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1/23/2024

Bourne Planning Board
c/o Daniel Doucette
24 Perry Avenue
Buzzards Bay, MA 02532

RE: Site Plan Review-Special Permit for construction of a 3,600 SF garage at 119 Cranberry Highway.
Map 12.3 Parcel 60 #SPR/SP 04-2023

Dear Board Members,

This letter is written to respond to the email dated December 6, 2023 from Julia Gillis assistant town planner in regards to the Site Plan Review-Special Permit application for the property at 119 Cranberry Highway. In addition to the preliminary review comments from “a reviewing member from the Planning Board” located in the body of the email, attachments included comment letters from the Fire Department, Engineering Department, Conservation Department, and Department of Public works. The following are the comments items in *italic font*), followed by the response from W Engineering (in **bold font**).

Preliminary Review Meeting with Reviewer Member (PBR) from the Planning Board

Recommended submission for the following items:

PBR 1. Landscaping details (section 3512 of the Zoning Bylaw)

The proposed warehouse will not result in a required parking increase of six or more spaces. Therefore, the landscaping and screening requirements set forth in 3500 are not applicable. However, plantings to screen the warehouse from the abutting cemetery and Cranberry Highway are proposed. See Landscape & Lighting Plan Sheet 3.

PBR 2. Revise parking calculations to include storage/warehouse use (section 3320)

Parking calculations have been revised to include storage/warehouse use on sheet 2.

PBR 3. Swept path analysis plan (as required by the Fire Dept. – See attached)

The plan set has been revised to include a swept path analysis plan on sheet 5.



PBR 4. Waiver for use of overhead wires (section 1238. A.3.e)

This requested waiver is now listed on the cover sheet.

Fire Department Comments (David Pelonzi, dated Nov. 30, 2023)

FD1. Emergency Fire vehicle access must conform to the requirements in Chapter 18 of the Fire Code, 527 CMR. We will need a copy of a fire apparatus plan which includes an analysis and evaluation of fire apparatus maneuvers throughout the access roads created by swept path analysis and turn simulation software. The plan shall bear the seal and signature of the responsible registered design professional.

The plan must accommodate the department ladder truck, and specifications can be found here:

*https://www.townofbourne.com/sites/g/files/vyhlif7346/f/pages/truck_126_specifications.pdf
(https://www.townofbourne.com/sites/g/files/vyhlif7346/f/pages/truck_126_specifications.pdf).*

The above specifications and requirements are included on sheet 5.

FD3. A minimum of one Knox Box is required for the building.

A note has been added to sheet 3 and sheet 5.

FD4. Emergency responder radio coverage is required by the Massachusetts State Building Code, in all new buildings. Before final sign-off, appropriate documentation needs to be provided to ensure adequate coverage exists. If coverage is not sufficient, a radio signal booster will be required.

No response needed.

FD5. Because there are multiple buildings on the same property, each should have its own designation, working with the Town Engineer, 9-1-1 Coordinator, and Fire.

No response needed.

FD6. Additional conditions may apply based on future usage and storage.

No response needed.

Engineering Department Comments (Tim Lydon, Nov. 20, 2023)

ED1. The project should have stormwater redevelopment calculations shown here. The broken pavement to full paving and structure would result in redevelopment that needs to be captured here.

Stormwater calculations are now included. A leaching basin was added to accommodate the increase in volume.

ED2. Boundary work and setbacks shown need to be done by a PLS.

The plans have been stamped by a PLS.



Conservation Commission Comments (Amalia Amado, Dec. 4, 2023)

CC1. Property is not an area subject to protection under MGL C.131 s.40 / Bourne Bylaw Article 3.7 based on desktop review of state wetland mapping and FEMA NFHL flood zone maps.

No response needed.

Department of Public Works (Matthew Quinn, Nov. 22, 2023)

DPW1. DPW has no jurisdiction in this ticket.

No response needed.

Thank you for the opportunity to clarify the proposed project's scope. We believe that the Planning Board has all the information necessary to make the determinations outlined in Section 1233. Please let us know if you require anything else.

