
April 06, 2021

Ms. Karen Sherman
Town Planner
Town of Holliston
703 Washington Street
Holliston, MA 01746

**Re: 2021 Definitive Site Plan Modification Civil Engineering Stormwater Peer Review 3
555 Hopping Brook Road – Commercial Development
CMG ID 2020-002**

Dear Karen,

CMG is providing this letter report detailing our engineering peer review of the stormwater management system design for “555 Hopping Brook Road, Holliston, MA” commercial development project Site Plan Modification. The project is located within the Hopping Brook Business Park on the 72.73 +/- Acre parcel identified as Lot 4 (the “Site”). The project Applicant, *CRG Integrated Real Estate Solutions*, is proposing to construct an 800,000 +/- s.f. warehouse and distribution facility, associated parking, driveway, and utilities within an Industrial zoning district.

CMG is in receipt of the following documents:

- Site Plans entitled “555 Hopping Brook Road, A Modification of The Definitive Site Plan in Holliston Massachusetts” Sheets 1 – 35, prepared by Engineering Design Consultants, Inc., date 11/16/19, revise date February 5, 2021.
- “Stormwater Calculations” report for 555 Hopping Brook Road Holliston, MA prepared by Engineering Design Consultants, Inc., date 11/16/19, revise date February 5, 2021.

CMG is providing this letter summarizing our review comments for the above documents to evaluate the project’s compliance with the State of Massachusetts Stormwater Management Standards and Holliston Planning Board Rules and Regulations.

General Engineering & Drainage Design Comments

1. Contours and existing features shown on the Pre-Development Drainage Map don’t appear to completely match the Existing Conditions survey. CMG recommends Applicant’s Engineer (EDC) review and make sure the information is consistent between both plans.

2. Soil Types classifications and boundaries, existing soil test pits, existing wetlands and buffers zones, are not shown. These were provided on the previously approved 2/5/20 Plan Revision #2 “Pre-Developed Runoff Areas” plan prepared by EDC. Soil type and boundaries should be shown on the pre and post development drainage maps.
3. CMG recommends cross culverts Reach 11R as-built information be provided. Statement that “they have more than enough capacity as designed” is not adequate. In addition, HydroCAD calculations define a 2’x 3’ channel with angled side slopes and not a culvert.
4. Off-site stormwater detention basin 10P, culvert 11R, culvert 12P & underground recharge system 22P located at 465 Hopping Brook Road are included in the calculations however, no as-built details or supporting reference information is provided.
5. Existing conditions and Site Plan should define existing vs. proposed layout / grading for Hopping Brook Road cul-de-sac as it differs from March 16, 2017 Certificate of Action for “Hopping Brook Business Park”.

CMG recommends the Planning Board make it a condition of approval that the “Hopping Brook Road” project revisions be submitted to the Planning Board for review and approval prior to issuance of a building permit to insure there are no discrepancies from the 555 Hopping Brook Site Plans and stormwater design

6. Footing drain and building roof drain tie in locations, details, size, & type for the building are not provided.

Stormwater Standard 1: *No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or water of the Commonwealth.*

7. Rip-rap lined waterway designs are provided for four (4) rock lined swales, however, the report should make it clear which calculations correspond to the design plan locations. The report doesn’t make it clear where the proposed design flow (Q) values used for each swale correspond with the HydroCAD calculations.
8. Dimension and sizing calculations should be provided for the swale along the bottom of the proposed 30~40 ft. height berm to insure adequate capacity and freeboard to prevent runoff towards the abutting residential properties along the Medway Town Line. A detail must be provided in the plan set.

Stormwater Standard 2: *Stormwater management systems shall be designed so that post development peak discharge rates do not exceed pre-development peak discharge rates.*

9. A reference for the higher design storm rainfall event values should be provided in the report. It appears EDC is using the more conservative NOAA extreme precipitation rainfall data for the design calculations
10. No reference is provided for the infiltration rate of 0.27 in/hr rate. This value appears to be based on the 1982 Rawls rate table for a “silt loam” Type C soil type. Engineer should provide a reference in the report.

Stormwater Standard 3: *Loss of annual recharge of groundwater shall be eliminated or minimized.*

11. CMG believes the “Impervious flows to the west” value to the Hopping Brook Road Detention Basin 10P is incorrect based on a review of the HydroCAD calculations. Calculations note a larger impervious area being directed to this basin. Suggest EDC

provide a summary table to document all on-site and off-site impervious areas for each subcatchment directed to each basin to clarify.

