



GREEN INTERNATIONAL AFFILIATES, INC.

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May 11, 2022

Ms. Maren Toohill, AICP
Town Planner
Town of Littleton Planning Board
37 Shattuck Street, Room 303
Littleton, MA 01460

**Subject: Site Plan/Special Permit Peer Review
Application for 242 King Street Littleton
Water Resource Recovery Facility
Littleton Planning Department**

Dear Ms. Toohill:

Pursuant to our agreement with the Town of Littleton, Green International Affiliates, Inc. (Green) is submitting the attached comments from our Site Plan/Special Permit Review Application Package for the proposed site improvements at 242 King Street.

This peer review investigates the application package for compliance with the Code of the Town of Littleton, Massachusetts, Chapter 38, Article II - Stormwater Management and Erosion Control Bylaw and Chapter 173 - Zoning Bylaw. This review included an examination of the following documents:

- Document titled "Site Plan and Special Permit Application for 242 King Street" prepared by CDM Smith and dated March, 2022;
- Plans titled "Littleton Water Resource Recovery Facility", prepared by CDM Smith and dated April 14, 2022 revised April 22, 2022 and containing twelve (12) sheets;
- Stormwater Report by CDM Smith and dated April 1, 2022 and containing one ninety seven (197) sheets.

Please note that this peer review is not a complete review of the project design and does not relieve the Applicant and Engineer of meeting all requirements of local, state and federal regulations. Please feel free to contact me if you have any questions regarding our review.

Sincerely,
Green International Affiliates, Inc.

James Thorne, P.E.
Project Manager

Thomas Bigelow, P.E. (NH)
Project Manager

tb/jt

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Peer Review Comment Form

NO.	SHEET NO.	SECTION	GREEN'S COMMENT	Applicant's RESPONSE	CONFIRMED BY	DATE
APPLICATION						
1	7	Special Permit Application Submission Requirements	Existing fire hydrants, sewer, electric, gas, and other utilities are not provided on the plans. The plans should be updated to show all existing utilities.			
2	7	Special Permit Application Submission Requirements	Existing conditions plan doesn't show test pit data(numbers) and environmentally sensitive zones/buffers as noted in the submission requirements of the special permit application. Please add these to the plans.			
3	7	Special Permit Application Submission Requirements	The latest revised plans are not stamped by registered professional engineer. Please stamp revised plans.			
4	7	Special Permit Application Submission Requirements	The summary table which contains zoning district, lot area, gross floor area, lot coverage, building height, parking spaces, density, trip generation, open spaces are not provided. Please provide the summary table on the site plans.			
5	7	Special Permit Application Submission Requirements	The site layout plan doesn't show required setbacks and other information required for zoning compliance as noted in the submission requirements of the special permit application. Please provide this information on the plans.			
6	7	Special Permit Application Submission Requirements	Parking, loading and access plan is checked on the Special Permit Application but is not provided. The plans do not have parking and loading spaces and areas including stalls, aisles, and turning radii. Please clarify.			
SITE PLAN						
7	2		In the application there is an existing conditions plan which shows a culvert connecting the low lying area and the wetland. This should be identified on the site plans. The inverts and size should be added to the site plans as well.			
8	6		If the existing culvert is to remain, it is recommended to realign the proposed culvert to be in line with the existing culvert to prevent erosion.			
9	3	§38-16.C.5.	The Applicant shall show a number in square feet of the land area to be disturbed on the site plan.			
10	2,7	§38-16.C.2./§38-17.C.2.	The legend should include all symbols and abbreviations. There are some abbreviations on the Yard Hydrant plan that are not included in the legend.			
11	3,6	MA Stormwater Handbook Vol 2. Chp. 2.	Per the MA Stormwater Handbook, one soil sample for every 5,000 ft of basin area is recommended, with a minimum of three samples for each infiltration basin. Samples should be taken at the actual location of the proposed infiltration basin so that any localized soil conditions are detected. The test pits aren't shown on the grading plan where the stormwater bmps are located. Please confirm.			
12	7		The proposed culvert under the driveway has 5 utility crossings. The water line crossing is 2.8' deep from the finished grade which is less than 5'. It is recommended the water line should be insulated to prevent freezing.			
13	4		How will the proposed basins be protected from sediment during construction?			
14	7		The 6" ductile iron cold water line crosses the 8" PVC sewer line. It is recommended concrete encasement is provided at water and sewer crossings.			
15	6	MA Stormwater Handbook Vol 2. Chp. 2.	At a minimum, the volume of the sediment forebay shall hold 0.1 inch/impervious area to pretreat the water quality volume. Please provide backup calculations for the sediment forebays to show they meet this requirement.			



