

September 20, 2023

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

RE: Nitsch Project #13346.27  
Heritage Landing  
Comprehensive Permit Review  
Groton, MA

Dear Zoning Board of Appeals Members:

Nitsch Engineering has received and reviewed the following documents:

1. The Comprehensive Permit Plans (the Plans) entitled "Comprehensive Permit Plan Set, Heritage Landing, Cow Pond Brook Road, Groton, MA" (21 sheets), dated April 25, 2023, and prepared by Meisner Brem Corporation; and
2. The Comprehensive Permit Application (66 sheets), dated May 17, 2023, and prepared by Alphen & Santos, P.C.

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

1. "Zoning", Chapter 218 from the Code of the Town of Groton, latest version;
2. "Comprehensive Permits", Chapter 338, Part 2 from the Code of the Town of Groton, latest version;
3. "Earth Removal Stormwater Advisory Committee" Regulations, Chapter 352, Article II, Stormwater Design Criteria from the Code of the Town of Groton, latest version;
4. "Subdivision Rules and Regulations", Chapter 381, Part 1, Article IV, Design Standards from the Code of the Town of Groton, latest version;
5. "Site Plan Review", Chapter 381, Part 5 from the Code of the Town of Groton, latest version; and
6. The Massachusetts Stormwater Management Standards, latest version.

Nitsch Engineering has conducted this initial review to determine the completeness of the Plans and application and to determine additional information needed to conduct a peer review of the civil engineering design of the project. Based on this review we offer the following comments:

#### **WAIVERS REQUESTED BY THE APPLICANT**

Nitsch Engineering takes no exceptions to the comprehensive permit waivers submitted. We recommend the Applicant confirm if the submitted list is complete or if any other waivers will be requested.

#### **ZONING**

Nitsch Engineering does not have any comments related to Zoning.

#### **SUBDIVISION RULES AND REGULATIONS**

1. Section 381-10, Streets

The Plans should include all pertinent design information for streets as required by this section, including radii, grades/slopes, and stopping sight distances.

2. Section 381-11, Stormwater Management

The Plans do not include all relevant information regarding the stormwater design. The Plans should include:

- a) The location of all drainage structures;
- b) Rims and invert elevations for all drainage structures;
- c) Storm drain connections with invert elevations; and
- d) Size and material of all drainage structures, pipes, and stormwater BMPs.

The Plans and supporting documents do not include hydrologic and hydraulic calculations for the proposed stormwater management system.

Nitsch Engineering recommends providing a complete stormwater report for review which includes:

- a) MassDEP Stormwater Checklist (signed and stamped);
- b) Web Soil survey with a soil analysis and test pit logs;
- c) Existing and proposed area delineations with defined sub-catchments and design points;
- d) A hydrologic (HydroCAD) model with a summary report of the existing and proposed stormwater system for the 2-, 10-, 25-, and 100-year storm events;
- e) Stormwater recharge calculations;
- f) Water quality calculations;
- g) An Operation and Maintenance Plan;
- h) A Long-term Pollution Prevention Plan; and
- i) A Stormwater Pollution Prevention Plan.

3. Section 381-12, A., Municipal Services – Water

The Plans should include the domestic water and fire protection (if applicable) services to the proposed residential units. The Plans should also indicate the location of water valves. Nitsch Engineering recommends the Plans be updated to include this information.

The Plans should include the full extension of the site water main up to and including the connection to the existing municipal water main.

The Applicant should verify with the Water Department that the available pressure and flow rate in the municipal system is adequate to service the proposed site and all residential units.

4. Section 381-12, D., Municipal Services – Sanitary Sewers

The Plans should include all relevant information for the gravity sanitary sewer system, including rim and invert elevations for sewer manholes, size and materials for sewer pipes, and service connections for each proposed residential unit. Nitsch Engineering recommends the Plans be updated to include this information.

The Applicant should confirm the total proposed sanitary sewer flow for the development. Septic systems are not allowed if the total flow exceeds 10,000 gallons per day.

5. Section 381-13, Other Improvements

The Plans should include information on site features identified in this section, including sidewalks, curbing, driveways, and street signs.

**SITE PLAN REVIEW**

6. Section 381-39, Site Plan Content

The Plans should include the following items:

- a) A cut and fill analysis for the proposed development;
- b) The location of electrical, telecommunication, and mechanical services, including manholes, ductbanks, and equipment pads; and
- c) Information on snow removal and snow storage areas.

The Zoning Board of Appeals should consider if an assessment of traffic impacts and safety conditions are required.

All site plans should be stamped by the appropriate licensed professional.

**COMPREHENSIVE PERMITS**

7. Section 338-34, B., Filing and Notice – Additional Materials

The Zoning Board of Appeals should consider if an environmental analysis is required.

**GENERAL COMMENTS**

- 8. The Plans should be updated to identify the minimum provisions necessary for erosion and sediment controls during construction.

**RECOMMENDATIONS**

Nitsch Engineering recommends that the design of the project be further advanced to a Design Development level and the items noted above be included in the Plans and supporting documents prior to conducting a technical peer review of the civil engineering design. This approach will allow for a more efficient review process. The Plans and supporting documents as currently submitted to not include enough information to conduct a proper and thorough peer review.

If the Zoning Board of Appeals has any questions, please let us know.

Very truly yours,

**Nitsch Engineering, Inc.**



Rones Lubin  
Project Designer

Approved by:



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

RL/JEG