12. While the required recharge volume is calculated, the “actual” calculated recharge volumes for Basin 30P and 10P are not provided. Report states simple dynamic method was used but no supporting calculations are provided.
13. The 6” low flow drain outlet should be modeled for both outlet control structures in the HydroCAD calculations to insure adequate recharge volume is obtained within each basin. If the 6” pipe is to be used as an underdrain, a valve or other flow limiting device must be incorporated into the design details to allow adequate ponding within the basin.
14. Pond 30P primary outlet invert= 303.00 in HydroCad calculations does not match the detail provided.
15. Proposed elevations and spot elevations on the maintenance berm should be clearly depicted on the plans. 10 FT wide maintenance berm for both on-site Pond 30P and off-site 10P are not labeled on the plans.
16. Pond cross sections for both on-site Pond 30P and Off-site Pond 10P with storm events peak elevations would be useful to clearly define compliance, materials, and construction standards for each basin design.
17. Top of Berm Pond 30P elevation is listed as 309 in HydroCAD calculations while the plan only shows elevation 308. Therefore, it is slightly under the 1 ft of freeboard required (Peak 100 year Elev = 307.04).
18. Stormwater Basin 10P peak elevations listed on page 2 of the Stormwater Report do not match the HydroCAD calculations. Basin 10P does not have 1 ft. of freeboard during the 100-year storm event based on the values shown in the HydroCAD calculations.
19. Existing Hopping Brook Road Stormwater Basin 10P is proposed to be enlarged and the berm increased 1 ft. in height to Elev. = 284. However, it is unclear if existing contours shown represent as-built conditions. Stormwater report notes “Berm Elev: 283.50 +/- which does not match the design plan or calculations.
20. Depth to seasonal high groundwater (ESHWG) shown on test pit information provided on the Existing Conditions Plan conflicts with test pit information shown on the Septic System Design Plan submitted to the Board of Health. Test pits performed for the septic system note ESHGW based on soil mottling at 36” below grade. This is consistent with the NRCS soil descriptions which note the depth to water table between 18” ~ 30” in the Woodbridge fine sandy loam Type C soils.

Therefore, CMG recommends at least one additional soil test pit be conducted within on-site Basin 30P with soil logs prepared by a licensed State of Massachusetts Soil Evaluator to confirm ESHGW based on soil mottling. CMG recommends the test pit be witnessed by a representative of the Town of Holliston.

Stormwater Standard 4: *Stormwater management systems shall be designed to remove 80% of the average annual post construction load of Total Suspended Solids (TSS).*

21. Water quality volume of 1 in. is not used for the design as required for land uses with higher potential pollutant load (LUHHPL - See additional Standard 5 comments below)

22. 44% pre-treatment must be achieved prior to discharge to each stormwater infiltration basin and supporting information included in the calculations
23. Stage-storage-volume tables for each stormwater basin should be provided along with supporting calculations to illustrate the actual WQV provided for each basin.
24. The 6" low flow drain outlet should be modeled for both outlet control structures in the HydroCAD calculations to insure adequate WQV is obtained within each basin. If the 6" pipe is to be used as an underdrain, a valve or other flow limiting device must be incorporated into the design details to allow adequate ponding within the basin to achieve the required WQV.
25. No forebay or forebay berm construction details are provided in the plan set to correspond to the calculations provided in the Stormwater Calculations.

Stormwater Standard 5: *Land uses with higher potential pollutant loads (LUHPPL), source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable.*

26. CMG believes this project is considered a LUHPPL as it appears there are > 1,000 vehicle trips per day proposed and is considered a high intensity parking lot. Therefore the Stormwater Report must provide supporting information to verify compliance with Standard 5.
27. Stormwater checklist notes the proposed use is covered under the EPA NPDES Multi-sector Industrial Stormwater permit, also identified as a LUHPPL. CMG recommends additional information be provided regarding the type of multi-sector use and any additional BMP requirements for this use.
28. CMG recommends proof of EPA Multi-Sector Permit authorization and a copy of the project's SWPPP be submitted to the Planning Board prior to discharge of the Site's stormwater runoff to the post-construction BMPs.
29. Water Quality Volume (WQV) = 1.0" rainfall must be utilized for the stormwater design. The current design only provides for a WQV = 0.5".
30. Engineer must document how all of the LUHPPL requirements are being met including but not limited to the addition of oil / grit separators to the BMP treatment train.
31. TSS summary should be revised to include LUHPPL best management practices and pre-treatment requirements.

Stormwater Standard 6: *Stormwater discharges within a Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area.*

32. Not applicable – Site does not discharge stormwater to or near a critical area.

Stormwater Standard 7: *Redevelopment Projects*

33. Not Applicable – Site is not a redevelopment project.

Stormwater Standard 8: *Construction period erosion and sedimentation control*

34. The Site is > 1 Acre therefore an NPDES SWPPP is required to be submitted prior to construction. Applicant's Engineer (EDC) previously submitted a 12/10/20 NPDES SWPPP and supporting materials to the Planning Board for review and comment.

35. CMG recommends the Applicant update the 12/10/20 SWPPP to correspond to the current 2021 Definitive Site Plan Modification plan set and address any remaining comments from CMG's January 7, 2021 NPDES CGP SWPPP Peer Review Letter #2.

Stormwater Standard 9: *Long term operation and maintenance plan*

36. A long term operation and maintenance plan is not provided in the 2/5/21 Stormwater Calculations report.

Stormwater Standard 10: *Illicit discharges*

37. An illicit discharge statement is not provided in the 2/5/21 Stormwater Calculations report.

If you have any questions or need additional information please contact me at (508) 864-6802.

Sincerely,
CMG ENVIRONMENTAL, INC.



David T. Faist, PE
Principal Engineer – Engineering Services