, HSG D
38,272	84	Weighted Average
28,016		73.20% Pervious Area
10,256		26.80% Impervious Area

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

Summary for Subcatchment 33S: POST-E.3

Runoff = 2.91 cfs @ 12.09 hrs, Volume= 0.224 af, Depth= 7.30"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
3,579	98	Paved parking, HSG D
8,806	80	>75% Grass cover, Good, HSG D
983	77	Woods, Good, HSG D
2,661	98	Roofs, HSG D
16,029	87	Weighted Average
9,789		61.07% Pervious Area
6,240		38.93% Impervious Area

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

Summary for Subcatchment 34S: POST-E.4

Runoff = 0.36 cfs @ 12.09 hrs, Volume= 0.030 af, Depth= 8.39"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,603	98	Paved parking, HSG D
255	80	>75% Grass cover, Good, HSG D
1,858	96	Weighted Average
255		13.72% Pervious Area
1,603		86.28% Impervious Area

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

Summary for Subcatchment 35S: POST-E.5

Runoff = 0.40 cfs @ 12.09 hrs, Volume= 0.034 af, Depth= 8.63"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,066	98	Paved parking, HSG D
2,066		100.00% Impervious Area

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

Summary for Subcatchment 36S: POST-E.6

Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.035 af, Depth= 8.63"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
2,119	98	Paved parking, HSG D
2,119		100.00% Impervious Area

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

Summary for Subcatchment 37S: POST-F.1

Runoff = 9.29 cfs @ 12.12 hrs, Volume= 0.750 af, Depth= 6.20"
Routed to Link DP-D : DP-C (ROAD)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,775	98	Paved parking, HSG D
10,665	80	>75% Grass cover, Good, HSG D
690	96	Gravel surface, HSG D
50,095	77	Woods, Good, HSG D
63,225	78	Weighted Average
61,450		97.19% Pervious Area
1,775		2.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	50	0.0800	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.5	190	0.1700	2.06		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.9	240	Total			

Summary for Subcatchment 38S: POST-F.2

Runoff = 2.71 cfs @ 12.09 hrs, Volume= 0.203 af, Depth= 6.69"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
189	98	Paved parking, HSG D
13,769	80	>75% Grass cover, Good, HSG D
1,172	96	Gravel surface, HSG D
105	77	Woods, Good, HSG D
633	98	Roofs, HSG D
15,868	82	Weighted Average
15,046		94.82% Pervious Area
822		5.18% Impervious Area

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

Summary for Subcatchment 39S: POST-F.ROOFS

Runoff = 1.15 cfs @ 12.09 hrs, Volume= 0.097 af, Depth= 8.63"
Routed to Pond 1P : SW AREA #1 (RAIN GARDEN #1)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,892	98	Roofs, HSG D
5,892		100.00% Impervious Area

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

Summary for Subcatchment 40S: POST-G

Runoff = 6.54 cfs @ 12.09 hrs, Volume= 0.481 af, Depth= 6.08"
Routed to Link DP-C : DP-B (EASTERN WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
41,336	77	Woods, Good, HSG D
41,336		100.00% Pervious Area

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

Summary for Subcatchment 41S: POST-H.1

Runoff = 15.76 cfs @ 12.15 hrs, Volume= 1.347 af, Depth= 6.20"
Routed to Pond 5P : DETENTION POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,207	98	Paved parking, HSG D
12,449	80	>75% Grass cover, Good, HSG D
99,894	77	Woods, Good, HSG D
113,550	78	Weighted Average
112,343		98.94% Pervious Area
1,207		1.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
1.2	125	0.1200	1.73		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.9	175	Total			

Summary for Subcatchment 42S: POST-H.2

Runoff = 1.34 cfs @ 12.09 hrs, Volume= 0.100 af, Depth= 6.57"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
190	98	Paved parking, HSG D
7,268	80	>75% Grass cover, Good, HSG D
500	96	Gravel surface, HSG D
7,958	81	Weighted Average
7,768		97.61% Pervious Area
190		2.39% Impervious Area

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

Summary for Subcatchment 43S: POST-H.ROOF

Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.090 af, Depth= 8.63"
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
5,475	98	Roofs, HSG D
5,475		100.00% Impervious Area

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

Summary for Subcatchment 44S: POST-K.1

Runoff = 12.59 cfs @ 12.09 hrs, Volume= 0.935 af, Depth= 6.44"
Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
75,855	80	>75% Grass cover, Good, HSG D
75,855		100.00% Pervious Area

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

Summary for Subcatchment 45S: POST-K.3

Runoff = 0.50 cfs @ 12.11 hrs, Volume= 0.043 af, Depth= 1.87"
Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
6,994	39	>75% Grass cover, Good, HSG A
1,262	96	Gravel surface, HSG A
3,759	30	Woods, Good, HSG A
12,015	42	Weighted Average
12,015		100.00% Pervious Area

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

Summary for Subcatchment 46S: POST-K.ROOF

Runoff = 3.15 cfs @ 12.09 hrs, Volume= 0.266 af, Depth= 8.63"
Routed to Pond 6P : SW AREA #6 (RAIN GARDEN #4)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
16,139	98	Roofs, HSG D
16,139		100.00% Impervious Area

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

Summary for Subcatchment 47S: POST-I

Runoff = 52.46 cfs @ 12.24 hrs, Volume= 5.363 af, Depth= 3.04"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
1,935	39	>75% Grass cover, Good, HSG A
825	96	Gravel surface, HSG A
359,384	30	Woods, Good, HSG A
293,951	55	Woods, Good, HSG B
1,308	98	Paved parking, HSG D
118,096	80	>75% Grass cover, Good, HSG D
1,655	96	Gravel surface, HSG D
146,413	77	Woods, Good, HSG D
923,567	52	Weighted Average
922,259		99.86% Pervious Area
1,308		0.14% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
6.4	273	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
16.1	323	Total			

Summary for Subcatchment 48S: POST-J

Runoff = 19.03 cfs @ 12.19 hrs, Volume= 1.758 af, Depth= 3.15"
Routed to Link DP-A : DP-A (WETLAND)

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.87"

Area (sf)	CN	Description
7,237	39	>75% Grass cover, Good, HSG A
3,266	96	Gravel surface, HSG A
134,145	30	Woods, Good, HSG A
223	96	Gravel surface, HSG B
26,483	55	Woods, Good, HSG B
42,094	80	>75% Grass cover, Good, HSG D
1,814	96	Gravel surface, HSG D
76,097	77	Woods, Good, HSG D
291,359	53	Weighted Average
291,359		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.95"
2.7	180	0.0500	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
12.4	230	Total			

Summary for Pond 1P: SW AREA #1 (RAIN GARDEN #1)

Inflow Area = 2.166 ac, 38.50% Impervious, Inflow Depth = 7.26" for 100-yr event
Inflow = 16.97 cfs @ 12.09 hrs, Volume= 1.311 af
Outflow = 7.65 cfs @ 12.27 hrs, Volume= 1.245 af, Atten= 55%, Lag= 11.1 min
Primary = 7.65 cfs @ 12.27 hrs, Volume= 1.245 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 59.21' @ 12.27 hrs Surf.Area= 7,328 sf Storage= 25,637 cf

Plug-Flow detention time= 528.9 min calculated for 1.245 af (95% of inflow)
Center-of-Mass det. time= 502.4 min (1,281.9 - 779.5)

Volume	Invert	Avail.Storage	Storage Description
#1	54.00'	31,979 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
54.00	4,376	317.0	0	0	4,376
57.00	4,376	317.0	13,128	13,128	5,327
58.00	5,356	337.0	4,858	17,986	6,418
60.00	8,777	385.0	13,993	31,979	9,269

Device	Routing	Invert	Outlet Devices
#1	Primary	54.00'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 53.80' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Device 1	58.00'	**20.0" W x 15.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	54.00'	**6.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.00' / 54.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	54.00'	**6.000 in/hr Exfiltration over Wetted area above 54.00'** Excluded Wetted area = 4,376 sf
#5	Device 1	59.60'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	59.50'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=7.61 cfs @ 12.27 hrs HW=59.21' (Free Discharge)
- **1=Culvert** (Passes 7.61 cfs of 17.96 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 7.09 cfs @ 3.53 fps)
  - **3=Culvert** (Passes 0.52 cfs of 1.11 cfs potential flow)
    - **4=Exfiltration** (Exfiltration Controls 0.52 cfs)
  - **5=Orifice/Grate** (Controls 0.00 cfs)
- **6=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2P: SW AREA #2 (RAIN GARDEN #2)

Inflow Area = 1.664 ac, 35.21% Impervious, Inflow Depth = 7.22" for 100-yr event
Inflow = 12.92 cfs @ 12.09 hrs, Volume= 1.001 af
Outflow = 12.81 cfs @ 12.10 hrs, Volume= 0.968 af, Atten= 1%, Lag= 0.9 min
Primary = 12.81 cfs @ 12.10 hrs, Volume= 0.968 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 71.56' @ 12.10 hrs Surf.Area= 2,397 sf Storage= 5,567 cf

