PRIME ENGINEERING
INC

November 30, 2021

Wareham Planning Board
54 Marion Road
Wareham, MA 02571

RE: 370 COUNTY ROAD
FORM C - DEFINITIVE SUBDIVISION PLAN

Dear Board Members:

On behalf of our client, Entero Energy LLC, we hereby submit a Form C - Application for Approval of Definitive Subdivision Plan. This submittal includes the following:

Town Clerk:
1 copy of the package

Planning Board:
10 packages:
- Form C application
- Plans
- Stormwater Report
- Tax Form
- List of abutters
- Deed

Additionally, a check to the Town of Wareham for $1,435 ($750 + 2 lots x $75 + $535 X LF of road) for the filing fee and a check to Wareham Week for $100 for the legal ad is enclosed.

Board of Health
1 copy of the package

Sincerely,
PRIME ENGINEERING, INC.

Richard J. Rheaume

Richard J. Rheaume, P.E., LSP
Chief Engineer

Form C

APPLICATION FOR APPROVAL OF
DEFINTIVE SUBDIVISION PLAN

November 30, 2021

To the Planning Board of the City/Town of Wareham

The undersigned, being the applicant as defined under the Chapter 41, Section 81-L, for approval of a proposed subdivision shown on a plan entitled: Definitive Subdivision Plan of Energy Estates

by Prime Engineering, Inc., dated November 30, 2021
and described as follows: Map 64, Lots 1006, 1008, 1009 & 1010 and Map 65, Lots 1000A, 1000B &1001
located 370 County Road, number of lots proposed 2 total acreage of tract 60.46, said applicant hereby submits said plan as a **DEFINITIVE** plan in accordance with the Rules and Regulations of the Wareham Planning Board and makes application to the Board for approval of said plan.

The undersigned's title to said land is derived from

by deed dated February 12, 2014 and recorded in the Plymouth County District Registry of Deeds Book 44071, Page 245, registered in the Registry District of the Land Court. Certificate of Title No. and said land is free of encumbrances except for the following:

Said plan has (✓) has not ( ) evolved from a preliminary plan submitted to the Board on May 3, 2021, 20____ and approved (with modifications) (✓) (disapproved) ( ) on _____, 20____.

The undersigned hereby applies for the approval of said DEFINITIVE plan by the Board, in belief that the plan conforms to the Board's Rules and Regulations.

Received by City/Town Clerk:

Date _____

Time _____

Signature _____

Applicant's signature

Applicant' address Entero Energy LLC
c/o Eric Crisler, 1508 W. 30th
Austin, TX 78703

Applicant's phone # (512) 736-2038

Owner's signature and address if not the applicant or applicant's authorization if not the owner

Registry: Stolen Tree Farm Trust (Patricia H. Zimmer & Katherine I. Zimmer, Trustees) & Patricia H. Zimmer

Treasurers office: _____

\\nas-dell\Users\Planning\Form C.docx Assessor's: Ellen Harju & Zimmer Patricia H. Life Estate
370 County Road, Wareham, MA 02576

Patricia H. Zimmer * Katherine I. Zimmer *

as per deputization (see attached)

Gmail

Austin Krause <austin@enteroenergy.com>

Signatures for Definitive Subdivision Plan - 370 County Road

Add <patzimm@aol.com> Fri, Nov 26, 2021 at 9:18 AM
Reply-To: Add <patzimm@aol.com>
To: "austin@enteroenergy.com" <austin@enteroenergy.com>

Hello Austin-

Enclosed is the authorization you requested:

Please accept this e-mail as my agreement to deputize Prime Engineering and allow them to sign on my behalf with regard to the definitive subdivision plan for 370 County Rd, Wareham. Thank you.

Regards,
Pat
[Quoted text hidden]

Gmail

Austin Krause <austin@enteroenergy.com>

Re: Signatures for Definitive Subdivision Plan - 370 County Road

kizimmer@aol.com <kizimmer@aol.com>
Reply-To: kizimmer@aol.com
To: "austin@enteroenergy.com" <austin@enteroenergy.com>

Fri, Nov 26, 2021 at 11:28 AM

Hi Austin,

Please accept this email as my agreement to deputize Prime Engineering and allow them to sign on my behalf with regard to the definitive subdivision plan for 370 County Road.

Thank you,

Katherine Zimmer

PLANNING BOARD
TAX VERIFICATION FORM

This verifies that Entero Energy LLC (name of applicant) is up-to-date on the taxes for the property(ies) he/she owns in Wareham. If the applicant is not the current owner of the property that the application addresses, the current owner see below (name of property owner) is up-to-date on taxes and on all properties he/she owns in the Town of Wareham.

Registry: Stolen Tree Farm Trust, Patricia H. Zimmer and Katherine I. Zimmer, Trustees & Patricia H. Zimmer - deed attached

Assessor's: Ellen Harju & Zimmer Patricia H Life Estate

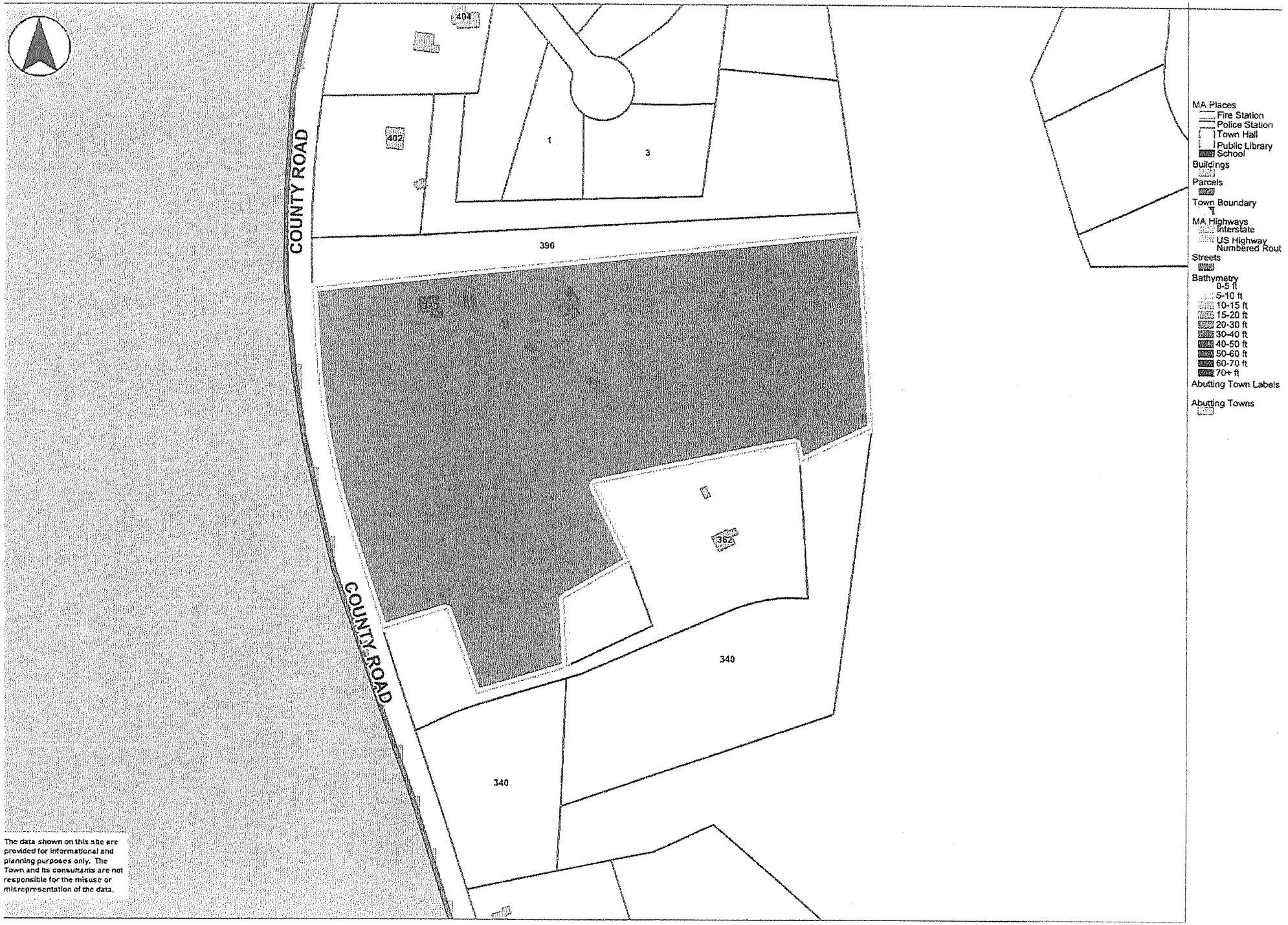
Brigette Beliveau 12/2/21

John Foster, Tax Collector

TOWN OF WAREHAM					
ABUTTERS LIST - 300'					
OWNER: HARJU, ELLEN					
0 COUNTY RD OFF					
MAP 64 LOT 1006					
MAP/LOT	**OWNER**	**MAILING ADD**	**TOWN**	**ST**	**ZIP**
65-1001	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-1009	ZIMMER PATRICIA H LIFE ESTATE	370 COUNTY RD	W WAREHAM	MA	02576
65-1000/A	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
65-1002	BELLI CASSI L	336 COUNTY RD	W WAREHAM	MA	02576
65-1003	FURTADO JOSEPH + JENNIFER	11 FELLOWSHIP CIR	W WAREHAM	MA	02576
64-1010	ZIMMER PATRICIA H LIFE ESTATE	370 COUNTY RD	W WAREHAM	MA	02576
65-1000/B	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-1006	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
CERTIFIED ABUTTERS AS THEY APPEAR					
ON OUR TAX ROLLS					
AS OF 11/15/2021					
ASSESSORS OFFICE					
REQUESTED BY: GENNY REYNOLDS/PRIME ENGINEERING					
greynolds@primeengineering.org					

TOWN OF WAREHAM					
ABUTTERS LIST - 300'					
OWNER: HARJU, ELLEN					
390 COUNTY RD					
MAP 64 LOT 1008					
MAP/LOT	**OWNER**	**MAILING ADD**	**TOWN**	**ST**	**zip**
64-1007/B	CASEY JOSHUA J + JESSICA LYNN	402 COUNTY RD	W WAREHAM	MA	02576
64-1009	ZIMMER PATRICIA H LIFE ESTATE	370 COUNTY RD	W WAREHAM	MA	02576
64-1008	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-S1	418 COUNTY ROAD LLC	1667 CENTRAL ST	STOUGHTON	MA	02072
64-S2	418 COUNTY ROAD LLC	1667 CENTRAL ST	STOUGHTON	MA	02072
64-1007/G	HEALY MICHAEL E	404 COUNTY RD	W WAREHAM	MA	02576
64-3	418 COUNTY ROAD LLC	1667 CENTRAL ST	STOUGHTON	MA	02072
64-1006	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
CERTIFIED ABUTTERS AS THEY APPEAR					
ON OUR TAX ROLLS					
AS OF 11/15/2021					
ASSESSORS OFFICE					
REQUESTED BY: GENNY REYNOLDS/PRIME ENGINEERING					
greynolds@primeengineering.org					

TOWN OF WAREHAM					
ABUTTERS LIST - 300'					
OWNER: ZIMMER, PATRICIA H LIFE ESTATE					
362-370 COUNTY RD.					
MAP 64 LOTS 1009 + 1010					
MAP/LOT	**OWNER**	**MAILING ADDRESS**	**TOWN**	**ST**	**ZIP**
64-1007/B	CASEY JOSHUA J + JESSICA LYNN	402 COUNTY RD	W WAREHAM	MA	02576
65-1001	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-1009	ZIMMER PATRICIA H LIFE ESTATE	370 COUNTY RD	W WAREHAM	MA	02576
64-1008	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
65-1000/A	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-S1	418 COUNTY ROAD LLC	1667 CENTRAL ST	STOUGHTON	MA	02072
64-S2	418 COUNTY ROAD LLC	1667 CENTRAL ST	STOUGHTON	MA	02072
64-3	418 COUNTY ROAD LLC	1667 CENTRAL ST	STOUGHTON	MA	02072
64-1010	ZIMMER PATRICIA H LIFE ESTATE	370 COUNTY RD	W WAREHAM	MA	02576
65-1000/B	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-1006	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
CERTIFIED ABUTTERS AS THEY					
APPEAR ON OUR TAX ROLLS					
AS OF 11/15/2021					
ASSESSORS OFFICE					
REQUESTED BY: GENNY REYNOLDS/PRIME ENGINEERING					
greynolds@primeengineering.org					



The data shown on this site are provided for informational and planning purposes only. The Town and its consultants are not responsible for the misuse or misrepresentation of the data.

320 640 ft

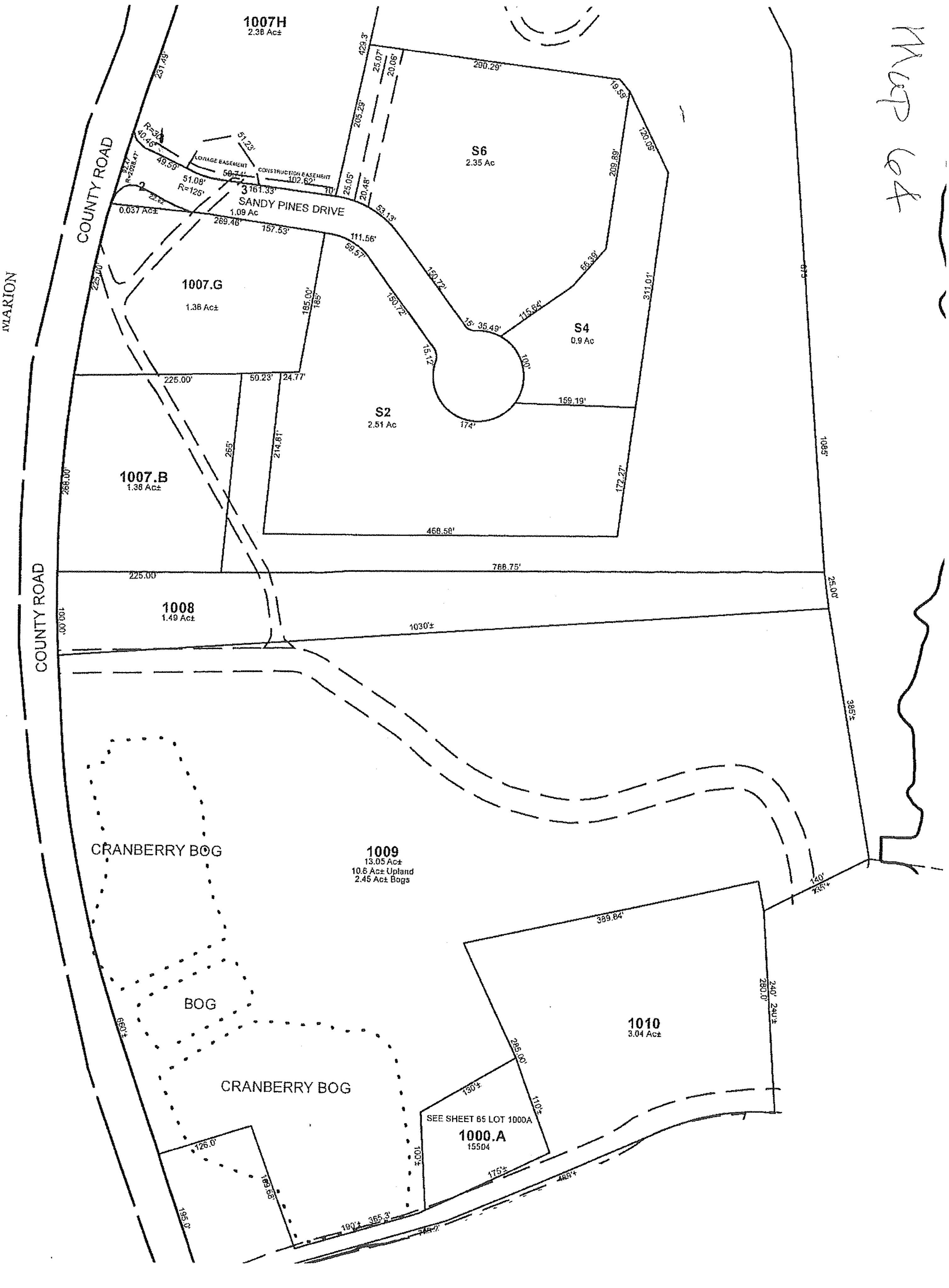
Printed on 11/29/2021 at 01:24 PM

MapsOnline by PeopleGIS

TOWN OF WAREHAM					
ABUTTERS LIST - 300'					
OWNER: HARJU, ELLEN					
0 COUNTY RD OFF					
MAP 65 LOT 1000A					
MAP/LOT	**OWNER**	**MAIL ADD.**	**TOWN**	**ST**	**ZIP**
64-1010	ZIMMER PATRICIA H LIFE ESTATE	370 COUNTY RD	W WAREHAM	MA	02576
65-1000/B	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-1006	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
65-1001	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-1009	ZIMMER PATRICIA H LIFE ESTATE	370 COUNTY RD	W WAREHAM	MA	02576
65-1000/A	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
CERTIFIED ABUTTERS AS THEY APPEAR					
ON OUR TAX ROLLS					
AS OF 11/15/2021					
ASSESSORS OFFICE					
REQUESTED BY: GENNY REYNOLDS/PRIME ENGINEERING					
greynolds@primeengineering.org					

TOWN OF WAREHAM					
ABUTTERS LIST - 300'					
OWNER: HARJU ELLEN					
340 COUNTY RD OFF					
MAP 65 LOT 1000 B					
MAP/LOT	**OWNER**	**MAIL ADD**	**TOWN**	**ST**	**ZIP**
65-1001	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-1009	ZIMMER PATRICIA H LIFE ESTATE	370 COUNTY RD	W WAREHAM	MA	02576
65-1000/A	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
65-1002	BELLI CASSI L	336 COUNTY RD	W WAREHAM	MA	02576
65-1003	FURTADO JOSEPH + JENNIFER	11 FELLOWSHIP CIR	W WAREHAM	MA	02576
64-1010	ZIMMER PATRICIA H LIFE ESTATE	370 COUNTY RD	W WAREHAM	MA	02576
65-1000/B	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-1006	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
CERTIFIED ABUTTERS AS THEY APPEAR					
ON OUR TAX ROLLS					
AS OF 11/15/2021					
ASSESSORS OFFICE					
REQUESTED BY: GENNY REYNOLDS/PRIME ENGINEERING					
greynolds@primeengineering.org					

TOWN OF WAREHAM					
ABUTTERS LIST - 300'					
OWNER: HARJU ELLEN					
340 COUNTY RD.					
MAP 65 LOT 1001					
MAP/LOT	**OWNER**	**MAIL ADD**	**TOWN**	**ST**	**ZIP**
65-1001	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-1009	ZIMMER PATRICIA H LIFE ESTATE	370 COUNTY RD	W WAREHAM	MA	02576
65-1000/A	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
65-1002	BELLI CASSI L	336 COUNTY RD	W WAREHAM	MA	02576
65-1003	FURTADO JOSEPH + JENNIFER	11 FELLOWSHIP CIR	W WAREHAM	MA	02576
64-1010	ZIMMER PATRICIA H LIFE ESTATE	370 COUNTY RD	W WAREHAM	MA	02576
65-1000/B	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
64-1006	HARJU ELLEN	370 COUNTY RD	W WAREHAM	MA	02576
CERTIFIED ABUTTERS AS THEY APPEAR ON OUR TAX ROLLS					
ON OUR TAX ROLLS					
ASSESSORS OFFICE					
REQUESTED BY: GENNY REYNOLDS/PRIME ENGINEERING					
greynolds@primeengineering.org					



Map 64
1007H
2.38 Ac±
COUNTY ROAD
MARION
LOWAGE EASEMENT
CONSTRUCTION EASEMENT
SANDY PINES DRIVE
1.09 Ac
0.037 Ac±
S6
2.35 Ac
S4
0.9 Ac
S2
2.51 Ac
1007.G
1.38 Ac±
1007.B
1.38 Ac±
1008
1.49 Ac±
1009
13.05 Ac±
10.6 Ac± Upland
2.45 Ac± Bogs
CRANBERRY BOG
BOG
CRANBERRY BOG
1010
3.04 Ac±
SEE SHEET 65 LOT 1000A
1000.A
15504

*** Electronic Recording ***
Doc#: 00009051
Bk: 44071 Pg: 245 Page: 1 of 2
Recorded: 02/12/2014 11:53 AM
ATTEST: John R. Buckley, Jr. Register
Plymouth County Registry of Deeds

CERTIFICATE OF TRUST

Stolen Tree Farm Trust

Pursuant to M.G.L. Chapter 184 Section 35

KNOW THAT, Robert G. Moore, as Trustee of the **Stolen Tree Farm Trust** presents this Certificate of Trust, in lieu of providing a copy of the trust instrument, to establish the existence and terms of the trust as set forth below.

