



FUSS & O'NEILL

April 1, 2019

Mr. Richard Harris, AICP  
Director of Planning & Conservation  
Town of South Hadley  
116 Main Street  
South Hadley, MA 01705

Re: Peer Review of the Stormwater Management  
Center for Human Development  
Fuss & O'Neill Reference No. 20150214.P30

Dear Mr. Harris:

Fuss & O'Neill has conducted a review of the documents submitted by Associated Builders, Inc. related to the development of a human development facility located on Old Lyman Road adjacent to Big Y. The overall concept of the project appears to be feasible however, there are several technical items which need to be addressed in order to verify the proposed design meets the South Hadley Stormwater Bylaws. We have conducted a review of the following materials as they relate to the stormwater management and standard engineering practice.

#### Materials Reviewed

1. "Center for Human Development Proposed Facility" plan set, revised through 3/18/19, prepared by Associated Builders, Inc.
2. Letter address to Mr. Harris, regarding Site Plan Review – Plan Revision List, prepared by Associated Builders, Inc., dated March 20, 2019.
3. Letter address to Mr. Harris, regarding Site Plan Review – Response to Comments, prepared by Associate Builders, Inc., dated March 18, 2019.
4. Letter Address to Mr. Harris, regarding Site Plan Review – Response to Fuss & O'Neill Comments, prepared by Associated Builders, Inc., dated March 19, 2019.

Fuss & O'Neill believes the Applicant has addressed the comments presented in our previous revised letter dated March 6, 2019, with the exception of the following comments that need further review by the Planning Board. For tracking and clarification purposes, the numbering for the remaining comments from the previous review have remained the same and comments addressed have been removed. The remaining comment responses made by Associated Builders, Inc. have been *italicized* and new comments by Fuss & O'Neill are in **bold** lettering.

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### **Stormwater Management**

1. Per Section 16-1.1, B3 of the Stormwater Management Bylaw, the stormwater management system shall minimize the volume and rate of stormwater which is discharged. The applicant has provided documentation demonstrating that there will be a slight increase in volume and peak rates of for the 10-year and 100-year storm event. This increase is minimal and should not impact the downstream areas. It's at the discretion of the Planning Board to allow the small increase. However, peak flows may need to be reevaluated because revisions that may be required due to review comments.

*Revised calculations have been attached. The minimal increase in flow has further been reduced by elimination of the sidewalk. We also discussed the option of reducing the driveway width with the Fire Department to further mitigate the increase, however, they will require access into the driveway with a 47' ladder truck, therefore the driveway width can't be reduced. The revised summary of peak flow rates is below.*

**Peak rates have been reduce or maintained for each storm event with the exception of the 100-year storm. It's is Fuss & O'Neill's opinion the increase is minimal and will have no impact on downstream conditions. It's at the discretion of the Planning Board to allow the increase.**

3. Per Section 16-4.2, B and Section 16-8 of the Stormwater Management Bylaw, information for the outline in this section must be provided within the ongoing maintenance agreement. The Applicant has provided a Post-Construction Operation and Maintenance Plan, however it does not sufficiently include information required by Section 16-8.

*A Stormwater Management Operation, Maintenance, and Inspection Agreement addressing these items has been enclosed.*

**An agreement has been provided, however information is required to complete the agreement. It's understood at this time the information may not be available. Once available the agreement must be updated. An updated agreement should be provided to the Planning Board prior to the start of construction. No further review is required by Fuss & O'Neill.**

6. Per Section 16-6.1 of the Stormwater Management Bylaw, projects must meet the Massachusetts Stormwater Management Standards. The following Stormwater Management Standard 2 have not been met:
  - a. Standard 2: Post-development peak discharge rates exceed pre-development peak discharge rates.



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*Although there is a slight increase in post-development peak discharge rates, the rates have been minimized and are not expected to have downstream impacts.*

**Peak rates have been reduce or maintained for each storm event with the exception of the 100-year storm. It's is Fuss & O'Neill's opinion the increase is minimal and will not affect downstream conditions. It's at the discretion of the Planning Board to allow the increase.**

### **General**

14. Please provide the water quality unit inlet/outlet size on sheet L3.1 or on the detail on sheet L5.1

*On plan sheet L3.1, the inlet and outlet sizes were added to the structure table. On the detail on sheet L5.1, the inlet and outlet sizes were added to the inlet and outlet labels.*

**Inlet/outlet sizes have been provided. Due to the size, it's recommended, if accepted by the manufacture, trash racks be installed at the inlet and outlet. This will prevent small animals and debris from entering the system and causing potential damage to the unit. No further review is required by Fuss & O'Neill.**

22. The elevation on Basin Berm Overflow Weir detail indicates a 1' min. grade change between the top of the berm and top of the overflow weir. The grading plan shows a grade change of 0.6' between top of berm and top of the overflow weir. Revise the grading plan to provide 1' of grade change. In addition it is standard engineer practice to provide one foot of freeboard when designing basins.

*The Basin Berm Overflow Weir has been revised to indicate a 0.6' grade change as indicated on the plan sheet L3.1. The basin berm elevation has been designed to provide 1' of freeboard to the highest stormwater elevation in the 100-year storm event as calculated in the HydroCAD calculations that model the combined basin.*

**The detail indicated does not appear to have been revised, it still indicates the overflow weir is 1 foot below the top of berm. In addition the HydroCAD calculations use an invert elevation that is only 0.5 feet below the top of berm. To ensure the basin is constructed as designed the detail should be updated. The calculations do show the basin provides one foot of free board for the 100-year storm. No further review is required by Fuss & O'Neill.**



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The above comments are based on plans and documentation received at the time of review. Any revisions to the plans and documentation will require further review. Please feel free to contact us with any questions.

Sincerely,

Aimee Bell  
Project Engineer

Reviewed by:

Daniel F. DeLany, P.E.  
Associate/Department Manager