

## JC ENGINEERING, Inc.

#### Civil & Environmental Engineering

2854 Cranberry Highway East Wareham, Massachusetts 02538 Ph. 508-273-0377 – Fax 508-273-0367

March 14, 2023

Town of Wareham Planning Board Memorial Town Hall 54 Marion Road Wareham, MA 02571

RE: Definitive Subdivision Plan for Peyton Estates, Off Squirrel Island Road, Wareham, MA

Dear Board Members,

On behalf of the applicant, Dos Amigos Realty, LLC, please accept this Form C application as a resubmittal for the Definitive Subdivision of Peyton Estates off Squirrel Island Road. The prior application was submitted under Petition Number 19-22 and subsequently denied by the Planning Board on February 27, 2023. Where necessary, specific documents have been updated or resubmitted with no revisions. Also included is additional information from Eversource regarding the acquisition of the utilities within Squirrel Island Road. Included in the attached application are the following documents, which have been specified as being updated or are the same document that was previously submitted under the prior petition:

- Updated Form C Application
- Updated Tax Signoff form
- Previously submitted Street Name Request form
- Previously submitted Owners Deeds
- Updated Certified Abutters List
- Updated Documentation from Eversource stating approval of the acquisition request
- Previously submitted Eversource engineered plans for acquisition
- Previously submitted comments from the Fire Department, dated January 17, 2023
- Previously submitted Definitive Subdivision Plan of Land of Peyton Estates (5 sheets), revised through October 26, 2022
- Previously submitted response letter to Engineering Consultant, including Drainage Calculations, dated October 26, 2022

As part of this resubmittal, we respectfully request the Planning Board waive this project from requiring an engineering review by the Town consultant. The attached Subdivision Plan and Drainage calculations have previously been reviewed and approved by the prior consultant. It appears that the prior decision of the planning board on Petition 19-22 was based upon the

Wareham Planning Board Page 2 March 14, 2023

Eversource acquisition only, so no changes to the Plan were necessary. New documentation is included from Eversource as stated above.

Respectfully yours,

Bladley M. Bertolo, EIT, CSE

Project Engineer

File; Client Cc:

#### Form C

# APPLICATION FOR APPROVAL OF DEFINTIVE SUBDIVISION PLAN

	March 9, 2023	, 20
To the Planning Board of the City/Town of	/areham	
The undersigned, being the applicant as defined u proposed subdivision shown on a plan entitled:D	nder the Chapter 41, Section 81-L, for ap EFINITIVE SUBDIVISION OF PEYTON ESTAT	proval of a
by JC Engineering, Inc. and described as follows: Shown as Lots 1010-A3	, dated <u>revised through Oct</u>	. 26, 2022
and described as follows: Shown as Lots 1010-A3		
located off Squirrel Island Road	, numb	er of lots
proposed $\frac{2}{\text{plan as a }}$ total acreage of tract $\frac{3.76}{\text{plan in accordance with the}}$	Rules and Regulations of the Warehar	
Planning Board and makes application to the Board	for approval of said plan.	
The undersigned's title to said land is derived from _	Ninety Six Realty LLC	
Deed Book 54030, Page 213 and Deed Book 55606,		
		_
by deed dated <u>12/18/20 and 9/7/21</u> District Registry of Deeds Book, Page	registered in the	
, age	Registry District of the L	and Court
Certificate of Title No		and
Said plan has ( ) has not (X) evolved from a preliming a previous from a preliming a preliming a previous from a preliming a previous from a preliming a previous from a previous		
20		
The undersigned hereby applies for the approval of	said DEFINITIVE plan by the poard, in beli	ef that the
plan conforms to the Board's Rules and Regulations.	11.1.1	. ///
	Mulula	9/11/
Described the City / Terror Clearly		
Received by City/Town Clerk:	Applicant's signature	
	Applicant's signature Applicant' address	
	12 Fellowship Circle	
Date	12 Fellowship Circle W. Wareham, MA 02576	
Date	W. Wareham, MA 02576 Applicant's phone #	
Date	12 Fellowship Circle W. Wareham, MA 02576 Applicant's phone # Owner's signature and address if no	t the
Received by City/Town Clerk:  Date  Fime  Signature	W. Wareham, MA 02576 Applicant's phone #	t the
Date	12 Fellowship Circle W. Wareham, MA 02576 Applicant's phone # Owner's signature and address if no applicant or applicant's authorization	t the

#### FORM C/DEFINITIVE PLAN CHECKLIST

The Definitive Plan shall be prepared by a registered engineer or land surveyor and shall be clearly and legibly drawn in black ink upon mylar suitable for registering at the Plymouth County Registry of Deeds ( $24" \times 36"$ ). The plan shall be at a scale of one inch equals 40 feet (1" = 40') or such other scale that the Board may accept, to show details in a clear and adequate fashion. In addition, 10 copies of reduced plans on ledger-size paper ( $11" \times 17"$ ) shall accompany the Definitive Plan submission. At a minimum, the plan shall contain the following information:

1.	<u>X</u>	The title, "Subdivision Plan of (name of subdivision)";
2.	<u>X</u>	Date, scale and North arrow, Assessor's Map(s) and Lot(s) number(s) and a legend to explain any graphic representation or symbols on the plan;
3.	<u>X</u>	The names, addresses and telephone numbers of the owner(s) of record and applicant(s);
4.	<u>X</u>	The names of the designer, engineer and/or surveyor who prepared the plan;
5.	<u>X</u>	The names of all abutters, as determined from the most recent local tax list, including property owners on the opposite side of any street abutting the subdivision;
6.	<u>X</u>	Book and page deed references of the property to be subdivided;
7.	X	A note referring to which lots will be served by either Town Water Supply, private wells, municipal sewer or private septic systems and the location of the nearest existing public water and sewer utility services;
8.	<u>X</u>	A locus map at 1" = 2,000', exhibiting the boundaries of the proposed subdivision, location of proposed streets and relation to adjoining properties within a radius of one quarter mile and an aerial map exhibiting the general area surrounding the subject property (approximately ½ mile surrounding the site);
9.	<u>X</u>	The zoning district, including any overlay district of the land shown on the plan;
10	. <u>X</u>	The location of all wetlands protected under CMR 10.00 Wetlands

	from the Wareham Conservation Commission must accompany this definitive application;
11. X	Sufficient data to readily determine the location, direction and length of every street, way, easement, lot and boundary line and to establish those lines on the ground. The areas of all lots shall be shown and all lots shall be numbered. All bearings are to be referred to Massachusetts Prime Meridian if reference points are within a reasonable distance;
12. <u>X</u>	The location and present widths of streets bounding, approaching or within a reasonable proximity of the subdivision (500');
13. <u>X</u>	The location of all permanent monuments, properly identified as to whether existing or proposed; location of temporary stakes to enable the Planning Board to find and appraise features of the subdivision plan;
14. <u>X</u>	Proposed street names with approval of the Town's 911 system;
15. <u>NA</u>	Any public or common areas within the subdivision;
16. <u>X</u>	The location of all abutting land owned by the applicant not presently being subdivided;
17. <u>X</u>	A suitable block to record the action and signatures of the Planning Board;
18. <u>X</u>	A suitable block for the Town Clerk's signature along with the statement "I hereby certify that 20 days have elapsed since the notice of approval from the Planning Board was received and recorded, and no notice of appeal has been filed in this office";
19. <u>X</u>	A listing of all requested waivers from the literal requirements of these Rules and Regulations;
20. <u>X</u>	A contour plan showing existing and proposed topography at 2' intervals Related to an existing permanent benchmark;
21. X	Utility plan showing in plan and profile, but not limited to, the size and location of existing and proposed water and sewer lines, hydrants, electric lines, telephone lines, gas lines, fire alarm systems, cable television lines, storm drains and any easements pertinent thereto;
22. X	A drainage plan shall be prepared showing existing and proposed streets,

Protection. If protected wetlands are to be filled or altered, an approval

lots, 2' contours and other pertinent data; the drainage limits and acreage of the area tributary to each stormwater inlet and culvert; location and type of inlets proposed; location, size, length, invert elevations, slope of proposed drains and culverts; structural details of inlets, manholes, pipe, headwalls and all other drainage structures required to complete the plan; an estimate of the present rate and volume of run-off, as well as an estimate of the rate and volume of run-off that would occur after completion of the proposed subdivision, shall both be submitted along with supporting data. In calculating the run-off and drainage requirements, consideration shall be given to the impact of septic systems on the ability of the soil to absorb any additional stormwater, as well as any upgradient run-off which may impact the subdivision;

23. X

Street plans and profiles at a horizontal scale of one inch equals forty feet (1" = 40') and a vertical scale as the Planning Board may approve. The following information shall be included:

- a. exterior lines of the right of way with sufficient data to determine their location, direction and length;
- existing centerline profile to be shown as a fine continuous line.
   Existing centerline profile for intersecting streets to be shown for at least 10', each side of the intersection on street centerlines. Proposed right sideline shall be shown as a dashed black line, left sideline is black dots. Evaluations shall be based on USGS datum;
- proposed centerline profile to be a heavy continuous line with elevations based on USGS datum shown every 50', every 25' on vertical curves;
- d. road centerline stationing.