1. Creation of the Trust The **Stolen Tree Farm Trust** (the "Trust") was created on August 12, 2010 and continues in existence today.

2. The Trustees The Declaration of Trust names Patricia H. Zimmer and Robert G. Moore as trustees (the "Trustees") with Katherine I. Zimmer as successor trustee (the "successor Trustee"). There shall always be two trustees, and except for this Certificate of Trust, any subsequent notices, amendments, or other trust documents must be signed by two trustees.

3. Authority of Trustees to Act with Respect to Real Estate Owned by the Trust The Trust provides that the Trustees shall have the following powers concerning any real estate in which the trust may have an interest:

A. To sell, transfer, convey, exchange, encumber, convert or otherwise dispose of, or grant options with respect to, such property, at public or private sale, with or without security, in such manner, at such times, for such prices, and upon such terms and conditions as the Trustees may deem advisable;

B. To execute and deliver any and all instruments or writings which it may deem advisable to carry out any of the foregoing powers; and

4. Reliance by Third Parties Any person may rely upon this Certificate of Trust as evidence of the existence of said Declaration of Trust, and is relieved of any obligation to verify that any transaction entered into by the Trustee(s) or successor Trustee(s) thereunder is consistent with the terms and conditions of said Declaration of Trust.

The Trust has not been revoked, modified or amended in any manner that would cause the representations contained in this Certificate of Trust to be incorrect.

All persons dealing with the Trustees may rely on this Certificate of Trust as a true statement of the provisions of the Declaration of Trust as of the date this Certificate of Trust is presented to such person (regardless of the date of execution of this Certificate of Trust) unless such person has actual knowledge that the representations contained in this Certificate of Trust are incorrect. A person who acts in reliance upon this Certificate of Trust without actual knowledge that the representations contained herein are incorrect shall not be liable to any other person for so acting.

A purchaser or other person may rely in good faith on this certificate, and that there are no facts which constitute a condition precedent to acts by the trustees or which are in any other manner germane to the affairs of the trust.

IN WITNESS WHEREOF, I sign hereby depose and say under the pains and penalties of perjury that the above facts and representations are true and accurate.

Robert G. Moore

Robert G. Moore, Trustee

COMMONWEALTH OF MASSACHUSETTS, COUNTY OF PLYMOUTH, ss.

On this 10th day of February 2014, before me, the undersigned notary public, personally appeared Robert G. Moore, personally known to me and who identified himself by means of his Massachusetts Driver's License to be the person whose name is signed on the foregoing Certificate of Trust, and he acknowledged that he signed it voluntarily for its stated purpose.

Michael P. Lamoureux, Notary Public

My commission expires on 09/28/2018

*** Electronic Recording ***
Doc#: 00009052
Bk: 44071 Pg: 247 Page: 1 of 4
Recorded: 02/12/2014 11:53 AM
ATTEST: John R. Buckley, Jr. Register
Plymouth County Registry of Deeds

****
MASSACHUSETTS EXCISE TAX
Plymouth District ROD #11 001
Date: 02/12/2014 11:53 AM
Ctrl# Doc# Plymouth County Registry of Deeds
Fee: $.00 Cons: $1.00
****

LOCUS: PARCEL ONE - 370 COUNTY ROAD, WEST WAREHAM, PLYMOUTH COUNTY
PARCEL TWO - 362 COUNTY ROAD, WEST WAREHAM, PLYMOUTH COUNTY

DEED

KNOW ALL MEN BY THESE PRESENTS

THAT I, Patricia H. Zimmer, (GRANTOR)

In consideration of

ONE DOLLAR ($1.00)

GRANT TO myself, Patricia H. Zimmer, a life estate without the right to sell, mortgage nor partition, with the remainder interest to:

> Patricia H. Zimmer and Robert G. Moore, with successors, as Co-trustees of the Stolen Tree Farm Trust of August 12, 2010 370 County Road, West Wareham, MA 02576, a certificate of said trust being recorded herewith,

with quitclaim covenants,

All the grantor's right, title and interest in the two properties located at: 370 County Road, West Wareham, Massachusetts (Parcel One), and 362 County Road, West Wareham, Massachusetts (Parcel Two), further described in Exhibit A attached hereto.

Patricia H. Zimmer

COMMONWEALTH OF MASSACHUSETTS

Plymouth, ss. August 12, 2010

Then personally appeared the above named Patricia H. Zimmer, who identified herself by means of a Massachusetts Driver's License, and acknowledged the foregoing instrument to be her free act and deed, before me.

Michael P. Lamoureux, Notary Public
My Commission Expires: 10/13/2011

Please Return to:

Robert G. Moore, Esq.
P.O. Box 612
Mattapoisett, MA 02739

Exhibit A - PARCEL ONE

The land in Wareham beginning at a corner of a lot of land set off to Evelyn Hathaway and by the side of the road leading from Tremont to Marion;

Then south 73 degrees and 37 minutes east by land now or formerly of said Evelyn Hathaway 1058 ½ feet;

Then south 9 ½ degrees west by land of the grantees herein named (as mentioned in the deed in the Plymouth Registry of Deeds in Book 1674 Page 516) about 385 feet to an oak tree, a corner of a lot of land belonging now or formerly to one Baros;

Then southwesterly by said Baros' land 658 feet;

Then south 15 degrees west 7 rods to the right of way to the Baros' lot;

Then west 190 feet to a corner of a lot of land now or formerly owned by Heman Bourne;

Then north by said Heman Bourne's land 165 feet;

Then west by said Heman Bourne's land 132 feet to the said road;

Then northerly by said road 700 feet to the bound first mentioned.

Title Reference - See Estate of Ellen Harju, Plymouth Probate Court

Docket No. 04P-1008-EP1; and also see deed in this registry in Book 1674 Page 518

Exhibit A - PARCEL TWO

Beginning at the northwesterly corner of the premises to be conveyed in the easterly line of County Road, a County Layout under Decree #960, said corner being South 18° 02' 20" East 142.17 feet from a County Highway bound;

thence North 69° 53' 00" East by land of these grantors 126.00 feet;

thence South 20° 07' 00" East by said last named land 169.68 feet;

thence North 71° 57' 40" East by said last named land 75.30 feet;

thence North 67° 31' 00" East by said last named land 290.00 feet;

thence North 22° 29' 00" West by said last named land 285.00 feet;

thence North 80° 01' 50" East by said last named land 389.94 feet;

thence South 2° 29' 00" East by said last named land 280.00 feet;

thence South 87° 31' 00" West by said last named land 57.38 feet;

thence South 77° 31' 00" West by said last named land 74.75 feet;

thence South 67° 31' 00" West by said last named land 448.54 feet;

thence South 71° 57' 40" West still by said last named land 208.53 feet to the easterly line of the aforementioned County Road;

thence North 18° 02' 20" West by the easterly line of the said County Road 195.00 feet to the point of beginning.

Containing three acres 1,921 square feet more or less and shown on a plan entitled "Plan of Land in Wareham, Mass., Surveyed For Eino W. & Ellen Harju, November 20, 1978, Arthur C. Thompson, Inc., Engineers & Surveyors, Marion, Mass., Revised Dec. 26, 1978." Said plan to be recorded herewith.

Reserving as appurtenant to all the surrounding remaining land of the grantors a 30 feet wide right of way and easement along the entire southerly line of the premises hereby conveyed. Said right of way and easement to be for purposes and uses for which rights of way are customarily used, including the right to install drains, conduits or utilities above or below the ground, and also including the unrestricted right to maintain the flumes, drains and appurtenances for watering and maintaining any or all agricultural or land development projects, said easement also includes the right to maintain or enlarge the presently installed facilities plus the right to install any new or additional facilities or fixtures consistent with the purposes and uses set forth herein.

Title Reference - see deed in this registry in Book 4621 Page 21

2018 00055122
Bk: 50031 Pg: 148 Page: 1 of 1
Recorded: 07/12/2018 08:56 AM
ATTEST: John R. Buckley, Jr. Register
Plymouth County Registry of Deeds

STOLEN TREE FARM TRUST

Resignation and Acceptance of Trusteeship

I, Robert G. Moore, hereby resign as trustee of the **STOLEN TREE FARM TRUST** (see Certificate of Trust recorded in Book 44071 Page 245 in this registry) and therefore under the terms of the trust Katherine I. Zimmer will serve as Co-Trustee with Patricia H. Zimmer.

Robert G Moore
Robert G. Moore

I, Katherine I. Zimmer (aka Kate I. Zimmer), hereby certify that I am willing to serve as trustee of the **STOLEN TREE FARM TRUST**

Katherine I Zimm
Katherine I. Zimmer

Commonwealth of Massachusetts

Plymouth, ss.

June 27, 2018

Then personally appeared before me, Katherine I. Zimmer, who identified herself by means of her Massachusetts Driver's License to be the person signing this document and she acknowledged that she is signing it voluntarily and as her free act and deed.

Amy S. Mello, Notary Public
My commission expires 11-20-2020

Mail
Robert G Moore
PO Box 612
Mattapoisett MA
02739

STORMWATER REPORT FOR
ENERGY ESTATES SUBDIVISION
OFF COUNTY ROAD
WAREHAM, MA

PREPARED FOR:

ENTERO ENERGY LLC
C/O ERIC CRISLER
1508 W. 30TH
AUSTIN, TX 78703

PREPARED BY:

PRIME ENGINEERING, INC.
P.O. BOX 1088
LAKEVILLE, MA

NOVEMBER 30, 2021

1.0 INTRODUCTION

It is proposed to construct a 534 foot "residential minor street" to service two large lots off County Road. This project requires approval from the Wareham Planning Board and from the Wareham Conservation Commission. This report has been prepared in support of those petitions.

2.0 PROPOSED IMPROVEMENTS

It is proposed to construct an 18-foot-wide paved road bordered with 12" wide and 4" high Cape Cod berms with 3-foot-wide grass shoulders. This 534-foot-long road will provide access to two lots.

3.0 PROPOSED DRAINAGE

The first 50 feet of the road will slope to catch basins at the sideline of County Road. The runoff will be conveyed to the "western" detention basin which will be constructed as constructed pocket wetlands which has been confirmed to remove 80 percent of the suspended solids. The remainder of the road will slope to a set of catch basins at station 3+00. The storm flow from the reminder of the road will be conveyed to the eastern basins which have also been designed to be constructed pocket wetlands. Subdivisions of four lots or less are exempt from the MassDEP Stormwater Standards, however, this design meets most of the standards, including no untreated discharges, no increase in peak rate of runoff and treatment of suspended solids. The attached summary chart summarizes the results of the hydrologic computations which follow (Attachment A).

Proposed Energy Lane Subdivision
370 County Road
WAREHAM, MASSACHUSETTS

Drainage Summary
November 30, 2021

2 YR STORM (3.4 in.)

Receptor	Pre Development Q Max (cfs)	Post Development Q Max (cfs)
1L	0.11	0.11
2L	0.12	0.10
3L	0.48	0.41
4L	0.02	0.02

10 YR STORM (4.8 in.)

Receptor	Pre Development Q Max (cfs)	Post Development Q Max (cfs)
1L	1.61	1.54
2L	0.67	0.50
3L	0.97	0.82
4L	0.48	0.48

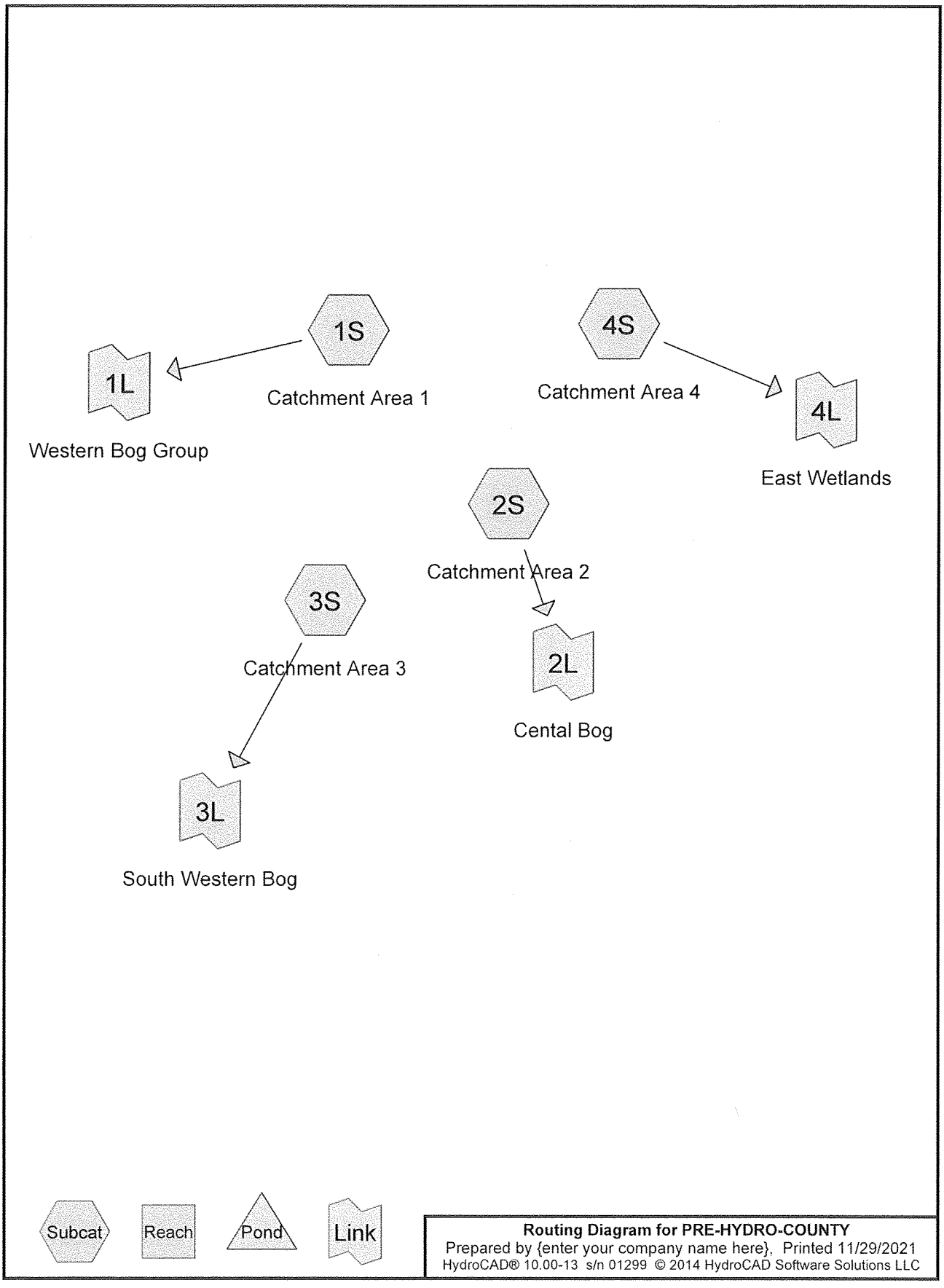
25 YR STORM (5.6 in.)

Receptor	Pre Development Q Max (cfs)	Post Development Q Max (cfs)
1L	3.42	3.27
2L	1.16	0.81
3L	1.28	1.08
4L	1.63	1.63

100 YR STORM (7.0 in.)

Receptor	Pre Development Q Max (cfs)	Post Development Q Max (cfs)
1L	8.12	7.78
2L	2.20	1.47
3L	1.84	1.56
4L	5.03	5.03

ATTACHMENT A
HYDROLOGIC CALCULATIONS



Routing Diagram for PRE-HYDRO-COUNTY
Prepared by {enter your company name here}, Printed 11/29/2021
HydroCAD® 10.00-13 s/n 01299 © 2014 HydroCAD Software Solutions LLC

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

Subcatchment 1S: Catchment Area 1 Runoff Area=429,446 sf 0.88% Impervious Runoff Depth=0.09"
Flow Length=718' Tc=19.3 min CN=46 Runoff=0.11 cfs 0.071 af

Subcatchment 2S: Catchment Area 2 Runoff Area=55,348 sf 0.41% Impervious Runoff Depth=0.25"
Flow Length=187' Tc=11.0 min CN=53 Runoff=0.12 cfs 0.027 af

Subcatchment 3S: Catchment Area 3 Runoff Area=18,203 sf 0.00% Impervious Runoff Depth=1.06"
Tc=6.0 min CN=72 Runoff=0.48 cfs 0.037 af

Subcatchment 4S: Catchment Area 4 Runoff Area=473,328 sf 0.09% Impervious Runoff Depth=0.02"
Flow Length=479' Tc=19.3 min CN=41 Runoff=0.02 cfs 0.017 af

Link 1L: Western Bog Group Inflow=0.11 cfs 0.071 af
Primary=0.11 cfs 0.071 af

Link 2L: Cental Bog Inflow=0.12 cfs 0.027 af
Primary=0.12 cfs 0.027 af

Link 3L: South Western Bog Inflow=0.48 cfs 0.037 af
Primary=0.48 cfs 0.037 af

Link 4L: East Wetlands Inflow=0.02 cfs 0.017 af
Primary=0.02 cfs 0.017 af

Total Runoff Area = 22.413 ac Runoff Volume = 0.151 af Average Runoff Depth = 0.08"
99.55% Pervious = 22.312 ac 0.45% Impervious = 0.101 ac

Summary for Subcatchment 1S: Catchment Area 1

Runoff = 0.11 cfs @ 14.87 hrs, Volume= 0.071 af, Depth= 0.09"

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-Year Rainfall=3.40"

Area (sf)	CN	Description
3,783	98	Unconnected roofs, HSG A
281,191	36	Woods, Fair, HSG A
40,827	49	50-75% Grass cover, Fair, HSG A
103,645	72	Dirt roads, HSG A
429,446	46	Weighted Average
425,663		99.12% Pervious Area
3,783		0.88% Impervious Area
3,783		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Subcatchment 2S: Catchment Area 2

Runoff = 0.12 cfs @ 12.42 hrs, Volume= 0.027 af, Depth= 0.25"

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-Year Rainfall=3.40"

