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*Registered Professional Engineers, Land Surveyors
Project Managers & Environmental Consultants*

April 16, 2020

Pembroke Planning Board
Town Hall
100 Center Street
Pembroke, MA 02359

Attn: Matthew Heins, Planning Board Assistant

Re: Site Plan Review
43 Mattakeesett Street
Applicant: Jeffrey Perette
Response to Peer Review

Dear Mr. Heins & Members of the Board:

On behalf of the Applicant, Morse Engineering Co., Inc. (MEC) hereby submits the following plans and documents to address peer review comments expressed by Merrill Engineers and Land Surveyors in a letter dated April 2, 2020:

- Proposed Site Plan prepared by MEC revised April 16, 2020.
- Stormwater Calculations & Report prepared by MEC revised April 16, 2020.
- Proposed Site Rendering.
- Proposed Lighting Layout by Holbrook Associates dated April 7, 2020.

The following are Merrill's original peer review comments, followed by Morse's responses in ***bold italics***:

ZONING BYLAWS

Section IV. Use and Dimensional Regulations

- 1.A. The project proposes to retain the existing buildings and to construct a 18,750 square foot building at the rear of the property to be used for office space and storage. The Zoning Board of Appeals has issued a Special Permit and a number of Variances for this property. These should be reviewed by the Planning Board. ***No Response Required.***
- 4.D.14. "Landscaping: At least forty percent of any required yard shall be landscape or left a natural state. At least fifty percent of any yard of buffer strip abutting a residential use or district shall be landscaped or left a natural state. Along any lot line abutting a residential use or district, there shall be planted a dense natural hedge greater than six feet in height and located within ten feet of said lot line. Said natural hedge shall provide a visual screen between any structure or parking area and the residential area." The Zoning Board of Appeals has issued a Special Permit and a number of Variances for this property. These should be reviewed by the Planning Board. ***No Response Required.***

Section V. Special Provisions, Standards and Procedures

- 4.A. “All new or substantially altered uses or structures shall be provided with paved off-street automobile parking facilities...”. It is unclear whether pavement is being proposed on the westerly side or northerly side of the proposed building. ***Paved off-street automobile parking is provided. Vehicles will park in the existing parking spaces in front of the existing building, as well as the additional parking spaces proposed to be striped in the existing paved area to the west of the existing building.***
The pavement in front of the proposed building will be saw-cut and re-paved, providing paved access to the six primary overhead doors.
The sides and rear of the building are proposed to remain as gravel boat storage areas.
- 7.F.9. An approved site plan shall be recorded with the Plymouth County Registry of Deeds and consequently needs to be prepared to Registry standards. There are a number of instances where this plan is not in compliance with the Registry Plan Regulations and should be revised as necessary. ***The plans have been updated accordingly.***

RULES AND REGULATIONS GOVERNING SITE PLAN APPROVAL

Summary of Requested Waivers

The following waivers have been requested from the Planning Board Rules & Regulations Governing the Issuance of Site Plan Approval.

Section IV – Site Plan Content

- 4.15 A Development Impact Statement.
4.22 Traffic Impact Study

Section V – Requirements

- 5.1.6 Requirement for a minimum 50 foot landscape buffer strip to protect neighboring residential properties.

Section VI – Development Impact Statement

We recommend that all waivers that are granted by the Planning Board be specified on the cover sheet of the approved Site Plans. ***The waivers are now listed on the cover sheet.***

Section IV. Site Plan Content

- 4.6 No proposed grading is shown on either the southerly side or the westerly side of the proposed building. As shown on the plan, it appears that stormwater runoff will be directed towards the building which generally is not common practice. We recommend that the plan be revised to show the proposed grading in these areas. ***Additional contours and spot grades now specify drainage away from the proposed building.***
- 4.7 No Landscaping Plan prepared by a Registered Landscape Architect has been provided as required by the Regulations. ***The Applicant respectfully requests the Board to waive the requirement for a landscaping plan, as the building is proposed to be setback 370’ from the street in an existing gravel area, and the front portion of the site is landscaped and in very good condition. Further, the Zoning Board required three evergreens to be planted to the west of the existing building to screen the rear portion of the property from the street. These trees have been planted and are depicted on Sheet 5 of 6. This waiver request has been added to the cover sheet.***