24. <u>X</u>\_\_\_\_\_

A typical section showing proposed roadway construction at a scale of one inch equals ten feet (1'' = 10') shall be provided with the profile plan (see typical section in appendix);

25. WAIVER

Street lights and tree planting plan shall be provided for the area within the proposed street right of way. The plan shall be superimposed on the contour plan and shall show the following:

- a. existing trees to be preserved within the right of way;
- b. any proposed street trees;
- c. existing and proposed street lights.

26. X

If the Planning Board determines that erosion due to development activity will be excessive or significant to wetlands, streams, ponds or other water bodies, the developer shall submit a soil erosion and sediment control plan. This plan shall consist of a drawing certified by a

	and their locations;
27	If necessary, to determine compliance with these rules and regulations, the Board may require further engineering or environmental analysis to be prepared at the expense of the applicant, employing professionals approved by the Board.

registered civil engineer, identifying the appropriate control measures

This application constitutes the applicant's willingness to work under the Town of Wareham's Subdivision Rules and Regulations. Any errors or omissions from this checklist of the Subdivision Regulations may result in the application not being placed on a Planning Board agenda or a denial of this Definitive Plan.

# TOWN OF WAREHAM ANR/SUBIDIVISION/SITE PLAN REVIEW FORM

Check one:	ANR	_ Form B	Form C <u>×</u>	Site Plan Review	
Date stamped in		Date ded	ision in due		
Applicant's name(s)	Dos Amigos R	Realty, LLC			
Applicant's address _1	12 Fellowship	Circle, West Wa	reham, MA 0257	6	
Telephone number 5	508-273-0377				
Address of property _	off Squirrel Isl	and Road			
Landowner's name S	Same				
Owner's address San					
				one	
				60	
Date Approved			_ Date Denied _		
Comments (state rea		·	• • • • • •		
Conditions for:					

\\nas-dell\Users\Planning\Form C.docx

#### RECORD OF PLANNING BOARD PROCEEDINGS AND DECISIONS Town of Wareham Planning Board

Name of Subdivis	ion or Project: DEFINITI\	/E SUBDIVISIO	N OF PEYTON ESTATES
APPLICATION:			FORM C X OTHER
DATE SUBMITTED	: MARCH 14, 2023		
DATE DECISION IS	5 DUE:		
DATE OF PUBLIC I	HEARING(S):		
DECISION DATE: _			
DATE DECISION S	ENT TO TOWN CLERK:		
DATE APPEALS PE	RIOD BEGINS		ENDS
PLANNING BOARI should accompan FORM A:	• • •	or abstention)	) if abstaining, appropriate recusal form
	S. Quirk	M. King	J. Gleason
	C. Schulz		
FORM B:			
M. Baptiste	S. Quirk	M. King	J. Gleason
	C. Schulz		
FORM C:			
M. Baptiste	S. Quirk	M. King	J. Gleason
	C. Schulz		
SITE PLAN:			
M. Baptiste	S. Quirk	M. King	J. Gleason
	C. Schulz		

COMMENTS OR STIPULATIONS ON DECISION:	 	
STREET NAME PROPOSED AND ACCEPTED:		
Conditions for:		

Map 74 Lots 1010-D and 1010-A3

# PLANNING BOARD TAX VERIFICATION FORM

This verifies that	Dos Amigos Realty, LLC	(name of applicant) is up-
_	xes for the property(ies) he/she owns in	Wareham. If the applicant is
not the current of owner SAME	owner of the property that the applic	ration addresses, the current name of property owner) is up-
to-date on taxes ar	nd on all properties he/she owns in the Tov	vn of Wareham.

John Foster Tax Collector

#### Town of Wareham Street Name Application Form

<b>Application Date:</b>	3/9/2023

#### **Applicant:**

- Check with Planning Board or Board of Selectmen to determine availability of street names.
- One copy of this form, filled out & signed should be submitted with a completed application for Form A, Form B, or Form C.
- Note: Use this form for any new street name requests for public OR private ways.

of street(s) within	g <b>Board:</b> applicant requests the Board the proposed subdivision PLAN OF LAND OF PEY	shown o	n a plan entitle <u>d:</u>	DEFINITIVE
Proposed Street PEYTON La		_ _	Alternative name(	(s):
		_ _ _		
	Applicant's Sig A	gnature: .ddress:	12 FELLOWSHI W. WAREHAM,	
The Planning Bo	ard requests your comment ame(s):	s on this	application for app	proval of the above
Please submit yo	ur comments to the Plannin	ıg Board	before:	
Approved Name	e(s):		Арр	oroval Date:
Planning Board	Signatures:			
		_		
Distribution List:	Board of Selectmen Police Department Community Development	Board of	Department Health Historical Commission	EMS Fire Department on Assessor's Office

Water Department

Municipal Maintenance

Bk: 54030 Pg: 213 Ninety Six Realty, having its usual plan Plymouth, Common Seventy Thousand liability company du Fellowship Circle, W

The land in Warehan

Lot 1 containing 18 more or less, and L

Plan Book 62 Page Island Road in W.

Engineering, Inc. 28 and recorded herew.



Bk: 54030 Pg: 213 Page: 1 of 2 Recorded: 12/18/2020 11:01 AM ATTEST: John R. Buckley, Jr. Register Plymouth County Registry of Deeds

MASSACHUSETTS EXCISE TAX Plymouth District ROD #11 001 Date: 12/18/2020 11:01 AM

Ctri# 141958 28872

CANCEL Fee: \$775.20 Cons: \$170,000.00

**QUITCLAIM DEED** 

Ninety Six Realty, LLC s/k/a Ninety Six, LLC, a Massachusetts Limited Liability Company, having its usual place of business at 246 South Meadow Road, Gate 4, Plymouth, County of Plymouth, Commonwealth of Massachusetts, for consideration paid the sum of **One Hundred** Seventy Thousand Dollars (\$170,000.00) cash, grant to Dos Amigos Realty, LLC, a limited liability company duly organized under the laws of the Commonwealth of Massachusetts, of 12 Fellowship Circle, Wareham, Massachusetts, with QUITCLAIM COVENANTS:

The land in Wareham, Plymouth County, Massachusetts, described as follows:

Lot 1 containing 183,927 square feet, more or less, and Lot 2 containing 113,608 square feet, more or less, and Lot 1009C containing 3,577 square feet more or less (see Plan recorded in Plan Book 62 Page 311), all as shown on Plan entitled "Approval Not Required Plan Squirrel Island Road in W. Wareham MA" prepared for Dos Amigos Realty, LLC prepared by JC Engineering, Inc. 2854 Cranberry Highway, East Wareham, MA 02538" dated October 8, 2020 and recorded herewith.

Being a portion of the premises conveyed in Deed recorded with the Plymouth County Registry of Deeds at Book 33797, Page 254. See also Confirmatory Deed recorded with said Deeds at Book 40960, Page 290.

This conveyance does not constitute all or substantially all of the assets of the limited liability company in the Commonwealth of Massachusetts and is made in its ordinary course of business.

[SIGNATURE ON FOLLOWING PAGE]

Bk: 54030 Pg: 214

Ninety Six Realty, LLC

By: Joseph Crespi

Its: Manager

COMMONWEALTH OF MASSACHUSETTS

Plymouth, ss

December <u>/</u>\$\_\_, 2020

On this <u>/5</u> day of December, 2020, before me, the undersigned notary public, personally appeared **Joseph Crespi**, in his capacity as **Manager of Ninety Six Realty**, **LLC** and being duly authorized, proved to me through satisfactory evidence of identification, which was *photo ID*, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose as the free act and deed of Ninety Six Realty, LLC.