Area (sf)	CN	Description
228	98	Unconnected roofs, HSG A
29,031	36	Woods, Fair, HSG A
26,089	72	Dirt roads, HSG A
55,348	53	Weighted Average
55,120		99.59% Pervious Area
228		0.41% Impervious Area
228		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
1.6	97	0.0410	1.01		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	25	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	15	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	187	Total			

Summary for Subcatchment 3S: Catchment Area 3

Runoff = 0.48 cfs @ 12.10 hrs, Volume= 0.037 af, Depth= 1.06"

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-Year Rainfall=3.40"

Area (sf)	CN	Description
18,203	72	Dirt roads, HSG A
18,203		100.00% Pervious Area

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

Summary for Subcatchment 4S: Catchment Area 4

Runoff = 0.02 cfs @ 21.17 hrs, Volume= 0.017 af, Depth= 0.02"

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-Year Rainfall=3.40"

Area (sf)	CN	Description
409	98	Unconnected roofs, HSG A
410,199	36	Woods, Fair, HSG A
62,720	72	Dirt roads, HSG A
473,328	41	Weighted Average
472,919		99.91% Pervious Area
409		0.09% Impervious Area
409		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
7.3	429	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	479	Total			

Summary for Link 1L: Western Bog Group

Inflow Area = 9.859 ac, 0.88% Impervious, Inflow Depth = 0.09" for 2-Year event
Inflow = 0.11 cfs @ 14.87 hrs, Volume= 0.071 af
Primary = 0.11 cfs @ 14.87 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 2L: Cental Bog

Inflow Area = 1.271 ac, 0.41% Impervious, Inflow Depth = 0.25" for 2-Year event
Inflow = 0.12 cfs @ 12.42 hrs, Volume= 0.027 af
Primary = 0.12 cfs @ 12.42 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 3L: South Western Bog

Inflow Area = 0.418 ac, 0.00% Impervious, Inflow Depth = 1.06" for 2-Year event
Inflow = 0.48 cfs @ 12.10 hrs, Volume= 0.037 af
Primary = 0.48 cfs @ 12.10 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 4L: East Wetlands

Inflow Area = 10.866 ac, 0.09% Impervious, Inflow Depth = 0.02" for 2-Year event
Inflow = 0.02 cfs @ 21.17 hrs, Volume= 0.017 af
Primary = 0.02 cfs @ 21.17 hrs, Volume= 0.017 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

Subcatchment 1S: Catchment Area 1 Runoff Area=429,446 sf 0.88% Impervious Runoff Depth=0.42"
Flow Length=718' Tc=19.3 min CN=46 Runoff=1.61 cfs 0.348 af

Subcatchment 2S: Catchment Area 2 Runoff Area=55,348 sf 0.41% Impervious Runoff Depth=0.77"
Flow Length=187' Tc=11.0 min CN=53 Runoff=0.67 cfs 0.082 af

Subcatchment 3S: Catchment Area 3 Runoff Area=18,203 sf 0.00% Impervious Runoff Depth=2.05"
Tc=6.0 min CN=72 Runoff=0.97 cfs 0.071 af

Subcatchment 4S: Catchment Area 4 Runoff Area=473,328 sf 0.09% Impervious Runoff Depth=0.23"
Flow Length=479' Tc=19.3 min CN=41 Runoff=0.48 cfs 0.205 af

Link 1L: Western Bog Group Inflow=1.61 cfs 0.348 af
Primary=1.61 cfs 0.348 af

Link 2L: Cental Bog Inflow=0.67 cfs 0.082 af
Primary=0.67 cfs 0.082 af

Link 3L: South Western Bog Inflow=0.97 cfs 0.071 af
Primary=0.97 cfs 0.071 af

Link 4L: East Wetlands Inflow=0.48 cfs 0.205 af
Primary=0.48 cfs 0.205 af

Total Runoff Area = 22.413 ac Runoff Volume = 0.706 af Average Runoff Depth = 0.38"
99.55% Pervious = 22.312 ac 0.45% Impervious = 0.101 ac

Summary for Subcatchment 1S: Catchment Area 1

Runoff = 1.61 cfs @ 12.51 hrs, Volume= 0.348 af, Depth= 0.42"

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-Year Rainfall=4.80"

Area (sf)	CN	Description
3,783	98	Unconnected roofs, HSG A
281,191	36	Woods, Fair, HSG A
40,827	49	50-75% Grass cover, Fair, HSG A
103,645	72	Dirt roads, HSG A
429,446	46	Weighted Average
425,663		99.12% Pervious Area
3,783		0.88% Impervious Area
3,783		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Subcatchment 2S: Catchment Area 2

Runoff = 0.67 cfs @ 12.21 hrs, Volume= 0.082 af, Depth= 0.77"

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-Year Rainfall=4.80"

Area (sf)	CN	Description
228	98	Unconnected roofs, HSG A
29,031	36	Woods, Fair, HSG A
26,089	72	Dirt roads, HSG A
55,348	53	Weighted Average
55,120		99.59% Pervious Area
228		0.41% Impervious Area
228		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
1.6	97	0.0410	1.01		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	25	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	15	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	187	Total			

Summary for Subcatchment 3S: Catchment Area 3

Runoff = 0.97 cfs @ 12.10 hrs, Volume= 0.071 af, Depth= 2.05"

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-Year Rainfall=4.80"

Area (sf)	CN	Description
18,203	72	Dirt roads, HSG A
18,203		100.00% Pervious Area

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

Summary for Subcatchment 4S: Catchment Area 4

Runoff = 0.48 cfs @ 12.65 hrs, Volume= 0.205 af, Depth= 0.23"

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-Year Rainfall=4.80"

Area (sf)	CN	Description
409	98	Unconnected roofs, HSG A
410,199	36	Woods, Fair, HSG A
62,720	72	Dirt roads, HSG A
473,328	41	Weighted Average
472,919		99.91% Pervious Area
409		0.09% Impervious Area
409		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
7.3	429	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	479	Total			

Summary for Link 1L: Western Bog Group

Inflow Area = 9.859 ac, 0.88% Impervious, Inflow Depth = 0.42" for 10-Year event
Inflow = 1.61 cfs @ 12.51 hrs, Volume= 0.348 af
Primary = 1.61 cfs @ 12.51 hrs, Volume= 0.348 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 2L: Cental Bog

Inflow Area = 1.271 ac, 0.41% Impervious, Inflow Depth = 0.77" for 10-Year event
Inflow = 0.67 cfs @ 12.21 hrs, Volume= 0.082 af
Primary = 0.67 cfs @ 12.21 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 3L: South Western Bog

Inflow Area = 0.418 ac, 0.00% Impervious, Inflow Depth = 2.05" for 10-Year event
Inflow = 0.97 cfs @ 12.10 hrs, Volume= 0.071 af
Primary = 0.97 cfs @ 12.10 hrs, Volume= 0.071 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 4L: East Wetlands

Inflow Area = 10.866 ac, 0.09% Impervious, Inflow Depth = 0.23" for 10-Year event
Inflow = 0.48 cfs @ 12.65 hrs, Volume= 0.205 af
Primary = 0.48 cfs @ 12.65 hrs, Volume= 0.205 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

Subcatchment 1S: Catchment Area 1 Runoff Area=429,446 sf 0.88% Impervious Runoff Depth=0.71"
Flow Length=718' Tc=19.3 min CN=46 Runoff=3.42 cfs 0.580 af

Subcatchment 2S: Catchment Area 2 Runoff Area=55,348 sf 0.41% Impervious Runoff Depth=1.15"
Flow Length=187' Tc=11.0 min CN=53 Runoff=1.16 cfs 0.122 af

Subcatchment 3S: Catchment Area 3 Runoff Area=18,203 sf 0.00% Impervious Runoff Depth=2.67"
Tc=6.0 min CN=72 Runoff=1.28 cfs 0.093 af

Subcatchment 4S: Catchment Area 4 Runoff Area=473,328 sf 0.09% Impervious Runoff Depth=0.43"
Flow Length=479' Tc=19.3 min CN=41 Runoff=1.63 cfs 0.392 af

Link 1L: Western Bog Group Inflow=3.42 cfs 0.580 af
Primary=3.42 cfs 0.580 af

Link 2L: Cental Bog Inflow=1.16 cfs 0.122 af
Primary=1.16 cfs 0.122 af

Link 3L: South Western Bog Inflow=1.28 cfs 0.093 af
Primary=1.28 cfs 0.093 af

Link 4L: East Wetlands Inflow=1.63 cfs 0.392 af
Primary=1.63 cfs 0.392 af

Total Runoff Area = 22.413 ac Runoff Volume = 1.187 af Average Runoff Depth = 0.64"
99.55% Pervious = 22.312 ac 0.45% Impervious = 0.101 ac

Summary for Subcatchment 1S: Catchment Area 1

Runoff = 3.42 cfs @ 12.42 hrs, Volume= 0.580 af, Depth= 0.71"

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-Year Rainfall=5.60"

Area (sf)	CN	Description
3,783	98	Unconnected roofs, HSG A
281,191	36	Woods, Fair, HSG A
40,827	49	50-75% Grass cover, Fair, HSG A
103,645	72	Dirt roads, HSG A
429,446	46	Weighted Average
425,663		99.12% Pervious Area
3,783		0.88% Impervious Area
3,783		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Subcatchment 2S: Catchment Area 2

Runoff = 1.16 cfs @ 12.18 hrs, Volume= 0.122 af, Depth= 1.15"

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-Year Rainfall=5.60"

Area (sf)	CN	Description
228	98	Unconnected roofs, HSG A
29,031	36	Woods, Fair, HSG A
26,089	72	Dirt roads, HSG A
55,348	53	Weighted Average
55,120		99.59% Pervious Area
228		0.41% Impervious Area
228		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
1.6	97	0.0410	1.01		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	25	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	15	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	187	Total			

Summary for Subcatchment 3S: Catchment Area 3

Runoff = 1.28 cfs @ 12.09 hrs, Volume= 0.093 af, Depth= 2.67"

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-Year Rainfall=5.60"

Area (sf)	CN	Description
18,203	72	Dirt roads, HSG A
18,203		100.00% Pervious Area

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

Summary for Subcatchment 4S: Catchment Area 4

Runoff = 1.63 cfs @ 12.54 hrs, Volume= 0.392 af, Depth= 0.43"

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-Year Rainfall=5.60"

Area (sf)	CN	Description
409	98	Unconnected roofs, HSG A
410,199	36	Woods, Fair, HSG A
62,720	72	Dirt roads, HSG A
473,328	41	Weighted Average
472,919		99.91% Pervious Area
409		0.09% Impervious Area
409		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
7.3	429	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	479	Total			

Summary for Link 1L: Western Bog Group

Inflow Area = 9.859 ac, 0.88% Impervious, Inflow Depth = 0.71" for 25-Year event
Inflow = 3.42 cfs @ 12.42 hrs, Volume= 0.580 af
Primary = 3.42 cfs @ 12.42 hrs, Volume= 0.580 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 2L: Cental Bog

Inflow Area = 1.271 ac, 0.41% Impervious, Inflow Depth = 1.15" for 25-Year event
Inflow = 1.16 cfs @ 12.18 hrs, Volume= 0.122 af
Primary = 1.16 cfs @ 12.18 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 3L: South Western Bog

Inflow Area = 0.418 ac, 0.00% Impervious, Inflow Depth = 2.67" for 25-Year event
Inflow = 1.28 cfs @ 12.09 hrs, Volume= 0.093 af
Primary = 1.28 cfs @ 12.09 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 4L: East Wetlands

Inflow Area = 10.866 ac, 0.09% Impervious, Inflow Depth = 0.43" for 25-Year event
Inflow = 1.63 cfs @ 12.54 hrs, Volume= 0.392 af
Primary = 1.63 cfs @ 12.54 hrs, Volume= 0.392 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

Subcatchment 1S: Catchment Area 1 Runoff Area=429,446 sf 0.88% Impervious Runoff Depth=1.32"
Flow Length=718' Tc=19.3 min CN=46 Runoff=8.12 cfs 1.085 af

Subcatchment 2S: Catchment Area 2 Runoff Area=55,348 sf 0.41% Impervious Runoff Depth=1.94"
Flow Length=187' Tc=11.0 min CN=53 Runoff=2.20 cfs 0.205 af

Subcatchment 3S: Catchment Area 3 Runoff Area=18,203 sf 0.00% Impervious Runoff Depth=3.83"
Tc=6.0 min CN=72 Runoff=1.84 cfs 0.133 af

Subcatchment 4S: Catchment Area 4 Runoff Area=473,328 sf 0.09% Impervious Runoff Depth=0.92"
Flow Length=479' Tc=19.3 min CN=41 Runoff=5.03 cfs 0.831 af

Link 1L: Western Bog Group Inflow=8.12 cfs 1.085 af
Primary=8.12 cfs 1.085 af

Link 2L: Cental Bog Inflow=2.20 cfs 0.205 af
Primary=2.20 cfs 0.205 af

Link 3L: South Western Bog Inflow=1.84 cfs 0.133 af
Primary=1.84 cfs 0.133 af

Link 4L: East Wetlands Inflow=5.03 cfs 0.831 af
Primary=5.03 cfs 0.831 af

Total Runoff Area = 22.413 ac Runoff Volume = 2.254 af Average Runoff Depth = 1.21"
99.55% Pervious = 22.312 ac 0.45% Impervious = 0.101 ac

Summary for Subcatchment 1S: Catchment Area 1

Runoff = 8.12 cfs @ 12.33 hrs, Volume= 1.085 af, Depth= 1.32"

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-Year Rainfall=7.00"

Area (sf)	CN	Description
3,783	98	Unconnected roofs, HSG A
281,191	36	Woods, Fair, HSG A
40,827	49	50-75% Grass cover, Fair, HSG A
103,645	72	Dirt roads, HSG A
429,446	46	Weighted Average
425,663		99.12% Pervious Area
3,783		0.88% Impervious Area
3,783		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Subcatchment 2S: Catchment Area 2

Runoff = 2.20 cfs @ 12.17 hrs, Volume= 0.205 af, Depth= 1.94"

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-Year Rainfall=7.00"

Area (sf)	CN	Description
228	98	Unconnected roofs, HSG A
29,031	36	Woods, Fair, HSG A
26,089	72	Dirt roads, HSG A
55,348	53	Weighted Average
55,120		99.59% Pervious Area
228		0.41% Impervious Area
228		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
1.6	97	0.0410	1.01		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	25	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	15	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	187	Total			

Summary for Subcatchment 3S: Catchment Area 3

Runoff = 1.84 cfs @ 12.09 hrs, Volume= 0.133 af, Depth= 3.83"

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-Year Rainfall=7.00"

Area (sf)	CN	Description
18,203	72	Dirt roads, HSG A
18,203		100.00% Pervious Area

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

Summary for Subcatchment 4S: Catchment Area 4

Runoff = 5.03 cfs @ 12.41 hrs, Volume= 0.831 af, Depth= 0.92"

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-Year Rainfall=7.00"

Area (sf)	CN	Description
409	98	Unconnected roofs, HSG A
410,199	36	Woods, Fair, HSG A
62,720	72	Dirt roads, HSG A
473,328	41	Weighted Average
472,919		99.91% Pervious Area
409		0.09% Impervious Area
409		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
7.3	429	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	479	Total			

Summary for Link 1L: Western Bog Group

Inflow Area = 9.859 ac, 0.88% Impervious, Inflow Depth = 1.32" for 100-Year event
Inflow = 8.12 cfs @ 12.33 hrs, Volume= 1.085 af
Primary = 8.12 cfs @ 12.33 hrs, Volume= 1.085 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 2L: Cental Bog

Inflow Area = 1.271 ac, 0.41% Impervious, Inflow Depth = 1.94" for 100-Year event
Inflow = 2.20 cfs @ 12.17 hrs, Volume= 0.205 af
Primary = 2.20 cfs @ 12.17 hrs, Volume= 0.205 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 3L: South Western Bog

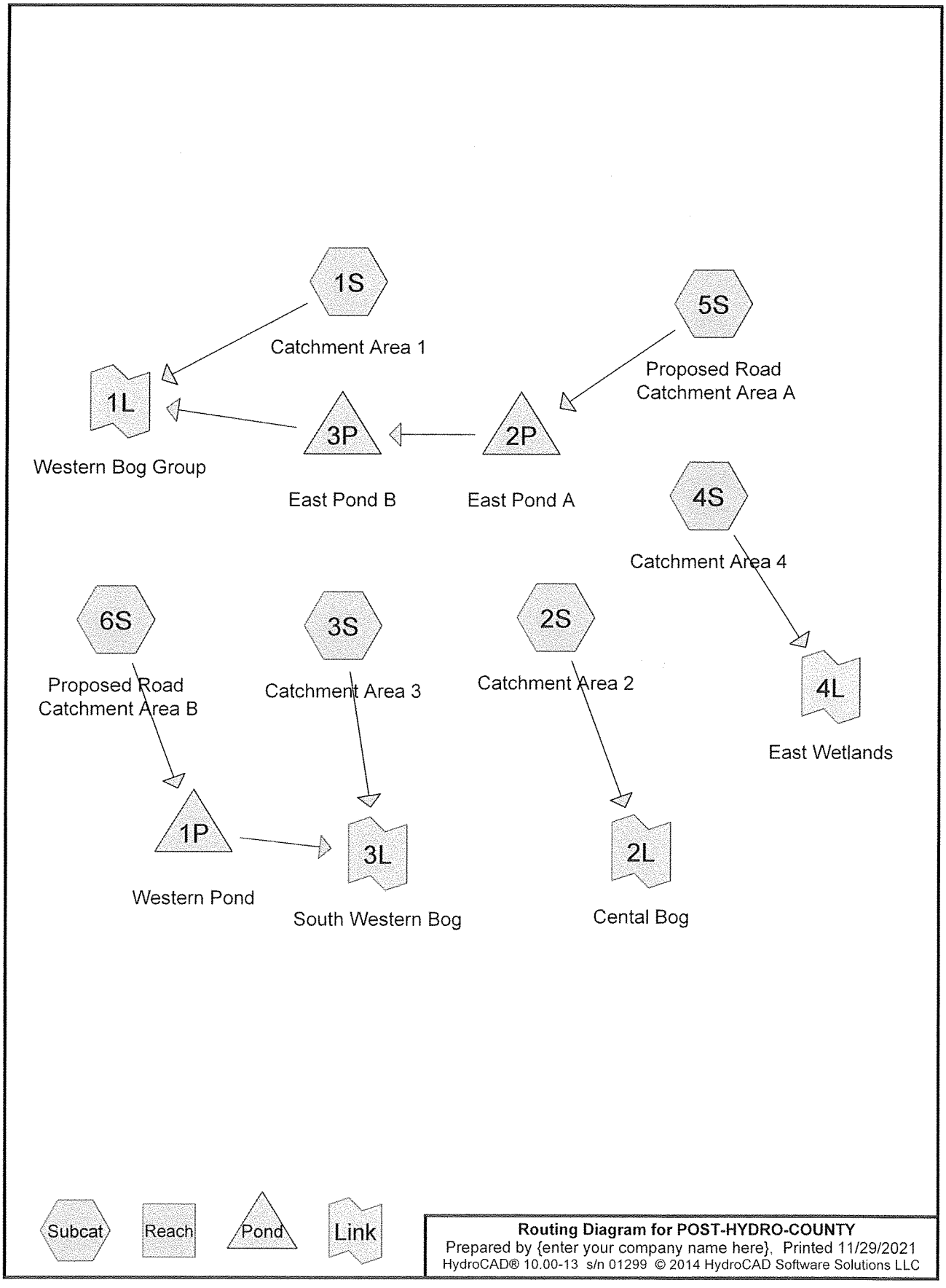
Inflow Area = 0.418 ac, 0.00% Impervious, Inflow Depth = 3.83" for 100-Year event
Inflow = 1.84 cfs @ 12.09 hrs, Volume= 0.133 af
Primary = 1.84 cfs @ 12.09 hrs, Volume= 0.133 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 4L: East Wetlands