- 4.8 The location, size and material of both the existing and proposed water service for the property should be shown on the plan as well as the location, size and material of the watermain on Mattakeesett Street. In addition, the location of both the existing and proposed electric service should be presented. ***The plans have been updated accordingly.***
- 4.9 A Zoning Table is presented on sheet 4 of the plans as required. ***No response required.***
- 4.10 Plans showing front, rear and side elevations of the proposed building have been submitted. Building materials and colors should also be specified. ***A proposed color site rendering is submitted herewith. The building will have white metal siding and black doors and windows. New windows and doors will be installed on the existing building to match.***
- 4.11 The plans do not show the location of the proposed dumpster for the site. We recommend that the applicant address the method of trash removal.
The existing dumpster is located in a fenced enclosure to the northeast of the existing building, which is now depicted on the plans. This dumpster area is proposed to remain.
- 4.13 It is unclear whether pavement is being proposed on the westerly side or northerly side of the proposed building.
Refer to responses above.
- 4.15 A Development Impact Statement has not been submitted as required. The applicant has requested a waiver of this requirement. ***No response required.***
- 4.16 The design plans have not been stamped and signed by a registered Professional Engineer nor by a registered Professional Land Surveyor as required. A Professional Land Surveyor's certification as to the accuracy of the location of the buildings, etc. has not been presented on the plans as required and should be provided. ***The plans are now stamped and signed by a Professional Land Surveyor.***
- 4.18 The dimensions of the proposed building have been shown on the plan as required but the square footage of the proposed building has not and should be presented on the plans. Floor plans have been provided. ***The plans have been updated accordingly.***
- 4.19 A general construction sequence is presented on sheet 4 of the plans and a detail of a mulch sock is presented on sheet 5 of the plans. We recommend that an erosion control barrier be provided around the entire limit of construction and that a detailed construction sequence be provided as well as the location and sizing calculations for temporary sedimentation basins.
***The erosion control barrier is now specified around the entire limit of work.
The construction sequence has been updated to include additional detail.
A temporary sediment basin with sizing calculations is now shown on Sheet 4 of 6.***
- 4.21 No information on the proposed site lighting has been shown on the plan. The location of the proposed lighting and a Photometric Plan as well as details of the proposed lighting should be provided. ***A proposed lighting and photometric plan is submitted herewith.***
- 4.22 A Traffic Impact Study has not been submitted. The applicant has requested a waiver of this requirement. ***No response required.***

Section V. Requirements

- 5.1 No Landscaping Plan prepared by a Registered Landscape Architect has been provided as required by the Regulations. *See responses to previous comments.*
- 5.1.2 The Regulations require a 3-foot-wide landscaping strip along the foundation walls for all non-residential buildings. This landscape strip has not been provided. *The Applicant respectfully requests the Board to waive the requirement for a 3-foot landscaping strip along the foundation walls, as the building is proposed to be setback 370' from the street, and the landscape strip would not be visible from the abutting properties. This waiver request has been added to the cover sheet.*
- 5.1.6 The Regulations require that "All residential properties shall be protected by a landscape buffer strip with a minimum width of 50 feet, with such berms, fences, sound walls, and plantings deemed necessary by the Planning Board to protect neighboring residences." The Planning Board should determine if additional landscaping is required. The applicant has requested a waiver of this requirement. *No response required.*
- 5.2 No information on the proposed site lighting has been shown on the plan. The location of the proposed lighting and a Photometric Plan as well as details of the proposed lighting should be provided. *See responses to previous comments.*
- 5.3 A Stormwater Calculations & Report has been submitted in support of the proposed project as required. We offer the following comments regarding the drainage design and analysis:
- As presented in the Stormwater Calculations and Report, the only area of the site covered by the stormwater calculations is the roof area of the proposed building. We disagree with the extent of the area covered by the stormwater analysis. Based on the architectural plans, overhead doors are proposed on three sides of the building and it is likely that additional pavement will be constructed as part of the project. All areas disturbed by the proposed construction should be taken into consideration as part of the stormwater calculations. *The stormwater calculations have been revised to consider all portions of the property to be disturbed.*
The pavement in front of the proposed building will be sawcut and re-paved, providing paved access to the six primary overhead doors.
The sides and rear of the building are proposed to remain as gravel boat storage areas.
Stormwater runoff from the existing paved areas and the proposed building will be directed to a new subsurface infiltration system.
We note that the total paved area of the site is reduced by 8% (from 29,931 s.f. to 27,462 s.f.).
 - As shown in the HydroCAD calculations, each of the three (3) proposed roof infiltration systems surcharges for both the 10-year and 100-year storm events. Each system discharges through 2 - 6" diameter grates. The location of these grates should be shown on sheet 4 of the plans and on the detail presented on sheet 5 of the plans. These overflows may cause erosion and some type of flow control and/or erosion control should be provided. *Runoff from the roof is now proposed to be directed to the new subsurface infiltration system. A headwall with riprap spillway is now specified at the outlet for erosion control.*

- Design calculations should be submitted for the proposed relocated subsurface infiltration system. ***HydroCAD calculations are for the existing and proposed subsurface infiltration systems are now included in the drainage report.***
- We recommend that the time of concentration (Tc) flow paths as well as the soil types be shown on the Watershed Plans. ***The Tc flow paths are now shown on the Watershed Plans.***
- A 50 foot setback is not provided from the proposed Roof Infiltration System #3 to the proposed relocated septic leaching system located in the northeast corner of the site. The Stormwater Management Regulations require a minimum setback of 50 feet and we recommend that the plans be revised to address this setback requirement. ***Roof runoff is now directed to the new subsurface infiltration system which is 160' from the septic leaching field.***
- Soil testing has been performed within the area of the proposed relocated septic leaching system. We recommend that additional soil testing be performed within the limits of the three (3) proposed roof infiltration systems and the proposed relocated subsurface infiltration system to demonstrate that adequate soils are present for recharge and to confirm the infiltration rate and the Estimated Seasonal High Groundwater Elevation (ESHGW) used in the stormwater calculations. We also recommend that the soil logs be shown on the plans and specify the elevation of the ESHGW. ***Additional soil testing is now depicted on sheet 4 of 6.***
- We recommend that the elevations of the various components of the proposed roof infiltration systems and the proposed relocated subsurface infiltration system be specified on the typical cross-section presented on sheet 5 of the plans. In addition, the estimated seasonal groundwater elevation (ESHGW) and water surface elevation for the various storm events for each system should be presented. ***The elevations are now shown on the detail cross-section on sheet 5 of 6.***
- The size of the proposed roof infiltration systems and the proposed relocated subsurface infiltration system are graphically shown on sheet 4 of the plans. The size of each system should be clearly specified including the number and type of chambers. ***Runoff from the roof is now directed to the new subsurface infiltration system. The number and type of chambers are specified on sheets 4 and 6.***
- The invert information for the 12 " RCP from the existing sediment trap to the proposed relocated subsurface infiltration system should be specified on the plan as well as the invert information for the 8" PVC roof drains. ***The existing invert from the sediment trap, and the proposed roof drain inverts are now specified on Sheet 4 of 6.***
- Based on construction of the proposed roof infiltration systems and the proposed relocated subsurface infiltration system re-grading of several areas will be required. As currently shown on the plan all stormwater runoff from the westerly side and southerly side of the proposed building will be directed towards the building. We recommend that additional proposed contours and spot grades be presented on the plan to clearly show the direction of the intended stormwater runoff flow paths. ***Additional contours and spot grades now specify drainage away from the proposed building.***

- We recommend that the Stormwater Calculations & Report contain a MassDEP “Checklist for Stormwater Report”. ***The checklist has been provided in the stormwater report.***

It is general practice to design sites to comply with Massachusetts DEP Stormwater Management Regulations. The following section describes the 10 Standards for compliance with Stormwater Management Regulations and the status of the submittal relative to each standard.