ALLAN J. COSTA

Notary Public

My Commission Expires: 3/9/23

ALLAN J. COSTA

Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
March 9, 2023

Bk: 55606 Pg: 344

MASSACHUSETTS EXCISE TAX Plymouth District ROD #11 001 Date: 09/07/2021 09:19 AM

Ctrl# 149746 01708

Fee: \$319.20 Cons: \$70,000.00

2021 00101180

Bk: 55606 Pg: 344 Page: 1 of 2 Recorded: 09/07/2021 09:19 AM ATTEST: John R. Buckley, Jr. Register Plymouth County Registry of Deeds

#### **QUITCLAIM DEED**

Ninety Six Realty, LLC s/k/a Ninety Six, LLC, a Massachusetts Limited Liability Company, having its usual place of business at 246 South Meadow Road, Gate 4, Plymouth, County of Plymouth, Commonwealth of Massachusetts, for consideration paid the sum of Seventy Thousand Dollars (\$70,000.00) grants to Dos Amigos Realty, LLC, a limited liability company duly organized under the laws of the Commonwealth of Massachusetts, of 12 Fellowship Circle, Wareham, Massachusetts, with QUITCLAIM COVENANTS:

The land in Wareham, Plymouth County, Massachusetts, described as follows:

Parcel 3, containing 203,497 square feet of land as shown on Plan entitled "Approval Not Required Plan Squirrel Island Road in W. Wareham MA" prepared for Dos Amigos Realty, LLC prepared by JC Engineering, Inc. 2854 Cranberry Highway, East Wareham, MA 02538" dated October 8, 2020 and recorded in Plan Book 64 Page 1069.

Being a portion of the premises conveyed in Deed recorded with the Plymouth County Registry of Deeds at Book 33797, Page 254. See also Confirmatory Deed recorded with said Deeds at Book 40960, Page 290.

This conveyance does not constitute all or substantially all of the assets of the limited liability company in the Commonwealth of Massachusetts and is made in its ordinary course of business.

[SIGNATURE ON FOLLOWING PAGE]

Rehin To. L Cray Medeiros, Esp. 98 E. Gron St., Str. 201 Middle boro, M 02341 Bk: 55606 Pg: 345

Witness my hand and seal this 7th day of September, 2021.

Ninety Six Realty, LLC

By:/

Joseph Crespi Manager

COMMONWEALTH OF MASSACHUSETTS

Plymouth, ss

September 7, 2021

On this 7th day of September, 2021, before me, the undersigned notary public, personally appeared **Joseph Crespi**, in his capacity as Manager of Ninety Six Realty, LLC and being duly authorized, proved to me through satisfactory evidence of identification, which was *photo ID*, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose as the free act and deed of Ninety Six Realty, LLC.

Craig M. Medeiros

Notary Public

My Commission Expires: 1/22/2027



OWN OF W, IAP 74 LOT: WNER DOS	TOWN OF WAREHAM ABUTTERS MAP 74 LOTS 1010/A3 + 1010/D OWNER DOS AMIGOS REALTY LLC				2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
MAP & LOT	OWNER	CO-OWNER	CTBEET ADOBECC		STATE	
73-1000	BARBOZA THOMAS H	BARBOZA SHIRLEY A	628 COUNTY RD	W WARFHAM	J VI V V	21P CODE 02576
74-S5	NGUYEN CHRISTOPHER	ROBERT CASSIDY	25 SQUIRREL IS RD	W WARFHAM	ΔM	0.576
74-S6	SAVARY-POWERS KELLY L	POWERS DOUGLAS J TRUSTEES	27 SQUIRREL ISLAND RD	W WAREHAM	Σ	02576
74-S8	BARROWS GERALD JR	BARROWS SHARON M	42 SQUIRREL ISLAND RD	W WAREHAM	Ψ	02576
73-1001	EAGLE HOLT COMPANY INC		PO BOX 308	WAREHAM	ΔM	02571
74-1009/6	HENNESSEY ROBERT T	HENNESSEY CARRIE ANN	11 BLACKMORE POND RD	W WAREHAM	ΜA	02576
74-1009/7	MOREAU BENJAMIN	MOREAU SHANNON M	13 BLACKMORE POND RD	W WAREHAM	MA	02576
74-1010/A3	DOS AMIGOS REALTY LLC		12 FELLOWSHIP CIR	W WAREHAM	MA	02576
74-1010/D	DOS AMIGOS REALTY LLC		12 FELLOWSHIP CIR	W WAREHAM	MA	02576
74-1010/A1	PERRY ROBERT L	PERRY MARGARET A	29 SQUIRREL ISLAND RD	W WAREHAM	MA	02576
74-1009/8	BARRETTE JOSHUA R	BARRETTE VANESSA R	15 BLACKMORE POND RD	W WAREHAM	ΑM	02576
74-1010/A2	VIERA GLEN A	VIERA JOANNE R	12 SQUIRREL ISLAND RD	W WAREHAM	MΑ	02576
74-1010-81	HOOLEY SHAWN		14 SQUIRREL ISLAND RD	W WAREHAM	MA	02576
74-1010/C1	BOUSFIELD DAVIE PAUL	BOUSFIELD GINA MARIE	16 SQUIRREL ISLAND RD	W WAREHAM	MA	02576
BUTTERS AS	ABUTTERS AS THEY APPEAR ON OUR				-	And the control of th
AX ROLLS A	TAX ROLLS AS OF 3/9/2023		The same of the sa			
13	Abins			The state of the s		**************************************
ASSESSORS OFFICE	DFFICE					A Company of the Comp
Provident and analysis of the second						
REQUESTED BY	8Y					THE THE
BRADLEY BERTOLO	RTOLO STOLE		AND THE PARTY OF T		and the first of the first own	
508 273-0377					····davimb	w Mar Nobe
<b>BERTOLO</b> @	BBERTOLO@JCENG.ORG	The second secon	Communication of the Communica			



February 28, 2023

John L Churchill 12 Fellowship Circle W Wareham MA 02576

Re: Private Pole Acquisition

Location: Squirrel-Island Rd Wareham Ma

Utility Poles#: 897/P1 – 897/P14

Work Order # 11428915

Dear Mr. Churchill

This letter serves as notice that after review by our engineering/design department on January 16, 2023, it has been determined that the request to acquire private utility poles 897/P1 through 897/P14 on Squirrel-Island Road Wareham Ma has been approved for acquisition by Eversource. I have provided to you the design, and the carrying cost charge of for payment on the acquisition of the private line. Upon receipt of the carrying charge payment Eversource will re-number the private poles according to the design provided to you. All records should be updated for Eversource ownership and maintenance after that time.

Any future concerns or issues with the acquired pole line outlined on the design please contact Eversource at 800-592-2000.

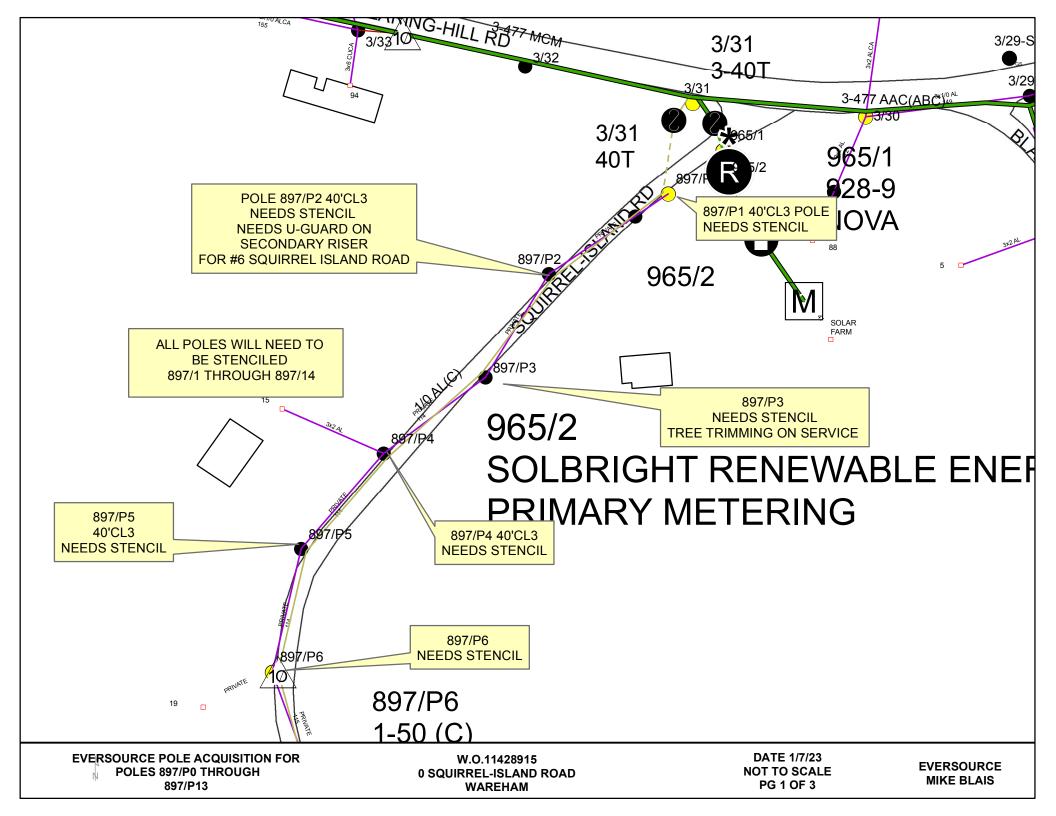
Attached is the engineering/design sketch, and construction cost bill. Should you have any questions feel free to contact me at 781-441-3431.

