
November 10, 2022

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

**Re: Definitive Open Space Residential Development (OSRD) Peer Review
“The Trails at Jennings Hill” Jennings Road Holliston, MA
CMG ID 2022-008**

Dear Karen,

CMG is providing this letter report detailing our engineering peer review of the “Trails at Jennings Hill” Definitive Open Space Residential Development in Holliston, MA (the “Site”). The project Applicant, Starr Construction, Inc. is proposing to construct a four (4) lot open space residential development on Assessor’s Parcel Map 11 Block 4 Lot 2.

The existing property currently consists of approximately 7.88 +/- Acres located within the Agricultural-Residential B (RES-B) and Groundwater Protection Zoning Districts. This lot was created by a subdivision from the original parcel through an Approval Not Required (ANR) plan for #103 Jennings Road endorsed by the Planning Board on October 7, 2021. This project will require Definitive Subdivision Approval, Site Plan Review, and a Scenic Road Permit.

CMG is in receipt of the following documents:

- “Application for Approval of a Definitive Subdivision Plan – The Trails at Jennings Hill” prepared by Peter R. Barbieri, Esq. Fletcher Tilton PC, date October 13, 2022.
- “The Trails at Jennings Hill Definitive Subdivision Plan at Jennings Road, Holliston, MA prepared for Starr Construction, Inc.” prepared by Applewood Survey Co., LLC and Creative Land & Water Engineering, LLC, date August 16, 2022.
- “Flood Impact Analysis and Stormwater Management – The Trails at Jennings Hill Jennings Road, Holliston, MA” prepared by Creative Land & Water Engineering, LLC, date August 30, 2022.

CMG is providing this letter summarizing our review comments for the above documents to evaluate the project’s compliance with the following regulations for Planning Board consideration:

- Town of Holliston Zoning By-Laws date May 10, 2021, Amendments approved by the Attorney General’s office on August 26, 2021.
- Town of Holliston Planning Board Rules and Regulations amended through January 5, 2012.

- MA-DEP Stormwater Management Standards and related Town of Holliston May 2021 Stormwater Management and Land Disturbance Permit regulations

CMG provides the following technical comments for the Board’s consideration:

Holliston Zoning By-Law Comments:

1. Section V-H 4.C. Open Space – Sheet 2 of 7 incorrectly identifies the original parcel area to include the adjacent residential property cut out as an ANR lot in 2021. The current property area being developed as an OSRD = 343,060 +/- s.f (7.88 +/- Acres) should be used to calculate the required open space.
2. Section V-H 6.A 2) - Applicant should verify with the Fire Department what size vehicle will need to access the cul-de-sac and provide a truck turning diagram to verify there is adequate pavement width for the required design vehicle. The proposed cul-de-sac turnaround proposes a large island in the middle and is not dimensioned and the type of pavement edging / curbing is not identified on the plan.
3. Section V-H 8.A (Common Open Space Ownership and Management) The Application narrative states: “The proposal is to establish a Conservation Restriction over the Open Space with its dedication either to the Town of Holliston or to a Homeowner’s Association which will be responsible for the maintenance of the Open Space Parcel”. CMG recommends the Planning Board make this a “condition of approval” and the Applicant provide the proper “conservation restriction” documentation in accordance with the Zoning By-Law for review and approval by the Planning Board.
4. Section V-H 8.B (Common Open Space Ownership and Management) Applicant should address how the open space shall be available for use by the general public. It appears there is adequate room to construct public access parking spaces on one side or the other of the proposed OSRD driveway. CMG recommends the proposed access path could be relocated to allow access from these spaces to the existing trails within the open space parcel.
5. Section V-L – Definitive plan should note the project is located within a Groundwater Protection District Zone III. The project’s residential use complies with this section.

