

September 11, 2024

Groton Planning Board
c/o Mr. Takashi Tada
Land Use Director/Town Planner
Town of Groton
173 Main Street
Groton, MA 01450

RE: Nitsch Project #13346.26
Gratuity Brook Farm Estates
Definitive Subdivision Plan and
Special Permit Review
Groton, MA

Dear Planning Board Members:

Nitsch Engineering (Nitsch) has received and reviewed the following documents:

1. Definitive Plan and Special Permit Applications (22 pages), dated August 14, 2024, and prepared by Farrel & Robbins, P.C.;
2. Definitive Subdivision Plans (the Plans) entitled "Gratuity Brook Farm Estates, Definitive Subdivision, 63 Gratuity Road, Groton, MA" (31 Sheets), dated August 12, 2024, and prepared by LandTech Consultants;
3. Supplemental Data & Environmental Impact Report (43 pages), dated August 1, 2024, and prepared by LandTech Consultants;
4. Operation & Maintenance Manual and Long-Term Pollution Prevention Plan (13 pages), dated August 12, 2024, and prepared by LandTech Consultants;
5. Transportation Impact Assessment Memorandum (238 pages), dated April 23, 2024, and prepared by Vanasse & Associates; and
6. Stormwater Management Report (194 pages), dated July 3, 2024, and prepared by LandTech Consultants.

Nitsch Engineering has reviewed the Plans to determine conformance to the following:

1. "Zoning Bylaw", Chapter 218 from the Code of the Town of Groton, latest version; and
2. "Subdivision Rules and Regulations", Chapter 381, Part 1 from the Code of the Town of Groton, latest version.

Nitsch has conducted a review of the Transportation Impact Assessment Memorandum and provided a separate review letter to the Planning Board on September 10, 2024. Nitsch is also conducting a stormwater review of the project. Our comments on the stormwater design will be provided under separate cover to the Earth Removal Stormwater Advisory Committee.

WAIVERS REQUESTED BY THE APPLICANT

1. Section 381-10.D.(5) – A waiver is being requested to allow proposed grades to be more than 7 feet above existing grades at two locations on Therese Lane.

Nitsch takes no exception to this waiver request provided the Applicant documents the maximum lift thickness, compaction requirements, and gradation for the fill material so long-term settlement isn't a concern.

2. Section 381-11.C.(1) – A waiver is being requested to reduce the minimum cover required over storm drain pipes at Catch Basin (CB) 3 and CB-4 in Therese Lane from 3 feet to 2 feet.

Nitsch takes no exception to this waiver request provided the Applicant confirms the storm drain pipes can still accommodate H-20 loading and the catch basins are constructible at this pipe depth. This waiver request should be updated to include all drainage structures with pipe cover less than 3 feet.

Based on our review, Nitsch offers the following comments:

ZONING BYLAW

1. Section 218-9.2.D. states Applicants for a major residential development shall submit both a conventional plan and an alternative development plan. For subdivision of land that creates nine or more lots, the alternative development plan shall be a flexible development plan, pursuant to Section 218-9.1.

The Applicant should submit an alternative development plan to comply with this section. In 2023 the Applicant provided a flexible development plan as part of their preliminary subdivision plan application. Submission of this flexible development plan would satisfy the requirements of this section.

SUBDIVISION RULES AND REGULATIONS

2. Section 381-8.B.(31) states the Plans shall include the location of specimen trees to be saved.

The Plans do not include the location of specimen trees to be saved. The Applicant should confirm if there are any specimen trees to be saved.

3. Section 381-9.B.(3) states no building lot shall be laid out which is substantially irregular in shape. For purposes of this provision, “substantially irregular” is defined as having a coefficient of regularity lower than 0.4.

The Applicant should calculate and verify that all building lots have a coefficient of regularity no lower than 0.4.

4. Section 381-9.B.(5) states the coefficient of regularity shall be labeled on each lot.

The Plans should include the coefficient of regularity for each building lot.

3. Section 381-10.D.(3) states all changes in street grade shall be connected by vertical curves of sufficient length to afford a minimum stopping sight distance of 175 feet for a minor street.

The Plans should include the stopping sight distance for each vertical curve on the roadway profile sheets.

4. Section 381-10.D.(4) states on any street intersection, a leveling area with a slope of not more than 3% shall be provided for a distance of at least 30 feet from the nearest edge of the intersecting traveled way. Center-line grades of vertical curves within this leveling area shall also comply with the three-percent maximum slope.

The Plans show a 5% slope on Therese Lane for the first 30 feet off Jenkins Road. The Plans should be updated to comply with this section or the Applicant should request a waiver from the Planning Board.

5. Section 381-12.(A)(2) states a water connection shall be provided for each lot in the subdivision. The water connection shall be located along the frontage of the lot where the lot abuts the right-of-way of the road.

The Plans should be updated to show water connections to each building.

6. Section 381-12.(C)(2)(d) states fire hydrants shall be at the far end of the cul-de-sac at a minimum of five feet and less than 10 feet from the edge of pavement.

The Applicant should update the Plans to locate fire hydrants at cul-de-sacs as required by this section. The Applicant should also confirm with the Fire Department if any additional fire hydrants are required along the proposed roadways.

7. Section 381-13.D.(1) states for minor streets both sides of the road shall have granite curbing with a minimum thickness of six inches and shall not be less than 18 inches plus or minus one inch in depth.

The Plans show sloped granite curb along both sides of both proposed roadways. Nitsch recommends the Applicant consider vertical granite curb.

GENERAL COMMENTS

8. On Drawing C-16, the water line appears to end at the outer edge of the cul-de-sac pavement and also at the intersection of Gratuity Road and Gerard Way. The Applicant should update the Plans to specify the location of the water line connections to existing services and termination points for the new services.
9. On Drawing C-16, the sewer services from Units 11 and 14 are shown connecting to the sewer main in Gerard Way with wye connections. Nitsch recommends these sewer service connections be made with manholes. A single sewer manhole could be utilized at this location to connect both services to the main.
10. To be consistent with the Town of Groton Zoning Bylaw, application forms, and past major residential development submissions, Nitsch recommends the Plans be updated to refer to the 14 proposed Units as Lots and the 28 dwelling structures as Units.
11. The Applicant should provide additional details on the directional drilling operations for the installation of the site water main under Gratuity Brook.

RECOMMENDATIONS

The Plans appear to conform to the Code, except as noted. The Applicant should revise and resubmit the applicable documents for review.

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If the Planning Board has any questions, please let us know.

Very truly yours,

Nitsch Engineering, Inc.



Rones Lubin
Project Designer

RL/jeg

Approved by:



Jared E. Gentilucci, PE, CPESC, LEED AP BD+C
Deputy Director of Civil Engineering