Inflow Area = 10.866 ac, 0.09% Impervious, Inflow Depth = 0.92" for 100-Year event
Inflow = 5.03 cfs @ 12.41 hrs, Volume= 0.831 af
Primary = 5.03 cfs @ 12.41 hrs, Volume= 0.831 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs



Routing Diagram for POST-HYDRO-COUNTY
Prepared by {enter your company name here}, Printed 11/29/2021
HydroCAD® 10.00-13 s/n 01299 © 2014 HydroCAD Software Solutions LLC

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: Catchment Area 1 Runoff Area=411,506 sf 1.96% Impervious Runoff Depth=0.09"
Flow Length=718' Tc=19.3 min CN=46 Runoff=0.11 cfs 0.068 af

Subcatchment2S: Catchment Area 2 Runoff Area=32,862 sf 2.43% Impervious Runoff Depth=0.31"
Flow Length=187' Tc=11.0 min CN=55 Runoff=0.10 cfs 0.020 af

Subcatchment3S: Catchment Area 3 Runoff Area=15,301 sf 0.00% Impervious Runoff Depth=1.06"
Tc=6.0 min CN=72 Runoff=0.40 cfs 0.031 af

Subcatchment4S: Catchment Area 4 Runoff Area=473,590 sf 0.00% Impervious Runoff Depth=0.02"
Flow Length=479' Tc=19.3 min CN=41 Runoff=0.02 cfs 0.017 af

Subcatchment5S: Proposed Road Runoff Area=38,770 sf 40.88% Impervious Runoff Depth=0.61"
Tc=6.0 min CN=63 Runoff=0.48 cfs 0.045 af

Subcatchment6S: Proposed Road Runoff Area=1,070 sf 100.00% Impervious Runoff Depth=3.17"
Flow Length=718' Tc=19.3 min CN=98 Runoff=0.06 cfs 0.006 af

Pond 1P: Western Pond Peak Elev=22.72' Storage=163 cf Inflow=0.06 cfs 0.006 af
Primary=0.01 cfs 0.006 af Secondary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.006 af

Pond 2P: East Pond A Peak Elev=22.64' Storage=1,200 cf Inflow=0.48 cfs 0.045 af
Outflow=0.03 cfs 0.040 af

Pond 3P: East Pond B Peak Elev=22.35' Storage=736 cf Inflow=0.03 cfs 0.040 af
Primary=0.01 cfs 0.032 af Secondary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.032 af

Link 1L: Western Bog Group Inflow=0.11 cfs 0.100 af
Primary=0.11 cfs 0.100 af

Link 2L: Cental Bog Inflow=0.10 cfs 0.020 af
Primary=0.10 cfs 0.020 af

Link 3L: South Western Bog Inflow=0.41 cfs 0.037 af
Primary=0.41 cfs 0.037 af

Link 4L: East Wetlands Inflow=0.02 cfs 0.017 af
Primary=0.02 cfs 0.017 af

Total Runoff Area = 22.339 ac Runoff Volume = 0.187 af Average Runoff Depth = 0.10"
97.35% Pervious = 21.747 ac 2.65% Impervious = 0.592 ac

Summary for Subcatchment 1S: Catchment Area 1

Runoff = 0.11 cfs @ 14.87 hrs, Volume= 0.068 af, Depth= 0.09"

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-Year Rainfall=3.40"

	Area (sf)	CN	Description
	2,402	98	Unconnected roofs, HSG A
*	253,682	36	Woods, Fair, HSG A
	50,436	39	>75% Grass cover, Good, HSG A
	96,785	72	Dirt roads, HSG A
	5,684	98	Water Surface, HSG A
	2,517	30	Meadow, non-grazed, HSG A
	411,506	46	Weighted Average
	403,420		98.04% Pervious Area
	8,086		1.96% Impervious Area
	2,402		29.71% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Subcatchment 2S: Catchment Area 2

Runoff = 0.10 cfs @ 12.37 hrs, Volume= 0.020 af, Depth= 0.31"

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-Year Rainfall=3.40"

Area (sf)	CN	Description
799	98	Unconnected roofs, HSG A
5,795	36	Woods, Fair, HSG A
15,501	72	Dirt roads, HSG A
10,767	39	>75% Grass cover, Good, HSG A
32,862	55	Weighted Average
32,063		97.57% Pervious Area
799		2.43% Impervious Area
799		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
1.6	97	0.0410	1.01		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	25	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	15	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	187	Total			

Summary for Subcatchment 3S: Catchment Area 3

Runoff = 0.40 cfs @ 12.10 hrs, Volume= 0.031 af, Depth= 1.06"

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-Year Rainfall=3.40"

Area (sf)	CN	Description
15,301	72	Dirt roads, HSG A
15,301		100.00% Pervious Area

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

Summary for Subcatchment 4S: Catchment Area 4

Runoff = 0.02 cfs @ 21.17 hrs, Volume= 0.017 af, Depth= 0.02"

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-Year Rainfall=3.40"

Area (sf)	CN	Description
410,461	36	Woods, Fair, HSG A
63,129	72	Dirt roads, HSG A
473,590	41	Weighted Average
473,590		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
7.3	429	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	479	Total			

Summary for Subcatchment 5S: Proposed Road Catchment Area A

Runoff = 0.48 cfs @ 12.11 hrs, Volume= 0.045 af, Depth= 0.61"

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-Year Rainfall=3.40"

Area (sf)	CN	Description
15,851	98	Paved roads w/curbs & sewers, HSG A
22,919	39	>75% Grass cover, Good, HSG A
38,770	63	Weighted Average
22,919		59.12% Pervious Area
15,851		40.88% Impervious Area

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

Summary for Subcatchment 6S: Proposed Road Catchment Area B

Runoff = 0.06 cfs @ 12.25 hrs, Volume= 0.006 af, Depth= 3.17"

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-Year Rainfall=3.40"

Area (sf)	CN	Description
1,070	98	Paved roads w/curbs & sewers, HSG A
1,070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Pond 1P: Western Pond

Inflow Area = 0.025 ac,100.00% Impervious, Inflow Depth = 3.17" for 2-Year event
Inflow = 0.06 cfs @ 12.25 hrs, Volume= 0.006 af
Outflow = 0.01 cfs @ 12.90 hrs, Volume= 0.006 af, Atten= 80%, Lag= 38.5 min
Primary = 0.01 cfs @ 12.90 hrs, Volume= 0.006 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 22.72' @ 12.90 hrs Surf.Area= 836 sf Storage= 163 cf

Plug-Flow detention time= 465.2 min calculated for 0.006 af (94% of inflow)
Center-of-Mass det. time= 430.5 min (1,198.0 - 767.5)

Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	1,798 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

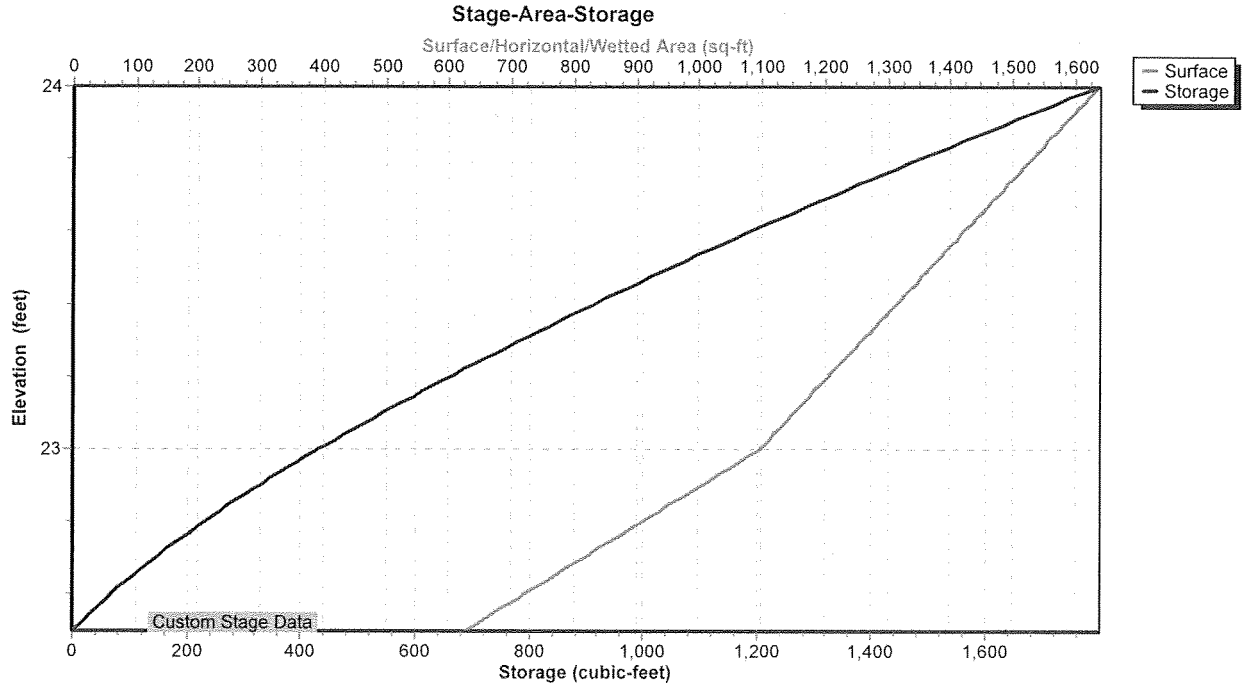
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.50	626	0	0
23.00	1,097	431	431
24.00	1,637	1,367	1,798

Device	Routing	Invert	Outlet Devices
#1	Secondary	23.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Primary	22.50'	**20.0 deg Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)

Primary OutFlow Max=0.01 cfs @ 12.90 hrs HW=22.72' (Free Discharge)
└**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.01 cfs @ 1.27 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=22.50' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Western Pond



Stage-Area-Storage for Pond 1P: Western Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.50	626	0
22.52	645	13
22.54	664	26
22.56	683	39
22.58	701	53
22.60	720	67
22.62	739	82
22.64	758	97
22.66	777	112
22.68	796	128
22.70	814	144
22.72	833	161
22.74	852	177
22.76	871	195
22.78	890	212
22.80	909	230
22.82	927	249
22.84	946	267
22.86	965	286
22.88	984	306
22.90	1,003	326
22.92	1,022	346
22.94	1,040	367
22.96	1,059	388
22.98	1,078	409
23.00	1,097	431
23.02	1,108	453
23.04	1,119	475
23.06	1,129	498
23.08	1,140	520
23.10	1,151	543
23.12	1,162	566
23.14	1,173	590
23.16	1,183	613
23.18	1,194	637
23.20	1,205	661
23.22	1,216	685
23.24	1,227	710
23.26	1,237	734
23.28	1,248	759
23.30	1,259	784
23.32	1,270	809
23.34	1,281	835
23.36	1,291	861
23.38	1,302	887
23.40	1,313	913
23.42	1,324	939
23.44	1,335	966
23.46	1,345	993
23.48	1,356	1,020
23.50	1,367	1,047
23.52	1,378	1,074
23.54	1,389	1,102
23.56	1,399	1,130
23.58	1,410	1,158
23.60	1,421	1,186
23.62	1,432	1,215
23.64	1,443	1,243
23.66	1,453	1,272
23.68	1,464	1,302
23.70	1,475	1,331
23.72	1,486	1,361
23.74	1,497	1,390
23.76	1,507	1,420
23.78	1,518	1,451
23.80	1,529	1,481
23.82	1,540	1,512
23.84	1,551	1,543
23.86	1,561	1,574
23.88	1,572	1,605
23.90	1,583	1,637
23.92	1,594	1,669
23.94	1,605	1,701
23.96	1,615	1,733
23.98	1,626	1,765
24.00	**1,637**	**1,798**

Summary for Pond 2P: East Pond A

Inflow Area = 0.890 ac, 40.88% Impervious, Inflow Depth = 0.61" for 2-Year event
Inflow = 0.48 cfs @ 12.11 hrs, Volume= 0.045 af
Outflow = 0.03 cfs @ 17.50 hrs, Volume= 0.040 af, Atten= 95%, Lag= 323.0 min
Primary = 0.03 cfs @ 17.50 hrs, Volume= 0.040 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 22.64' @ 17.50 hrs Surf.Area= 2,380 sf Storage= 1,200 cf

Plug-Flow detention time= 801.8 min calculated for 0.040 af (88% of inflow)
Center-of-Mass det. time= 744.9 min (1,642.9 - 898.0)

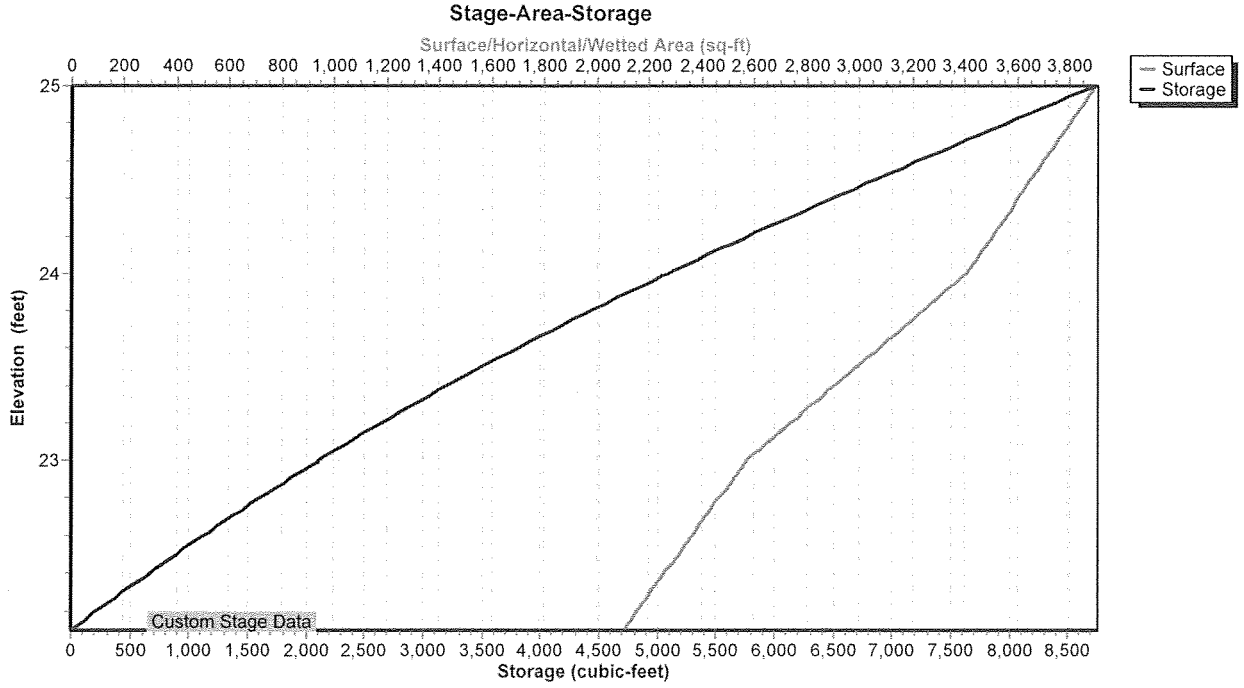
Volume	Invert	Avail.Storage	Storage Description
#1	22.10'	8,742 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.10	2,100	0	0
23.00	2,570	2,101	2,101
24.00	3,405	2,988	5,089
25.00	3,901	3,653	8,742

Device	Routing	Invert	Outlet Devices
#1	Primary	22.10'	**20.0 deg x 1.90' rise Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)
#2	Primary	24.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.03 cfs @ 17.50 hrs HW=22.64' TW=22.63' (TW follows 0.01' below HW)
└─**1=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.03 cfs @ 0.50 fps)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: East Pond A



Stage-Area-Storage for Pond 2P: East Pond A

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.10	2,100	0
22.15	2,126	106
22.20	2,152	213
22.25	2,178	321
22.30	2,204	430
22.35	2,231	541
22.40	2,257	654
22.45	2,283	767
22.50	2,309	882
22.55	2,335	998
22.60	2,361	1,115
22.65	2,387	1,234
22.70	2,413	1,354
22.75	2,439	1,475
22.80	2,466	1,598
22.85	2,492	1,722
22.90	2,518	1,847
22.95	2,544	1,974
23.00	2,570	2,101
23.05	2,612	2,231
23.10	2,654	2,363
23.15	2,695	2,496
23.20	2,737	2,632
23.25	2,779	2,770
23.30	2,821	2,910
23.35	2,862	3,052
23.40	2,904	3,196
23.45	2,946	3,343
23.50	2,988	3,491
23.55	3,029	3,641
23.60	3,071	3,794
23.65	3,113	3,948
23.70	3,155	4,105
23.75	3,196	4,264
23.80	3,238	4,425
23.85	3,280	4,588
23.90	3,322	4,753
23.95	3,363	4,920
24.00	3,405	5,089
24.05	3,430	5,260
24.10	3,455	5,432
24.15	3,479	5,605
24.20	3,504	5,780
24.25	3,529	5,956
24.30	3,554	6,133
24.35	3,579	6,311
24.40	3,603	6,491
24.45	3,628	6,671
24.50	3,653	6,853
24.55	3,678	7,037
24.60	3,703	7,221
24.65	3,727	7,407
24.70	3,752	7,594
24.75	3,777	7,782
24.80	3,802	7,972
24.85	3,827	8,162
24.90	3,851	8,354
24.95	3,876	8,548
25.00	**3,901**	**8,742**

Summary for Pond 3P: East Pond B

Inflow Area = 0.890 ac, 40.88% Impervious, Inflow Depth > 0.54" for 2-Year event
Inflow = 0.03 cfs @ 17.50 hrs, Volume= 0.040 af
Outflow = 0.01 cfs @ 26.74 hrs, Volume= 0.032 af, Atten= 42%, Lag= 554.7 min
Primary = 0.01 cfs @ 26.74 hrs, Volume= 0.032 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 22.35' @ 26.74 hrs Surf.Area= 3,070 sf Storage= 736 cf

Plug-Flow detention time= 922.1 min calculated for 0.032 af (80% of inflow)
Center-of-Mass det. time= 606.5 min (2,249.4 - 1,642.9)

Volume	Invert	Avail.Storage	Storage Description
#1	22.10'	11,696 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