Holliston Planning Board Subdivision Rules and Regulations Comments:

6. Section 4.3.1 o – Registry of Deeds 3-1/2 in. square is not provided on all definitive plan sheets.
7. Section 4.3.1 p – Plan & Profile of the proposed street is not provided.
8. Section 4.3.1 q – Existing centerline profile and stationing of Jennings Road for 100 ft. in each direction is not provided.
9. Section 4.3.1 s – Site’s location with a “Groundwater Protection District Zone III” should be noted on the plan set.
10. Section 4.3.1 t – Proposed water supply system layout and details are not provided
11. Section 4.3.1 u – Locus map scale is not provided consistent with this section.
12. Section 4.3.1 v – Detail drawings of proposed construction features including roadway cross sections, utility and drainage details, etc. are not provided.

13. Section 4.3.1. w – Location of proposed landscaping along with planting details is not provided.
14. Section 4.3.4.1 – Typical Street cross-section is not provided.
15. Section 4.3.4.3 – List of waivers from strict compliance with the Rules and Regulations should be provided in narrative form and on the Definitive Subdivision Plan Title Sheet.
16. Section 5.2.1 a – Proposed intersection and OSRD driveway grades are not provided
17. Section 5.2.1 i – Proposed driveway intersection sight distances are not provided
18. Section 5.2.3 – Roadway grades are not provided (Also See 4.3.1 p)
19. Section 5.2.4 b – The cul-de-sac turnaround diameter is not provided
20. Section 5.2.4 b – A sidewalk is not provided and no waiver is requested.
21. Section 5.2.4 b – Granite edging type SA is not specified for use within the cul-de-sac and a construction detail is not provided.
22. Section 5.2.4 b - The Applicant is proposing an island in the center of the cul-de-sac turnaround which is to be utilized for stormwater drainage. However, the plans do not provide specific construction dimensions, curbing, or edging details to evaluate the proposed design and emergency vehicle access.
23. Sections 5.2.5.3 & 5.2.5.4 – Pavement cross-section should be provided on the Detail Sheet specifying the required gravel base and bituminous pavement specifications.
24. Section 5.2.5.5 – Curbing details are not provided. Curb radii at Jennings Road intersection and cul-de-sac roundings should be labeled on the plan.
25. Section 5.3.3 – All drain pipes shall be 12” diameter minimum and made of reinforced concrete pipe. No waiver is requested.
26. Section 5.4.2 – Water system piping, valves, hydrants, water services, and construction details are not shown on the plans.
27. Section 5.4.3 – Street lighting is not provided and no waiver is requested.
28. Section 5.4.4 – Proposed underground gas and or electric / cable / telephone utilities layout and/or construction details are not shown on the plan set.
29. Section 5.5.1 - Sidewalks are not shown and a waiver is not requested.
30. Section 5.5.3 – Street sign & stop sign locations, proposed pavement markings, and construction details are not provided.
31. Section 5.5.5 – Applicant is requesting approval to remove the existing 24” Oak tree at the right-of-way intersection with Jennings Road. Street tree locations, tree planting species, caliper, and planting details should be included on the plan set including the replacement for the 24” Oak tree.
32. Section 9.3.a - Scenic Road Regulations: Any tree removed shall be replaced with trees of a species, size and at a location approved by the Board (Also see Comment 31).

General Engineering & Drainage Design Comments

33. CMG recommends a concrete structure such as a catch basin be utilized for the overflow structure within the cul-de-sac landscape area. The proposed 18” HDPE structure will be subject to damage by winter snow plowing / storage and most likely require frequent maintenance.
34. Outlet pipe size, type, length, slope, and outlet invert are not listed on Sheet 5 of 7.
35. Grate inlet capacity should be evaluated for the 25-year storm to determine if a double grate catch basin is necessary within the cul-de-sac.
36. CMG recommends a residential driveway typical cross-section and roadway transition detail be provided.
37. Proposed top and bottom of wall spot grades should be provided for the proposed retaining wall along the east side of Lot 1 as it appears to be greater than 4 ft. in height. CMG recommends the design of the retaining wall and fencing for any wall sections 4 ft. in height or greater be prepared by a licensed structural engineer prior to construction.
38. Roof drain piping size, material, and layout should be shown if piped directly to the proposed drywell systems.