Plug-Flow detention time= 101.8 min calculated for 0.968 af (97% of inflow)
Center-of-Mass det. time= 81.4 min (859.9 - 778.5)

Volume	Invert	Avail.Storage	Storage Description
#1	64.00'	6,724 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
64.00	361	94.0	0	0	361
68.00	361	94.0	1,444	1,444	737
70.00	1,140	165.0	1,428	2,872	2,223
72.00	2,839	377.0	3,852	6,724	11,383

Device	Routing	Invert	Outlet Devices
#1	Primary	64.00'	**15.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 63.75' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	70.75'	**24.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	64.00'	**6.0" Round Culvert** L= 40.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 64.00' / 64.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#4	Device 3	64.00'	**6.000 in/hr Exfiltration over Surface area above 64.00'** Excluded Surface area = 361 sf Phase-In= 0.01'
#5	Device 1	71.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	71.55'	**10.0' long x 6.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50

Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65
2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=12.66 cfs @ 12.10 hrs HW=71.56' (Free Discharge)
- **1=Culvert** (Passes 12.65 cfs of 15.56 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 3.56 cfs @ 3.56 fps)
  - **3=Culvert** (Passes 0.28 cfs of 1.94 cfs potential flow)
    - **4=Exfiltration** (Exfiltration Controls 0.28 cfs)
  - **5=Orifice/Grate** (Weir Controls 8.82 cfs @ 1.81 fps)
- **6=Broad-Crested Rectangular Weir** (Weir Controls 0.01 cfs @ 0.17 fps)

Summary for Pond 3P: SW AREA #3 (RAIN GARDEN #5)

Inflow Area = 4.743 ac, 62.26% Impervious, Inflow Depth = 7.83" for 100-yr event
Inflow = 38.87 cfs @ 12.09 hrs, Volume= 3.097 af
Outflow = 18.56 cfs @ 12.25 hrs, Volume= 3.002 af, Atten= 52%, Lag= 10.0 min
Primary = 18.56 cfs @ 12.25 hrs, Volume= 3.002 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 80.60' @ 12.25 hrs Surf.Area= 8,421 sf Storage= 38,474 cf

Plug-Flow detention time= 115.8 min calculated for 3.000 af (97% of inflow)
Center-of-Mass det. time= 98.4 min (864.3 - 765.9)

Volume	Invert	Avail.Storage	Storage Description
#1	68.00'	51,339 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
68.00	1,026	130.0	0	0	1,026
72.00	1,026	130.0	4,104	4,104	1,546
74.00	2,000	178.0	2,972	7,076	2,762
76.00	3,184	217.0	5,138	12,215	4,050
78.00	4,651	262.0	7,789	20,003	5,831
78.01	5,875	302.0	53	20,056	7,626
80.00	7,805	340.0	13,566	33,622	9,670
82.00	9,955	380.0	17,716	51,339	12,072

Device	Routing	Invert	Outlet Devices
#1	Primary	68.00'	**18.0" Round Culvert** L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 67.30' S= 0.0233 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	75.00'	**4.0" W x 36.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	78.00'	**7.0" W x 36.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	68.00'	**6.0" Round Culvert** L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 68.00' / 68.00' S= 0.0000 '/' Cc= 0.900

			n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#5	Device 4	68.00'	**6.000 in/hr Exfiltration over Surface area above 68.00'**
			Excluded Surface area = 1,026 sf
#6	Device 1	81.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads
#7	Primary	81.25'	**8.0' long x 6.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=18.54 cfs @ 12.25 hrs HW=80.60' (Free Discharge)
- **1=Culvert** (Passes 18.54 cfs of 29.28 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 9.69 cfs @ 9.69 fps)
  - **3=Orifice/Grate** (Orifice Controls 7.83 cfs @ 5.17 fps)
  - **4=Culvert** (Passes 1.03 cfs of 2.35 cfs potential flow)
    - **5=Exfiltration** (Exfiltration Controls 1.03 cfs)
  - **6=Orifice/Grate** (Controls 0.00 cfs)
- **7=Broad-Crested Rectangular Weir**(Controls 0.00 cfs)

Summary for Pond 4P: SW AREA #4 (RAIN GARDEN #3)

Inflow Area = 3.540 ac, 11.23% Impervious, Inflow Depth = 5.89" for 100-yr event
Inflow = 20.26 cfs @ 12.13 hrs, Volume= 1.739 af
Outflow = 20.36 cfs @ 12.15 hrs, Volume= 1.739 af, Atten= 0%, Lag= 1.2 min
Primary = 20.36 cfs @ 12.15 hrs, Volume= 1.739 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 109.72' @ 12.15 hrs Surf.Area= 3,612 sf Storage= 9,057 cf

Plug-Flow detention time= 79.4 min calculated for 1.739 af (100% of inflow)
Center-of-Mass det. time= 79.2 min (899.4 - 820.2)

Volume	Invert	Avail.Storage	Storage Description
#1	102.00'	10,120 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
102.00	540	156.0	0	0	540
106.00	540	156.0	2,160	2,160	1,164
108.00	1,865	255.0	2,272	4,432	4,428
110.00	3,952	345.0	5,688	10,120	8,767

Device	Routing	Invert	Outlet Devices
#1	Primary	102.00'	**18.0" Round Culvert**
			L= 30.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 102.00' / 101.70' S= 0.0100 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	102.00'	**6.0" Round Culvert**
			L= 100.0' CPP, square edge headwall, Ke= 0.500

			Inlet / Outlet Invert= 102.00' / 102.00' S= 0.0000 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	102.00'	**6.000 in/hr Exfiltration over Wetted area above 102.00'**
			Excluded Wetted area = 540 sf
#4	Device 1	109.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads
#5	Primary	109.50'	**10.0' long x 6.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50
			Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

Primary OutFlow Max=20.18 cfs @ 12.15 hrs HW=109.72' (Free Discharge)
- **1=Culvert** (Passes 17.77 cfs of 22.46 cfs potential flow)
  - **2=Culvert** (Passes 1.05 cfs of 1.38 cfs potential flow)
    - **3=Exfiltration** (Exfiltration Controls 1.05 cfs)
  - **4=Orifice/Grate** (Weir Controls 16.72 cfs @ 2.24 fps)
- **5=Broad-Crested Rectangular Weir** (Weir Controls 2.42 cfs @ 1.11 fps)

Summary for Pond 5P: DETENTION POND

Inflow Area = 2.607 ac, 1.06% Impervious, Inflow Depth = 6.20" for 100-yr event
Inflow = 15.76 cfs @ 12.15 hrs, Volume= 1.347 af
Outflow = 14.48 cfs @ 12.18 hrs, Volume= 1.171 af, Atten= 8%, Lag= 1.7 min
Primary = 14.48 cfs @ 12.18 hrs, Volume= 1.171 af
Routed to Pond 4P : SW AREA #4 (RAIN GARDEN #3)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 115.74' @ 12.19 hrs Surf.Area= 4,033 sf Storage= 9,489 cf

Plug-Flow detention time= 91.3 min calculated for 1.171 af (87% of inflow)
Center-of-Mass det. time= 32.7 min (840.8 - 808.1)

Volume	Invert	Avail.Storage	Storage Description
#1	110.00'	10,602 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
110.00	219	76.0	0	0	219
112.00	1,022	162.0	1,143	1,143	1,865
114.00	2,131	203.0	3,086	4,229	3,111
116.00	4,376	269.0	6,374	10,602	5,634

Device	Routing	Invert	Outlet Devices
#1	Primary	109.00'	**15.0" Round Culvert**
			L= 65.0' CPP, square edge headwall, Ke= 0.500
			Inlet / Outlet Invert= 109.00' / 108.00' S= 0.0154 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	115.25'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600
			Limited to weir flow at low heads

Primary OutFlow Max=14.43 cfs @ 12.18 hrs HW=115.72' (Free Discharge)
└**1=Culvert** (Barrel Controls 14.43 cfs @ 11.76 fps)
└**2=Orifice/Grate** (Passes 14.43 cfs of 16.98 cfs potential flow)

Summary for Pond 6P: SW AREA #6 (RAIN GARDEN #4)

Inflow Area = 2.112 ac, 17.54% Impervious, Inflow Depth = 6.83" for 100-yr event
Inflow = 15.74 cfs @ 12.09 hrs, Volume= 1.202 af
Outflow = 10.65 cfs @ 12.19 hrs, Volume= 1.008 af, Atten= 32%, Lag= 6.2 min
Primary = 10.65 cfs @ 12.19 hrs, Volume= 1.008 af
Routed to Pond 7P : SW AREA #7 (INFILTRATION POND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 83.74' @ 12.19 hrs Surf.Area= 5,405 sf Storage= 22,020 cf

Plug-Flow detention time= 311.7 min calculated for 1.008 af (84% of inflow)
Center-of-Mass det. time= 244.3 min (1,030.3 - 786.0)

