

**FRENCHTOWN CHARTER TOWNSHIP  
BLASTING AND VIBRATION REGULATION ORDINANCE  
Ord. No. 199; Date of Adoption: December 2001**

The Township Board has determined that restrictions need to be placed on blasting and vibrations to adequately protect the interests of the citizens of the Township of Frenchtown and, the Township Board wishes to adopt such Regulations;

**FRENCHTOWN CHARTER TOWNSHIP HEREBY ORDAINS:**

**Section 1. Title.**

This Ordinance shall be known as and referred to as the Frenchtown Charter Township Blasting and Vibration Regulation Ordinance.

**Section 2. Purpose and Scope.**

It is the purpose of this enactment to provide minimum standards for safety to life, limb and property, for general public welfare and for safe practices in the use of explosive devices or dangerous ordnances for blasting for mining and quarrying, construction, demolition, landfill, and related operations including drilling and preparation for blasting.

These rules and regulations shall apply to every operation where explosives are used for blasting purposes, and compliance with the requirements herein contained shall be necessary on all such projects.

**Section 3. General Provisions.**

- A. Every person using explosives within the corporate limits shall comply with the regulations herein established and in addition, with the provisions of both applicable State and Federal Law, as well as the Fire Code adopted by the Township, in the use of said explosives including their storage, transportation, and safety practices.

All such persons shall use every reasonable precaution to provide for the safety of all employees on the job and such other persons who may be regularly entitled to be upon or near the explosive or dangerous ordnance site, as well as to provide for the safety of the general public. Every employee shall observe the provisions hereof and no person shall use explosives or dangerous ordnances for blasting purposes in a manner contrary to the provisions of this Ordinance.

- B. Upon application to the Township Building Official of Frenchtown Charter Township and upon payment of all fees specified herein, a permit shall be issued to qualified applicants to acquire, possess, carry, or use explosives, explosive devices or dangerous ordnances, for the following purposes:

(1) Contractor, wreckers, landfill operators, mining and quarrying operations and other persons regularly employing explosives in the course of a legitimate business, with respect to explosives and explosive devices acquired, possessed, carried, or used in the course of such business.

(2) Farmers, with respect to explosives and explosive devices acquired, possessed, carried, or used for agricultural purposes in accordance with State Law.

(3) Scientists, engineers, and instructors, with respect to dangerous ordnances acquired, possessed, carried, or used in the course of bona fide research or instruction.

(4) To any responsible person, with respect to dangerous ordnances lawfully acquired, possessed, carried and used for a legitimate research, scientific, educational, industrial, or other proper purpose.

(5) Application for a license under this section shall be in writing under oath to the Township Building Official.

C. A permit shall be for a specific limited term but in any event for a term no greater than six months from its issuance. The application fee is two hundred fifty dollars (\$250.00).

D. Application for Permit.

The application for Permit shall contain the following information:

(1) The name, age, address, occupation, and business address of the applicant, if he is an individual, or the name, address, and principal place of business of the applicant, if the applicant is a corporation or other business entity.

(2) A description of the dangerous ordnance for which a permit is requested.

(3) A description of the place or places where and the manner in which the dangerous ordnance is to be kept, carried, and used.

(4) A statement of the purpose for which the dangerous ordnance is to be acquired, possessed, carried, or used.

(5) Such other information as the Township Building Official or the Township Engineer or his/her designee may require in giving effect to this section.

E. Upon investigation, the Township Building Official shall issue a permit only if all the following apply:

- (1) The applicant or any of its principals is not otherwise prohibited by law from acquiring, having, carrying or using dangerous ordnances;
- (2) The applicant is age twenty-one (21) or over and the application is for explosives only;
- (3) The applicant clearly demonstrates sufficient competence to safely acquire, possess, carry, or use the dangerous ordnance and provides that proper precautions will be taken to protect the security of the dangerous ordnances and insure the safety of persons and property;
- (4) The applicant attests that the dangerous ordnances will be lawfully acquired, possessed, carried, and used by the applicant for a legitimate purpose.
- (5) The applicant shall establish an Escrow Fund with the Township for payment of all costs and fees charged by the Township Engineer, Fire Department and Building Department relative to the application and permit in an amount determined by the Township Engineer, Fire Department and Building Department. If said costs exceed the sum so deposited the Township shall invoice applicant and applicant shall make payment therefore to the Township within ten (10) days after billing. In the event said costs are less than the amount so deposited, the balance shall be returned to applicant upon completion of the project.
- (6) The Township Fire Chief or his designee approves both the application and grants approval after site inspection concerning proper plaquarding, storage and concerning all issues of safety.