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.*

39. Rip-rap aprons dimensions and a detail should be provided. Applicant’s engineer should also provide design calculations for proposed riprap aprons to verify the apron size will be able to handle 100-year flow events.
40. Grass swale grading should be better defined to direct runoff from Lot 4 into the Trench #4 drywell area. A grass swale construction detail needs to be provided.

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

41. Table 2 “Summary of Peak Runoffs Leaving the Project Site” show a substantial increase in off-site runoff during the 10-year (11900% Increase) and 25-year (3818 % Increase) storm events. CMG recommends the Applicant’s Engineer review their calculations and revise as necessary as the Table values do not match the supporting calculations provided in Appendix A.
42. All five (5) of the proposed infiltration systems do not provide 1 ft. of freeboard during the 100-year storm event.
43. Standard 2 waiver box is incorrectly checked on the Stormwater checklist page 4 of 9.

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

44. Some test pit labeling doesn’t correspond with logs shown on Sheet 3 of 7 (i.e. Plan shows DTH-STW1D and log lists STM-1; Test Pit STM-2 is not shown on the plan). CMG further recommends test pit ground elevations and EHGW elevations also be listed on the log forms to allow for comparison with drywell design data.
45. CMG recommends drywell trench cross-section details should reference the relevant depth to soil mottling and/or test pit date used to determine EHGW. It appears Road Trench (EHGW = 291.4) and Trench 1 (EHGW = 284.0) elevations are 1 ft. higher than depicted on Sheet 5 of 7 based on the nearest soil testing data. Applicant’s Engineer should verify all EHGW values and revise design as necessary.

46. CMG believes the proposed drywell systems meet the required recharge volume standard. However, the proposed volume provided value (24,588.04 CF) noted in the Stormwater Report Page 4 doesn't match the volumes shown for each drywell's "Worksheet for Recharge Design" summary sheets. These values should match.

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

47. Stormwater report should note the water quality volume (WQV) = 1 in. must be used as Site is located within an area with a rapid infiltration rate (greater than 2.4 in / hr)
48. In order to take the 50% TSS removal credit for the grass swale it must be designed in accordance with the MA-DEP Stormwater Management Standards and a construction detail provided.

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.*

Not applicable – Site is not a LUHPPL.

49. Standard 5 NPDES Multi-sector General Permit box is incorrectly checked on the Stormwater checklist page 6 of 9.

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.*

Not applicable – Site is not located in a Critical Area

Stormwater Standard 7: *Redevelopment Projects*

Not Applicable – Site is not a redevelopment project.

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

50. The Site is > 1 Acre therefore an EPA NPDES 2022 Construction General Permit (CGP) registration and SWPPP is required to be submitted prior to construction. CMG recommends the Planning Board make this a condition of approval.
51. The Stormwater Pollution Prevention Plan for Construction Activities is provided as Appendix F of the Stormwater Report does not meet the current EPA NPDES 2022 CGP requirements.
52. CMG recommends the Limits of Erosion control and specified barrier type (i.e. compost filter barrier with silt fencing) be shown on all relevant plan sheets (i.e. Sheet 4 of 7, 5 of 7).
53. CMG recommends Mirafi 700x Filter Fabric or approved equal be specified for geotextile fabric beneath stone on construction entrance detail.
54. Catch basin "silt sack" erosion protection detail should be provided and locations noted on the Erosion Control Plan.
55. Size / diameter of the proposed straw wattles is not shown.

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

56. CMG recommends the O & M Plan include the following required information:
- Plan showing the location of all stormwater BMPs maintenance access areas.

- CMG recommends the log form identify the Site location, responsible party, and both inspection and maintenance frequencies for each BMP in accordance with the MA-DEP Stormwater Management Standards.
- Snow removal operations should be included in O & M Plan and inspection log form.

57. Upon completion of construction if the Applicant intends to transfer stormwater operation and maintenance activities to a “homeowners association”; the Applicant must provide a copy of the legal instrument (deed, homeowner’s association, or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs.

Stormwater Standard 10: *Illicit discharges*

58. The Long-Term O&M Plan includes an “illicit discharge statement” and is in compliance with Standard 10.

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

Sincerely,
CMG



David T. Faist, PE
Principal Engineer