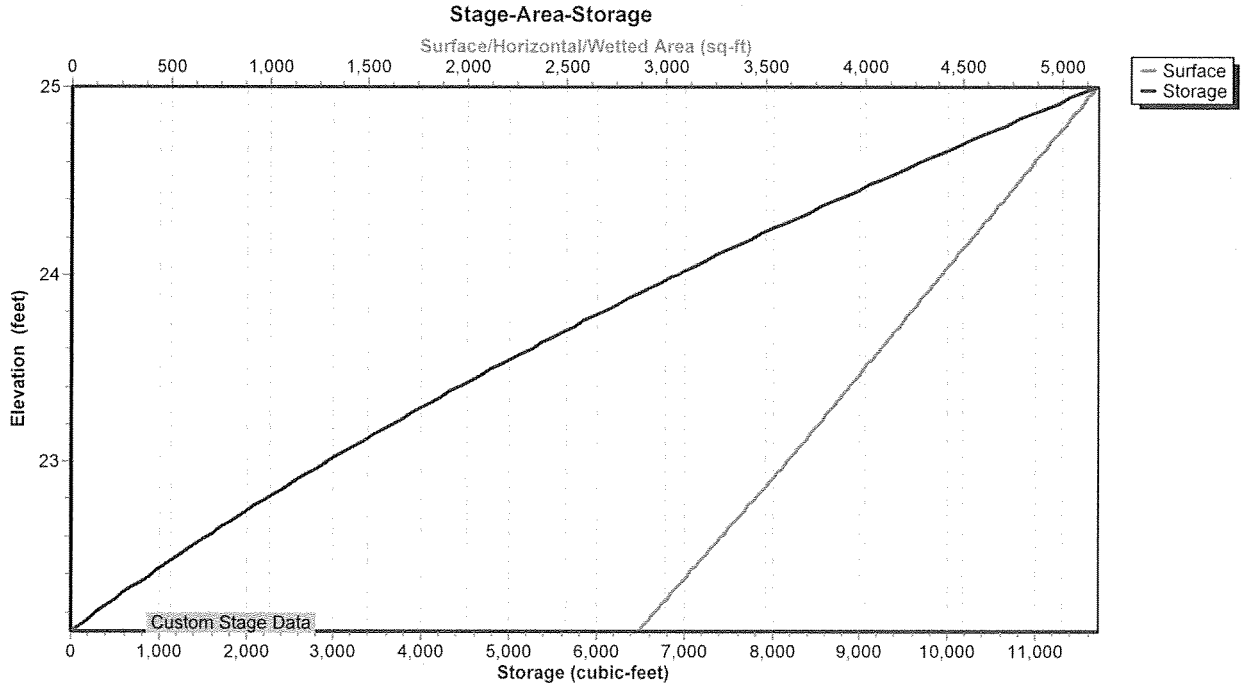
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.10	2,864	0	0
23.00	3,612	2,914	2,914
24.00	4,390	4,001	6,915
25.00	5,172	4,781	11,696

Device	Routing	Invert	Outlet Devices
#1	Primary	22.10'	**12.0" Round Culvert** L= 25.0' Ke= 0.700 Inlet / Outlet Invert= 22.10' / 22.00' S= 0.0040 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	22.10'	**20.0 deg x 1.90' rise Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)
#3	Secondary	24.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.01 cfs @ 26.74 hrs HW=22.35' (Free Discharge)
└**1=Culvert** (Passes 0.01 cfs of 0.17 cfs potential flow)
└**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.01 cfs @ 1.34 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=22.10' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: East Pond B



Stage-Area-Storage for Pond 3P: East Pond B

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.10	2,864	0
22.15	2,906	144
22.20	2,947	291
22.25	2,989	439
22.30	3,030	589
22.35	3,072	742
22.40	3,113	897
22.45	3,155	1,053
22.50	3,196	1,212
22.55	3,238	1,373
22.60	3,280	1,536
22.65	3,321	1,701
22.70	3,363	1,868
22.75	3,404	2,037
22.80	3,446	2,208
22.85	3,487	2,382
22.90	3,529	2,557
22.95	3,570	2,735
23.00	3,612	2,914
23.05	3,651	3,096
23.10	3,690	3,279
23.15	3,729	3,465
23.20	3,768	3,652
23.25	3,807	3,842
23.30	3,845	4,033
23.35	3,884	4,226
23.40	3,923	4,421
23.45	3,962	4,618
23.50	4,001	4,817
23.55	4,040	5,018
23.60	4,079	5,221
23.65	4,118	5,426
23.70	4,157	5,633
23.75	4,196	5,842
23.80	4,234	6,053
23.85	4,273	6,265
23.90	4,312	6,480
23.95	4,351	6,697
24.00	4,390	6,915
24.05	4,429	7,136
24.10	4,468	7,358
24.15	4,507	7,582
24.20	4,546	7,809
24.25	4,586	8,037
24.30	4,625	8,267
24.35	4,664	8,500
24.40	4,703	8,734
24.45	4,742	8,970
24.50	4,781	9,208
24.55	4,820	9,448
24.60	4,859	9,690
24.65	4,898	9,934
24.70	4,937	10,180
24.75	4,977	10,428
24.80	5,016	10,677
24.85	5,055	10,929
24.90	5,094	11,183
24.95	5,133	11,439
25.00	**5,172**	**11,696**

Summary for Link 1L: Western Bog Group

Inflow Area = 10.337 ac, 5.32% Impervious, Inflow Depth > 0.12" for 2-Year event
Inflow = 0.11 cfs @ 14.88 hrs, Volume= 0.100 af
Primary = 0.11 cfs @ 14.88 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 2L: Cental Bog

Inflow Area = 0.754 ac, 2.43% Impervious, Inflow Depth = 0.31" for 2-Year event
Inflow = 0.10 cfs @ 12.37 hrs, Volume= 0.020 af
Primary = 0.10 cfs @ 12.37 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 3L: South Western Bog

Inflow Area = 0.376 ac, 6.54% Impervious, Inflow Depth > 1.18" for 2-Year event
Inflow = 0.41 cfs @ 12.10 hrs, Volume= 0.037 af
Primary = 0.41 cfs @ 12.10 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 4L: East Wetlands

Inflow Area = 10.872 ac, 0.00% Impervious, Inflow Depth = 0.02" for 2-Year event
Inflow = 0.02 cfs @ 21.17 hrs, Volume= 0.017 af
Primary = 0.02 cfs @ 21.17 hrs, Volume= 0.017 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

Subcatchment 1S: Catchment Area 1 Runoff Area=411,506 sf 1.96% Impervious Runoff Depth=0.42"
Flow Length=718' Tc=19.3 min CN=46 Runoff=1.54 cfs 0.334 af

Subcatchment 2S: Catchment Area 2 Runoff Area=32,862 sf 2.43% Impervious Runoff Depth=0.88"
Flow Length=187' Tc=11.0 min CN=55 Runoff=0.50 cfs 0.055 af

Subcatchment 3S: Catchment Area 3 Runoff Area=15,301 sf 0.00% Impervious Runoff Depth=2.05"
Tc=6.0 min CN=72 Runoff=0.82 cfs 0.060 af

Subcatchment 4S: Catchment Area 4 Runoff Area=473,590 sf 0.00% Impervious Runoff Depth=0.23"
Flow Length=479' Tc=19.3 min CN=41 Runoff=0.48 cfs 0.205 af

Subcatchment 5S: Proposed Road Runoff Area=38,770 sf 40.88% Impervious Runoff Depth=1.38"
Tc=6.0 min CN=63 Runoff=1.31 cfs 0.103 af

Subcatchment 6S: Proposed Road Runoff Area=1,070 sf 100.00% Impervious Runoff Depth=4.56"
Flow Length=718' Tc=19.3 min CN=98 Runoff=0.08 cfs 0.009 af

Pond 1P: Western Pond Peak Elev=22.79' Storage=218 cf Inflow=0.08 cfs 0.009 af
Primary=0.02 cfs 0.009 af Secondary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.009 af

Pond 2P: East Pond A Peak Elev=23.10' Storage=2,359 cf Inflow=1.31 cfs 0.103 af
Outflow=0.09 cfs 0.097 af

Pond 3P: East Pond B Peak Elev=22.53' Storage=1,323 cf Inflow=0.09 cfs 0.097 af
Primary=0.06 cfs 0.088 af Secondary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.088 af

Link 1L: Western Bog Group Inflow=1.54 cfs 0.422 af
Primary=1.54 cfs 0.422 af

Link 2L: Cental Bog Inflow=0.50 cfs 0.055 af
Primary=0.50 cfs 0.055 af

Link 3L: South Western Bog Inflow=0.82 cfs 0.069 af
Primary=0.82 cfs 0.069 af

Link 4L: East Wetlands Inflow=0.48 cfs 0.205 af
Primary=0.48 cfs 0.205 af

Total Runoff Area = 22.339 ac Runoff Volume = 0.766 af Average Runoff Depth = 0.41"
97.35% Pervious = 21.747 ac 2.65% Impervious = 0.592 ac

Summary for Subcatchment 1S: Catchment Area 1

Runoff = 1.54 cfs @ 12.51 hrs, Volume= 0.334 af, Depth= 0.42"

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-Year Rainfall=4.80"

	Area (sf)	CN	Description
	2,402	98	Unconnected roofs, HSG A
*	253,682	36	Woods, Fair, HSG A
	50,436	39	>75% Grass cover, Good, HSG A
	96,785	72	Dirt roads, HSG A
	5,684	98	Water Surface, HSG A
	2,517	30	Meadow, non-grazed, HSG A
	411,506	46	Weighted Average
	403,420		98.04% Pervious Area
	8,086		1.96% Impervious Area
	2,402		29.71% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Subcatchment 2S: Catchment Area 2

Runoff = 0.50 cfs @ 12.19 hrs, Volume= 0.055 af, Depth= 0.88"

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-Year Rainfall=4.80"

Area (sf)	CN	Description
799	98	Unconnected roofs, HSG A
5,795	36	Woods, Fair, HSG A
15,501	72	Dirt roads, HSG A
10,767	39	>75% Grass cover, Good, HSG A
32,862	55	Weighted Average
32,063		97.57% Pervious Area
799		2.43% Impervious Area
799		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
1.6	97	0.0410	1.01		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	25	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	15	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	187	Total			

Summary for Subcatchment 3S: Catchment Area 3

Runoff = 0.82 cfs @ 12.10 hrs, Volume= 0.060 af, Depth= 2.05"

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-Year Rainfall=4.80"

Area (sf)	CN	Description
15,301	72	Dirt roads, HSG A
15,301		100.00% Pervious Area

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

Summary for Subcatchment 4S: Catchment Area 4

Runoff = 0.48 cfs @ 12.65 hrs, Volume= 0.205 af, Depth= 0.23"

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-Year Rainfall=4.80"

Area (sf)	CN	Description
410,461	36	Woods, Fair, HSG A
63,129	72	Dirt roads, HSG A
473,590	41	Weighted Average
473,590		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
7.3	429	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	479	Total			

Summary for Subcatchment 5S: Proposed Road Catchment Area A

Runoff = 1.31 cfs @ 12.10 hrs, Volume= 0.103 af, Depth= 1.38"

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-Year Rainfall=4.80"

Area (sf)	CN	Description
15,851	98	Paved roads w/curbs & sewers, HSG A
22,919	39	>75% Grass cover, Good, HSG A
38,770	63	Weighted Average
22,919		59.12% Pervious Area
15,851		40.88% Impervious Area

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

Summary for Subcatchment 6S: Proposed Road Catchment Area B

Runoff = 0.08 cfs @ 12.25 hrs, Volume= 0.009 af, Depth= 4.56"

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-Year Rainfall=4.80"

Area (sf)	CN	Description
1,070	98	Paved roads w/curbs & sewers, HSG A
1,070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Pond 1P: Western Pond

Inflow Area = 0.025 ac,100.00% Impervious, Inflow Depth = 4.56" for 10-Year event
Inflow = 0.08 cfs @ 12.25 hrs, Volume= 0.009 af
Outflow = 0.02 cfs @ 12.78 hrs, Volume= 0.009 af, Atten= 74%, Lag= 31.6 min
Primary = 0.02 cfs @ 12.78 hrs, Volume= 0.009 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 22.79' @ 12.78 hrs Surf.Area= 895 sf Storage= 218 cf

Plug-Flow detention time= 378.7 min calculated for 0.009 af (96% of inflow)
Center-of-Mass det. time= 352.6 min (1,113.6 - 761.0)

Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	1,798 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

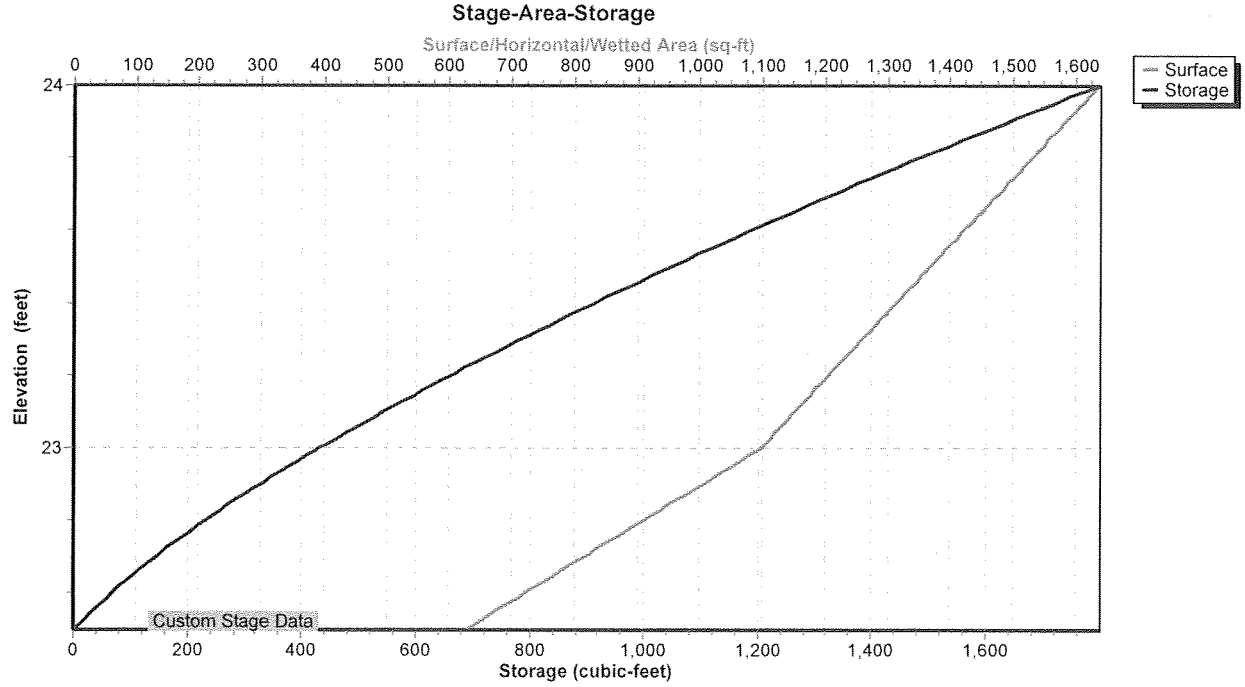
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.50	626	0	0
23.00	1,097	431	431
24.00	1,637	1,367	1,798

Device	Routing	Invert	Outlet Devices
#1	Secondary	23.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Primary	22.50'	**20.0 deg Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)

Primary OutFlow Max=0.02 cfs @ 12.78 hrs HW=22.79' (Free Discharge)
└**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.02 cfs @ 1.44 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=22.50' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Western Pond



Stage-Area-Storage for Pond 1P: Western Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.50	626	0
22.52	645	13
22.54	664	26
22.56	683	39
22.58	701	53
22.60	720	67
22.62	739	82
22.64	758	97
22.66	777	112
22.68	796	128
22.70	814	144
22.72	833	161
22.74	852	177
22.76	871	195
22.78	890	212
22.80	909	230
22.82	927	249
22.84	946	267
22.86	965	286
22.88	984	306
22.90	1,003	326
22.92	1,022	346
22.94	1,040	367
22.96	1,059	388
22.98	1,078	409
23.00	1,097	431
23.02	1,108	453
23.04	1,119	475
23.06	1,129	498
23.08	1,140	520
23.10	1,151	543
23.12	1,162	566
23.14	1,173	590
23.16	1,183	613
23.18	1,194	637
23.20	1,205	661
23.22	1,216	685
23.24	1,227	710
23.26	1,237	734
23.28	1,248	759
23.30	1,259	784
23.32	1,270	809
23.34	1,281	835
23.36	1,291	861
23.38	1,302	887
23.40	1,313	913
23.42	1,324	939
23.44	1,335	966
23.46	1,345	993
23.48	1,356	1,020
23.50	1,367	1,047
23.52	1,378	1,074
23.54	1,389	1,102
23.56	1,399	1,130
23.58	1,410	1,158
23.60	1,421	1,186
23.62	1,432	1,215
23.64	1,443	1,243
23.66	1,453	1,272
23.68	1,464	1,302
23.70	1,475	1,331
23.72	1,486	1,361
23.74	1,497	1,390
23.76	1,507	1,420
23.78	1,518	1,451
23.80	1,529	1,481
23.82	1,540	1,512
23.84	1,551	1,543
23.86	1,561	1,574
23.88	1,572	1,605
23.90	1,583	1,637
23.92	1,594	1,669
23.94	1,605	1,701
23.96	1,615	1,733
23.98	1,626	1,765
24.00	**1,637**	**1,798**

Summary for Pond 2P: East Pond A

Inflow Area = 0.890 ac, 40.88% Impervious, Inflow Depth = 1.38" for 10-Year event
Inflow = 1.31 cfs @ 12.10 hrs, Volume= 0.103 af
Outflow = 0.09 cfs @ 15.15 hrs, Volume= 0.097 af, Atten= 93%, Lag= 182.9 min
Primary = 0.09 cfs @ 15.15 hrs, Volume= 0.097 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 23.10' @ 15.15 hrs Surf.Area= 2,652 sf Storage= 2,359 cf

Plug-Flow detention time= 550.6 min calculated for 0.097 af (94% of inflow)
Center-of-Mass det. time= 521.8 min (1,391.0 - 869.2)

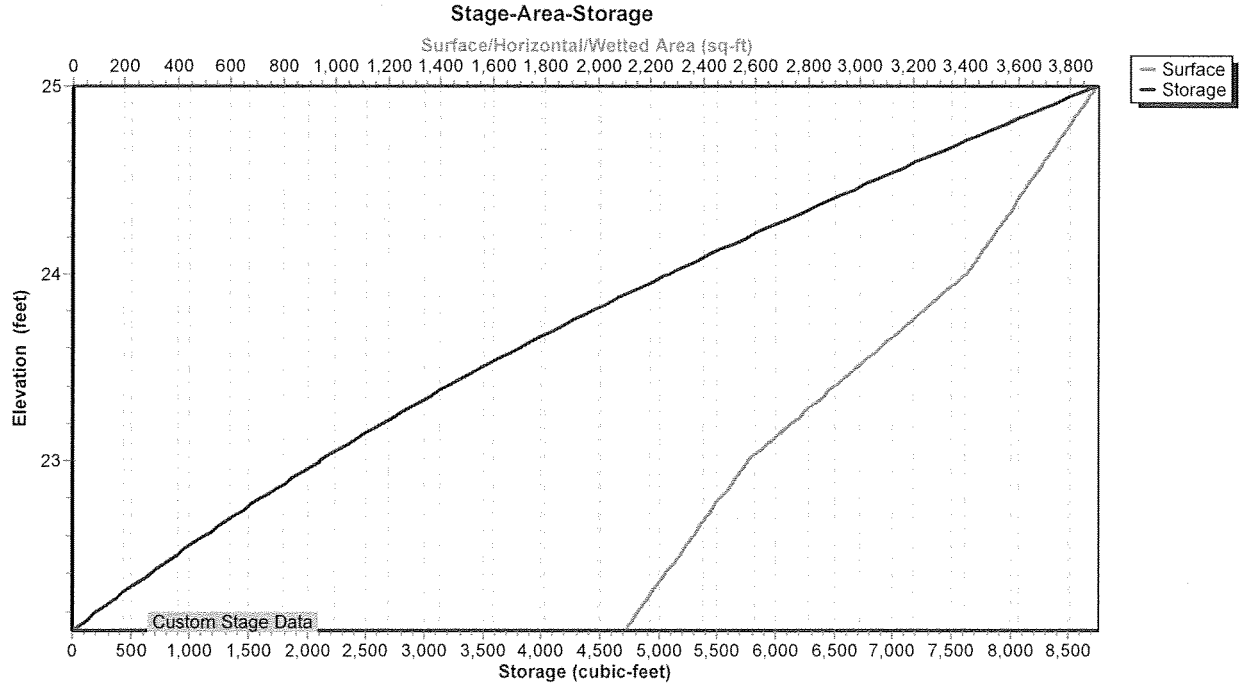
Volume	Invert	Avail.Storage	Storage Description
#1	22.10'	8,742 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.10	2,100	0	0
23.00	2,570	2,101	2,101
24.00	3,405	2,988	5,089
25.00	3,901	3,653	8,742

