

CHAPTER 13 BLASTING

13-1. Purpose. The purpose of this chapter is to protect the public's health, safety, and general welfare by regulating and controlling blasting operations within the City, without causing undue financial and administrative hardship to blasting operators.

13-2. Applicability. This chapter shall apply to all blasting operations related to demolition, excavation, construction and development within the City.

13-3 Permit. A blasting permit shall be obtained from the Code Enforcement Officer prior to the commencement of any blasting activity. The CEO shall issue a permit only if he/she determines that the applicant will comply with the notice and standards of this chapter. The application for a permit may be approved, approved with conditions or denied by the CEO.

13-4 Application requirements. An application for a blasting permit shall be submitted to the CEO not less than five (5) business days prior to the planned initiation of blasting activities. The application shall be made on a form provided by the City. The application shall include the following:

- (1) Name of applicant;
- (2) Name of property owner;
- (3) Name of the general contractor with overall responsibility for the project;
- (4) Name and qualifications of the person or company to perform the blasting;
- (5) Documentation of State of Maine certification;
- (6) Documentation of insurance;
- (7) Location of blasting operations, including a map of the subject property, and the blast area for which the permit is requested;
- (8) Estimate of the number of cubic yards of material to be removed by blasting;
- (9) Estimated number of blasts required to complete the blasting operation;
- (10) Description of the project for which the blasting is being undertaken;
- (11) Projected dates work is to be undertaken;
- (12) Evidence that notification has been published in a newspaper of general circulation at least ten (10) calendar days prior to the intended date of the commencement of the blasting operations;
- (13) Evidence that notification of property owners has been sent by United States Postal Service (USPS) certified mail at least ten (10) calendar days prior to the intended date of the commencement of the blasting operations;
- (14) Evidence that preblast surveys were offered to property owners;
- (15) Evidence that drinking water well tests were offered to property owners
- (16) The permit fee in accordance with the fee schedule adopted by the City Council

13-5 Standards and requirements. All blasting shall be conducted in accordance with the following standards and requirements:

- (1) Hours of operation. Blasting operations, other than the actual blasting, shall be limited to between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday, and 7:00 a.m. to 2:00

p.m. on Saturday. The actual blasting shall not occur prior to 8:00 a.m., Monday through Saturday.

(2) Property owner notification requirements. The applicant shall notify all landowners and the owners of any utilities including public water and sewer services within two hundred fifty (250) feet of the proposed blasting operation. Notice shall be sent by United States Postal Service (USPS) certified mail at least ten (10) calendar days prior to the intended date of the commencement of the blasting operations. The notice shall include the blasting schedule, a description of the blasting signals to be used during the operation, an address and telephone number where property owners may request further information and additional notification, information about the no-cost pre-blast survey, and an offer to provide further information, upon written request.

(3) Newspaper notice publication requirements. The applicant shall publish a notice of the proposed blasting in a newspaper of general circulation at least ten (10) calendar days prior to the intended date of the commencement of the blasting operations. The newspaper notice shall include the blasting schedule, a description of the blasting signals to be used during the operation, and a mailing address and telephone number where anyone may request further information and additional notification about the time of blasts.

(4) Property posting requirements. At least ten (10) days prior to the intended date of the commencement of the blasting operations, the applicant shall post a notice on the subject property of the pending blasting. The posting shall conform to the following requirements:

(a) The notice shall be mounted on a rigid four (4) foot by four (4) foot display board.

(b) The face of the display board shall be white or yellow and shall contain the following in black letters at least six (6) inches high:

BLASTING PENDING

(c) The display board shall remain in place until the blasting operation is complete or has been abandoned.

(5) City notification requirements. After receiving a blasting permit, the blasting contractor or other responsible party shall notify the CEO when a blasting operation is planned. Such notification shall be received at least twenty-four (24) hours prior to the planned detonation and shall give the time of the planned detonation (within two hours) and location where the blasting is to be done. The notification may be given orally over the telephone; however, the burden of proof as to whether the notification was in fact received rests with the person responsible for the blasting operation.

(6) Additional property owner notification requirements. Prior to any blast, the person responsible for the blasting operation shall inform any property owner who have requested in writing to be so informed of the impending blast. Such notification shall be given by telephone twenty-four (24) hours prior to the blasting operation stating the time of the blast within one hour. The burden of proof as to whether the notification was in fact received rests with the person responsible for the blasting operation.