Volume	Invert	Avail.Storage	Storage Description
#1	76.00'	23,471 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
76.00	2,110	218.0	0	0	2,110
80.00	2,110	218.0	8,440	8,440	2,982
82.00	3,687	295.0	5,724	14,164	6,167
84.00	5,692	358.0	9,307	23,471	9,505

Device	Routing	Invert	Outlet Devices
#1	Primary	76.00'	**15.0" Round Culvert** L= 158.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 74.00' S= 0.0127 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Device 1	76.00'	**6.0" Round Culvert** L= 100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.00' / 76.00' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf
#3	Device 2	76.00'	**6.000 in/hr Exfiltration over Surface area above 76.00'** Excluded Surface area = 2,110 sf Phase-In= 0.01'
#4	Device 1	82.50'	**12.0" W x 12.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Device 1	83.50'	**48.0" x 48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=10.41 cfs @ 12.19 hrs HW=83.73' (Free Discharge)
└**1=Culvert** (Passes 10.41 cfs of 12.60 cfs potential flow)
├**2=Culvert** (Passes 0.46 cfs of 1.38 cfs potential flow)
│└**3=Exfiltration** (Exfiltration Controls 0.46 cfs)
├**4=Orifice/Grate** (Orifice Controls 4.04 cfs @ 4.04 fps)
└**5=Orifice/Grate** (Weir Controls 5.92 cfs @ 1.58 fps)

Summary for Pond 7P: SW AREA #7 (INFILTRATION POND)

Inflow Area = 2.388 ac, 15.52% Impervious, Inflow Depth = 5.28" for 100-yr event
Inflow = 11.02 cfs @ 12.19 hrs, Volume= 1.051 af
Outflow = 2.82 cfs @ 12.81 hrs, Volume= 1.005 af, Atten= 74%, Lag= 37.1 min
Discarded = 0.13 cfs @ 12.81 hrs, Volume= 0.499 af
Primary = 2.69 cfs @ 12.81 hrs, Volume= 0.506 af
Routed to Link DP-A : DP-A (WETLAND)

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 55.73' @ 12.81 hrs Surf.Area= 4,688 sf Storage= 13,875 cf

Plug-Flow detention time= 649.4 min calculated for 1.004 af (96% of inflow)
Center-of-Mass det. time= 591.2 min (1,615.6 - 1,024.5)

Volume	Invert	Avail.Storage	Storage Description
#1	50.60'	15,152 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.60	1,088	157.0	0	0	1,088
52.00	1,850	191.0	2,033	2,033	2,061
54.00	3,229	247.0	5,015	7,049	4,061
56.00	4,935	302.0	8,104	15,152	6,526

Device	Routing	Invert	Outlet Devices
#1	Discarded	50.60'	**1.200 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	55.50'	**10.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88

Discarded OutFlow Max=0.13 cfs @ 12.81 hrs HW=55.73' (Free Discharge)
1=Exfiltration (Exfiltration Controls 0.13 cfs)

Primary OutFlow Max=2.68 cfs @ 12.81 hrs HW=55.73' (Free Discharge)
2=Broad-Crested Rectangular Weir (Weir Controls 2.68 cfs @ 1.15 fps)

Summary for Link DP-A: DP-A (WETLAND)

Inflow Area = 42.391 ac, 12.20% Impervious, Inflow Depth > 4.13" for 100-yr event
Inflow = 123.19 cfs @ 12.21 hrs, Volume= 14.581 af
Primary = 123.19 cfs @ 12.21 hrs, Volume= 14.581 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-C: DP-B (EASTERN WETLAND)

Inflow Area = 0.949 ac, 0.00% Impervious, Inflow Depth = 6.08" for 100-yr event
Inflow = 6.54 cfs @ 12.09 hrs, Volume= 0.481 af
Primary = 6.54 cfs @ 12.09 hrs, Volume= 0.481 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link DP-D: DP-C (ROAD)

Inflow Area = 1.451 ac, 2.81% Impervious, Inflow Depth = 6.20" for 100-yr event
Inflow = 9.29 cfs @ 12.12 hrs, Volume= 0.750 af
Primary = 9.29 cfs @ 12.12 hrs, Volume= 0.750 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Appendix F – Stormwater Calculations

This information will be provided with the final Stormwater Report.

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: TSS removal with pretreatment calculation.

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Deep Sump and Hooded Catch Basin	**0.25**	**1.00**	**0.25**	**0.75**
Sediment Forebay	**0.25**	**0.75**	**0.19**	**0.56**
	0.00	**0.56**	**0.00**	**0.56**
	0.00	**0.56**	**0.00**	**0.56**
	0.00	**0.56**	**0.00**	**0.56**

Total TSS Removal = **44%**

Separate Form Needs to Be Completed for Each Outlet or BMP Train

Project: **Village at Chebacco Hill**

Prepared By: **RPV**

Date: **4-Mar-24**

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: TSS removal for overall site.

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Sediment Forebay	**0.25**	**1.00**	**0.25**	**0.75**
Rain Garden	**0.90**	**0.75**	**0.68**	**0.08**
	0.00	**0.08**	**0.00**	**0.08**
	0.00	**0.08**	**0.00**	**0.08**
	0.00	**0.08**	**0.00**	**0.08**

Total TSS Removal = **93%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: **Village at Chebacco Hill**

Prepared By: **RPV**

Date: **4-Mar-24**

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: TSS removal for overall site.

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Sediment Forebay	0.25	1.00	0.25	0.75
Infiltration Basin	0.80	0.75	0.60	0.15
	0.00	0.15	0.00	0.15
	0.00	0.15	0.00	0.15
	0.00	0.15	0.00	0.15

Total TSS Removal = 85%

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: Village at Chebacco Hill

Prepared By: RPV

Date: 4-Mar-24

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: TSS removal for overall site.

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Rain Garden	**0.90**	**1.00**	**0.90**	**0.10**
Infiltration Basin	**0.80**	**0.10**	**0.08**	**0.02**
	0.00	**0.02**	**0.00**	**0.02**
	0.00	**0.02**	**0.00**	**0.02**
	0.00	**0.02**	**0.00**	**0.02**

Total TSS Removal = **98%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: **Village at Chebacco Hill**

Prepared By: **RPV**

Date: **4-Mar-24**

*Equals remaining load from previous BMP (E) which enters the BMP

Appendix G – Construction Period Pollution Prevention

The project is covered under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit, which will be submitted in place of the Construction Period Pollution Prevention Plan, prior to any land disturbance.

Appendix H - Operation and Maintenance Plan

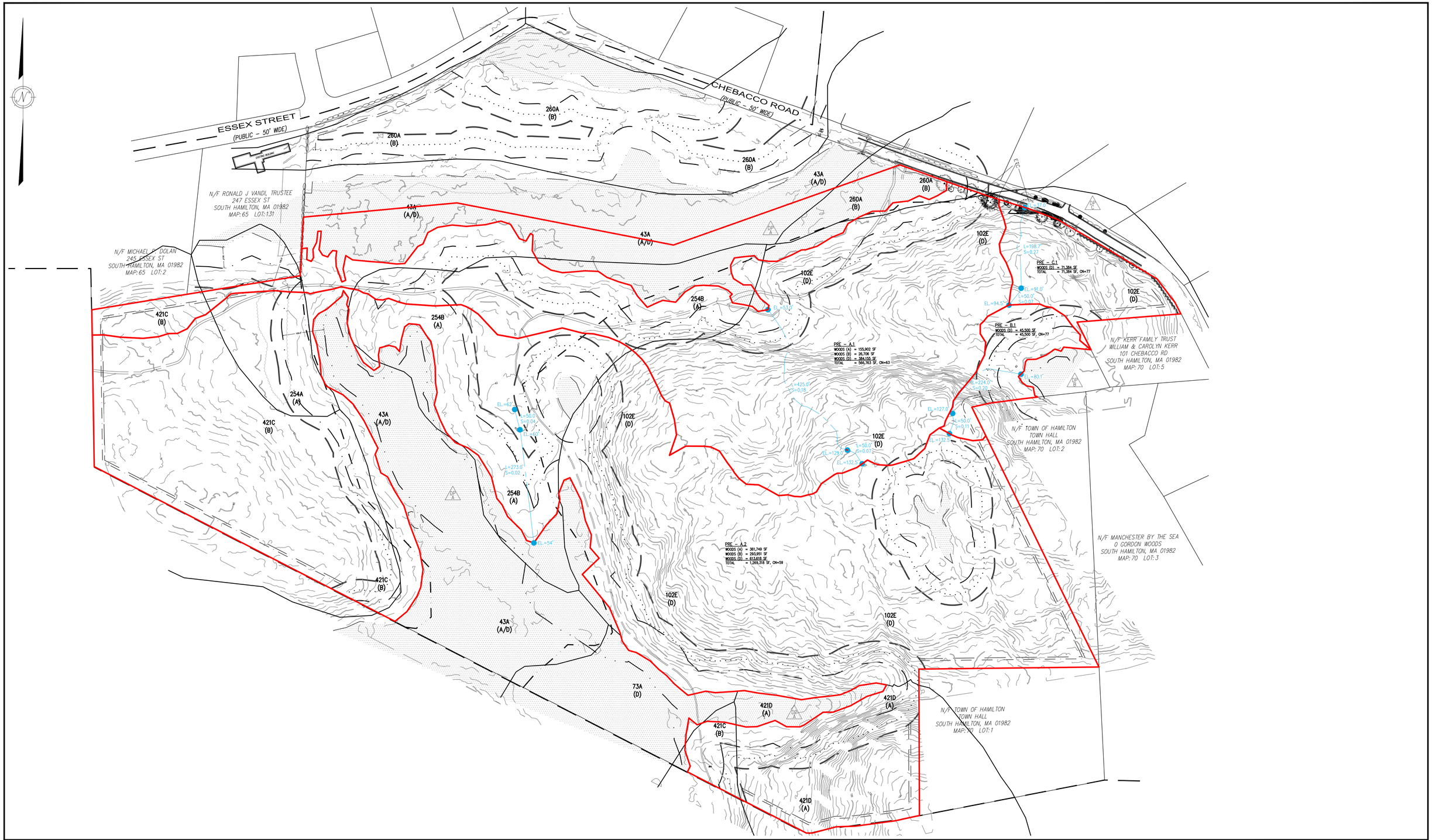
This information will be provided with the final Stormwater Report.