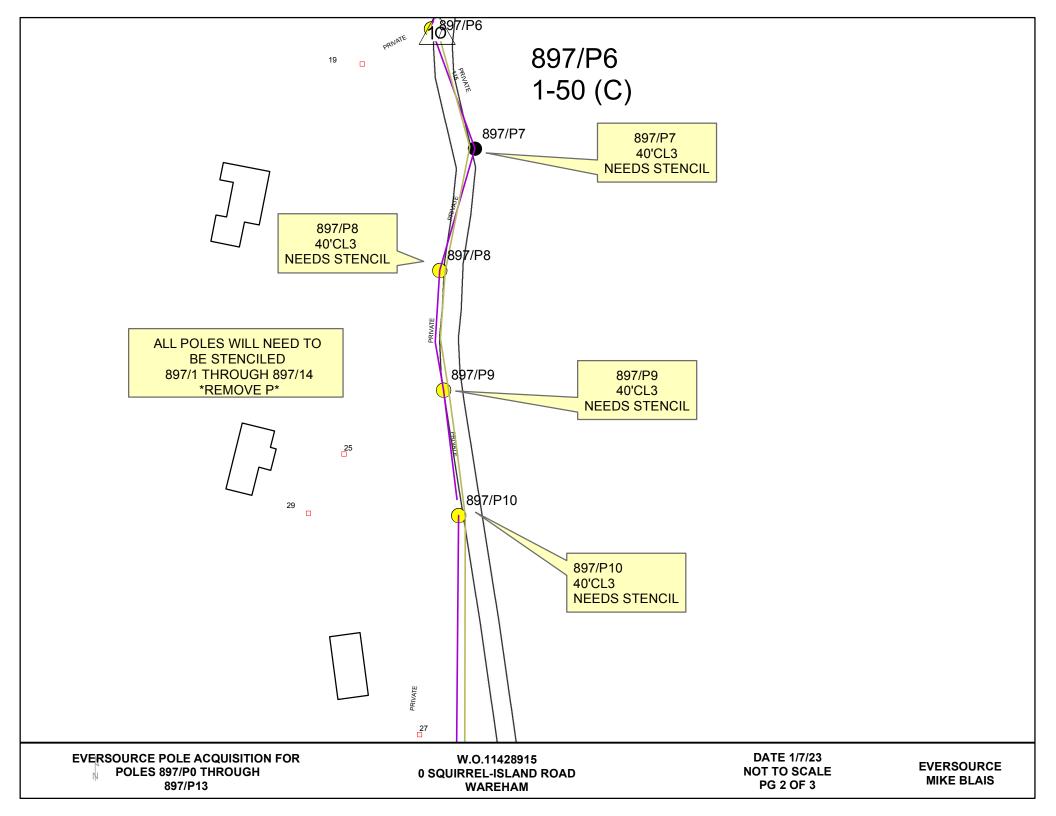
Sincerely,

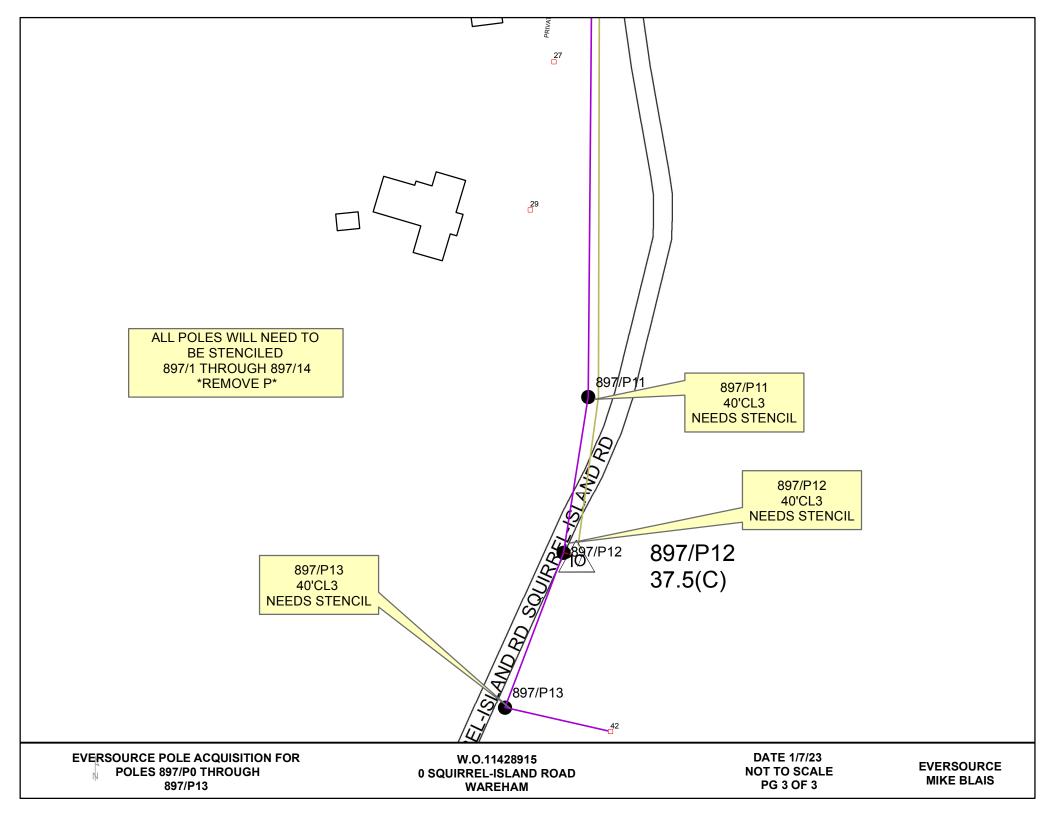
Bea Lord ы

Bea Lord Customer Service Engineer

Cc: File







### Wareham Fire Department

273 Main Street Wareham, MA 02571

Business Phone: (508) 295-2973 · Fax: (508) 295-1333

January 17, 2023

Town of Wareham Planning Board C/O Kenneth Buckland 54 Marion Road Wareham, Ma. 02571

Re: Squirrel Island Road

Dear Mr. Buckland,

This letter is in response to the revised plan, dated 10/26/22, of the subdivision plan for, Dos Amigos Realty, LLC, Squirrel Island Road.

The roadway width and Swept Path Analysis as shown on Sheet 5 of 5 is appropriate and meets the Wareham Fire Department's Tower 1 specifications.

Please contact me with any questions regarding this matter. 508-295-2973

Respectfully,

James Brandolini Jr.

**Captain Fire Prevention** 



## JC ENGINEERING, Inc.

#### Civil & Environmental Engineering

2854 Cranberry Highway East Wareham, Massachusetts 02538 Ph. 508-273-0377 – Fax 508-273-0367

October 26, 2022

Town of Wareham Planning Board Memorial Town Hall 54 Marion Road Wareham, MA 02571

RE: Definitive Subdivision Plan for Peyton Estates, Off Squirrel Island Road, Wareham, MA

Dear Board Members,

JC Engineering has received comments from Charles L. Rowley, PE, PLS, dated October 3, 2022 pertaining to the proposed development of Peyton Estates (Off Squirrel Island Road, Wareham) and offers the following in response (*Mr. Rowley's comments in italics*):

#### Plans:

- 1. The plan set consists of five sheets showing the project location and lot configuration proposed. It did not evolve from a preliminary plan (not required for residential development). No response necessary.
- 2. Sheet 2 of the plan set shows test logs for three soil test pits however they are not significant to the subject property and do not represent conditions that may be found on the proposed lots. Additional test pits have been completed on either end of the proposed infiltration basin. The test pit data is included on the revised plan set.
- 3. Sheet 3 shows the proposed two lots which meet the standard for shape and frontage. Lot 1010-D1 includes some wetlands but the amount of upland is more than 80% as required by the Zoning By-Law. No response necessary.
- 4. Sheet 4 shows the proposed road profile and plan of construction. The pavement width proposed is 12 feet. A simple hammerhead type turnaround is proposed instead of a circular pavement.
  - a. It is recommended that the pavement width be made 18 feet as required by Section VI, C of the Rules and Regulations. Two-way traffic cannot safely travel on a 12-foot wide pavement. The pavement width has been increased to 18 feet. The request for a waiver has been removed.