(7) Preblast survey requirements. The applicant shall offer to hire an independent firm to perform preblast surveys on all buildings within 250 feet of the blasting area. The survey shall include a written description and either a video or photographic documentation of any preexisting conditions on the inside and outside of each building. At least three documented attempts must be made to physically offer the survey before the landowner may be deemed a non-respondent. All preblast survey documentation shall be held by the independent firm,

and following completion of the blasting operation, upon request, shall be made available to the landowner at the expense of the applicant within fourteen (14) days of such a request.

(8) Well testing requirements. The applicant shall offer to hire an independent water testing company to perform water tests of all drinking water wells within two hundred fifty (250) feet of the blasting area. The test shall document the flow rate of the well prior to blasting, as well as the levels of coliform bacteria, e-coli, nitrate, pH, copper, iron chloride, manganese, arsenic, calcium, and sodium. At least three documented attempts must be made to physically offer the water test before the abutter may be deemed a non-respondent. The water test results shall be held by the independent water testing company, and upon request, shall be made available to the landowner at the expense of the applicant within fourteen (14) days of such a request.

(9) Seismic monitoring requirements. Either an independent firm, retained at the sole cost and expense of the applicant, or the applicant themselves, shall monitor airblast and vibration for the blasting operations. All instrumentation shall be in compliance with the specifications outlined below. Instrument(s) shall be installed at the closest point of the building in greatest proximity to the shot to be recorded. A sketch showing the blast site, its relation to adjacent buildings, the location of the seismograph(s) and pertinent distances shall be provided to the CEO. Reports containing pertinent information and seismograph printouts for each shot shall be submitted to the Code Enforcement Officer. All seismographs used for compliance with this section shall meet the following specifications:

- a. Seismic frequency range: two to 200 Hz (+/- three Hz).
- b. Acoustic frequency range: two to 200 Hz (+/- one dB).
- c. Velocity range: 2/100 to four inches per second.
- d. Sound range: 110 to 140 dB linear.
- e. Transducers: three mutually perpendicular axes.
- f. Recording: provide time-history waveform.
- g. Calibration: must be laboratory calibrated as often as necessary, but at least once every 12 months according to the manufacturer's recommendations. A copy of the instruments calibration schedule/requirement and the latest calibration certification must be available with any and all seismographs on site.

(10) Records maintenance requirements. The person or firm responsible for a blasting operation shall maintain a record of each blast. All records shall be retained for at least five years following the cessation of blasting operations, copies of which shall be provided to the code enforcement office within ten (10) days of request. Such written records shall contain the following:

- (a) Name of person responsible for the blasting operation.
- (b) Location, date(s), and time of blast.
- (c) Name of blaster.
- (d) Type of material blasted.
- (e) Number of holes, burden and spacing.
- (f) Diameter and depth of holes.
- (g) Types of explosives used.
- (h) Amount of explosives used.
- (i) Whether mats or other protections were used.
- (j) Seismograph and airblast readings: when and where measured.

13-6 Definitions. As used in this article, the following terms shall have the meanings indicated:

AIRBLAST—An airborne shock wave resulting from the detonation of explosives. The movement of overburden or the release of expanding gas into the air resulting from the detonation of explosives may also cause airblast. Airblast may or may not be audible.

BLASTING—Any activity entailing the use of explosives for the purpose of producing an explosion to demolish structures or to fragment rock for mining, quarrying, excavation, or construction. Related terms are as defined in the BOCA National Fire Prevention Code and NFPA 495 Explosive Materials Code.

BLASTING OPERATION — Includes all blasting anticipated to be undertaken during the completion of a contract or series of contracts, for demolition, excavation, construction, and development. A blasting operation includes all work involving the preparation, drilling, loading and detonation as well as the excavation and clean-up of the blasted area.

EXPLOSIVES — Any substance, chemical compound, or mechanical mixture that is commonly used for the purpose of producing an explosion for blasting, as defined by this chapter. Initiating devices (detonators, detonating cords, etc.) are also included in this definition.

FLYROCK — Rock that is propelled through the air or along the ground because of the detonation of explosives.

INDEPENDENT FIRM—A bona fide company approved by the Code Enforcement Officer who is not affiliated with the applicant but is contracted to impartially render services.

PARTICLE VELOCITY — A measure of ground vibration. Particle velocity describes the velocity at which a particle of ground vibrates when excited by a force producing ground motion such as an earthquake or an explosion, measured in inches per second.

SEISMOGRAPH — An instrument that measures and records earthborn vibration induced by the detonation of explosives. The instrument shall produce a direct printout of ground motion frequency, acceleration, particle velocity and amplitude, or produce a record from which any of these parameters can be calculated.