Device	Routing	Invert	Outlet Devices
#1	Primary	22.10'	**20.0 deg x 1.90' rise Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)
#2	Primary	24.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.09 cfs @ 15.15 hrs HW=23.10' TW=23.09' (TW follows 0.01' below HW)
└─**1=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.09 cfs @ 0.50 fps)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: East Pond A



Stage-Area-Storage for Pond 2P: East Pond A

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.10	2,100	0
22.15	2,126	106
22.20	2,152	213
22.25	2,178	321
22.30	2,204	430
22.35	2,231	541
22.40	2,257	654
22.45	2,283	767
22.50	2,309	882
22.55	2,335	998
22.60	2,361	1,115
22.65	2,387	1,234
22.70	2,413	1,354
22.75	2,439	1,475
22.80	2,466	1,598
22.85	2,492	1,722
22.90	2,518	1,847
22.95	2,544	1,974
23.00	2,570	2,101
23.05	2,612	2,231
23.10	2,654	2,363
23.15	2,695	2,496
23.20	2,737	2,632
23.25	2,779	2,770
23.30	2,821	2,910
23.35	2,862	3,052
23.40	2,904	3,196
23.45	2,946	3,343
23.50	2,988	3,491
23.55	3,029	3,641
23.60	3,071	3,794
23.65	3,113	3,948
23.70	3,155	4,105
23.75	3,196	4,264
23.80	3,238	4,425
23.85	3,280	4,588
23.90	3,322	4,753
23.95	3,363	4,920
24.00	3,405	5,089
24.05	3,430	5,260
24.10	3,455	5,432
24.15	3,479	5,605
24.20	3,504	5,780
24.25	3,529	5,956
24.30	3,554	6,133
24.35	3,579	6,311
24.40	3,603	6,491
24.45	3,628	6,671
24.50	3,653	6,853
24.55	3,678	7,037
24.60	3,703	7,221
24.65	3,727	7,407
24.70	3,752	7,594
24.75	3,777	7,782
24.80	3,802	7,972
24.85	3,827	8,162
24.90	3,851	8,354
24.95	3,876	8,548
25.00	**3,901**	**8,742**

Summary for Pond 3P: East Pond B

Inflow Area = 0.890 ac, 40.88% Impervious, Inflow Depth > 1.30" for 10-Year event
Inflow = 0.09 cfs @ 15.15 hrs, Volume= 0.097 af
Outflow = 0.06 cfs @ 20.33 hrs, Volume= 0.088 af, Atten= 33%, Lag= 310.6 min
Primary = 0.06 cfs @ 20.33 hrs, Volume= 0.088 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 22.53' @ 20.33 hrs Surf.Area= 3,225 sf Storage= 1,323 cf

Plug-Flow detention time= 541.4 min calculated for 0.088 af (91% of inflow)
Center-of-Mass det. time= 383.3 min (1,774.2 - 1,391.0)

Volume	Invert	Avail.Storage	Storage Description
#1	22.10'	11,696 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

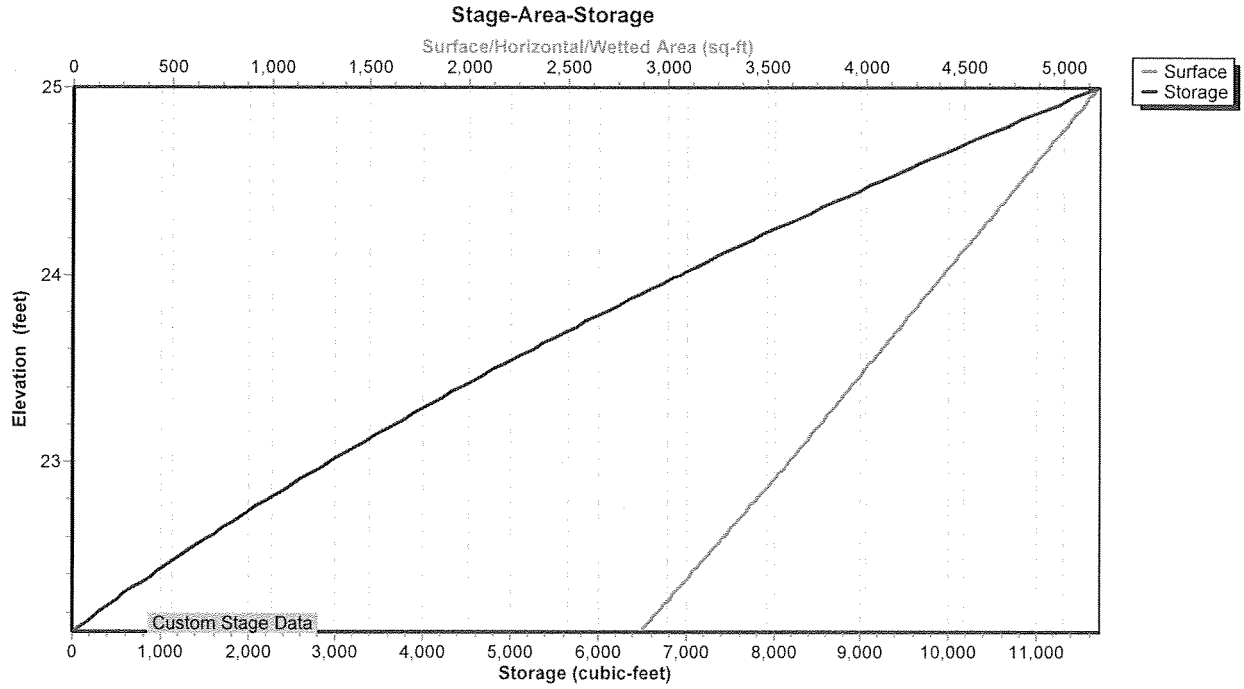
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.10	2,864	0	0
23.00	3,612	2,914	2,914
24.00	4,390	4,001	6,915
25.00	5,172	4,781	11,696

Device	Routing	Invert	Outlet Devices
#1	Primary	22.10'	**12.0" Round Culvert** L= 25.0' Ke= 0.700 Inlet / Outlet Invert= 22.10' / 22.00' S= 0.0040 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	22.10'	**20.0 deg x 1.90' rise Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)
#3	Secondary	24.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.06 cfs @ 20.33 hrs HW=22.53' (Free Discharge)
└**1=Culvert** (Passes 0.06 cfs of 0.49 cfs potential flow)
└**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.06 cfs @ 1.77 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=22.10' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: East Pond B



Stage-Area-Storage for Pond 3P: East Pond B

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.10	2,864	0
22.15	2,906	144
22.20	2,947	291
22.25	2,989	439
22.30	3,030	589
22.35	3,072	742
22.40	3,113	897
22.45	3,155	1,053
22.50	3,196	1,212
22.55	3,238	1,373
22.60	3,280	1,536
22.65	3,321	1,701
22.70	3,363	1,868
22.75	3,404	2,037
22.80	3,446	2,208
22.85	3,487	2,382
22.90	3,529	2,557
22.95	3,570	2,735
23.00	3,612	2,914
23.05	3,651	3,096
23.10	3,690	3,279
23.15	3,729	3,465
23.20	3,768	3,652
23.25	3,807	3,842
23.30	3,845	4,033
23.35	3,884	4,226
23.40	3,923	4,421
23.45	3,962	4,618
23.50	4,001	4,817
23.55	4,040	5,018
23.60	4,079	5,221
23.65	4,118	5,426
23.70	4,157	5,633
23.75	4,196	5,842
23.80	4,234	6,053
23.85	4,273	6,265
23.90	4,312	6,480
23.95	4,351	6,697
24.00	4,390	6,915
24.05	4,429	7,136
24.10	4,468	7,358
24.15	4,507	7,582
24.20	4,546	7,809
24.25	4,586	8,037
24.30	4,625	8,267
24.35	4,664	8,500
24.40	4,703	8,734
24.45	4,742	8,970
24.50	4,781	9,208
24.55	4,820	9,448
24.60	4,859	9,690
24.65	4,898	9,934
24.70	4,937	10,180
24.75	4,977	10,428
24.80	5,016	10,677
24.85	5,055	10,929
24.90	5,094	11,183
24.95	5,133	11,439
25.00	**5,172**	**11,696**

Summary for Link 1L: Western Bog Group

Inflow Area = 10.337 ac, 5.32% Impervious, Inflow Depth > 0.49" for 10-Year event
Inflow = 1.54 cfs @ 12.51 hrs, Volume= 0.422 af
Primary = 1.54 cfs @ 12.51 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

Summary for Link 2L: Cental Bog

Inflow Area = 0.754 ac, 2.43% Impervious, Inflow Depth = 0.88" for 10-Year event
Inflow = 0.50 cfs @ 12.19 hrs, Volume= 0.055 af
Primary = 0.50 cfs @ 12.19 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 3L: South Western Bog

Inflow Area = 0.376 ac, 6.54% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 0.82 cfs @ 12.10 hrs, Volume= 0.069 af
Primary = 0.82 cfs @ 12.10 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 4L: East Wetlands

Inflow Area = 10.872 ac, 0.00% Impervious, Inflow Depth = 0.23" for 10-Year event
Inflow = 0.48 cfs @ 12.65 hrs, Volume= 0.205 af
Primary = 0.48 cfs @ 12.65 hrs, Volume= 0.205 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

Subcatchment 1S: Catchment Area 1 Runoff Area=411,506 sf 1.96% Impervious Runoff Depth=0.71"
Flow Length=718' Tc=19.3 min CN=46 Runoff=3.27 cfs 0.555 af

Subcatchment 2S: Catchment Area 2 Runoff Area=32,862 sf 2.43% Impervious Runoff Depth=1.29"
Flow Length=187' Tc=11.0 min CN=55 Runoff=0.81 cfs 0.081 af

Subcatchment 3S: Catchment Area 3 Runoff Area=15,301 sf 0.00% Impervious Runoff Depth=2.67"
Tc=6.0 min CN=72 Runoff=1.07 cfs 0.078 af

Subcatchment 4S: Catchment Area 4 Runoff Area=473,590 sf 0.00% Impervious Runoff Depth=0.43"
Flow Length=479' Tc=19.3 min CN=41 Runoff=1.63 cfs 0.392 af

Subcatchment 5S: Proposed Road Runoff Area=38,770 sf 40.88% Impervious Runoff Depth=1.90"
Tc=6.0 min CN=63 Runoff=1.87 cfs 0.141 af

Subcatchment 6S: Proposed Road Runoff Area=1,070 sf 100.00% Impervious Runoff Depth=5.36"
Flow Length=718' Tc=19.3 min CN=98 Runoff=0.09 cfs 0.011 af

Pond 1P: Western Pond Peak Elev=22.82' Storage=246 cf Inflow=0.09 cfs 0.011 af
Primary=0.03 cfs 0.011 af Secondary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.011 af

Pond 2P: East Pond A Peak Elev=23.37' Storage=3,102 cf Inflow=1.87 cfs 0.141 af
Outflow=0.14 cfs 0.135 af

Pond 3P: East Pond B Peak Elev=22.64' Storage=1,656 cf Inflow=0.14 cfs 0.135 af
Primary=0.10 cfs 0.126 af Secondary=0.00 cfs 0.000 af Outflow=0.10 cfs 0.126 af

Link 1L: Western Bog Group Inflow=3.27 cfs 0.682 af
Primary=3.27 cfs 0.682 af

Link 2L: Cental Bog Inflow=0.81 cfs 0.081 af
Primary=0.81 cfs 0.081 af

Link 3L: South Western Bog Inflow=1.08 cfs 0.089 af
Primary=1.08 cfs 0.089 af

Link 4L: East Wetlands Inflow=1.63 cfs 0.392 af
Primary=1.63 cfs 0.392 af

Total Runoff Area = 22.339 ac Runoff Volume = 1.259 af Average Runoff Depth = 0.68"
97.35% Pervious = 21.747 ac 2.65% Impervious = 0.592 ac

Summary for Subcatchment 1S: Catchment Area 1

Runoff = 3.27 cfs @ 12.42 hrs, Volume= 0.555 af, Depth= 0.71"

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-Year Rainfall=5.60"

	Area (sf)	CN	Description
	2,402	98	Unconnected roofs, HSG A
*	253,682	36	Woods, Fair, HSG A
	50,436	39	>75% Grass cover, Good, HSG A
	96,785	72	Dirt roads, HSG A
	5,684	98	Water Surface, HSG A
	2,517	30	Meadow, non-grazed, HSG A
	411,506	46	Weighted Average
	403,420		98.04% Pervious Area
	8,086		1.96% Impervious Area
	2,402		29.71% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Subcatchment 2S: Catchment Area 2

Runoff = 0.81 cfs @ 12.18 hrs, Volume= 0.081 af, Depth= 1.29"

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-Year Rainfall=5.60"

Area (sf)	CN	Description
799	98	Unconnected roofs, HSG A
5,795	36	Woods, Fair, HSG A
15,501	72	Dirt roads, HSG A
10,767	39	>75% Grass cover, Good, HSG A
32,862	55	Weighted Average
32,063		97.57% Pervious Area
799		2.43% Impervious Area
799		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
1.6	97	0.0410	1.01		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	25	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	15	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	187	Total			

Summary for Subcatchment 3S: Catchment Area 3

Runoff = 1.07 cfs @ 12.09 hrs, Volume= 0.078 af, Depth= 2.67"

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-Year Rainfall=5.60"

Area (sf)	CN	Description
15,301	72	Dirt roads, HSG A
15,301		100.00% Pervious Area

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

Summary for Subcatchment 4S: Catchment Area 4

Runoff = 1.63 cfs @ 12.54 hrs, Volume= 0.392 af, Depth= 0.43"

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-Year Rainfall=5.60"

Area (sf)	CN	Description
410,461	36	Woods, Fair, HSG A
63,129	72	Dirt roads, HSG A
473,590	41	Weighted Average
473,590		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
7.3	429	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	479	Total			

Summary for Subcatchment 5S: Proposed Road Catchment Area A

Runoff = 1.87 cfs @ 12.10 hrs, Volume= 0.141 af, Depth= 1.90"

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-Year Rainfall=5.60"

Area (sf)	CN	Description
15,851	98	Paved roads w/curbs & sewers, HSG A
22,919	39	>75% Grass cover, Good, HSG A
38,770	63	Weighted Average
22,919		59.12% Pervious Area
15,851		40.88% Impervious Area

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

Summary for Subcatchment 6S: Proposed Road Catchment Area B

Runoff = 0.09 cfs @ 12.25 hrs, Volume= 0.011 af, Depth= 5.36"

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-Year Rainfall=5.60"

Area (sf)	CN	Description
1,070	98	Paved roads w/curbs & sewers, HSG A
1,070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Pond 1P: Western Pond

Inflow Area = 0.025 ac,100.00% Impervious, Inflow Depth = 5.36" for 25-Year event
Inflow = 0.09 cfs @ 12.25 hrs, Volume= 0.011 af
Outflow = 0.03 cfs @ 12.75 hrs, Volume= 0.011 af, Atten= 71%, Lag= 29.6 min
Primary = 0.03 cfs @ 12.75 hrs, Volume= 0.011 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 22.82' @ 12.75 hrs Surf.Area= 925 sf Storage= 246 cf

Plug-Flow detention time= 344.1 min calculated for 0.011 af (96% of inflow)
Center-of-Mass det. time= 323.1 min (1,081.6 - 758.5)

Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	1,798 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.50	626	0	0
23.00	1,097	431	431
24.00	1,637	1,367	1,798

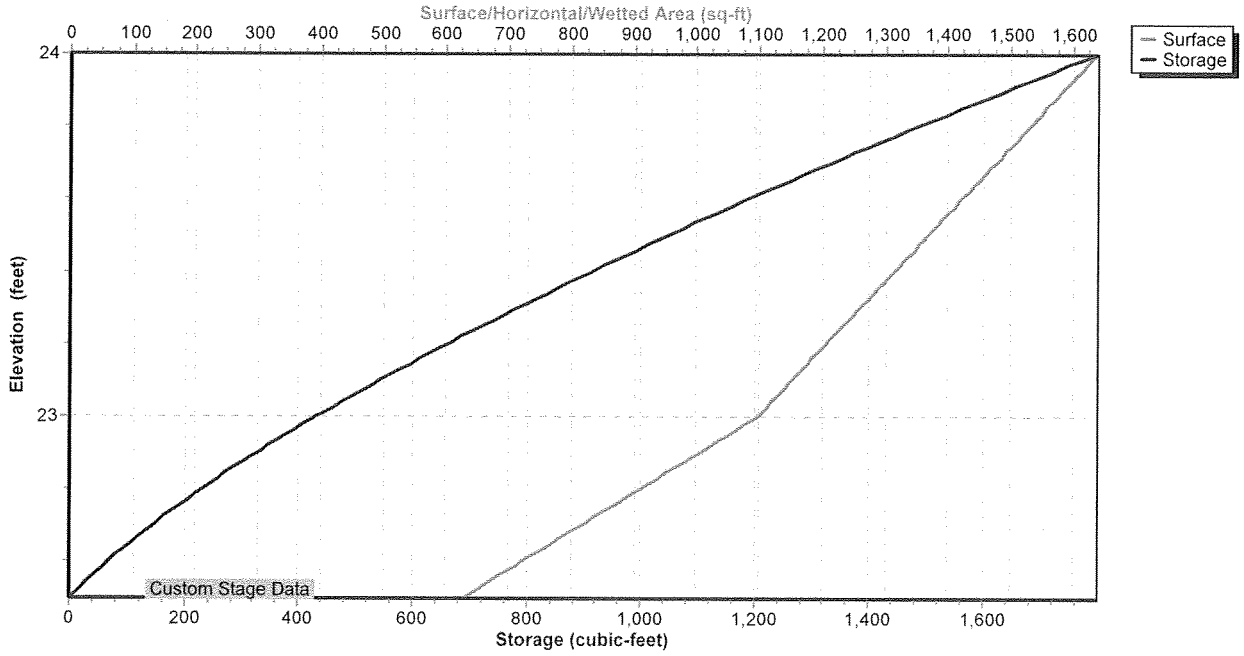
Device	Routing	Invert	Outlet Devices
#1	Secondary	23.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Primary	22.50'	**20.0 deg Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)

Primary OutFlow Max=0.03 cfs @ 12.75 hrs HW=22.82' (Free Discharge)
↑—**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.03 cfs @ 1.52 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=22.50' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Western Pond

