

# TOWN OF CUMBERLAND, MAINE

290 Tuttle Road

Cumberland, Maine 04021

Telephone (207) 829-5559 • Fax (207) 829-2214

*council correspondence*

October 3, 2018

Mr. Anthony Plante, Town Manager  
8 School Road  
Windham, ME 04062



RE: Mineral Extraction Ordinance

*Tony,*  
Dear Mr. Plante,

As you are aware, the Town of Cumberland has many homes very close to the proposed Windham quarry site near Forest Lake. We are pleased with the work your committee has done during the moratorium to update the current Mineral Extraction Ordinance, and believe it is a big step in helping protect nearby residents should the use be allowed to continue in this area.

The Town of Cumberland has contracted with Sevee & Maher Engineers to help assist in our review of the ordinance and offer recommendations to possibly add additional protections to all residents within the impacted area of this land use. The letter and memo from Sevee & Maher are attached for your use.

On behalf of the Town of Cumberland, I thank you in advance for your consideration of the proposed recommendations attached and I hope to be able to testify at the Town Council or Planning Board when the final version of the updated Mineral Extraction Ordinance is ready for approval.

Sincerely,

William R. Shane, P.E.  
Town Manager

cc: Town Council

September 28, 2018

Mr. William Shane  
Town of Cumberland  
290 Tuttle Road  
Cumberland, Maine 04021

Subject: Review of Proposed Mineral Extraction Ordinance  
Town of Windham, Maine

Dear Mr. Shane:

At your request, Sevee & Maher Engineers, Inc. (SME) conducted a review of the draft changes to the Town of Windham Land Use Ordinance Section 600 – Mineral Extraction. The purpose of our review was to consider the protectiveness of the ordinance for water quality in the vicinity of Forest Lake, which is the recharge area for the significant sand and gravel aquifer located in the west region of the Town of Cumberland, as mapped by the Maine Geological Survey<sup>1</sup>, shown on Figure 1. Of particular concern to the Town of Cumberland is the protection of the aquifer for the purpose of water supply.

The mapped significant sand and gravel aquifer in the Forest Lake vicinity extends into the Town of Windham, as shown on Figure 1. The area of the Town of Windham in the vicinity of Forest Lake is located in the Farm District Zone F, which includes mineral extraction as a permitted use. The Town of Windham Aquifer Protection Zones (A and B) are located in the vicinity of Chaffin and Pettingil Ponds (located northwest outside the field of view shown on Figure 1), and do not include areas neighboring Forest Lake or the Town of Cumberland.

This region of Windham is not designated as a potential drinking water source, according to zoning. If it were to be designated as a potential public drinking water source (serving more than 1,000 persons), a 1,000-foot setback would be required for mineral extraction activities. A setback of 1,000 feet from the Forest Lake area aquifer boundary is indicated on Figure 1, for reference.

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<sup>1</sup> Maine Geological Survey, 1999. Significant sand and gravel aquifers in the Cumberland Center quadrangle, Maine: Maine Geological Survey Open-file Map 00-131, scale 1:24,000.

### Ordinance Review

SME reviewed a draft of proposed changes to Section 600 – Mineral Extraction dated August 15, 2018. In our review, we considered consistency with Maine Department of Environmental Protection (MEDEP) regulations and Performance Standards for quarries. The proposed ordinance and MEDEP regulations will require applicants to conduct a hydrogeologic investigation of proposed mineral extraction sites, and perform necessary pre-blast surveys and on-going monitoring of the operation to assess water quality in adjacent and neighboring areas.

Based on our review of the proposed ordinance, our experience with compliance with municipal mineral extraction ordinances, and our familiarity with MEDEP regulations and performance standards, the draft Section 600 – Mineral Extraction is a well-written ordinance that is consistent with MEDEP performance standards. There are several points we offer for consideration, for possible addition to or amendment of the August 15, 2018 draft ordinance. Our suggestions are provided in the attached memorandum, and include additional detail on several points included in the draft ordinance, and additions for clarification of specific MEDEP regulations to apply to various sections of the ordinance.

### Possible Quarry Location

SME is aware of a Sketch Plan Application submitted to the Town of Windham on March 5, 2018. The boundaries of the proposed mineral extraction operation (property boundary and limits of proposed total extraction) are shown on Figure 1. This is the nearest location of potential mineral extraction activity to the Forest Lake region of which we are currently aware. As discussed with you, we reviewed this proposed project with respect to setbacks and proposed water quality monitoring in the vicinity of the aquifer in the Town of Cumberland.