Appendix I - Long Term Pollution Prevention Plan

This information will be provided with the final Stormwater Report.

4.0 Plans

Pre-development Watershed Plan



PREPARED BY:

DILLIS & ROY
CIVIL DESIGN GROUP

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1 MAIN STREET, SUITE 1
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PHONE: (978) 779-6091
www.dillisandroy.com

OWNER:
COUNTRY SQUIRE REALTY, INC.
103 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
100 0 50 100 200 400
1 in. = 100 ft.

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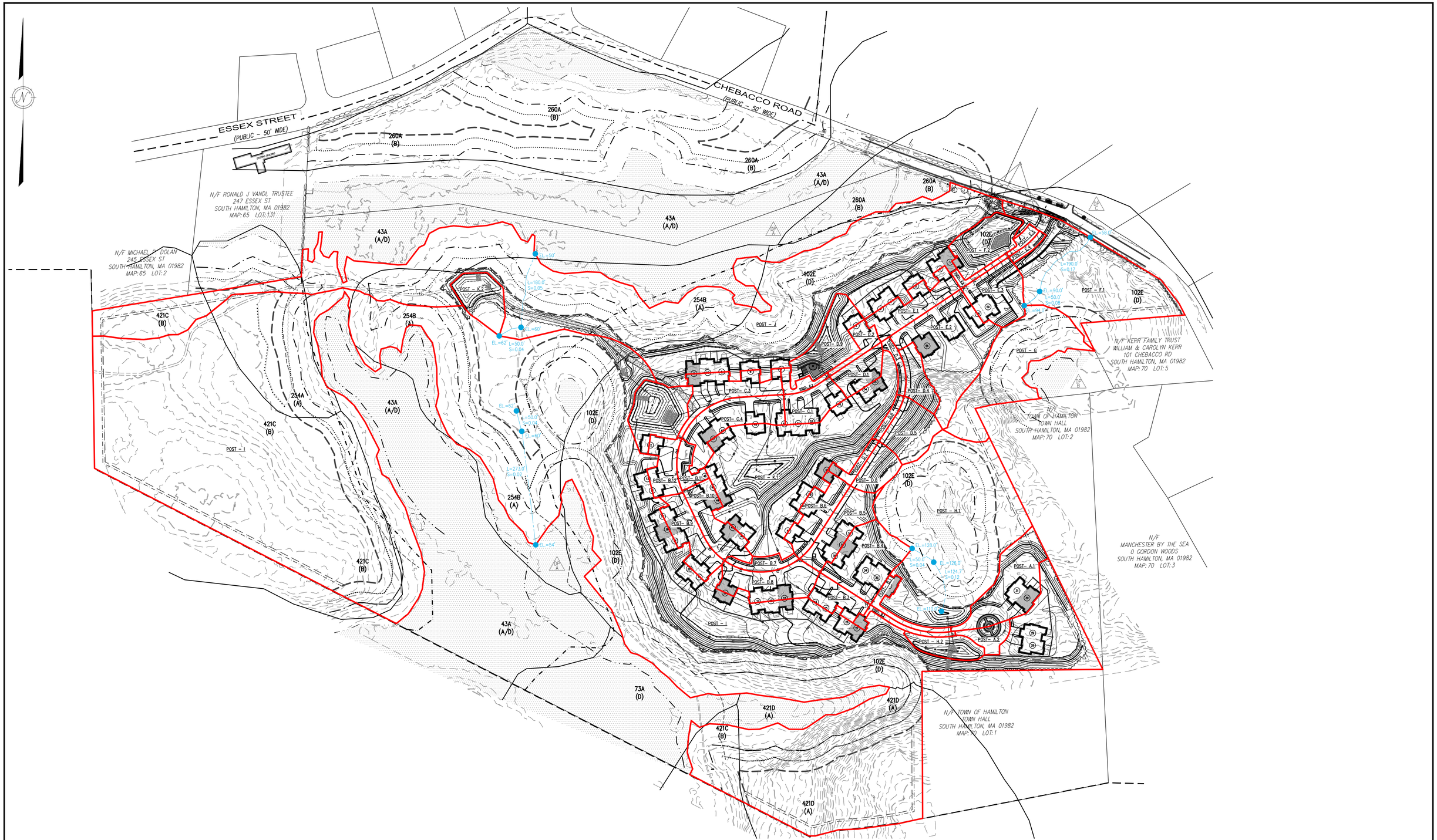
DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

PRELIM. PRE-DEVELOPED WATERSHED MAP
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-SP
SHEET NO. DRN

Post-development Watershed Plan



PREPARED BY:

DILLIS & ROY
CIVIL DESIGN GROUP

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OWNER:
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103 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
100 0 50 100 200 400
1 in. = 100 ft.

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DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

PRELIM. POST-DEVELOPED WATERSHED MAP
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-SP
SHEET NO. DRN

WAIVER REQUEST

The Applicant requests the following waivers from the Zoning Board of Appeals. To the extent that the Plans require further waivers which are not expressly requested herein and are in all material respects consistent with the Plans provided then the Applicant requests the Board grant said waivers.

1. **Subdivision Control Rules and Regulations**: The Project is not a subdivision. However, to the extent and of the Planning Board Rules and Regulations apply to the Project, the Applicant requests a waiver therefrom.

2. **Town of Hamilton General Bylaws Article XVII, General Wetlands Protection / Conservation Bylaw**.

    a. **Section 3: Jurisdiction** – ***"…Except as permitted by the Conservation Commission…no person shall…discharge into…the Associated Upland Resource Area (AURA)…"***

    While no work is proposed within the AURA, the project includes stormwater basins that will discharge stormwater into these areas. The projects' stormwater management system has been designed in accordance with the Massachusetts Stormwater Management Policy and will therefore provide the level of treatment required for Stormwater discharges. The applicant requests a waiver from the entirety of the General Bylaws Article XVII.

3. **Town of Hamilton General Bylaws Article XX Section 4 Building Permit Fees and the Building Permit Fee Schedule**. The Applicant requests a wavier of these fees as the apply to the 15 affordable units.

4. **Town of Hamilton General Bylaws Article XXIX, Stormwater Management Bylaw**. To the extent the Stormwater Management Bylaw is more restrictive than the State Stormwater Policy, the Applicant requests a waiver therefrom.

    a. **Section 4. A.** – The applicant requests a waiver from the requirement for a Permit from the Planning Board in virtue of the fact that the proposed project is a 40B and is being reviewed by the Zoning Board of Appeals (ZBA) through the Comprehensive Permit Process.
    b. **Section 4. B –** The applicant requests a waiver form the requirement for administrative review in virtue of the fact that the proposed project is a 40B and is being reviewed by the ZBA through the Comprehensive Permit Process.
    Section 4. C - The applicant requests a waiver from the requirement for a Permit from the Planning Board due to the triggers established by this subsection, in

virtue of the fact that the proposed project is a 40B and is being reviewed by the ZBA through the Comprehensive Permit Process.

c. **Section 6. A** - The applicant requests a waiver from the requirement for administrative review in virtue of the fact that the proposed project is a 40B and is being reviewed by the ZBA through the Comprehensive Permit Process.
d. **Section 6. B** - The applicant requests a waiver from the requirement for a Permit from the Planning Board in virtue of the fact that the proposed project is a 40B and is being reviewed by the ZBA through the Comprehensive Permit Process.
e. **Section 6**. **C** – The applicant requests a waiver to this section as the ZBA is functioning as the approval authority and has the authority to conduct site visits under the Comprehensive Permit Process.
f. **Section 6. D** – The applicant requests a waiver to the requirement for a Public Hearing due as the ZBA will act as the Permitting Authority as part of the Comprehensive Permit Process.
g. **Section 6. G** – The applicant requests a waiver to this section as the ZBA will be ZBA will act as the Permitting Authority as part of the Comprehensive Permit Process.
h. **Section 9** – The applicant requests a waiver from this requirement as the project will be peer reviewed as part of the ZBA process.
i. **Section 10** – The applicant requests a waiver from the requirement for a performance guarantee.
j. **Section 11** – The applicant requests a waiver to this section as the status of the Comprehensive Permit will govern this project.
k. **Section 12** – The applicant requests a waiver to this section.