- b. The fire apparatus backing movement shown on Sheet 5 of the plans shows that it takes up all of the available space for the limited turning area. It is recommended that along with widening the travel surface, that this turning area be made longer. In the event the new Tower needs to gain access, it will be difficult to make appropriate movements. The pavement width has been widened to 18 feet for the entire roadway, including turnaround. Also, the Wareham Fire Department prepared a follow up response letter on 10/4/22 which states that the Swept Analysis parameters meet the Tower 1 specifications.
- c. Sheet 4 also shows that portions of the construction will be within the 100-foot buffer that is subject to the jurisdiction of the Conservation Commission. In addition to Planning Board approval for the layout and construction of the street, Conservation Commission approval will also be necessary. A Notice of Intent application will be filed with the Conservation Commission pending approval from the Planning Board.
- 5. The applicant should provide evidence that the plan was also filed with the Wareham Board of Health. The application was submitted to the Health Department on the same day it was submitted to the Planning Department (July 20, 2022).
- 6. Sheet 4 of the plans shows a swale running parallel to and along the northeasterly side of the proposed road. This swale is an acceptable way of intercepting runoff and may be considered as low impact design. However, it is recommended that a series of check dams be incorporated into the swale to slow down the rate of runoff to the grassed infiltration basin. Check dams have been included on the plan. A detail is also shown on Sheet 5.
- 7. The pavement cross section should show the base material of crushed stone extending beyond the limit of pavement in order to provide support for the mix. Without a berm on the northeast side, the pavement will be subject to damage unless the base can support it. The gravel base has been extended an additional 1 foot beyond the limits of the pavement to provide additional edge support. The Roadway Cross Section detail has been revised.
- 8. The drainage infiltration basin shown extends beyond the street limits as shown on pages 3 and 4. It is recommended that the easement limits shown be extended sufficiently to give some space at the tow of the proposed slope for maintenance purposes. The easement has been increased in size to allow for the construction of a gravel access path around the easterly and northerly sides of the basin.

#### Drainage Report:

1. The drainage report is not supported by information that shows what the soil conditions are like on site. Soil tests should be performed in the proposed infiltration area to show that infiltration will actually work. Additional test pits have been completed on either end of the proposed infiltration basin. The test pit data is included on the revised plan set.

- 2. Adequate infiltration may not be provided with a grassed surface. The rate should be checked to be sure that infiltration will not be impeded by frozen surfaces during the winter months. A note says that contact should be made with soils in the "C" layer but this layer has not been confirmed. The infiltration basin was designed using a Rawls infiltration rate for Sandy Loam materials (1.02 in/hr). The additional test pits confirm that the soils are consistent with the sizing calculations for the infiltration basin.
- 3. There needs to be information to show that the infiltration basin will have at least a two (2) foot separation to high ground water. Additional test pits have been completed on either end of the proposed infiltration basin. Groundwater has been determined to be at least 2 feet below the bottom of the infiltration basin.
- 4. No evidence was included to show that the stormwater standards have been followed. Also there needs to be an Operation and Maintenance Plan included which will need to be incorporated into any approval that the Board may grant. The Stormwater Management Policy does not apply for developments of 4 or fewer lots. The revised HydroCAD calculations show that the infiltration basin is sized to contain a 25-year storm event, which exceeds the 20-year storm event required per the Rules and Regulations. The pre-development HydroCAD calculations are also included. As can be seen, the 100-year post-development runoff rate and volume from the Infiltration basin is considerably less than the pre-development runoff rate and volume for the equivalent drainage area. An Operations and Maintenance Plan has been added to the Detail Sheet.

#### Waiver Requests:

- 1. It is recommended that the waiver of pavement width not be granted. A full width of 18 feet is essential for safety, access and egress. The request for the waiver has been removed.
- 2. A waiver from a full cul-de-sac could be considered provided that it is extended sufficiently to give a solid surface for the Wareham Fire Department tower apparatus. The pavement width has been widened to 18 feet for the entire roadway, including turnaround.
- 3. Other waiver requests appear to be reasonable given the location of the project. No response necessary.

Respectfully yours. Budley Butsts

Bradley M. Bertolo, EIT, CSE

Project Engineer

Cc: File; Client



Right of Way

**Detention Basin** 



Right of Way









Page 2

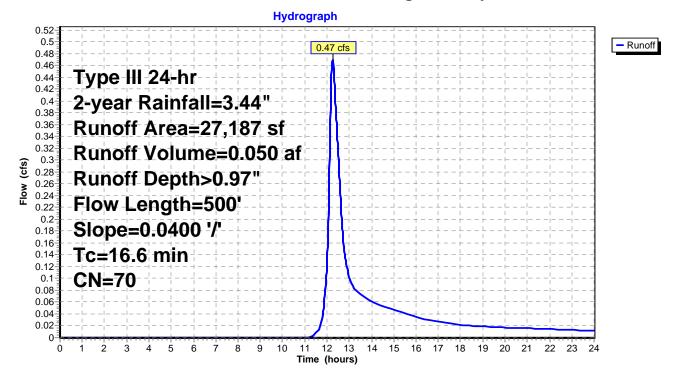
#### **Summary for Subcatchment EX-DA1: Right of Way**

Runoff = 0.47 cfs @ 12.25 hrs, Volume= 0.050 af, Depth> 0.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 2-year Rainfall=3.44"

_	Α	rea (sf)	CN [	Description					
		27,187	70 \	Woods, Good, HSG C					
		27,187	•	100.00% Pe	ervious Are	a			
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description			
_	9.1	50	0.0400	0.09	` '	Sheet Flow,			
_	7.5	450	0.0400	1.00		Woods: Light underbrush n= 0.400 P2= 3.40" <b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps			
	16.6	500	Total						

#### Subcatchment EX-DA1: Right of Way



Prepared by JC Engineering, Inc. HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 3

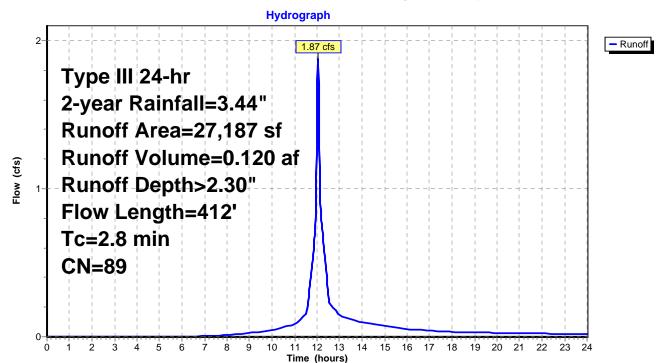
#### Summary for Subcatchment PR-DA-1: Right of Way

Runoff = 1.87 cfs @ 12.04 hrs, Volume= 0.120 af, Depth> 2.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 2-year Rainfall=3.44"

	Α	rea (sf)	CN [	Description				
*		10,580	98 F	Paved road	s, HSG C			
*		3,215	98 I	nfiltration E	Basin, HSG	C to elev. 43.7		
		13,392	79 5	50-75% Gra	ass cover, I	Fair, HSG C		
	27,187 89 Weighted Average							
		13,392	4	19.26% Pei	vious Area			
		13,795	Ę	50.74% Imp	pervious Ar	ea		
	Тс	Length	Slope	Velocity	Capacity	Description		
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)			
	0.6	50	0.0300	1.45		Sheet Flow,		
						Smooth surfaces n= 0.011 P2= 3.40"		
	2.2	362	0.0330	2.72		Shallow Concentrated Flow,		
_						Grassed Waterway Kv= 15.0 fps		
	28	412	Total					

#### Subcatchment PR-DA-1: Right of Way



#### **Peyton Estates-Proposed Conditions-REV1**

Prepared by JC Engineering, Inc.