The proposed quarry location is beyond the 250-foot shoreland zone setback and beyond the setback for a potential public drinking water source (approximated on Figure 1). Since the Town of Windham zoning in this area does not include an aquifer protection overlay, it is not likely that the mapped sand and gravel aquifer would be considered a potential public drinking water source, and the 1,000-foot setback would not apply. The Town of Cumberland may wish to request that the Town of Windham consider adding an aquifer protection overlay in the vicinity of Forest Lake and the mapped sand and gravel aquifer, in order to provide additional monitoring and oversight possibilities for the purpose of aquifer protection.





Please do not hesitate to contact us with any questions or for further discussion.

Very truly yours,

SEVEE & MAHER ENGINEERS, INC.

A handwritten signature in blue ink, appearing to read "E M Clapp".

Erik M. Clapp, Ph.D, C.G.  
Vice President/Principal

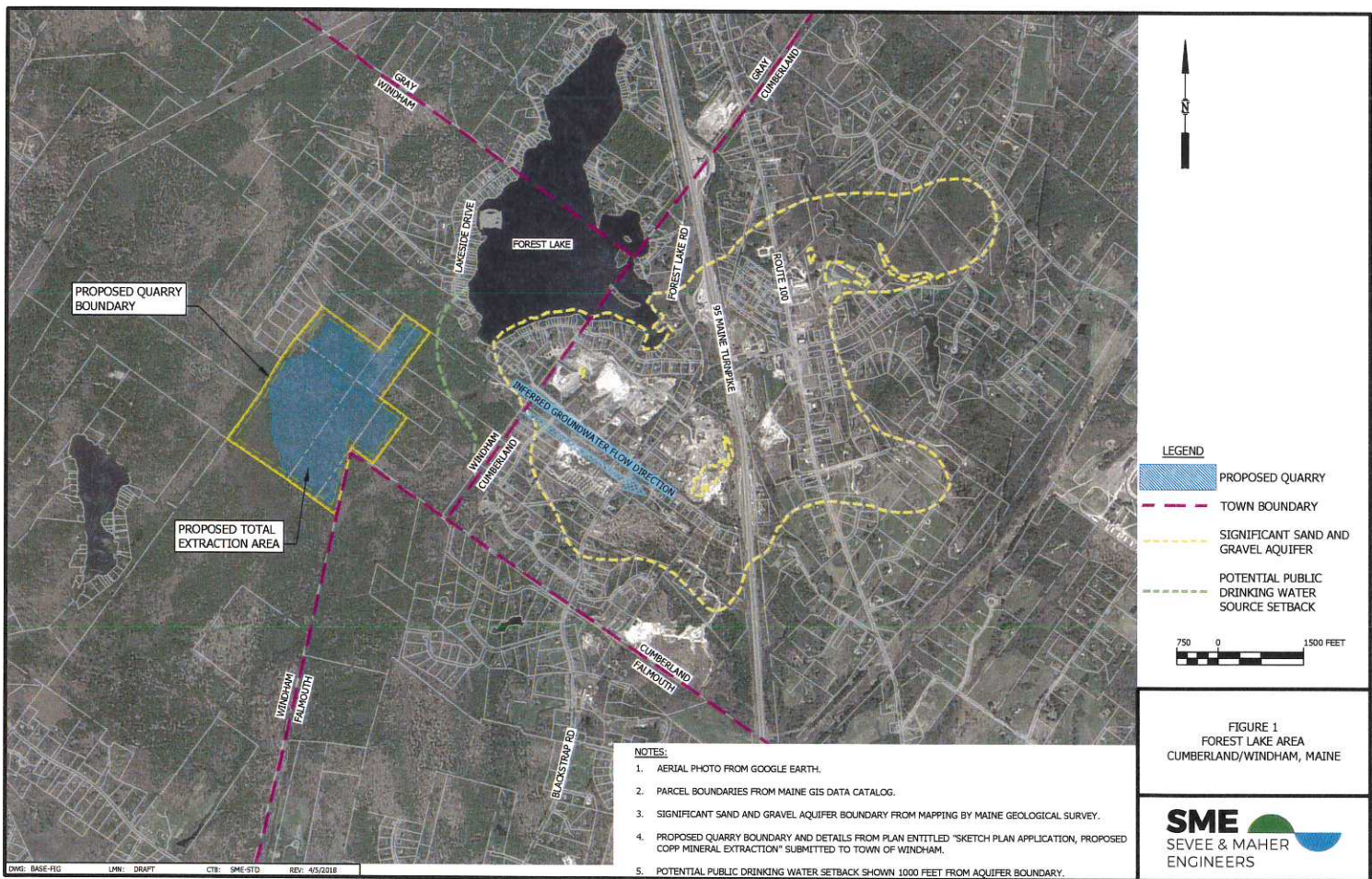
A handwritten signature in blue ink, appearing to read "Lisa J. Jacob".