5. **The Town of Hamilton Zoning Bylaw**

a. Section 3.0 – Table of Use Regulations – Insofar as the Table of Use Regulations prohibit multifamily dwellings or two family dwellings or more than one principal residential dwelling on a single lot.
b. **Section 3.1 – Table of Use Regulations A.4. "Senior Housing"** – The applicant requests a waiver from the requirement for a Special Permit from the Planning Board in virtue of the fact that the project is being proposed through the Comprehensive Permit process administered by the Zoning Board of Appeals (ZBA).
c. **Section 4**.**0 Dimensional and Density Regulations** – Insofar as any of these requirements conflict with the Proposed Plan.
d. **Section 6.2.1 – Driveway Plan** – The applicant requests a waiver form the requirement to provide a driveway plan to the Building Commissioner as the driveways for the project are incorporated into the site plans being reviewed by the ZBA.
e. **Section 6.2.6 – Common Driveway** – While the applicant does not believe that this section is applicable to the proposed project (the project includes only one

LOT), a waiver is requested to avoid any ambiguity. Alternatively, if the ZBA agrees with the applicant's position that the section does not apply, we respectfully request a finding be made to this effect.

f. **Section 6.3 – Signs** – The applicant requests a waiver from this section to allow the proposed signage as depicted on the Site Plans.

g. **Section 8.2 – Senior Housing**

The applicant does not believe that compliance with Section 8.2 is required, as this section relates to projects being proposed as a Special Permit pursuant to the Table of Use Regulations A.4. However, the following waivers are requested to avoid ambiguity. Alternatively, if the ZBA agrees with the applicant's position that the Section does not apply, we respectfully request a finding be made to this effect.

i. **Section 8.2.5** – Age Restriction – A waiver is requested from this requirement should this requirement be in conflict with State Housing Affordability requirements.
ii. **Section 8.2.6** – The applicant requests a waiver from this section to allow 59 units.
iii. **Section 8.2.12.2** – A waiver is requested from this section to allow conformance of the project with Comprehensive Permit (40B) requirements for inclusionary and affordable housing.
iv. **Section 8.2.12.3** - A waiver is requested from this section to allow conformance of the project with Comprehensive Permit (40B) requirements for inclusionary and affordable housing.
v. **Section 8.2.13.1** – While some Low Impact Development (LID) methods have been employed in the development of the project, the applicant requests a waiver from this requirement, to the extent the Plan does not meet the requirement. The site is employing the following LID methods:
    1. Reduction in the road pavement width,
    2. Clustering of the development of 59 units on ~16 acres of land, leaving ~40.81 acres of undisturbed Open Space
    3. Use of Constructed Stormwater Wetlands for Stormwater Management Areas.
vi. **Section 8.2.13.2** – The applicant believes that the disturbance associated with the project has been minimized while still allowing for the construction of the proposed roadways, buildings and required infrastructure. However, the applicant requests a waiver from this section.
vii. **Section 8.2.16.4** – The applicant requests a waiver from this section to allow building spacing of 15-feet in one case (Units 25 & 26). All other units are spaced at least 25-feet apart.

viii. **Section 8.2.16.6** – The applicant requests a waiver from this section to allow construction as proposed on the Site Plans.
ix. **Section 8.2.18 – Signs** – A waiver is requested from this section to allow construction of the proposed sign as depicted on the Site Plans.
x. **Section 8.2.21.1** – A waiver is requested from this requirement to allow the visitor parking spaces as depicted on the Site Plans.
xi. **Section 8.2.21.2** – A waiver is requested from this requirement to allow the parking configuration for mail deliveries as depicted on the Site Plans.
xii. **Section 8.2.21.3** – A waiver is requested from this requirement to allow construction of the parking areas and associated methods for drainage in accordance with the Site Plans.
xiii. **Section 2.21.5** – A waiver is requested from this section to allow construction of the parking areas as depicted on the Site Plans.
xiv. **Section 8.2.24.3** – A waiver is requested from this requirement as the ZBA will review the project as part of the Comprehensive Permit process.
xv. **Section 8.2.25** – A waiver is requested from this section as the ZBA will function as the permit authority as part of the Comprehensive Permit process.
xvi. **Section 8.2.27** - A waiver is requested from this section as the ZBA will function as the permit authority as part of the Comprehensive Permit process.
xvii. **Section 8.2.29** - A waiver is requested from this section as the ZBA will function as the permit authority as part of the Comprehensive Permit process.
xviii. **Section 8.2.30** - A waiver is requested from this section as the ZBA will function as the permit authority as part of the Comprehensive Permit process.
xix. **Section 8.2.31** - A waiver is requested from this section as the ZBA will function as the permit authority as part of the Comprehensive Permit process.
xx. **Section 8.2.32** - A waiver is requested from this section as the ZBA will function as the permit authority as part of the Comprehensive Permit process.
xxi. **Section 8.2.33** - A waiver is requested from this section as the ZBA will function as the permit authority as part of the Comprehensive Permit process.

h. **Section 8.3 – Inclusionary Housing –** A waiver is requested from this section to allow conformance of the project with Comprehensive Permit (40B) requirements for inclusionary and affordable housing.
i. **Section 9.1.9.3** – A waiver is requested from the requirement of a Special Permit pursuant to this section as the ZBA will function as the Approval Authority as part of the Comprehensive Permit process.

j. **Section 9.1.10** - A waiver is requested from the requirement of a Special Permit pursuant to this section as the ZBA will function as the Approval Authority as part of the Comprehensive Permit process.
k. **Section 9.1.11** - A waiver is requested from the requirement of a Special Permit pursuant to this section as the ZBA will function as the Approval Authority as part of the Comprehensive Permit process.
l. **Section 10.5** – A waiver is requested from the requirements for any and all Special Permits as the ZBA will function as the Approval Authority as part of the Comprehensive Permit Process.
m. **Section 10.6** – A waiver is requested from the requirement for Site Plan review as the ZBA will function as the Approval Authority as part of the Comprehensive Permit Process.

EXECUTIVE OFFICE OF HOUSING AND LIVABLE COMMUNITIES CH40B SUBSIDIZED HOUSING INVENTORY

Hamilton

DHCD ID #	Project Name	Address	Type	Total SHI Units	Affordability Expires	Built w/ Comp. Permit?	Subsidizing Agency
1273	n/a	Railroad & Rust St.	Rental	40	Perp	No	*EOHLC*
1274	n/a	121 Railroad Ave.	Rental	12	Perp	No	*EOHLC*
1275	n/a	117 Railroad Ave.	Rental	8	Perp	No	*EOHLC*
1276	n/a	31 Union St.	Rental	3	Perp	No	*EOHLC*
4301	DDS Group Homes	Confidential	Rental	0	N/A	No	*DDS*
6355	Union Square	Central & Harris Avenue	Rental	4	Perp	Yes	*EOHLC*
7594	DMH Group Homes	Confidential	Rental	7	n/a	No	*DMH*
8744	Carriage House Junction	602-606 Essex St	Ownership	6	Perp	YES	*MassHousing*
9941	Firehouse Place	69 Willow Street	Rental	4	Perp	YES	*EOHLC* *MassHousing*
10478	Asbury	Asbury Street	Ownership	2	Perp	YES	*EOHLC*
10677	434-438 Asbury St	434-438 Asbury St	Ownership	10	Perp	YES	*EOHLC*
10678	59-63 Willow St	59-63 Willow St	Rental	18	Perp	NO	*EOHLC* *MassHousing*
10881	Asbury Commons	466 Highland St	Rental	0	Perp	YES	*EOHLC*
	Hamilton Totals			114	**Census 2020 Year Round Housing Units**		2,804
					Percent Subsidized		4.07%

This data is derived from information provided to the Executive Office of Housing and Livable Communities (EOHLC) by individual communities and is subject to change as new information is obtained and use restrictions expire.