Type III 24-hr 2-year Rainfall=3.44"
Printed 10/26/2022

HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 4

#### **Summary for Pond 1P: Detention Basin**

Inflow Area = 0.624 ac, 50.74% Impervious, Inflow Depth > 2.30" for 2-year event
Inflow = 1.87 cfs @ 12.04 hrs, Volume= 0.120 af
Outflow = 0.05 cfs @ 16.37 hrs, Volume= 0.051 af, Atten= 97%, Lag= 259.6 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Peak Elev= 41.92' @ 16.37 hrs Surf.Area= 2,028 sf Storage= 3,518 cf

Plug-Flow detention time= 346.2 min calculated for 0.051 af (42% of inflow) Center-of-Mass det. time= 227.2 min (1,032.2 - 805.0)

Volume	Invert	Avail.Sto	rage Storage	Description			
#1	39.00'	9,88	B7 cf Custom	Stage Data (Con	ic)Listed below (	Recalc)	
Elevation (fee		urf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)		
		<u> </u>		,			
39.0		488	0	0	488		
40.0	00	943	703	703	953		
41.0	00	1,478	1,201	1,904	1,501		
42.0	00	2,077	1,769	3,673	2,119		
43.0	00	2,737	2,399	6,072	2,801		
44.(	00	3,451	3,087	9,159	3,542		
44.2	20	3,828	728	9,887	3,921		
Device	Routing	Invert	Outlet Devices	S			
#1	Discarded	39.00'	1.020 in/hr Ex	xfiltration over Su	ırface area		
#2	Primary	43.70'	Head (feet) 0	.5' breadth Broad .20 0.40 0.60 0.8 n) 2.80 2.92 3.08	30 1.00	ngular Weir	

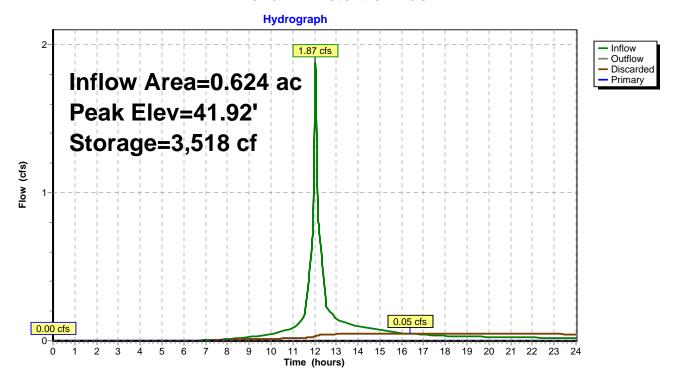
**Discarded OutFlow** Max=0.05 cfs @ 16.37 hrs HW=41.92' (Free Discharge) **1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=39.00' (Free Discharge) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 5

#### **Pond 1P: Detention Basin**



Prepared by JC Engineering, Inc.

HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 6

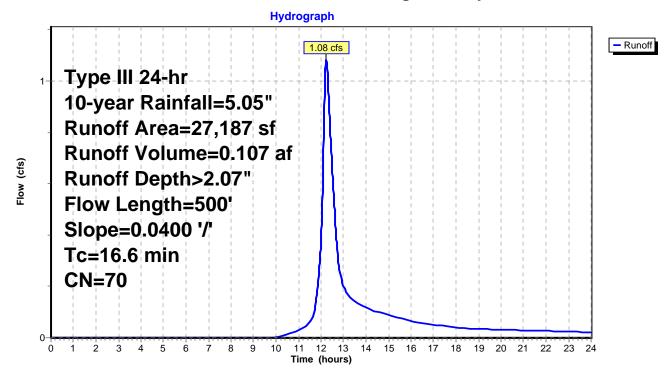
#### **Summary for Subcatchment EX-DA1: Right of Way**

Runoff = 1.08 cfs @ 12.23 hrs, Volume= 0.107 af, Depth> 2.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 10-year Rainfall=5.05"

_	Α	rea (sf)	CN E	Description		
		27,187	1	a		
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
-	9.1	50	0.0400	0.09	, ,	Sheet Flow,
	7.5	450	0.0400	1.00		Woods: Light underbrush n= 0.400 P2= 3.40" <b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps
	16.6	500	Total			

#### **Subcatchment EX-DA1: Right of Way**



HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 7

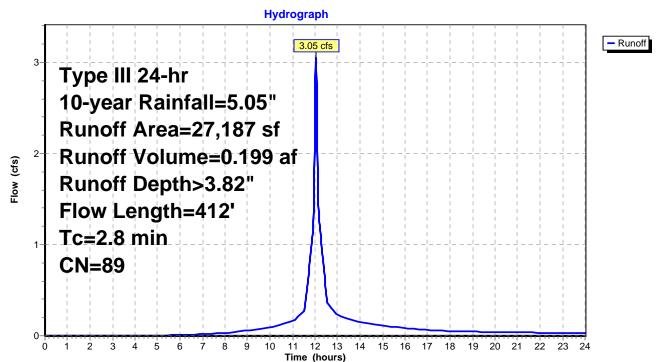
#### **Summary for Subcatchment PR-DA-1: Right of Way**

Runoff = 3.05 cfs @ 12.04 hrs, Volume= 0.199 af, Depth> 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 10-year Rainfall=5.05"

	A	rea (sf)	CN I	Description							
*		10,580	98 I	98 Paved roads, HSG C							
*		3,215	98 I	nfiltration E	Basin, HSG	C to elev. 43.7					
		13,392				Fair, HSG C					
		27,187	·								
		13,392	4	19.26% Pei	rvious Area						
		13,795	ļ	50.74% lmp	pervious Ar	ea					
	,										
	Tc	Length	Slope	Velocity	Capacity	Description					
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	0.6	50	0.0300	1.45		Sheet Flow,					
						Smooth surfaces n= 0.011 P2= 3.40"					
	2.2	362	0.0330	2.72		Shallow Concentrated Flow,					
						Grassed Waterway Kv= 15.0 fps					
	2.8	412	Total								

#### **Subcatchment PR-DA-1: Right of Way**



#### Peyton Estates-Proposed Conditions-REV1

Prepared by JC Engineering, Inc.

Type III 24-hr 10-year Rainfall=5.05" Printed 10/26/2022

HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 8

#### **Summary for Pond 1P: Detention Basin**

Inflow Area = 0.624 ac, 50.74% Impervious, Inflow Depth > 3.82" for 10-year event
Inflow = 3.05 cfs @ 12.04 hrs, Volume= 0.199 af
Outflow = 0.07 cfs @ 16.93 hrs, Volume= 0.071 af, Atten= 98%, Lag= 293.2 min
Discarded = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Peak Elev= 43.04' @ 16.93 hrs Surf.Area= 2,762 sf Storage= 6,173 cf

Plug-Flow detention time= 363.6 min calculated for 0.071 af (36% of inflow) Center-of-Mass det. time= 232.1 min (1,022.9 - 790.8)

Volume	Invert	Avail.Sto	rage Storage	Description		
#1	39.00'	9,8	87 cf Custom	Stage Data (Con	<b>ic)</b> Listed below (	Recalc)
Elevation (fee		urf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
39.0	00	488	0	0	488	
40.0	00	943	703	703	953	
41.0	00	1,478	1,201	1,904	1,501	
42.0	00	2,077	1,769	3,673	2,119	
43.0	00	2,737	2,399	6,072	2,801	
44.(	00	3,451	3,087	9,159	3,542	
44.2	20	3,828	728	9,887	3,921	
Device	Routing	Invert	Outlet Device	S		
#1	Discarded	39.00'	1.020 in/hr E	xfiltration over Su	rface area	
#2	Primary	43.70'	Head (feet) 0	.5' breadth Broad 0.20 0.40 0.60 0.8 a) 2.80 2.92 3.08	30 1.00	ngular Weir

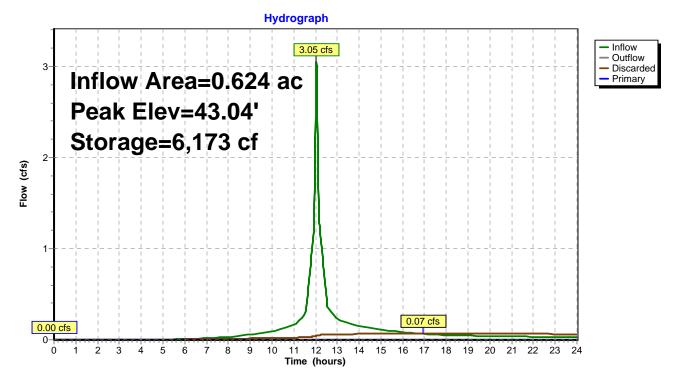
**Discarded OutFlow** Max=0.07 cfs @ 16.93 hrs HW=43.04' (Free Discharge) 1=Exfiltration (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=39.00' (Free Discharge) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 9