Lisa J. Jacob, C.G.  
Senior Geologist

A handwritten signature in blue ink, appearing to read "Steven E. Patch".

Steven E. Patch, P.E.  
Senior Project Manager

Enclosures: Figure 1  
Memorandum, Town of Windham Land Use Ordinance Review



MEMO TO: Lisa Jacob

FROM: Steve Patch *SEP*

DATE: September 28, 2018

SUBJECT: **TOWN OF WINDHAM LAND USE ORDINANCE REVIEW  
SECTION 600 MINERAL EXTRACTION**

As requested, I have reviewed the Town of Windham Land Use Ordinance Section 600 Mineral Extraction. The Ordinance is quite comprehensive and for the most part consistent with the Maine Department of Environmental Protection (MEDEP) Article 8-A Performance Standards for Quarries, Subsection 490Z. Based upon my review, I offer the following comments (*italic font*) for the Town's consideration.

Section 604(d). The location of all proposed hazardous materials storage areas. Hazardous materials (*including equipment fuel, petroleum products, oil, hydraulic fluids, etc.*) shall be located in an impervious containment area *designed to contain spills and provide for secondary containment.*

Section 606(A). Mineral extraction operations within the Town of Windham must comply with the applicable performance standards below unless a variance is first obtained from the Maine Department of Environmental Protection as set forth in Maine's Statute Title 38 Section 490 *and approved by the Town Planning Board.*

Section 606(A)(2)(f) *The applicant shall conduct and report all baseline and routine compliance monitoring (i.e., water levels and water quality monitoring) required by MEDEP Title 38 Section 490 to the Planning Board for review and approval prior to beginning mineral extraction activities and on an annual basis after mineral extraction activities have begun. Water level and water quality monitoring should be conducted by a third-party working under the guidance of a Certified Geologist or Professional Engineer.*

Section 606(A)(13) Blasting. The operator must ensure that blasting is conducted in accordance with Maine statutes set forth in Title 25 Chapter 318 *and Title 38 Subsection 490-Z Performance Standards for Quarries.*

Section 606(A)(13)(c). Assessment of features..., such as well yield and water quality. *The list of test parameters will be consistent with typical water quality tests and include:*



- *Metals (Cu, Fe, Mn, As, U, Na, Pb)*
- *Chloride*
- *Color*
- *Fluoride*
- *Hardness*
- *Nitrate/Nitrite*
- *pH*
- *Dissolved Solids*
- *Turbidity*
- *Radon*
- *Total Coliform/E. coli*
- *Bacteria*

Section 607 Rehabilitation Requirements (A). The site shall be rehabilitated in accordance with this section *and MEDEP regulations (i.e., keep active operating area under 10 acres by progressive reclamation of the pit).*

Section 607(A)(1) Where an embankment remains after completion of operations it shall be graded at a slope not steeper than 1 foot vertical to 2.5 feet horizontal.

Section 607(A)(2) Seeding, planting, and loaming as approved in the rehabilitation plan shall be accomplished so that exposed areas are stabilized and erosion is minimized. *Seeding shall achieve a minimum of 90 percent establishment of vegetation.*

Section 608 Permit and Inspections (A). The code enforcement officer shall conduct an annual compliance inspection of all excavations *and review and approve all blasting documentation required by the MEDEP Title 38 Subsection 490 on an annual basis including, but not limited to, water quality monitoring and groundwater measurements, individual blast summary reports, annual instrument calibration, and third-party seismograph results. The applicant shall annually perform third-party calibration of all instruments used to document compliance with MEDEP Title 38 Section 490 (i.e., air blast levels and peak particle velocities). The applicant shall also hire a third party to record seismograph readings during one blast event on an annual basis, to collaborate the seismograph results of the applicant.*

Section 609 Performance Guarantee Requirements (A). The performance guarantee shall also include the cost to replace any private drinking water supply well within 300 feet of the property boundary of the mineral extraction operation *or any supply well within an area in which the elevation of the water table will be impacted by the development (i.e., where safe yield and water quality may be impacted).*