Stage-Area-Storage



Stage-Area-Storage for Pond 1P: Western Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.50	626	0
22.52	645	13
22.54	664	26
22.56	683	39
22.58	701	53
22.60	720	67
22.62	739	82
22.64	758	97
22.66	777	112
22.68	796	128
22.70	814	144
22.72	833	161
22.74	852	177
22.76	871	195
22.78	890	212
22.80	909	230
22.82	927	249
22.84	946	267
22.86	965	286
22.88	984	306
22.90	1,003	326
22.92	1,022	346
22.94	1,040	367
22.96	1,059	388
22.98	1,078	409
23.00	1,097	431
23.02	1,108	453
23.04	1,119	475
23.06	1,129	498
23.08	1,140	520
23.10	1,151	543
23.12	1,162	566
23.14	1,173	590
23.16	1,183	613
23.18	1,194	637
23.20	1,205	661
23.22	1,216	685
23.24	1,227	710
23.26	1,237	734
23.28	1,248	759
23.30	1,259	784
23.32	1,270	809
23.34	1,281	835
23.36	1,291	861
23.38	1,302	887
23.40	1,313	913
23.42	1,324	939
23.44	1,335	966
23.46	1,345	993
23.48	1,356	1,020
23.50	1,367	1,047
23.52	1,378	1,074
23.54	1,389	1,102
23.56	1,399	1,130
23.58	1,410	1,158
23.60	1,421	1,186
23.62	1,432	1,215
23.64	1,443	1,243
23.66	1,453	1,272
23.68	1,464	1,302
23.70	1,475	1,331
23.72	1,486	1,361
23.74	1,497	1,390
23.76	1,507	1,420
23.78	1,518	1,451
23.80	1,529	1,481
23.82	1,540	1,512
23.84	1,551	1,543
23.86	1,561	1,574
23.88	1,572	1,605
23.90	1,583	1,637
23.92	1,594	1,669
23.94	1,605	1,701
23.96	1,615	1,733
23.98	1,626	1,765
24.00	**1,637**	**1,798**

Summary for Pond 2P: East Pond A

Inflow Area = 0.890 ac, 40.88% Impervious, Inflow Depth = 1.90" for 25-Year event
Inflow = 1.87 cfs @ 12.10 hrs, Volume= 0.141 af
Outflow = 0.14 cfs @ 14.25 hrs, Volume= 0.135 af, Atten= 92%, Lag= 129.3 min
Primary = 0.14 cfs @ 14.25 hrs, Volume= 0.135 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 23.37' @ 14.25 hrs Surf.Area= 2,877 sf Storage= 3,102 cf

Plug-Flow detention time= 473.5 min calculated for 0.135 af (96% of inflow)
Center-of-Mass det. time= 451.7 min (1,310.9 - 859.2)

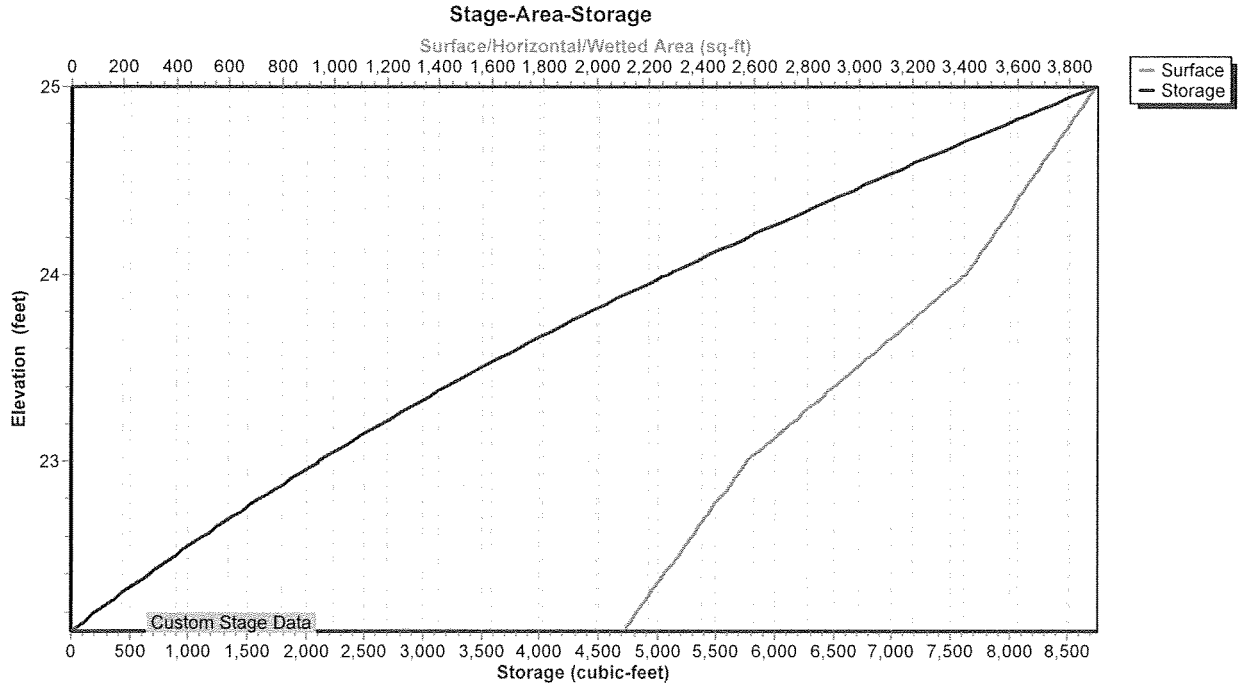
Volume	Invert	Avail.Storage	Storage Description
#1	22.10'	8,742 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.10	2,100	0	0
23.00	2,570	2,101	2,101
24.00	3,405	2,988	5,089
25.00	3,901	3,653	8,742

Device	Routing	Invert	Outlet Devices
#1	Primary	22.10'	**20.0 deg x 1.90' rise Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)
#2	Primary	24.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.14 cfs @ 14.25 hrs HW=23.37' TW=23.36' (TW follows 0.01' below HW)
└─**1=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.14 cfs @ 0.50 fps)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: East Pond A



Stage-Area-Storage for Pond 2P: East Pond A

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.10	2,100	0
22.15	2,126	106
22.20	2,152	213
22.25	2,178	321
22.30	2,204	430
22.35	2,231	541
22.40	2,257	654
22.45	2,283	767
22.50	2,309	882
22.55	2,335	998
22.60	2,361	1,115
22.65	2,387	1,234
22.70	2,413	1,354
22.75	2,439	1,475
22.80	2,466	1,598
22.85	2,492	1,722
22.90	2,518	1,847
22.95	2,544	1,974
23.00	2,570	2,101
23.05	2,612	2,231
23.10	2,654	2,363
23.15	2,695	2,496
23.20	2,737	2,632
23.25	2,779	2,770
23.30	2,821	2,910
23.35	2,862	3,052
23.40	2,904	3,196
23.45	2,946	3,343
23.50	2,988	3,491
23.55	3,029	3,641
23.60	3,071	3,794
23.65	3,113	3,948
23.70	3,155	4,105
23.75	3,196	4,264
23.80	3,238	4,425
23.85	3,280	4,588
23.90	3,322	4,753
23.95	3,363	4,920
24.00	3,405	5,089
24.05	3,430	5,260
24.10	3,455	5,432
24.15	3,479	5,605
24.20	3,504	5,780
24.25	3,529	5,956
24.30	3,554	6,133
24.35	3,579	6,311
24.40	3,603	6,491
24.45	3,628	6,671
24.50	3,653	6,853
24.55	3,678	7,037
24.60	3,703	7,221
24.65	3,727	7,407
24.70	3,752	7,594
24.75	3,777	7,782
24.80	3,802	7,972
24.85	3,827	8,162
24.90	3,851	8,354
24.95	3,876	8,548
25.00	**3,901**	**8,742**

Summary for Pond 3P: East Pond B

Inflow Area = 0.890 ac, 40.88% Impervious, Inflow Depth > 1.82" for 25-Year event
Inflow = 0.14 cfs @ 14.25 hrs, Volume= 0.135 af
Outflow = 0.10 cfs @ 18.37 hrs, Volume= 0.126 af, Atten= 30%, Lag= 246.9 min
Primary = 0.10 cfs @ 18.37 hrs, Volume= 0.126 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 22.64' @ 18.37 hrs Surf.Area= 3,310 sf Storage= 1,656 cf

Plug-Flow detention time= 437.1 min calculated for 0.126 af (94% of inflow)
Center-of-Mass det. time= 317.0 min (1,627.9 - 1,310.9)

Volume	Invert	Avail.Storage	Storage Description
#1	22.10'	11,696 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

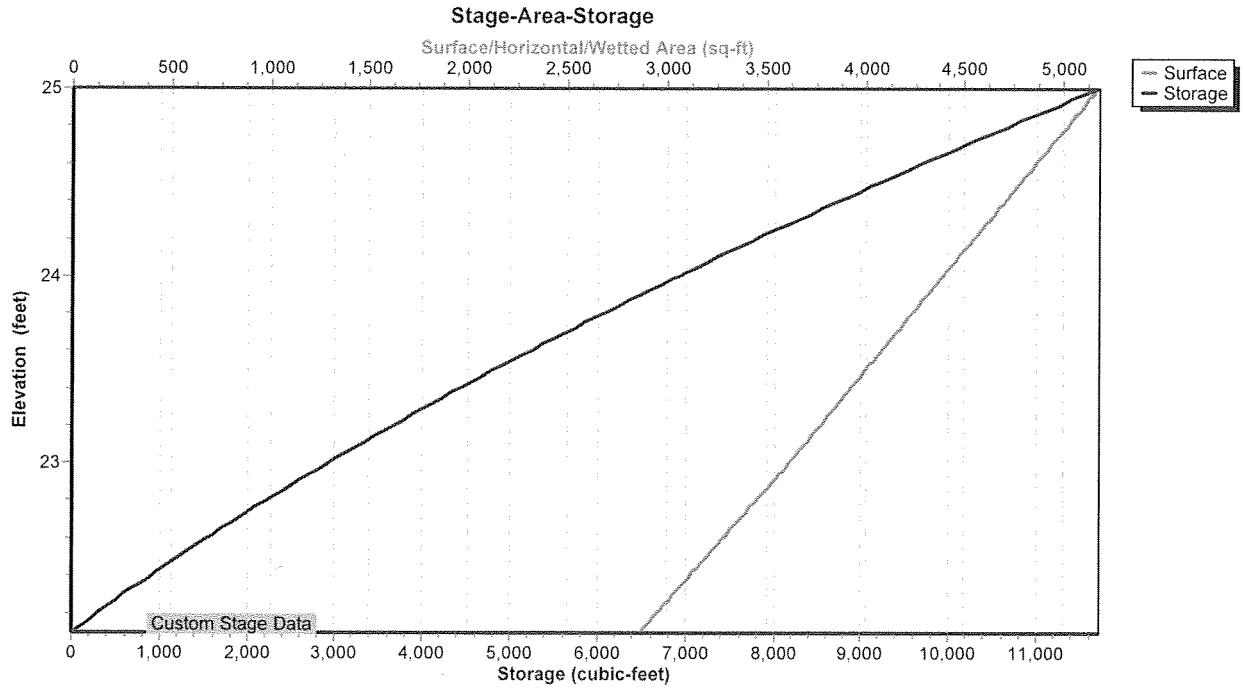
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.10	2,864	0	0
23.00	3,612	2,914	2,914
24.00	4,390	4,001	6,915
25.00	5,172	4,781	11,696

Device	Routing	Invert	Outlet Devices
#1	Primary	22.10'	**12.0" Round Culvert** L= 25.0' Ke= 0.700 Inlet / Outlet Invert= 22.10' / 22.00' S= 0.0040 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	22.10'	**20.0 deg x 1.90' rise Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)
#3	Secondary	24.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.10 cfs @ 18.37 hrs HW=22.64' (Free Discharge)
└**1=Culvert** (Passes 0.10 cfs of 0.72 cfs potential flow)
└**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.10 cfs @ 1.97 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=22.10' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: East Pond B



Stage-Area-Storage for Pond 3P: East Pond B

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.10	2,864	0
22.15	2,906	144
22.20	2,947	291
22.25	2,989	439
22.30	3,030	589
22.35	3,072	742
22.40	3,113	897
22.45	3,155	1,053
22.50	3,196	1,212
22.55	3,238	1,373
22.60	3,280	1,536
22.65	3,321	1,701
22.70	3,363	1,868
22.75	3,404	2,037
22.80	3,446	2,208
22.85	3,487	2,382
22.90	3,529	2,557
22.95	3,570	2,735
23.00	3,612	2,914
23.05	3,651	3,096
23.10	3,690	3,279
23.15	3,729	3,465
23.20	3,768	3,652
23.25	3,807	3,842
23.30	3,845	4,033
23.35	3,884	4,226
23.40	3,923	4,421
23.45	3,962	4,618
23.50	4,001	4,817
23.55	4,040	5,018
23.60	4,079	5,221
23.65	4,118	5,426
23.70	4,157	5,633
23.75	4,196	5,842
23.80	4,234	6,053
23.85	4,273	6,265
23.90	4,312	6,480
23.95	4,351	6,697
24.00	4,390	6,915
24.05	4,429	7,136
24.10	4,468	7,358
24.15	4,507	7,582
24.20	4,546	7,809
24.25	4,586	8,037
24.30	4,625	8,267
24.35	4,664	8,500
24.40	4,703	8,734
24.45	4,742	8,970
24.50	4,781	9,208
24.55	4,820	9,448
24.60	4,859	9,690
24.65	4,898	9,934
24.70	4,937	10,180
24.75	4,977	10,428
24.80	5,016	10,677
24.85	5,055	10,929
24.90	5,094	11,183
24.95	5,133	11,439
25.00	**5,172**	**11,696**

Summary for Link 1L: Western Bog Group

Inflow Area = 10.337 ac, 5.32% Impervious, Inflow Depth > 0.79" for 25-Year event
Inflow = 3.27 cfs @ 12.42 hrs, Volume= 0.682 af
Primary = 3.27 cfs @ 12.42 hrs, Volume= 0.682 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 2L: Cental Bog

Inflow Area =	0.754 ac,	2.43% Impervious,	Inflow Depth =	1.29"	for 25-Year event
Inflow =	0.81 cfs @	12.18 hrs, Volume=	0.081 af		
Primary =	0.81 cfs @	12.18 hrs, Volume=	0.081 af,	Atten= 0%,	Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 3L: South Western Bog

Inflow Area = 0.376 ac, 6.54% Impervious, Inflow Depth = 2.83" for 25-Year event
Inflow = 1.08 cfs @ 12.09 hrs, Volume= 0.089 af
Primary = 1.08 cfs @ 12.09 hrs, Volume= 0.089 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 4L: East Wetlands

Inflow Area = 10.872 ac, 0.00% Impervious, Inflow Depth = 0.43" for 25-Year event
Inflow = 1.63 cfs @ 12.54 hrs, Volume= 0.392 af
Primary = 1.63 cfs @ 12.54 hrs, Volume= 0.392 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

Subcatchment 1S: Catchment Area 1 Runoff Area=411,506 sf 1.96% Impervious Runoff Depth=1.32"
Flow Length=718' Tc=19.3 min CN=46 Runoff=7.78 cfs 1.039 af

Subcatchment 2S: Catchment Area 2 Runoff Area=32,862 sf 2.43% Impervious Runoff Depth=2.12"
Flow Length=187' Tc=11.0 min CN=55 Runoff=1.47 cfs 0.134 af

Subcatchment 3S: Catchment Area 3 Runoff Area=15,301 sf 0.00% Impervious Runoff Depth=3.83"
Tc=6.0 min CN=72 Runoff=1.55 cfs 0.112 af

Subcatchment 4S: Catchment Area 4 Runoff Area=473,590 sf 0.00% Impervious Runoff Depth=0.92"
Flow Length=479' Tc=19.3 min CN=41 Runoff=5.03 cfs 0.832 af

Subcatchment 5S: Proposed Road Runoff Area=38,770 sf 40.88% Impervious Runoff Depth=2.90"
Tc=6.0 min CN=63 Runoff=2.93 cfs 0.215 af

Subcatchment 6S: Proposed Road Runoff Area=1,070 sf 100.00% Impervious Runoff Depth=6.76"
Flow Length=718' Tc=19.3 min CN=98 Runoff=0.12 cfs 0.014 af

Pond 1P: Western Pond Peak Elev=22.87' Storage=292 cf Inflow=0.12 cfs 0.014 af
Primary=0.04 cfs 0.013 af Secondary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.013 af

Pond 2P: East Pond A Peak Elev=23.85' Storage=4,577 cf Inflow=2.93 cfs 0.215 af
Outflow=0.27 cfs 0.209 af

Pond 3P: East Pond B Peak Elev=22.80' Storage=2,224 cf Inflow=0.27 cfs 0.209 af
Primary=0.20 cfs 0.200 af Secondary=0.00 cfs 0.000 af Outflow=0.20 cfs 0.200 af

Link 1L: Western Bog Group Inflow=7.78 cfs 1.240 af
Primary=7.78 cfs 1.240 af

Link 2L: Cental Bog Inflow=1.47 cfs 0.134 af
Primary=1.47 cfs 0.134 af

Link 3L: South Western Bog Inflow=1.56 cfs 0.126 af
Primary=1.56 cfs 0.126 af

Link 4L: East Wetlands Inflow=5.03 cfs 0.832 af
Primary=5.03 cfs 0.832 af

Total Runoff Area = 22.339 ac Runoff Volume = 2.346 af Average Runoff Depth = 1.26"
97.35% Pervious = 21.747 ac 2.65% Impervious = 0.592 ac

Summary for Subcatchment 1S: Catchment Area 1

Runoff = 7.78 cfs @ 12.33 hrs, Volume= 1.039 af, Depth= 1.32"

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-Year Rainfall=7.00"

	Area (sf)	CN	Description
	2,402	98	Unconnected roofs, HSG A
*	253,682	36	Woods, Fair, HSG A
	50,436	39	>75% Grass cover, Good, HSG A
	96,785	72	Dirt roads, HSG A
	5,684	98	Water Surface, HSG A
	2,517	30	Meadow, non-grazed, HSG A
	411,506	46	Weighted Average
	403,420		98.04% Pervious Area
	8,086		1.96% Impervious Area
	2,402		29.71% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Subcatchment 2S: Catchment Area 2

Runoff = 1.47 cfs @ 12.17 hrs, Volume= 0.134 af, Depth= 2.12"

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-Year Rainfall=7.00"

Area (sf)	CN	Description
799	98	Unconnected roofs, HSG A
5,795	36	Woods, Fair, HSG A
15,501	72	Dirt roads, HSG A
10,767	39	>75% Grass cover, Good, HSG A
32,862	55	Weighted Average
32,063		97.57% Pervious Area
799		2.43% Impervious Area
799		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
1.6	97	0.0410	1.01		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	25	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	15	0.0700	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
11.0	187	Total			

Summary for Subcatchment 3S: Catchment Area 3

Runoff = 1.55 cfs @ 12.09 hrs, Volume= 0.112 af, Depth= 3.83"

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-Year Rainfall=7.00"

Area (sf)	CN	Description
15,301	72	Dirt roads, HSG A
15,301		100.00% Pervious Area

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

Summary for Subcatchment 4S: Catchment Area 4

Runoff = 5.03 cfs @ 12.41 hrs, Volume= 0.832 af, Depth= 0.92"

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-Year Rainfall=7.00"

Area (sf)	CN	Description
410,461	36	Woods, Fair, HSG A
63,129	72	Dirt roads, HSG A
473,590	41	Weighted Average
473,590		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.0	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.40"
7.3	429	0.0380	0.97		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.3	479	Total			

Summary for Subcatchment 5S: Proposed Road Catchment Area A

Runoff = 2.93 cfs @ 12.10 hrs, Volume= 0.215 af, Depth= 2.90"

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-Year Rainfall=7.00"

Area (sf)	CN	Description
15,851	98	Paved roads w/curbs & sewers, HSG A
22,919	39	>75% Grass cover, Good, HSG A
38,770	63	Weighted Average
22,919		59.12% Pervious Area
15,851		40.88% Impervious Area