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16	3,4,5,6,7		The wetland buffer lines should be added to the site plans to demonstrate limit of disturbance within the buffer zones.			
17	3		The low lying area in the southwest corner of the site is not flagged as a wetland on the plans but it is shown as a wetland on Mass Mapper and in figure 1 and 2 within the permit application. Also, per Green's site visit blue flags were observed around this area. We have been informed by the Conservation Commission that supplemental information has been submitted by the applicant showing this area is a stormwater pond constructed by MassDOT. It is our understanding that the Conservation Commission agrees with the Applicant and our peer review comments are based on the assumption that this area is not a wetland.			
18	6		Proposed contour 211 is missing near the emergency spillway at the northern infiltration basin. Please revise grading to include this as it impacts the flood storage area.			
19	6		The existing house to remain appears to no longer have access to King Street. Will there be a new driveway or curb cut for the house?			
20	7		In the application there is an existing conditions plan with a utility easement going through the property but no utility is plotted. This utility easement is not shown in the site plan set of plans. It appears the proposed tanks will be within the utility easement. Will this be an issue?			
21	6		The existing weir elevation is at 210.50 and appears to remain. The proposed culvert has an outlet of 209.50. Therefore, the culvert will surcharge before overtopping the weir and discharging to the wetland. It is not recommended to surcharge the culvert.			
22	7		On the Yard plan there are many utility lines crossing the culvert. Are there any concerns of depth of cover? Is there adequate separation or pipe material adequate for H-20 loading.			
ZONING BYLAWS						
23		§173-32	Provide explanation of parking area. Will there be any parking provided?			
24		§173-18.D.	Adequate access to each structure for fire and service equipment shall be provided. Confirm this has been reviewed and coordinated with the Littleton Fire Department.			
25		§173-18.C.	Major topographic changes or removal or existing trees shall be minimized. The plans call for major topographical changes with significant grading within the flood plain. Also, there is significant amount of tree removal. Although the Applicant is providing compensatory flood storage and new trees onsite. We defer to the board if this is acceptable.			
26		Wetlands Protection Act	The compensatory flood storage is not being met on a ft to ft basis. The contour elevation 210 has a 35 cu-ft fill. However having an overall net cut is typically acceptable. We defer to the Conservation Commission.			
27		Wetlands Protection Act	Based on visually looking at the plans, it looks like the compensatory flood storage area is smaller than the area of fill proposed within the floodplain. Also, the compensatory flood storage table is demonstrating cut and fill at each contour when it should be shown as volumes between each contour. Please provide backup calculation for the compensatory flood storage on a foot by foot basis.			
STORMWATER REPORT						
28	1		The narrative mentions there are two pipes (one 12" and one 36") that discharge to the low lying area. The 12" pipe is not shown on the existing conditions drainage map. Please add all existing drainage information to the drainage map.			



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29	1		The narrative mentions the residential house will be sold as a private property. The plans do not include the properties as subdivided. Please clarify if subdividing the property is part of this project.			
30	2	MS4 Permit Requirements	The narrative mentions that the project must provide 90% TSS removal due to the MS4 permit. TSS calculations only show 80% TSS removal. This is understood to be compliant due to new rule stating if water quality volume is provided for the 1", the stormwater bmp achieves 90% TSS removal.			
31	4	MA Stormwater Standards	Standard 2 is not being met due to increase in peak rates for the 2-year storm event. The increase is only 0.1 cfs which is negligible. It is our recommendation that this is acceptable. We defer to the board to determine if this shall be met.			
32	8,10	§38-17.C.7.	The existing and proposed drainage area maps Figure 1 and Figure 3 are not legible. The Applicant shall revise the plan to include clear boundaries. The stormwater flow paths shall be added to the plans as well.			
33	8,10	§38-17.C.2.	The scale bar for the drainage maps are not printing properly. Please fix.			
34	8,9,10,11	§38-17.C.7.	The Applicant is required to add the existing and proposed ground surfaces with runoff coefficient for each on a site plan. Please add these to the drainage maps.			
35		MA Stormwater Handbook Vol 3	Seasonal high groundwater is noted at elevation is 209.5 in the report. All infiltration basins have a bottom elevation of 211.5 which provide 2' of separation from groundwater. All of the infiltration basins are modelled with an exfiltration rate. A mounding analysis is required when infiltrating with less than 4' of separation. Please provide a mounding analysis.			
36			In the application there is an existing conditions plan which shows a culvert connecting the low lying area and the wetland. This culvert is not included in the hydrocad model as an outlet for the low lying area. Please clarify why the existing culvert is not being modelled.			
37			In the proposed HydroCAD model the low lying area is modelled with the culvert as the outlet. Based on the proposed grading plan it appears the culvert outlets before the existing weir that was modelled under existing conditions. To compare with existing conditions a separate pond in HydroCAD would need to be made on the downstream end of the culvert with the same type of outlet as existing conditions.			
38			Floodplain culvert calculations compare the existing floodplain weir to the proposed culvert. Is the existing floodplain weir being completely removed? Based on grading it appears the existing floodplain weir will exist downgradient to the culvert. Calculations should be provided for proposed weir as well.			
O&M Plan						
39	20 Stormwater Checklist	MA Stormwater Checklist	Plan showing the location of all stormwater BMPs maintenance access areas is not checked or provided in the O&M. How will the forebay for King Street be accessed and maintained? Also, the forebay for DB2 wraps behind the proposed tanks. Confirm there will be no issue with maintenance access for all BMPs.			
40	52	§38-18.B.3	There is no signature on the O&M Plan of the responsible parties. We defer to the board whether this is acceptable.			