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 August 4, 2020

Town of Wareham Planning Board

Memorial Town Hall

54 Marion Road

Wareham, MA 02571

 Re: Site Plan Review for

 Master Millwork, Inc.

 55 Charlotte Furnace Road

Attention: George Barrett, Chairman

Dear Chairman Barrett:

 I have reviewed the application, plans, project narrative and stormwater calculations for the above referenced project. All of the documents were prepared by GAF Engineering and dated July 8, 2020. The following comments relate to my review of the information supplied.

General

1. The project is an expansion of a previously approved site for the manufacture of light interior building materials. The existing building and site work were authorized by Special Permit of the Planning Board on March 2, 2016. Existing features of the site are shown on page 3 of the current plan set.
2. An inspection of the site suggests that all of the landscape features that are shown on Sheet C-4 of the previous plan set by Green Seal Environmental, Inc. may not have been installed. However, some plantings along the existing southerly portion of the site may need to be removed or replaced in the event of approval of the current plan.
3. The previously approved site plans did not show the significant outside duct work that is on the southerly side of the existing building.
4. The previous Special Permit required that the applicant should make a good faith effort to provide certain landscape amenities on abutting properties across Charlotte Furnace Road from the existing entrance. Evidence that this effort was made should be provided to the Planning Board.
5. The project appears to meet all of the space requirements of the Wareham Zoning By-Law according to the table listed on sheet 1 of the plan set.

Project Narrative

1. The narrative indicates on Page 1 that the new space will be devoted to manufacturing. Will this process include the expansion of current air handling equipment or extensive additional ductwork such as what is presently on site? If so, where would it be located?

Re: Site Plan Review for

Master Millwork, Inc.

55 Charlotte Furnace Road

Page two

1. The narrative indicates that fire access is provided to three sides of the new building. Evidence that curb radii, width of access, proximity to the building face, turning areas and other features are acceptable to the Wareham Fire Department. A letter from the Fire Department to the Wareham Planning Board should be provided indicating approval of these features. It should be noted that the access from Charlotte Furnace Road is not included in this comment.
2. The narrative indicates that a new access drive is to be provided for truck access and maneuvering to the proposed loading docks. The plans indicate that this would be a truck and employee entrance only.
3. The Planning Board may wish to consider whether this second access road is essential given the width and location of the existing entrance. It is sufficiently wide to allow for standard box-type trucks to enter easily and without the necessity of turning into on-coming lanes on Charlotte Furnace Road to make the turn.
4. In reviewing the proposed site layout, turns to the proposed loading docks can be made easily from either access point since proposed parking is the same distance away coming from either direction and the access aisle is adequate.
5. The applicant should present evidence that this second driveway is essential to the success of the project in general. Some consideration might be given also to making modifications to the existing entrance drive that would reduce the site impacts from Charlotte Furnace Road and abutting properties. Clearing of the second access will open up a large expanse that will emphasize the scale of the new addition.
6. The previous project included a traffic study for the project. No study for the expansion has been included. The narrative notes that there may be as many as 50 employees per shift. How many shifts are anticipated and how many vehicle trips per day might be expected?
7. The narrative indicates the domestic water need is limited to 750-1000 gallons of water per day. There is no information with respect to the water main being adequate for fire protection. Available fire flow and demand should be included for review and approval by the Wareham Fire Department with a summary provided to the Board.
8. Fire protection to the rear of the building consists of a 20-foot wide access driveway. The driveway is partially paved and partially of 1-1/2” crushed stone. A depth of 12” of stone is not recommended. A more appropriate surface for durability and snow plowing would be reclaimed asphalt of a similar depth.

The curb radii are sharp and the backing area is small. In addition, vertical curb is proposed on each side of the paved portion of the driveway. The curb will make it more difficult for the placement of apparatus or for making turning movements. Cape Cod berms are recommended which can be mounted without tire damage.

It is also of concern that the fire access drive is close to the long building face. The applicant should inquire of the Wareham Fire Department as to safety concerns related to the placement of apparatus this close to a large structure in the event of a fire emergency.

Re: Site Plan Review for

Master Millwork, Inc.

55 Charlotte Furnace Road

Page three

1. The narrative includes a lighting plan but because of the small size it is difficult to read. A full-size plan should be presented.

Plans

1. The proposed loading dock ramp is approximately 6.67% in grade. The applicant should check to see that this grade is such that there will be appropriate transition from the truck to the interior dock without hitting the building by the top of the truck body. Given the flat grade at the building a trench drain might be a better choice rather than a single catch basin.
2. There is no detail of the vertical curb that is proposed around the new parking area or to the rear of the building.
3. Curb radii should be adjusted according to Fire Department needs in those areas where FD access is required.
4. The unpaved fire access road at the rear of the building should be changed from 12” of crushed stone to reclaimed asphalt.
5. It is recommended that the 4” of dense graded stone shown in the pavement cross section be removed unless it can be successfully placed by a box spreader. With a total bituminous thickness of 5”, this added layer of base material appears to be unnecessary.
6. There is no indication that there is sufficient base material in the existing gravel parking area for asphalt mix. Existing depth of material should be checked at several locations to show that it is sufficient.
7. Show the proposed thickness of pavement that will be used in the area referenced in Item 6.
8. The detail plans show a dumpster pad. Is a new pad location proposed and if so where?
9. Will bollards be used in front of the 12’ overhead door? If not, it is assumed that there are floor drains in the building and that the tight tank is for floor runoff collection.
10. Gas/oil traps in all catch basin structures should extend a minimum of 12” below the flow line of the outlet pipe. A pipe tee or elbow with a 2” diameter anti-siphon hole is a preferable substitute for the type shown because of minimum depth preference.
11. Wheel stops should be placed in each of the parking spaces shown in front of the new building. The sidewalk appears to be flush with the pavement area.
12. Evidence should be submitted to show that there are no issues with allowing the roof drain lines to run under the floor slab of the new building. This should include as a minimum a written response from the plumbing inspector.

Re: Site Plan Review for

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55 Charlotte Furnace Road

Page four

Stormwater Calculations.

1. The general methodology used for estimating the stormwater runoff is satisfactory and follows accepted practice. The following concerns are noted.
2. The infiltration basin at the southeasterly corner of the property has been given a runoff curve number of 98, suggesting that this surface is impermeable. Similar numbers are given to roofs and paved areas. That being, an infiltration rate of 8.27”/hour cannot be used to establish the storage level in the basin for the entire surface area. Only the stone filled trench can use that rate since it is in direct contact with the underlying sand. The surface of the basin is lined with 4” of loam and seed which would have a much lower infiltration rate.

One of two alternatives could be considered.

1. Enlarge the basin using a much slower rate of infiltration for the loam and seed or,
2. Increase the subsurface infiltration by the use of multiple leach pits or galleys to make up the difference.

The infiltration rate of 8.27”/hr. is acceptable for those portions of the design where structures and/or stone are in direct contact with the subsoil of clean sand as noted in the test pit logs.

1. The same 8.27”/hr. has been used to determine the recharge rate. Again, the entire surface of the infiltration basin cannot be assumed to have this rate as noted in the calculation presented.
2. If the height of stormwater in the infiltration basin remains as noted in the calculations, for 25-year storms and 100-year storms the roof drain line that is under the building will be flooded. The pipe invert is lower than the height of water in the basin.

Detail Sheets

1. Change the fire access road to reclaimed asphalt for durability and ease of plowing in winter months,
2. Remove the 4” of dense graded stone in the pavement cross section.
3. Add a cross section for paving the existing gravel surfaces,
4. Add the dumpster location if there is one.
5. Where is the 24” Nyoplast drainage basin used? If not remove from plan.
6. Add wheel stops as necessary to the site plan.
7. Show the flared end detail in cross section with stone extending 24” behind the flared end and with sides raised above the flow line.
8. Provide a concrete curb detail,
9. Change the concrete seal around the catch basin frame as extending to the top of the binder course of mix, not the bottom of mix. See the leaching pit detail on Sheet 9 of the plan set.

Re: Site Plan Review for

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Page five

 This concludes the initial review of the documents presented. Please feel free to contact me if you have any questions.

Very truly yours,

Charles L. Rowley

Charles L. Rowley, PE, PLS

Cc Ken Buckland, Town Planner

 Planning Board Members

 Jim Munise, BOS Liason

 Capt. Chris Smith, WFD

 Bill Madden, GAF Engineering