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

Summary for Subcatchment 6S: Proposed Road Catchment Area B

Runoff = 0.12 cfs @ 12.25 hrs, Volume= 0.014 af, Depth= 6.76"

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-Year Rainfall=7.00"

Area (sf)	CN	Description
1,070	98	Paved roads w/curbs & sewers, HSG A
1,070		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	50	0.0080	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.40"
11.4	668	0.0037	0.98		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
19.3	718	Total			

Summary for Pond 1P: Western Pond

Inflow Area = 0.025 ac,100.00% Impervious, Inflow Depth = 6.76" for 100-Year event
Inflow = 0.12 cfs @ 12.25 hrs, Volume= 0.014 af
Outflow = 0.04 cfs @ 12.70 hrs, Volume= 0.013 af, Atten= 67%, Lag= 27.1 min
Primary = 0.04 cfs @ 12.70 hrs, Volume= 0.013 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 22.87' @ 12.70 hrs Surf.Area= 971 sf Storage= 292 cf

Plug-Flow detention time= 304.0 min calculated for 0.013 af (97% of inflow)
Center-of-Mass det. time= 285.1 min (1,040.4 - 755.3)

Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	1,798 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

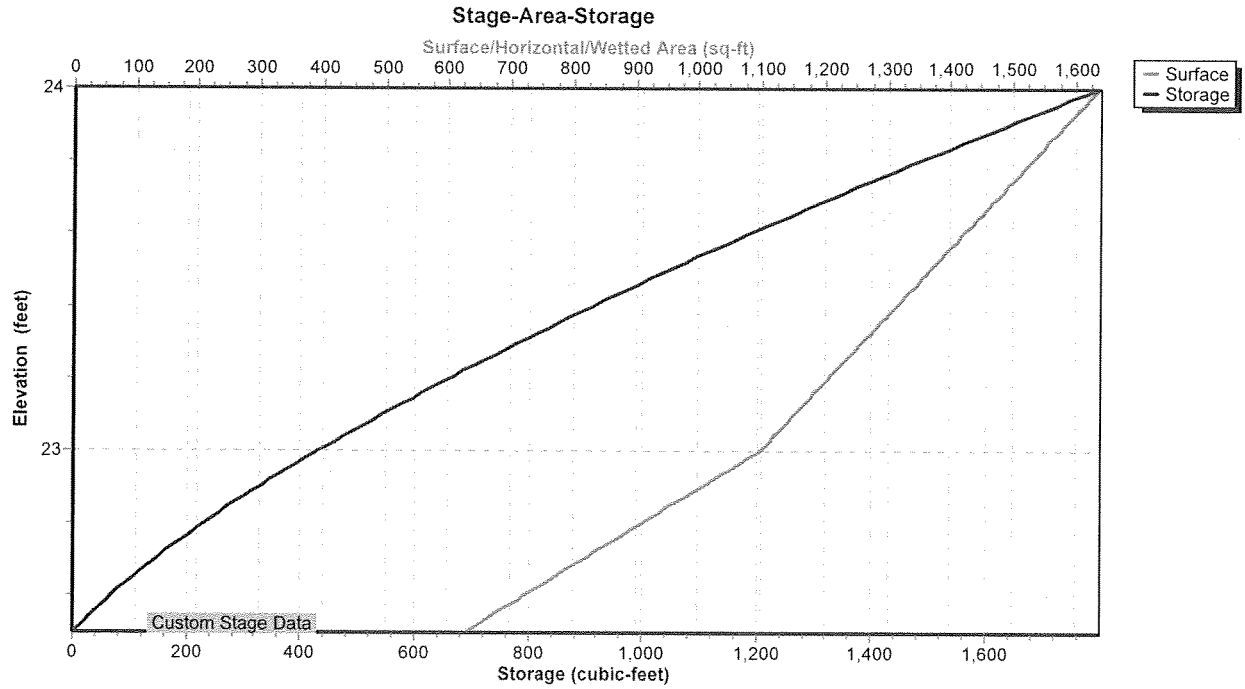
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.50	626	0	0
23.00	1,097	431	431
24.00	1,637	1,367	1,798

Device	Routing	Invert	Outlet Devices
#1	Secondary	23.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Primary	22.50'	**20.0 deg Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)

Primary OutFlow Max=0.04 cfs @ 12.70 hrs HW=22.87' (Free Discharge)
└**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.04 cfs @ 1.63 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=22.50' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Western Pond



Stage-Area-Storage for Pond 1P: Western Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.50	626	0
22.52	645	13
22.54	664	26
22.56	683	39
22.58	701	53
22.60	720	67
22.62	739	82
22.64	758	97
22.66	777	112
22.68	796	128
22.70	814	144
22.72	833	161
22.74	852	177
22.76	871	195
22.78	890	212
22.80	909	230
22.82	927	249
22.84	946	267
22.86	965	286
22.88	984	306
22.90	1,003	326
22.92	1,022	346
22.94	1,040	367
22.96	1,059	388
22.98	1,078	409
23.00	1,097	431
23.02	1,108	453
23.04	1,119	475
23.06	1,129	498
23.08	1,140	520
23.10	1,151	543
23.12	1,162	566
23.14	1,173	590
23.16	1,183	613
23.18	1,194	637
23.20	1,205	661
23.22	1,216	685
23.24	1,227	710
23.26	1,237	734
23.28	1,248	759
23.30	1,259	784
23.32	1,270	809
23.34	1,281	835
23.36	1,291	861
23.38	1,302	887
23.40	1,313	913
23.42	1,324	939
23.44	1,335	966
23.46	1,345	993
23.48	1,356	1,020
23.50	1,367	1,047
23.52	1,378	1,074
23.54	1,389	1,102
23.56	1,399	1,130
23.58	1,410	1,158
23.60	1,421	1,186
23.62	1,432	1,215
23.64	1,443	1,243
23.66	1,453	1,272
23.68	1,464	1,302
23.70	1,475	1,331
23.72	1,486	1,361
23.74	1,497	1,390
23.76	1,507	1,420
23.78	1,518	1,451
23.80	1,529	1,481
23.82	1,540	1,512
23.84	1,551	1,543
23.86	1,561	1,574
23.88	1,572	1,605
23.90	1,583	1,637
23.92	1,594	1,669
23.94	1,605	1,701
23.96	1,615	1,733
23.98	1,626	1,765
24.00	**1,637**	**1,798**

Summary for Pond 2P: East Pond A

Inflow Area = 0.890 ac, 40.88% Impervious, Inflow Depth = 2.90" for 100-Year event
Inflow = 2.93 cfs @ 12.10 hrs, Volume= 0.215 af
Outflow = 0.27 cfs @ 13.43 hrs, Volume= 0.209 af, Atten= 91%, Lag= 79.9 min
Primary = 0.27 cfs @ 13.43 hrs, Volume= 0.209 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 23.85' @ 13.43 hrs Surf.Area= 3,277 sf Storage= 4,577 cf

Plug-Flow detention time= 389.3 min calculated for 0.209 af (97% of inflow)
Center-of-Mass det. time= 374.5 min (1,221.0 - 846.5)

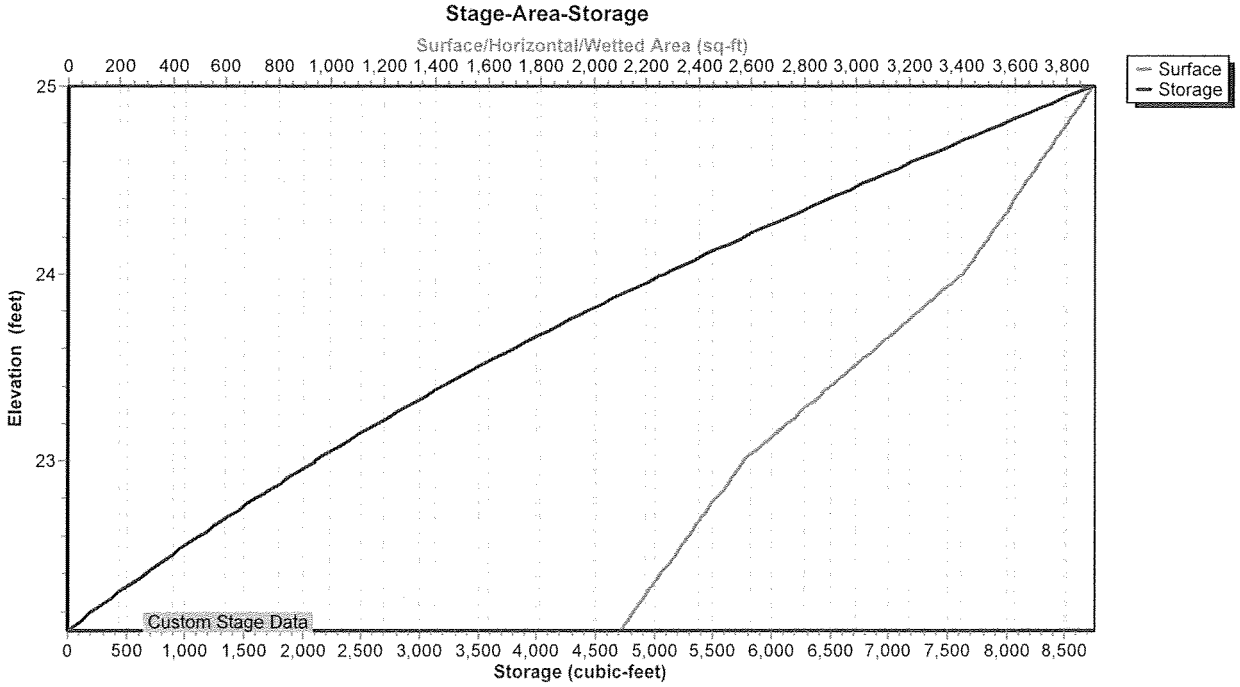
Volume	Invert	Avail.Storage	Storage Description
#1	22.10'	8,742 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.10	2,100	0	0
23.00	2,570	2,101	2,101
24.00	3,405	2,988	5,089
25.00	3,901	3,653	8,742

Device	Routing	Invert	Outlet Devices
#1	Primary	22.10'	**20.0 deg x 1.90' rise Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)
#2	Primary	24.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.27 cfs @ 13.43 hrs HW=23.85' TW=23.84' (TW follows 0.01' below HW)
└─**1=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.27 cfs @ 0.50 fps)
└─**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 2P: East Pond A



Stage-Area-Storage for Pond 2P: East Pond A

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.10	2,100	0
22.15	2,126	106
22.20	2,152	213
22.25	2,178	321
22.30	2,204	430
22.35	2,231	541
22.40	2,257	654
22.45	2,283	767
22.50	2,309	882
22.55	2,335	998
22.60	2,361	1,115
22.65	2,387	1,234
22.70	2,413	1,354
22.75	2,439	1,475
22.80	2,466	1,598
22.85	2,492	1,722
22.90	2,518	1,847
22.95	2,544	1,974
23.00	2,570	2,101
23.05	2,612	2,231
23.10	2,654	2,363
23.15	2,695	2,496
23.20	2,737	2,632
23.25	2,779	2,770
23.30	2,821	2,910
23.35	2,862	3,052
23.40	2,904	3,196
23.45	2,946	3,343
23.50	2,988	3,491
23.55	3,029	3,641
23.60	3,071	3,794
23.65	3,113	3,948
23.70	3,155	4,105
23.75	3,196	4,264
23.80	3,238	4,425
23.85	3,280	4,588
23.90	3,322	4,753
23.95	3,363	4,920
24.00	3,405	5,089
24.05	3,430	5,260
24.10	3,455	5,432
24.15	3,479	5,605
24.20	3,504	5,780
24.25	3,529	5,956
24.30	3,554	6,133
24.35	3,579	6,311
24.40	3,603	6,491
24.45	3,628	6,671
24.50	3,653	6,853
24.55	3,678	7,037
24.60	3,703	7,221
24.65	3,727	7,407
24.70	3,752	7,594
24.75	3,777	7,782
24.80	3,802	7,972
24.85	3,827	8,162
24.90	3,851	8,354
24.95	3,876	8,548
25.00	**3,901**	**8,742**

Summary for Pond 3P: East Pond B

Inflow Area = 0.890 ac, 40.88% Impervious, Inflow Depth > 2.82" for 100-Year event
Inflow = 0.27 cfs @ 13.43 hrs, Volume= 0.209 af
Outflow = 0.20 cfs @ 16.61 hrs, Volume= 0.200 af, Atten= 27%, Lag= 191.1 min
Primary = 0.20 cfs @ 16.61 hrs, Volume= 0.200 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 22.80' @ 16.61 hrs Surf.Area= 3,450 sf Storage= 2,224 cf

Plug-Flow detention time= 327.2 min calculated for 0.200 af (96% of inflow)
Center-of-Mass det. time= 245.3 min (1,466.3 - 1,221.0)

Volume	Invert	Avail.Storage	Storage Description
#1	22.10'	11,696 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

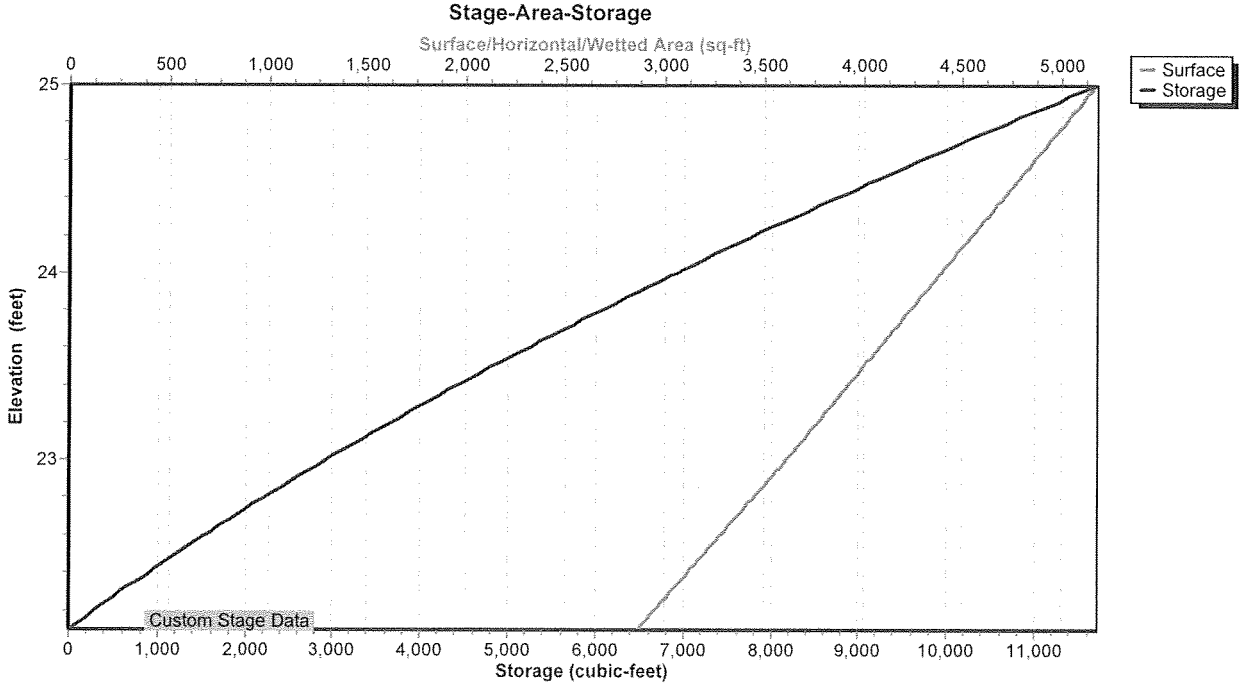
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.10	2,864	0	0
23.00	3,612	2,914	2,914
24.00	4,390	4,001	6,915
25.00	5,172	4,781	11,696

Device	Routing	Invert	Outlet Devices
#1	Primary	22.10'	**12.0" Round Culvert** L= 25.0' Ke= 0.700 Inlet / Outlet Invert= 22.10' / 22.00' S= 0.0040 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf
#2	Device 1	22.10'	**20.0 deg x 1.90' rise Sharp-Crested Vee/Trap Weir** Cv= 2.69 (C= 3.36)
#3	Secondary	24.00'	**4.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.20 cfs @ 16.61 hrs HW=22.80' (Free Discharge)
└**1=Culvert** (Passes 0.20 cfs of 1.16 cfs potential flow)
└**2=Sharp-Crested Vee/Trap Weir** (Weir Controls 0.20 cfs @ 2.26 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=22.10' (Free Discharge)
└**3=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 3P: East Pond B



Stage-Area-Storage for Pond 3P: East Pond B

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
22.10	2,864	0
22.15	2,906	144
22.20	2,947	291
22.25	2,989	439
22.30	3,030	589
22.35	3,072	742
22.40	3,113	897
22.45	3,155	1,053
22.50	3,196	1,212
22.55	3,238	1,373
22.60	3,280	1,536
22.65	3,321	1,701
22.70	3,363	1,868
22.75	3,404	2,037
22.80	3,446	2,208
22.85	3,487	2,382
22.90	3,529	2,557
22.95	3,570	2,735
23.00	3,612	2,914
23.05	3,651	3,096
23.10	3,690	3,279
23.15	3,729	3,465
23.20	3,768	3,652
23.25	3,807	3,842
23.30	3,845	4,033
23.35	3,884	4,226
23.40	3,923	4,421
23.45	3,962	4,618
23.50	4,001	4,817
23.55	4,040	5,018
23.60	4,079	5,221
23.65	4,118	5,426
23.70	4,157	5,633
23.75	4,196	5,842
23.80	4,234	6,053
23.85	4,273	6,265
23.90	4,312	6,480
23.95	4,351	6,697
24.00	4,390	6,915
24.05	4,429	7,136
24.10	4,468	7,358
24.15	4,507	7,582
24.20	4,546	7,809
24.25	4,586	8,037
24.30	4,625	8,267
24.35	4,664	8,500
24.40	4,703	8,734
24.45	4,742	8,970
24.50	4,781	9,208
24.55	4,820	9,448
24.60	4,859	9,690
24.65	4,898	9,934
24.70	4,937	10,180
24.75	4,977	10,428
24.80	5,016	10,677
24.85	5,055	10,929
24.90	5,094	11,183
24.95	5,133	11,439
25.00	**5,172**	**11,696**

Summary for Link 1L: Western Bog Group

Inflow Area = 10.337 ac, 5.32% Impervious, Inflow Depth > 1.44" for 100-Year event
Inflow = 7.78 cfs @ 12.33 hrs, Volume= 1.240 af
Primary = 7.78 cfs @ 12.33 hrs, Volume= 1.240 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 2L: Cental Bog

Inflow Area = 0.754 ac, 2.43% Impervious, Inflow Depth = 2.12" for 100-Year event
Inflow = 1.47 cfs @ 12.17 hrs, Volume= 0.134 af
Primary = 1.47 cfs @ 12.17 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 3L: South Western Bog

Inflow Area = 0.376 ac, 6.54% Impervious, Inflow Depth = 4.01" for 100-Year event
Inflow = 1.56 cfs @ 12.09 hrs, Volume= 0.126 af
Primary = 1.56 cfs @ 12.09 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Link 4L: East Wetlands

Inflow Area = 10.872 ac, 0.00% Impervious, Inflow Depth = 0.92" for 100-Year event
Inflow = 5.03 cfs @ 12.41 hrs, Volume= 0.832 af
Primary = 5.03 cfs @ 12.41 hrs, Volume= 0.832 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs