

Brewster Board of Health

Instructions- Nitrogen Loading Calculations

Under the Brewster Zoning Bylaw, new uses or the expansion/alteration of existing uses on properties in the Water Protection District (or 'DCPC') are subject to a site-wide **Nitrogen loading standard of 5 mg/L**. Sources of Nitrogen included within the calculation are stormwater run-off from impervious surfaces; wastewater; and fertilizer from managed lawn areas.

Generally, calculations must be submitted for all proposed projects within the DCPC to confirm compliance with the 5 mg/L Nitrogen loading standard, including single family residential development:

- Building Permit Applications
- Board of Appeals Zoning Applications
- Septic system Applications related to DCPC Building/Zoning Applications

Within the discretion of the Building Commissioner, calculations are not required for projects that have no bearing on nitrogen loads, such as roof-mounted solar, window replacements, roofs, etc.

For further details and guidance, please refer to:

- Brewster Board of Health Nitrogen Loading Regulations ([Brewster Board of Health Nitrogen Loading Regulation](#));
- Brewster Zoning Bylaw, Water Quality Protection District, Brewster Code Chapter 179, Article XI ([Brewster Zoning Bylaw Water Quality Protection District Ch. 179 Art. XI](#));
- Town's GIS online viewer for the DCPC map layer to locate your property ([Brewster GIS Online Maps](#)).

1. Template Nitrogen loading spreadsheets, of the Brewster Board of Health Nitrogen Loading Regulations, are required for the mandatory Nitrogen Loading calculations.
2. There are separate spreadsheets for different use groups (Residential; Mixed Use; and Commercial/ Industrial), which must be correlated to the particular project proposed.
3. The spreadsheets are organized into different sections based on the different Nitrogen loading sources regulated: (1) stormwater/ impervious surface; 2) fertilizer/ managed lawn areas; 3) wastewater/ septic system).

Notes:

- a. Nitrogen loads for residential wastewater are calculated by using the design flow for the site septic system, in terms of approved number of bedrooms.
 - b. Nitrogen loads for uses other than residential are inputted using design flows from Title 5 (310 CMR 15.203, Tables 3, 4 & 5).
 - c. A minimum of 1000 sq ft of lawn area must be inputted even if there are no existing or proposed managed lawn areas.
 - d. There are various Nitrogen loading rates for the different types of land cover on the site (building, driveway, natural in addition to lawn area). Any surfaced walkways and driveways are included in the calculation, even if unpaved.
 - e. "Other" is included in the spreadsheet for the rare cases where there are significant site uses and development not easily categorized, such as with certain types of outdoor uses.
4. For existing developed properties, applicants must complete and provide calculation spreadsheets for both existing and proposed conditions.
 5. If developed properties exceed 5 mg/l under existing conditions, the Nitrogen load cannot be further increased.
 6. After submission, either through the building permit, zoning, or health application process, the Health Department reviews the completed spreadsheet calculations for accuracy and completeness and reports its determination about compliance for building permit and zoning purposes.