DILLIS & ROY
CIVIL DESIGN GROUP

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CIVIL ENGINEERING LAND SURVEYING WETLAND CONSULTING

Existing Site Conditions

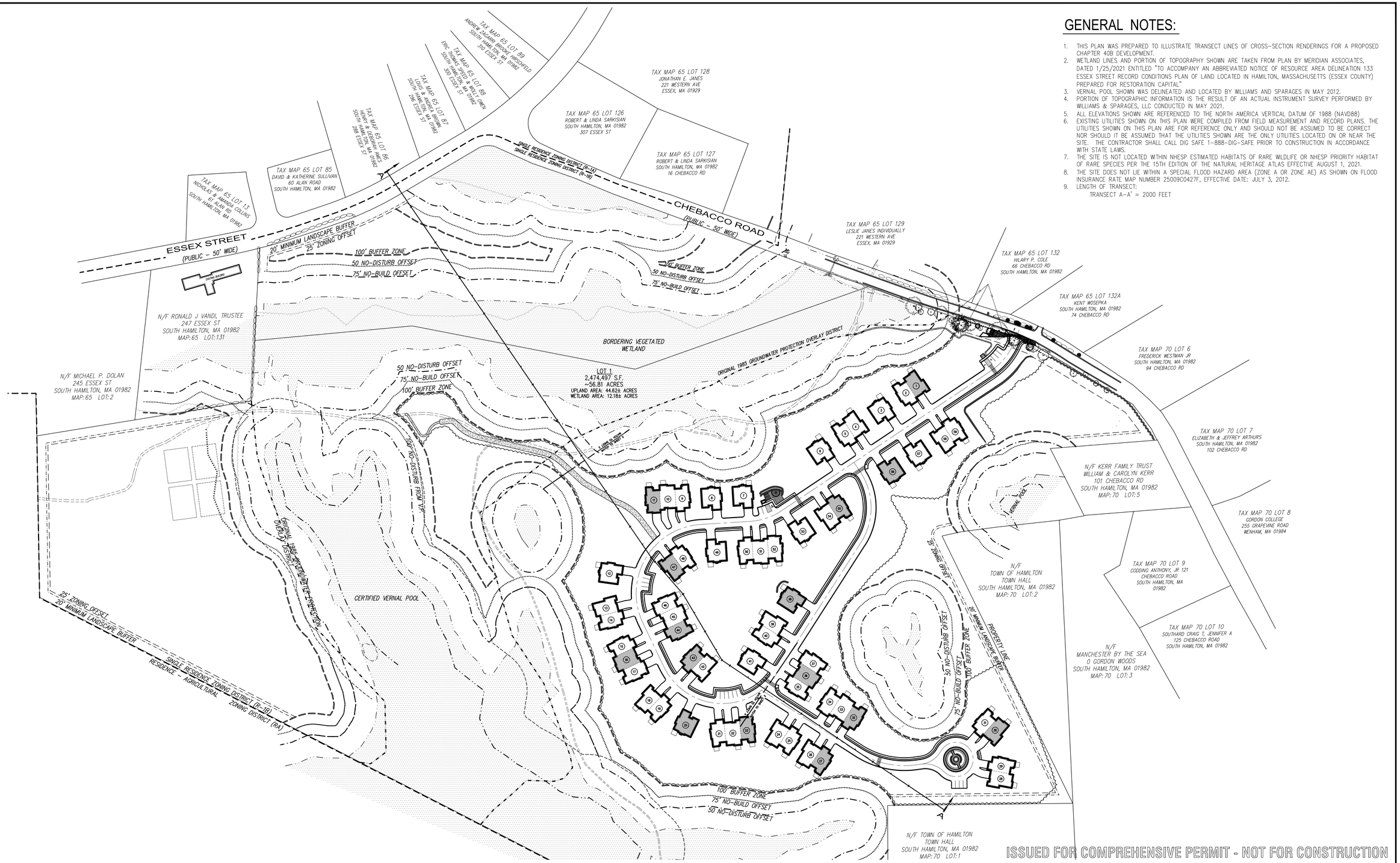
The subject property is located at 133 Essex Street in Hamilton, Massachusetts. The property is located at the intersection of Chebacco Road & Essex Street and contains (2) lots identified as Parcel ID No. 65-0001 as shown on the Town of Hamilton Assessors maps. The proposed scope of work is entirely located on Lot 1 as shown on Plan of Land in Hamilton, MA prepared by Williams & Sparages, dated September 29, 2021 which can be found within the attached Comprehensive Plan Set.

The property consists of a total of ±56.8 acres with ~776.8-feet of frontage along Chebacco Road. The land is located within the Town of Hamilton's Single Residence Zoning District (R-1B) and is abutted by agricultural uses to the south and the west and by Single Residence Zoning (R-1A) to the northwest. The site has a dense canopy of undeveloped woodland with a network of meandering pedestrian trail paths throughout the area. There is currently no vehicular access drive for the property.

According to the current Massachusetts GIS information, the subject property is not mapped as Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife. There is one certified vernal pool on the property, though other vernal pools have been identified during a prior ANRAD process & remain uncertified. According to FEMA Community Panel, 25009C0427F, effective date 07/03/2012, there are no areas mapped as 100-year FEMA floodplain on the subject property. Pursuant to the Massachusetts Wetlands Protection Act, the property contains the following resource areas; Bordering Vegetated Wetlands, Inland Bank, and a Vernal Pool. Resource areas defined by the Town of Hamilton Wetland Bylaw are as follows: Freshwater Wetlands greater than 1000 SF and Associated Upland Resource Area (AURA).

The existing drainage patterns of the site shed water toward existing wetland areas and to Chebacco Road. There are no existing stormwater management controls (BMP's) installed on site for conveyance, collection or attenuation. The majority of the stormwater runoff sheet flows downgradient towards the wetland areas while Chebacco Road receives the runoff associated with the remaining portion of the property.

According to the Natural Resources Conservation Services soils maps, much of site consists of soils belonging to the Chatfield-Hollis-Rock Outcrop variety. A portion of the site also contains Merrimac & Canton fine sandy loams. The wetland portions of the site are classified as Scarboro mucky fine sandy loam.



GENERAL NOTES:

1. THIS PLAN WAS PREPARED TO ILLUSTRATE TRANSECT LINES OF CROSS-SECTION RENDERINGS FOR A PROPOSED CHAPTER 40B DEVELOPMENT.
2. WETLAND LINES AND PORTION OF TOPOGRAPHY SHOWN ARE TAKEN FROM PLAN BY MERIDIAN ASSOCIATES, DATED 1/25/2021 ENTITLED "TO ACCOMPANY AN ABBREVIATED NOTICE OF RESOURCE AREA DELINEATION 133 ESSEX STREET RECORD CONDITIONS PLAN OF LAND LOCATED IN HAMILTON, MASSACHUSETTS (ESSEX COUNTY) PREPARED FOR RESTORATION CAPITAL."
3. VERNAL POOL SHOWN WAS DELINEATED AND LOCATED BY WILLIAMS AND SPARAGES IN MAY 2012.
4. PORTION OF TOPOGRAPHIC INFORMATION IS THE RESULT OF AN ACTUAL INSTRUMENT SURVEY PERFORMED BY WILLIAMS & SPARAGES, LLC CONDUCTED IN MAY 2021.
5. ALL ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88)
6. EXISTING UTILITIES SHOWN ON THIS PLAN WERE COMPILED FROM FIELD MEASUREMENT AND RECORD PLANS. THE UTILITIES SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND SHOULD NOT BE ASSUMED TO BE CORRECT NOR SHOULD IT BE ASSUMED THAT THE UTILITIES SHOWN ARE THE ONLY UTILITIES LOCATED ON OR NEAR THE SITE. THE CONTRACTOR SHALL CALL DIG SAFE 1-888-DIG-SAFE PRIOR TO CONSTRUCTION IN ACCORDANCE WITH STATE LAWS.
7. THE SITE IS NOT LOCATED WITHIN NHESP ESTIMATED HABITATS OF RARE WILDLIFE OR NHESP PRIORITY HABITAT OF RARE SPECIES PER THE 15TH EDITION OF THE NATURAL HERITAGE ATLAS EFFECTIVE AUGUST 1, 2021.
8. THE SITE DOES NOT LIE WITHIN A SPECIAL FLOOD HAZARD AREA (ZONE A OR ZONE AE) AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 25009C0427F, EFFECTIVE DATE: JULY 3, 2012.
9. LENGTH OF TRANSECT:
   TRANSECT A-A' = 2000 FEET

ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

PREPARED BY:
DILLIS & ROY CIVIL DESIGN GROUP
CIVIL ENGINEERS LAND SURVEYORS WETLAND CONSULTANTS
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PHONE: (978) 779-6091
www.dillisandroy.com

OWNER:
COUNTRY SQUIRE REALTY, INC.
103 RIVER ROAD
TOPSFIELD, MASSACHUSETTS

APPLICANT:
CHEBACCO HILL CAPITAL PARTNERS, LLC
P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
100 0 50 100 200 400
1 in. = 100 ft.

