

Construction in Flood Zone
Newton Conservation Commission
Guidelines under the State Wetlands Protection Regulations (310 CMR 10.00)
Approved 10/8/20

Purpose. It is the interest of the Newton Conservation Commission to ensure that flood zone areas continue to provide flood storage and wildlife habitat value interests as specified in the state wetland regulations, most specifically:

310 CMR 10.57(1)(a)2. Bordering Land Subject to Flooding provides a temporary storage area for flood water which has overtopped the bank of the main channel of a creek, river or stream or the basin of a pond or lake.

310 CMR 10.57(1)(a)3. Certain portions of Bordering Land Subject to Flooding are also likely to be significant to the protection of wildlife habitat.

Guidelines. As per the regulations, “unrestricted hydraulic connection” must be provided in areas of compensatory flood storage,

310 CMR 10.57(4)(a)1. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body.

310 CMR 10.57(4)(a)2. Work within Bordering Land Subject to Flooding, including that work required to provide the above-specified compensatory storage, shall not restrict flows so as to cause an increase in flood stage or velocity.

Therefore:

- 1. Areas developed as compensatory flood storage must be fully open to the flow of water from any and all sides of the contiguous flood plain.**
 - a. Structures must be constructed on pilings. “To act as an unrestricted hydraulic connection in Bordering Lands Subject to Flooding, there would have to be an open pile foundation with the lowest floor or lowest horizontal structural member elevated at or above the 100-year flood elevation, so river flow during a flood can flow unimpeded. An open-pile foundation would only require compensatory flood storage for the volume of the piles.”
 - b. Apertures in otherwise solid foundations are not permitted. “Apertures, orifices, or penetrations of any size in a solid foundation act as hydraulic restrictions, when constructed in Bordering Lands Subject to Flooding.” “The apertures or orifices in a solid foundation act as hydraulic restrictions when constructed in Bordering Lands Subject to Flooding, so do not meet the 310 CMR 10.57 criteria to provide compensatory flood storage.” “The volume enclosed by the solid foundation cannot be credited to serve as compensatory flood storage, regardless of the numbers and size of apertures and orifices.” [Note: Quoted text is from email communication from Tom Maguire, Wetland Regional Coordinator, MassDEP Wetlands Program, Boston MA, July 2020]
 - c. Skirting, wire mesh, lattice, or other similar covering over or around pilings or apertures within the flood zone/elevation may be permitted only if those materials are proven to not impede or restrict the flow of flood waters. Any covering that is proposed within the flood zone/elevation must have an even distribution of at least 50% open air and must not be of a design that is likely to trap debris. All proposals for covering must be submitted to the Conservation Commission for review and approval; submissions must prove that the proposed material meets the requirement of preserving unrestricted hydraulic connection. Some options that may be considered by the Commission for approval include the following:
 - Shrubs planted at grade
 - Wire cables spaced at least 1” apart
 - Wire mesh with large holes, at 1”x4” openings
 - Wooden lattice with large holes, at ~2” on a side
 - Narrow, vertical lath with large gaps (at least 1”) between the slats and total coverage of no more than 50%

2. Fences must not restrict hydraulic connection or impede wildlife passage.

- Installing a fence in BLSF is an alteration, so requires the filing of a NOI.
- The BLSF performance standards for storm damage prevention and flood control must be demonstrated to be met.
 - For the wildlife habitat interest, the bottom of the fence would need to be elevated to provide for wildlife passage, similar to fences constructed in the Riverfront Area.
 - For the storm damage prevention and flood control interests, the fence would have to comply with 310 CMR 10.57(4)(a)2., work "shall not restrict flows so as to cause an increase in flood stage or velocity." The burden is on the Applicant to make this demonstration.

Any and all questions about these guidelines should be posed to the Newton Conservation Office:

- jsteel@newtonma.gov,
- 617-796-1134, or
- 1000 Commonwealth Ave., Newton, MA 02459