

SOUTHEASTERN CONNECTICUT COUNCIL OF GOVERNMENTS

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MEMORANDUM

TO: Town of Bozrah Planning & Zoning Commission
CC: Mr. Glenn Pianka, First Selectman
Mr. Tom Weber, Zoning Enforcement Officer/Wetlands Agent/Building Official
Mr. Darren Hayward, P.E. (consulting engineer), CLA Engineers, Inc.
FROM: Samuel Alexander, Bozrah Town Planner/SCCOG SA
DATE: 6 September 2018
RE: Application – Norwich Public Utilities

This memorandum contains information relative to an application by Norwich Public Utilities, which will be submitted the night of September 6th. The application is for floodplain certification, per Section 10.8 of the Zoning Regulations. I have worked with the applicant's consulting engineers (CLA Engineers) on a wetlands application and the subject application to come before the Planning & Zoning Commission. I will continue a review of the submitted materials.

Permit Sought	Location	Proposed Activity
Zoning Permit-Floodplain Certification (§10.8)	Noble Hill Road at Trading Cove Brook	Construction of support structure and water main to cross Trading Cove Brook, in the 100-year floodplain.

Application Information

CLA Engineers has submitted a site plan and detailed narrative to accompany the application. Norwich Public Utilities proposes to extend a water main up Noble Hill Road, to meet a proposed main extension on Salem Turnpike. To cross Trading Cove Brook on Noble Hill Road the main must be carried on a support structure, and is proposed to run parallel to the culvert carrying the road.

Trading Cove Brook Floodplain

The section of Noble Hill Road that crosses Trading Cove Brook is shown to be located in the "A Zone" on the Federal Emergency Management Agency (FEMA) flood maps. The A Zone is the portion of the 100-year floodplain for which there is no "Base Flood Elevation" (BFE) data—the flood zone is roughly mapped. The applicant has used approximate methods to estimate the BFE for that section of the brook to be 102.5'.

Because this project uses State funds, Norwich Public Utilities will also make application to the Connecticut Department of Energy and Environmental Protection (CT DEEP) for floodplain certification. CT DEEP preliminarily approved the methods used by CLA Engineers for estimating the height of flood waters. CT DEEP requires local approval as part of their own application process.

Local Application Process

A zoning permit is required of all “development” within the 100-year floodplain. This project is within the definition of development contained in Section 10.8.16 of the Zoning Regulations. Based on my review of the regulations and FEMA guidance documents, this application follows a four-step process:

1. Require the applicant to approximate the BFE for the location, using approximate methods or hydrologic analysis (§10.8.1).
 - *CLA Engineers used topographic maps to estimate the BFE at 102.5'. At the suggestion of CT DEEP, the water main is located above BFE.*
2. Determine if the project is located within the “Regulatory Floodway”, which is the channel of the brook and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot (§10.8.1).
 - *FEMA guidance suggests the use of a common-sense approach for minor projects such as this—as opposed to hydrologic analysis—with the understanding that the mapped floodplain is only an approximation. CLA Engineers describes the expected flow of flood waters in their September 6 letter and believes this project to be located outside of the floodway.*
3. Determine that the proposal is consistent with the need to minimize flood damage within the flood-prone area and determine that the structure is not likely to break away during a flood event (§10.8.6).
 - *The support structures carrying the water main will be anchored within the ground carrying the road, behind the culvert wing walls. CLA Engineers describes the utility bridge, footings, and materials to be used in their September 6 letter.*
4. Ensure that the proposal will not result in an increase in flood levels (§10.8.8).
 - *CLA Engineers has designed the project so that the water main is located above the BFE, at 103.0'. This was done at the suggestion of CT DEEP so that no detailed hydrologic analysis was required. The pilings are located away from the expected path of floodwaters (see item #2).*

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