**Pond 1P: Detention Basin** 



Page 10

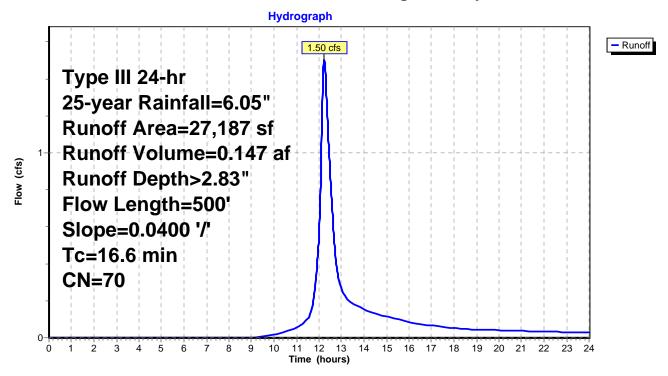
#### **Summary for Subcatchment EX-DA1: Right of Way**

Runoff = 1.50 cfs @ 12.23 hrs, Volume= 0.147 af, Depth> 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 25-year Rainfall=6.05"

_	Α	rea (sf)	CN E	Description			
27,187 70 Woods, Good, HSG C							
	a						
	Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description	
-	9.1	50	0.0400	0.09	,	Sheet Flow,	
	7.5	450	0.0400	1.00		Woods: Light underbrush n= 0.400 P2= 3.40" <b>Shallow Concentrated Flow,</b> Woodland Kv= 5.0 fps	
	16.6	500	Total				

#### **Subcatchment EX-DA1: Right of Way**



Prepared by JC Engineering, Inc.

Page 11

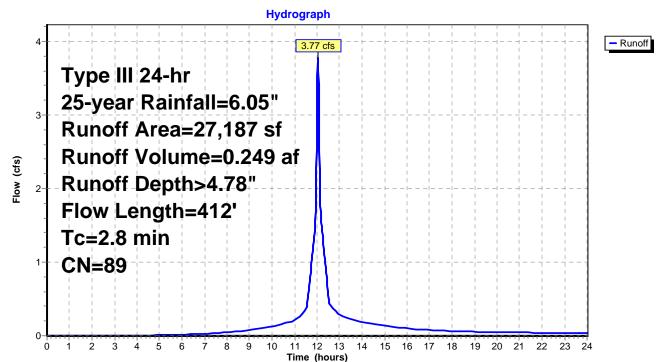
#### **Summary for Subcatchment PR-DA-1: Right of Way**

Runoff = 3.77 cfs @ 12.04 hrs, Volume= 0.249 af, Depth> 4.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 25-year Rainfall=6.05"

	A	rea (sf)	CN I	Description							
*		10,580	98 I	98 Paved roads, HSG C							
*		3,215	98 I	nfiltration E	Basin, HSG	C to elev. 43.7					
		13,392				Fair, HSG C					
		27,187	·								
		13,392	4	19.26% Pei	rvious Area						
		13,795	ļ	50.74% lmp	pervious Ar	ea					
	,										
	Tc	Length	Slope	Velocity	Capacity	Description					
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)						
	0.6	50	0.0300	1.45		Sheet Flow,					
						Smooth surfaces n= 0.011 P2= 3.40"					
	2.2	362	0.0330	2.72		Shallow Concentrated Flow,					
						Grassed Waterway Kv= 15.0 fps					
	2.8	412	Total								

#### **Subcatchment PR-DA-1: Right of Way**



#### **Peyton Estates-Proposed Conditions-REV1**

Prepared by JC Engineering, Inc.

Type III 24-hr 25-year Rainfall=6.05" Printed 10/26/2022

HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 12

#### **Summary for Pond 1P: Detention Basin**

Inflow Area = 0.624 ac, 50.74% Impervious, Inflow Depth > 4.78" for 25-year event

Inflow = 3.77 cfs @ 12.04 hrs, Volume= 0.249 af

Outflow = 0.07 cfs @ 17.17 hrs, Volume= 0.082 af, Atten= 98%, Lag= 307.4 min

Discarded = 0.07 cfs @ 17.17 hrs, Volume= 0.082 af Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Peak Elev= 43.62' @ 17.17 hrs Surf.Area= 3,169 sf Storage= 7,900 cf

Plug-Flow detention time= 374.0 min calculated for 0.082 af (33% of inflow)

Center-of-Mass det. time= 233.8 min (1,018.5 - 784.7)

Invert	Avail.Sto	rage Storage	Description		
39.00'	9,88	B7 cf Custom	Stage Data (Con	<b>ic)</b> Listed below (R	ecalc)
n Sı	ırf.Area	Inc.Store	Cum.Store	Wet.Area	
t)	(sq-ft)	(cubic-feet)	(cubic-feet)	(sq-ft)	
0	488	0	0	488	
0	943	703	703	953	
0	1,478	1,201	1,904	1,501	
0	2,077	1,769	3,673	2,119	
0	2,737	2,399	6,072	2,801	
0	3,451	3,087	9,159	3,542	
0	3,828	728	9,887	3,921	
Routing	Invert	Outlet Devices	S		
Discarded	39.00'	1.020 in/hr Ex	cfiltration over Su	ırface area	
Primary	43.70'	Head (feet) 0	.20 0.40 0.60 0.8	30 1.00	gular Weir
	39.00' n Su c) 0 0 0 0 0 0 0 0 0 D Routing Discarded	39.00' 9,88  n Surf.Area (sq-ft) 0 488 0 943 0 1,478 0 2,077 0 2,737 0 3,451 0 3,828  Routing Invert Discarded 39.00'	39.00' 9,887 cf Custom  Surf.Area Inc.Store (cubic-feet)  488 0  943 703  1,478 1,201  2,077 1,769  2,737 2,399  3,451 3,087  3,828 728  Routing Invert Outlet Devices  Primary 43.70' 6.0' long x 0. Head (feet) 0	39.00' 9,887 cf Custom Stage Data (Conn. Store (sq-ft) (cubic-feet) (cubic-feet)  0 488 0 0 0 0 943 703 703 0 1,478 1,201 1,904 0 2,077 1,769 3,673 0 2,737 2,399 6,072 0 3,451 3,087 9,159 0 3,828 728 9,887  Routing Invert Outlet Devices  Discarded Primary 43.70' 6.0' long x 0.5' breadth Broad Head (feet) 0.20 0.40 0.60 0.8	39.00' 9,887 cf Custom Stage Data (Conic)Listed below (R  Surf.Area Inc.Store Cum.Store Wet.Area (sq-ft) (cubic-feet) (cubic-feet) (sq-ft)  488 0 0 0 488 0 943 703 703 953 0 1,478 1,201 1,904 1,501 0 2,077 1,769 3,673 2,119 0 2,737 2,399 6,072 2,801 0 3,451 3,087 9,159 3,542 0 3,828 728 9,887 3,921  Routing Invert Outlet Devices  Discarded 39.00' 1.020 in/hr Exfiltration over Surface area

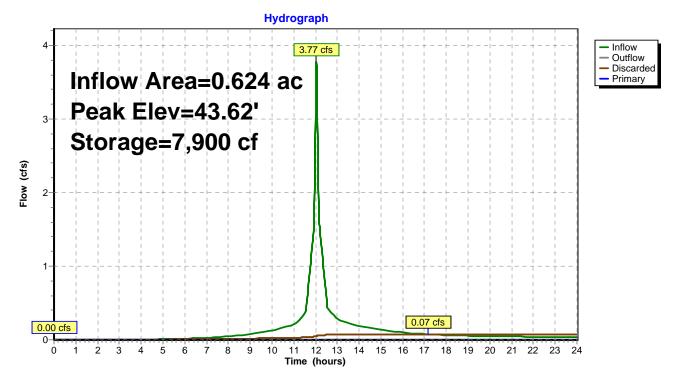
**Discarded OutFlow** Max=0.07 cfs @ 17.17 hrs HW=43.62' (Free Discharge) 1=Exfiltration (Exfiltration Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=39.00' (Free Discharge) 2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 13

#### **Pond 1P: Detention Basin**



Prepared by JC Engineering, Inc.

HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 14

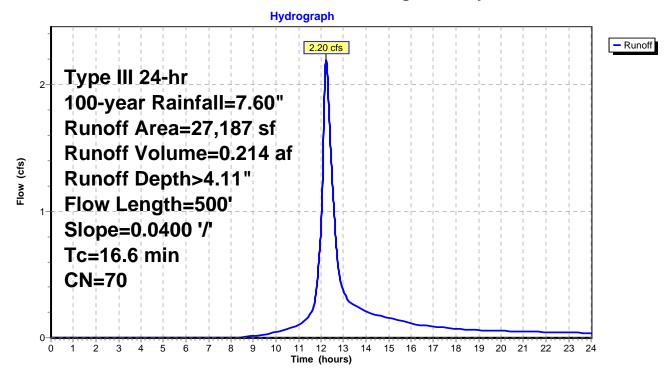
#### **Summary for Subcatchment EX-DA1: Right of Way**

Runoff = 2.20 cfs @ 12.23 hrs, Volume= 0.214 af, Depth> 4.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 100-year Rainfall=7.60"

A	rea (sf)	CN D	escription		
	27,187	1	00.00% Pe	ervious Are	a
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"
7.5	450	0.0400	1.00		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.6	500	Total			·

#### **Subcatchment EX-DA1: Right of Way**



Prepared by JC Engineering, Inc. HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 15

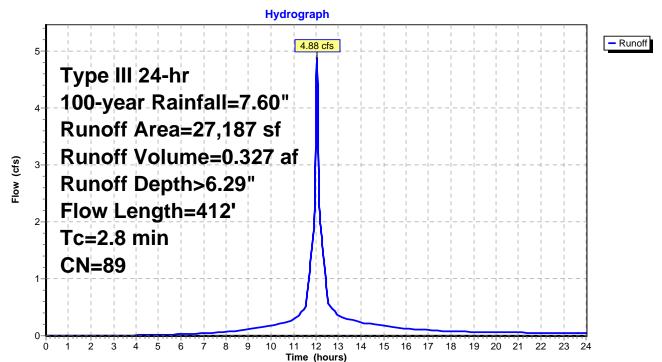
#### **Summary for Subcatchment PR-DA-1: Right of Way**

Runoff = 4.88 cfs @ 12.04 hrs, Volume= 0.327 af, Depth> 6.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Type III 24-hr 100-year Rainfall=7.60"

_	Α	rea (sf)	CN E	Description						
*		10,580	98 F	98 Paved roads, HSG C						
*		3,215	98 li	nfiltration E	Basin, HSG	C to elev. 43.7				
_		13,392	79 5	0-75% Gra	ass cover, F	Fair, HSG C				
	27,187 89 Weighted Average									
		13,392	4	9.26% Pei	vious Area					
		13,795	5	0.74% Imp	ervious Ar	ea				
	Tc	Length	Slope	Velocity	Capacity	Description				
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)					
	0.6	50	0.0300	1.45		Sheet Flow,				
						Smooth surfaces n= 0.011 P2= 3.40"				
	2.2	362	0.0330	2.72		Shallow Concentrated Flow,				
_						Grassed Waterway Kv= 15.0 fps				
	2.8	412	Total							

#### **Subcatchment PR-DA-1: Right of Way**



#### Peyton Estates-Proposed Conditions-REV1

Prepared by JC Engineering, Inc.

Type III 24-hr 100-year Rainfall=7.60" Printed 10/26/2022

HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 16

#### **Summary for Pond 1P: Detention Basin**

Inflow Area = 0.624 ac, 50.74% Impervious, Inflow Depth > 6.29" for 100-year event
Inflow = 4.88 cfs @ 12.04 hrs, Volume= 0.327 af
Outflow = 0.51 cfs @ 12.63 hrs, Volume= 0.149 af, Atten= 90%, Lag= 35.2 min
Discarded = 0.43 cfs @ 12.63 hrs, Volume= 0.088 af
Primary = 0.43 cfs @ 12.63 hrs, Volume= 0.061 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs Peak Elev= 43.79' @ 12.63 hrs Surf.Area= 3,292 sf Storage= 8,441 cf

Plug-Flow detention time= 276.9 min calculated for 0.149 af (46% of inflow) Center-of-Mass det. time= 155.7 min (933.1 - 777.4)

Volume	Invert	Avail.Sto	rage Storage	Description		
#1	39.00'	9,8	87 cf Custom	Stage Data (Con	<b>ic)</b> Listed below (F	Recalc)
Elevation (fee		urf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
39.0	00	488	0	0	488	
40.0	00	943	703	703	953	
41.0	00	1,478	1,201	1,904	1,501	
42.0	00	2,077	1,769	3,673	2,119	
43.0	00	2,737	2,399	6,072	2,801	
44.(	00	3,451	3,087	9,159	3,542	
44.2	20	3,828	728	9,887	3,921	
Device	Routing	Invert	Outlet Device	s		
#1	Discarded	39.00'	1.020 in/hr Ex	xfiltration over Su	rface area	
#2 Primary 43.70' <b>6.0' long x 0.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32						gular Weir

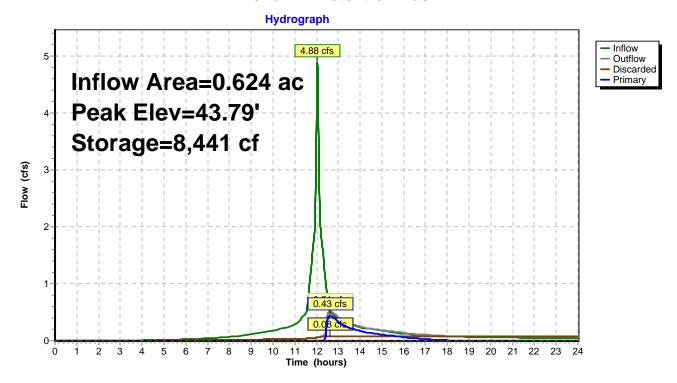
**Discarded OutFlow** Max=0.08 cfs @ 12.63 hrs HW=43.79' (Free Discharge) 1=Exfiltration (Exfiltration Controls 0.08 cfs)

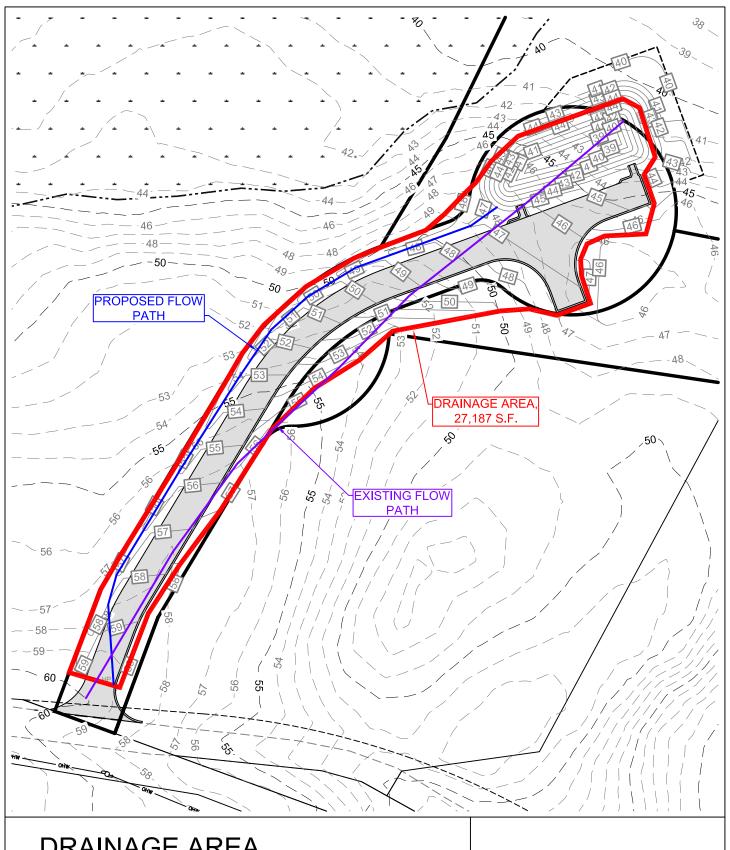
Primary OutFlow Max=0.43 cfs @ 12.63 hrs HW=43.79' (Free Discharge) 2=Broad-Crested Rectangular Weir (Weir Controls 0.43 cfs @ 0.83 fps)

HydroCAD® 10.00-22 s/n 02717 © 2018 HydroCAD Software Solutions LLC

Page 17

**Pond 1P: Detention Basin** 





## DRAINAGE AREA

PEYTON ESTATES W. WAREHAM, MA 02576

SCALE: 1" = 60'

#### PREPARED BY:

JC ENGINEERING, INC. 2854 CRANBERRY HIGHWAY EAST WAREHAM, MA 02538 (508) 273-0377

**REV: OCTOBER 26, 2022**