Sincerely,

Evan K. Watson, P.E.
.W. Engineering, LLC



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 27 JEFFERSON ST.
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PROJECT: 119 CIBERY HWY
 DESCRIPTION: _____
 DATE: 1-22-24
 CALC'D BY: _____
 CHECKED BY: _____

CALCULATE INCREASE IN RUNOFF FROM NEW BUILDING AND ASPHALT OVER DEGRADED ASPHALT.

- SELECT CURVE NUMBER FOR OLD PAVEMENT FROM TR-55:

PAVED SURFACE = 93
 GRAVEL = 96
 USE CN=95.

- DEVELOPED AREA = 5,655 S.F.

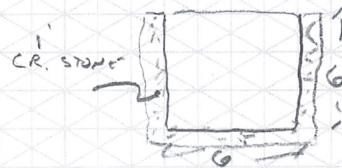
- USE $t_c = 6 \text{ min}$ (min)

- FROM HYDROCAD, ESTIMATE RUNOFF VOLUME 100-YEAR STORM

predevelopment $\rightarrow 0.084 \text{ af} = 3,659 \text{ cf}$
 postdevelopment $\rightarrow 0.087 \text{ af} = 3,789 \text{ cf}$
130 cf increase

SIZE A DRYWELL TO ACCOMMODATE INCREASE IN VOLUME
 USE 6' ϕ LEACHING PIT W/ 1' CRUSHED STONE
 ASSUME 40% VOIDS IN STONE.

FROM HYDROCAD,
 LEACHING PIT WILL
 PROVIDE 217 CF
 OF STORAGE.



BY DECREASING THE VOLUME OF RUNOFF, PEAK RATES WILL BE REDUCED THROUGH THE 100-YR STORM



cranberry highway

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	100-Year	Type III 24-hr		Default	24.00	1	8.55	2

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.130	95	DEGRADED PAVEMENT (2S)
0.130	98	NEW ASPHALT / ROOF (3S)
0.260	97	TOTAL AREA

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119 CRANBERRY HIGHWAY

Type III 24-hr 100-Year Rainfall=8.55"

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Time span=5.00-74.00 hrs, dt=0.05 hrs, 1381 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 2S: predevelopment

Runoff Area=5,655 sf 0.00% Impervious Runoff Depth>7.80"

Tc=6.0 min CN=95 Runoff=1.05 cfs 0.084 af

Subcatchment 3S: postdevelopment

Runoff Area=5,655 sf 100.00% Impervious Runoff Depth>8.02"

Tc=6.0 min CN=98 Runoff=1.06 cfs 0.087 af

Pond 1P: leaching pit

Peak Elev=0.00' Storage=0.000 af

Discarded=0.00 cfs 0.000 af

Total Runoff Area = 0.260 ac Runoff Volume = 0.171 af Average Runoff Depth = 7.91"
50.00% Pervious = 0.130 ac 50.00% Impervious = 0.130 ac

cranberry highway

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Summary for Subcatchment 2S: predevelopment

Runoff = 1.05 cfs @ 12.09 hrs, Volume= 0.084 af, Depth> 7.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-74.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-Year Rainfall=8.55"

Area (sf)	CN	Description
* 5,655	95	DEGRADED PAVEMENT
5,655		100.00% Pervious Area

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

Summary for Subcatchment 3S: postdevelopment

Runoff = 1.06 cfs @ 12.09 hrs, Volume= 0.087 af, Depth> 8.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-74.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-Year Rainfall=8.55"

Area (sf)	CN	Description
* 5,655	98	NEW ASPHALT / ROOF
5,655		100.00% Impervious Area

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

Summary for Pond 1P: leaching pit

Volume	Invert	Avail.Storage	Storage Description
#1	54.00'	0.001 af	8.00'D x 7.00'H Vertical Cone/Cylinder 0.008 af Overall - 0.005 af Embedded = 0.003 af x 40.0% Voids
#2	55.00'	0.004 af	6.00'D x 6.00'H Vertical Cone/Cylinder Inside #1 0.005 af Overall - 4.0" Wall Thickness = 0.004 af
		0.005 af	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	54.00'	8.270 in/hr Exfiltration over Surface area

Discarded OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)
 ↑1=Exfiltration (Controls 0.00 cfs)