Standard 1 – Untreated Stormwater

Additional Information required. ***See responses to previous comments.***

Standard 2 – Post Development Peak Discharge Rates

Additional Information required. ***See responses to previous comments.***

Standard 3 – Recharge to Groundwater

Additional Information required. ***See responses to previous comments.***

Standard 4 – 80% Total Suspended Solids (TSS) Removal

Calculations have not been submitted demonstrating that a TSS removal of 80% is provided for this project. As presented in the Stormwater Calculations and Report the only area of the site covered by the stormwater calculations is the roof area of the proposed building. We disagree with the extent of the area covered by the stormwater analysis. Based on the architectural plans, overhead doors are proposed on three sides of the building and it is likely that additional pavement will be constructed as part of the project. All areas disturbed by the proposed construction should be taken into consideration and covered as part of the Stormwater Calculations & Report. ***See responses to previous comments. Paved areas are reduced in the post development conditions. Paved areas are treated by deep sump hooded catch basins and a particle separator prior to a new subsurface infiltration system. TSS removal calculations are now provided in the stormwater report.***

Standard 5 – Higher Potential Pollutant Loads

The use of the proposed building is somewhat unclear and the business is listed as East Coast Fiberglass. If boat repair is performed on site this would be considered a source of higher potential pollutant loads. The applicant should provide additional information on the proposed use. Additional Information required. ***Per the Applicant, all boat repair will be performed inside the buildings. The building is proposed to be equipped with floor drains connected to an industrial waste holding tank.***

Standard 6 – Protection of Critical Areas

Based on information presented on MassGIS and the Town of Pembroke GIS web page the project site is not located in a Critical Area. This Standard is not applicable. ***No response required.***

Standard 7 – Redevelopment Projects

This project is not considered a redevelopment project and consequently this Standard is not applicable. ***No response required.***

Standard 8 – Erosion/Sediment Control

A general construction sequence is presented on sheet 4 of the plans and a detail of a mulch sock is presented on sheet 5 of the plans. We recommend that an erosion control barrier be provided around the entire limit of construction and that a detailed construction

sequence should be provided as well as the location and sizing calculations for temporary sedimentation basins. ***Refer to responses to previous comments.***

Standard 9 – Operation and Maintenance Plan

An Operation and Maintenance Plan has been provided as required. Based on the requirements of Standard 5, additional information may be required. ***Refer to responses to previous comments.***

Standard 10 – Illicit Discharges

In order to meet this standard, an “Illicit Discharge Compliance Statement” meeting the requirements specified in the Stormwater Management Regulations has been submitted. This Standard has been met. ***No response required.***

- 5.6.1 The Regulations state that “All access drives and parking areas shall be graded, paved...” Based on the architectural plans, overhead doors are proposed on three sides of the building and it is likely that additional pavement will be constructed as part of the project. We recommend that this be addressed by the design engineer.
***Paved access is provided to the front six primary overhead doors.
The sides and rear of the building are proposed to remain as gravel areas where boats will be stored. There are three secondary overhead doors in these areas. The Applicant respectfully requests the Board to waive the requirement for paved access to these three secondary overhead doors located on the sides of the building.***
- 5.6.2 Curbing has not been placed at the edges of all paved areas as required. The Regulations require that the type of curbing shall not be bituminous concrete. See Item 5.6.1.
Curbing is not necessary because there are no new paved areas.

Section VI. Development Impact Statement

A Development Impact Statement has not been submitted as required. The applicant has requested a waiver of this requirement. ***No response required.***

ADDITIONAL COMMENTS

1. We recommend that the proposed tree line be revised to account for the proposed relocated leaching field for the subsurface sewage disposal system and Proposed Roof Infiltration System #3. ***The tree line has been revised accordingly.***
2. The plans should be reviewed by the Pembroke Fire Department relative to access and fire protection. A proposed 10,000 Gallon Fire Service Water Supply Cistern is proposed on the westerly side of the building and the Fire Department should determine if this is acceptable. ***A copy of the site plan has been provided to the Fire Department for comment.***
3. The design of the proposed relocated septic leaching field will need to be reviewed and approved by the Pembroke Board of Health. ***The Septic Design Plan has been submitted to the Board of Health.***

If you have any questions or comments please do not hesitate to contact me at 781-545-0895.

Respectfully Submitted,
Morse Engineering Company, Inc.

Jeffrey M. Hassett, P.E.