



322306P  
January 24, 2014

Marcia Gasses  
Town Planner  
Town of Barrington  
PO Box 660  
Barrington, NH 03825

Re: Tropic Star Convenience  
Route 125, Barrington, NH  
Map 238, Lot 4  
Engineering Review

Dear Ms. Gasses:

As requested, we have completed our review of the plans and materials for the above referenced project. The plan set consisted of 23 sheets with a January 3, 2012 date, last revised December 18, 2013. Also included for review were a Drainage Analysis, Sediment and Erosion Control Plan (dated January 3, 2012, last revised December 18, 2013) and response letter from Jones & Beach Engineers dated December 23, 2013. The following were comments noted during the review:

1. The cueing plan shows that 6 vehicles can be accommodated from the menu board without blocking any parking spaces, and another 3 could be accommodated between the menu board and window. We understand that the intent is to sell coffee at the drive-thru window. Cueing of 10-15 vehicles (from the window) is common for this use. We recommend that a drive-thru lane of appropriate length be designed in a manner that does not conflict with parking or circulation patterns. (REPEAT COMMENT) Should the Board choose to approve this layout, we recommend that the drive-thru lane be striped and marked as such, so that drivers who choose to park in the 5 spaces understand that they may be temporarily blocked, and so that drivers waiting for the drive-thru keep left (instead of right, as they might otherwise be accustomed) allowing circulation to the rear of the site.

2. The sidewalk dimension is not labeled along the south side of the building, but the engineer stated in a previous response letter that the dimension is 5.5'. (REPEAT COMMENT) Most recently, curb stops have been added to meet the objective of Articles 4.9.2.4 and 4.9.5.4. To facilitate proper construction, we recommend that a detail be added to the plan set showing the dimensions and material of the curb stop, and the relationship of the curb stop to the curb.
3. According to Article 4.9.13.1, the maximum allowable parking is 10% over the calculated value, which in this case is 40 spaces, for a maximum of 44 spaces. The Planning Board will need to consider their request for 55 spaces between the two lots where a maximum of 44 are allowed. It is noted that the convenience store/fast food alone requires 33 spaces, and 28 are provided exclusive of the spaces included in the parking easement to the grocery store. (REPEAT COMMENT)
4. The Drainage Analysis shows an increase in runoff at Analysis Point #3, the catch basin behind the church. We recommend that the design be revised to meet the requirements of Article 4.7.1.1. (REPEAT COMMENT) It is further noted that there is a very minor increase (0.01 cfs) at Analysis Point #4 in the 25- and 50-year storms.
5. As drainage is directed across the church property, we recommend that the applicant obtain and depict on the plan the appropriate drainage rights, pursuant to Article 4.7.1.5.
6. The Drainage Analysis narrative states that Analysis Point #3 is located along the northern property line. We recommend that this description be revised to reflect that the catch basin is the analysis point.
7. The velocity requirements of Article 4.7.7.2 are not met by the proposed design. (REPEAT COMMENT) We understand that the engineer plans to request a waiver from the Planning Board. Should the Board choose to grant such a waiver, we recommend that appropriate language be added to the plans and Operations and Maintenance Manual advising the responsible party that additional maintenance may be required for the drainage system.
8. Article 4.7.7.3 requires a 36" minimum depth of cover. (REPEAT COMMENT) We understand that a waiver will be requested from this requirement. In considering this waiver, the Board should be aware that less cover will make the pipe more susceptible to freezing, and make the pavement more susceptible to damage caused by freeze/thaw cycles. Should the Board choose to grant this waiver, we recommend that the appropriate language be added to the plans requiring the applicant to make prompt repairs to any damage that is caused to the pavement.
9. The shallow catch basin detail should be amended to include a polyethylene liner downspout in accordance with Article 4.7.8.

10. We recommend that the engineer add the weir lengths to the details for DMH #1 & #9, so that this component is constructed in conformance with the drainage calculations.
11. We recommend that the landscape architect confirm that the specified plantings are suitable for the 2:1 slope. (REPEAT COMMENT)
12. The lighting plan (sheet L1) is not stamped by an electrical engineer. (REPEAT COMMENT) The engineer points out that this has been discussed with the Board.
13. We recommend that a reduced-size site plan be attached to the Operation and Maintenance manual depicting the location and quantity of each component for use by personnel performing the inspections. (REPEAT COMMENT) The engineer has agreed to include the site plan set in the Operations and Maintenance manual.
14. The southerly limit of the water easement appears to have been deleted from Sheet C3.
15. The text "SGC" appears on the landscaped area near the site entrance. If it is still intended that the curbing for the 5 parking spaces for the grocery store be sloped granite, we recommend that this text be shifted to the new location of curbing. Otherwise, the text should be deleted.
16. Pursuant to our previous letter, three parking spaces were removed from the site plan. We recommend that Sheet L3.0 be updated to show the proposed landscape improvements in this location. We also noted that Sheet L3.0 depicts the stop bar extending across the entire width of the northerly driveway. We recommend that this sheet be revised to match the other sheets in the plans set.

Very truly yours,

DuBOIS & KING, INC.



Jeffrey Adler, P.E.  
Senior Project Manager