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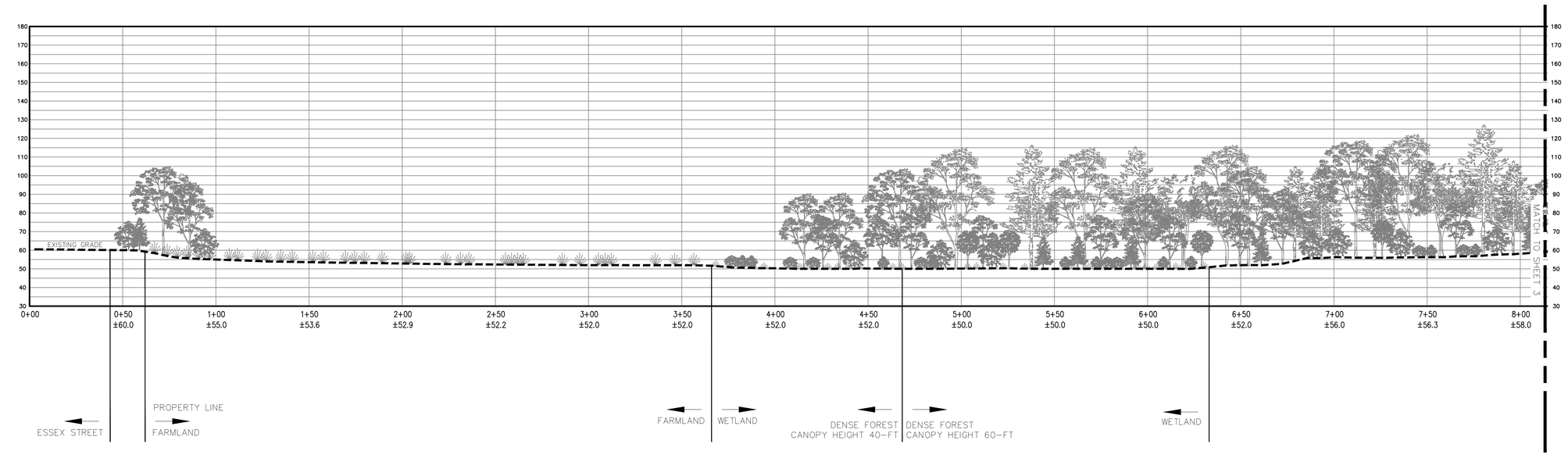
DIG SAFE 1-888-344-7233

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

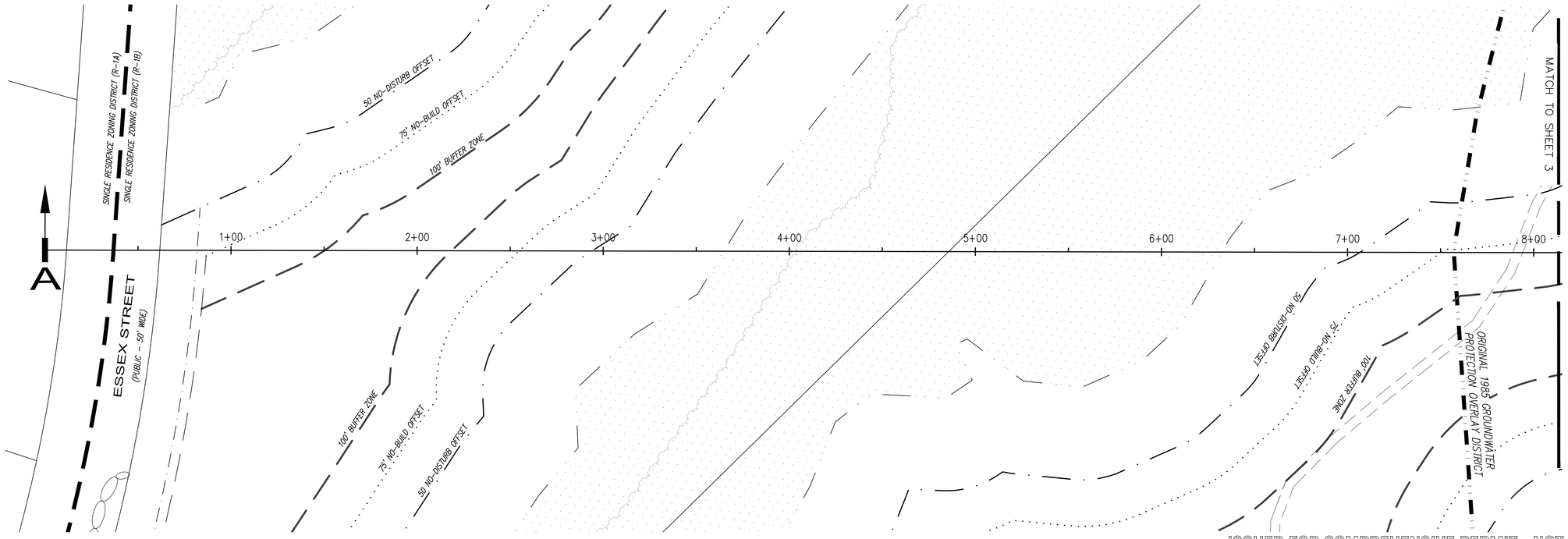
TRANSECT OVERVIEW PLAN
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-TRANSECT
SHEET NO. 1



TRANSECT A-A' SECTION 1 OF 3
CROSS-SECTION



ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

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SUDBURY, MASSACHUSETTS

SCALE:
30 0 15 30 60 120
1 in. = 30 ft.

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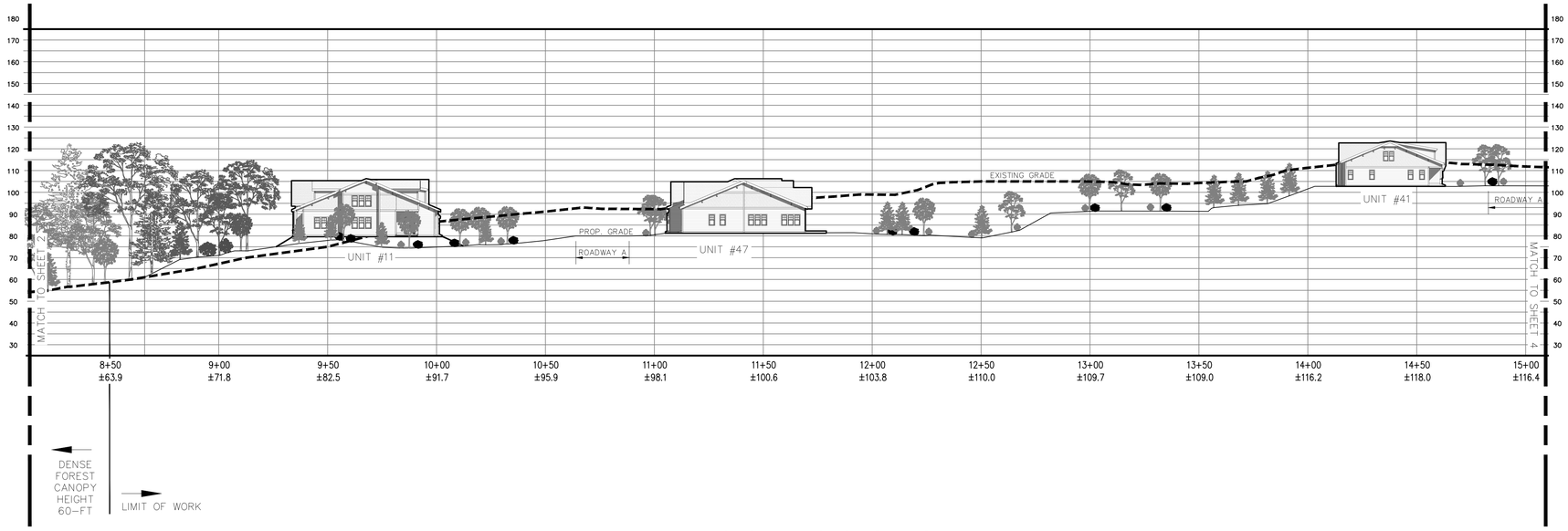
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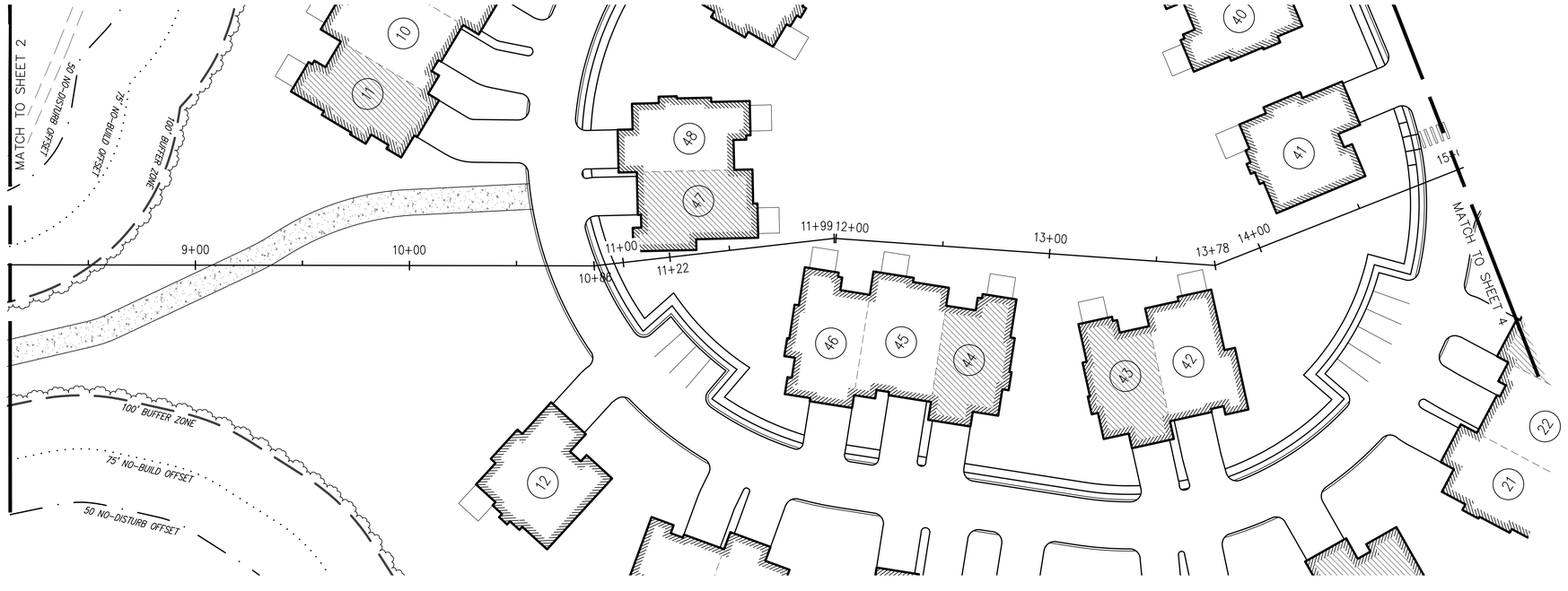
TRANSECT A-A' SECTION 1 OF 3
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-TRANSECT
SHEET NO. 2



TRANSECT A-A' SECTION 2 OF 3
CROSS-SECTION



ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

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SCALE:
30 0 15 30 60 120
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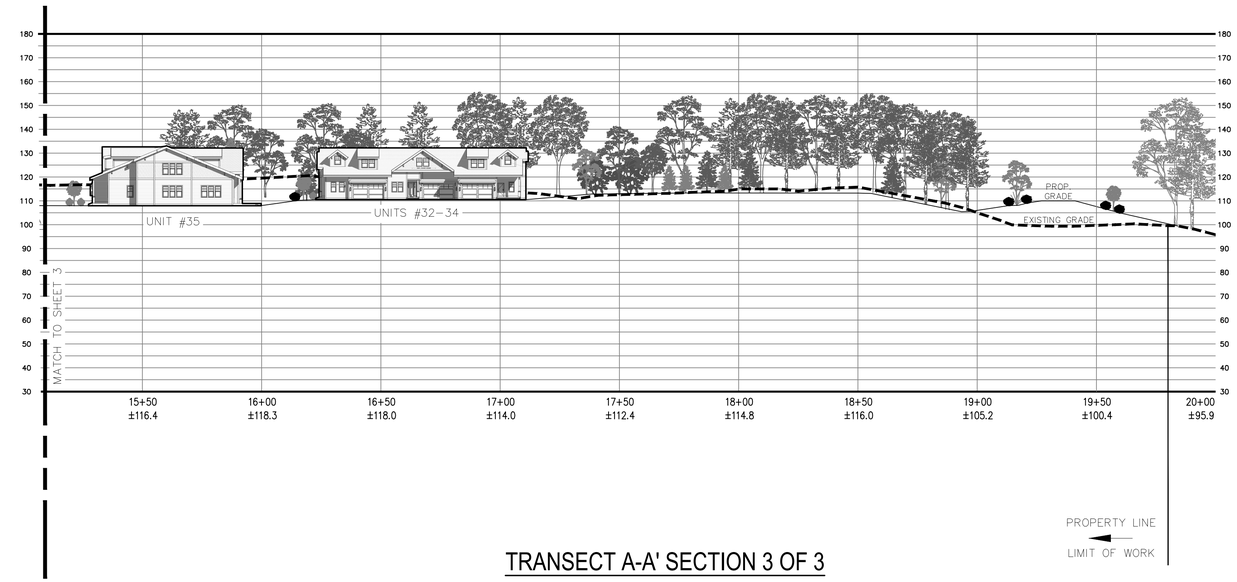
DIG SAFE 1-888-344-7233

DATE: 3/04/24
DESIGN BY: RPV
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CHECKED BY: GSR

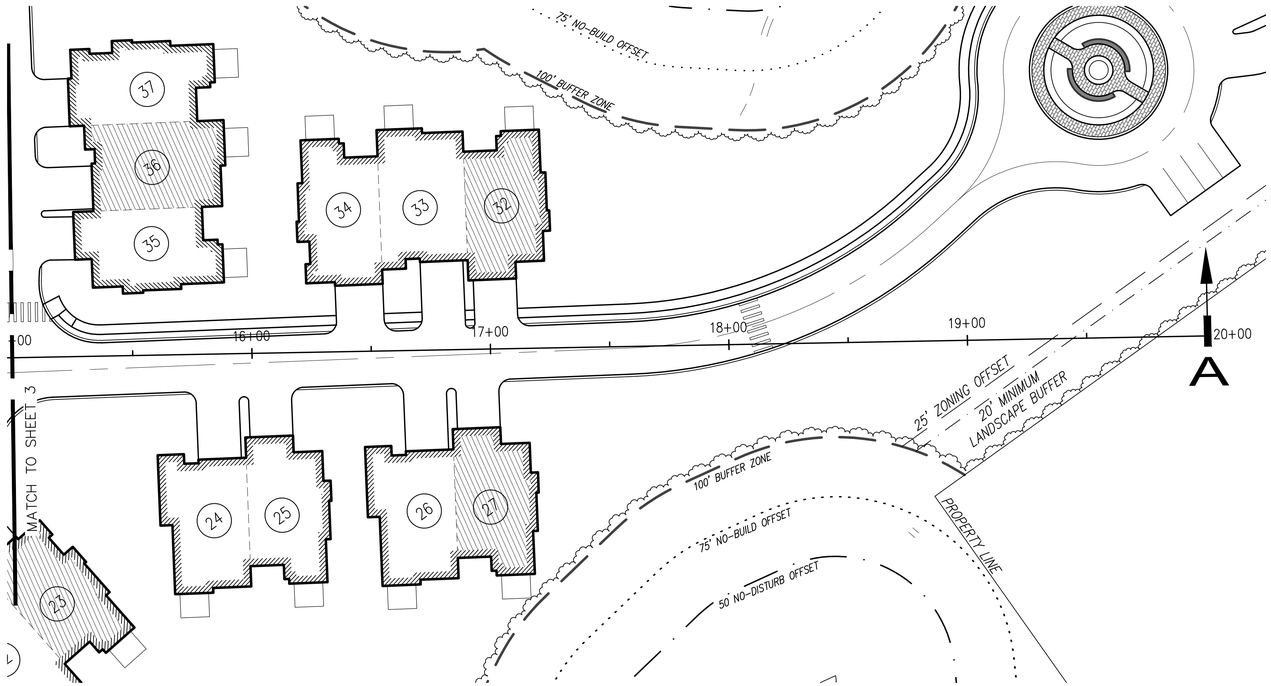
TRANSECT A-A' SECTION 2 OF 3
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465–TRANSECT
SHEET NO. 3



TRANSECT A-A' SECTION 3 OF 3
CROSS-SECTION



ISSUED FOR COMPREHENSIVE PERMIT - NOT FOR CONSTRUCTION

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APPLICANT:
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P.O. BOX 1044
SUDBURY, MASSACHUSETTS

SCALE:
30 0 15 30 60 120
1 in. = 30 ft.

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DIG SAFE 1-888-344-7233

DATE: 3/04/24
DESIGN BY: RPV
DRAWN BY: RPV
CHECKED BY: GSR

TRANSECT A-A' SECTION 3 OF 3
VILLAGE AT CHEBACCO HILL
133 ESSEX STREET
HAMILTON, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

JOB NO. 7465
DRAWING NO. 7465-TRANSECT
SHEET NO. 4

OTHER MULTIFMAILY HOUSING PROJECTS BY THE APPLICANT

a. The Village at West Gloucester, Gloucester, MA, has senior housing and 34 units. https://www.thevillageatwestgloucester.com/index.html Status: sold out

b. The Village at Magnolia Shores, Gloucester, MA has age-targeted housing and 45 units. https://www.thevillageatmagnoliashores.com/ Status: sold out

c. Hatters Point Condominiums, Amesbury, MA, has senior housing and 45 units. https://www.hatterspointcondos.com/ Status: sold out.

d. The Village at Canter Brook Farm, Hamilton, MA, has senior housing and 23 units, https://www.hatterspointcondos.com/ Status: sold out.

e. The Village at Shepley Hill, Groton, MA, has senior housing and 26 units, https://villageatshepleyhill.com/ Status: ongoing.

f. The Enclave at South Portland, South Portland, ME, senior housing, 34 units, https://www.enclaveatsouthportland.com/ Status: ongoing


VIEW OF THE DRIVEWAY
APPROACH

VIEW FROM THE 128 SIDE APPROACH



VIEW FROM ESSEX STREET APPROACH