#### **Section 4. Insurance Protection.**

Any person, firm or corporation, who desires to conduct blasting operations within the corporate limits shall post with the Township Building Official, or his designee, effective certificates of insurance with an accredited company authorized to do business in the State of Michigan which policy shall protect the Township and its agents, its inhabitants, and the general public from any and all claims, damages, and/or demands, arising from the conducting of such blasting operations. The Township and its agents shall be named as an additional insured and a copy of said certificates shall be provided to the Township. Said Certificate shall be in effect during all blasting operations and shall provide coverage with the following requirements:

1. Workers Compensation Policy meeting statutory requirements.
2. General Liability Policy (occurrence basis only) in an amount of not less than One Million (\$1,000,000.00) Dollars for personal injury, bodily injury and property damage with the following coverage inclusions:

- A. Broad form General Liability Endorsement or equivalent.
- B. Independent Contractor Coverage.
- C. Products and Completed Operations Coverage.
- D. Contractual Liability Coverage.
- E. Excess Umbrella Coverage in the additional amount of Two Million (\$2,000,000.00) Dollars for total minimum coverage of Three Million (\$3,000,000.00) Dollars.
- F. An endorsement on the policy providing that at least 30 days written notice shall be given to Frenchtown Charter Township prior to cancellation, reduction or material change in coverage of the policy or of intent not to renew.

**Section 5. Pre-Blast Survey.**

- A. At least twenty days prior to the initiation of blasting, the permit holder shall notify, in writing, all residents or owners of dwellings or other structures located within one thousand (1000) feet of the mining blasting area, or three hundred 300 feet of the construction blasting or other blasting areas about the procedure involved in requesting a pre-blast survey. Such notification shall be by U.S. Certified Mail, Return Receipt Requested and this notification shall include a statement that any preblast survey requested must be requested at least ten (10) days before the planned initiation of the blasting. A refusal to allow the survey or a late response will not affect the commencement of the blasting operations. A copy of all preblast survey notifications shall be filed with the Township Building Official.
- B. The Township may require the permit holder to conduct a pre-blast survey and/or to publish notice in a local newspaper regarding the blasting. A resident or owner of a dwelling or structure within one thousand (1000) feet of the mining or blasting area or three hundred (300) feet of the construction or other blast area may also request a preblast survey. Such request from a resident or owner shall be made in writing, directly to the Township Building Official, or his designee. Within ten (10) days after a request for a pre-blast survey is received, the seismologist or his designee shall contact the owner requesting a preblast survey of a dwelling or structure and make an appointment to conduct the preblast survey.
- C. The preblast survey written report shall include the inspector's opinion as to the condition of the dwelling or structure and shall document any preblasting damage

or distress conditions and other physical factors that could reasonably be affected by blasting.

- D. The preblast survey written report shall be signed by the person who conducted the preblast survey. The original report shall be maintained by the inspection company, a copy shall be filed with the Township Building Official or his designee, a copy shall be provided by the permit holder, and a copy shall be provided to the resident or owner upon their request.
- E. No blasting shall commence until certification of completion of the applicable preblast surveys has been filed with the Township Building Official. Should an excessive number of preblast surveys be requested or required, commencement of blasting operations shall be delayed until such time as the preblast surveys are completed.
- F. If the resident or owner disagrees with any portion of a preblast survey written report, they may submit their written description as to the areas of disagreement to the Township Building Official, with a copy to the permit holder and the inspector.

#### **Section 6. Blasting Operations**

- A. Blasting Operations shall be conducted only under the supervision of a qualified blaster. A qualified blaster and at least one other person shall be physically present at the detonation of any blast. Only the qualified blaster may detonate or give the command to detonate a blast.
- B. Blasting Schedule - Written Schedule.

Written notice of the blasting schedule shall be given to both the Township Building Official, Township Fire Chief or his designee and the Seismologist at least forty-eight (48) hours before such explosives are used. It shall be the duty of the Seismologist or his representative to attend all such explosive events on the date and at the time and place, and to notify the permit holder or Licensee of any alternative date and time in the event the same is necessary to be rescheduled due to unavailability or other reason. In the case of mining operations, permanent monitoring installations shall be set up in surrounding areas in lieu of attendance by the Seismologist, or the mining company may employ a technician to deploy portable seismographic equipment, submitting the recordings to the seismologist for certification.

- C. Hours of Blasting.

No blasting operations shall be conducted within the corporate limits except on weekdays, which are not otherwise legal holidays or Saturdays or Sundays, and only then between the hours of 9:00 AM and 4:30 PM, provided, however, that in

the event the Township Building Official, the Seismologist, or his/her designee agree that an emergency or extraordinary situation exists, such hours and times of blasting may be specifically varied to counteract such emergency.

D. Blasting Access Control and Warnings.

The permit holder shall conspicuously place signs reading "Blasting Area" along the perimeter of any blasting area when the perimeter is within one hundred (100) feet of any public road and/or right of way, as well as at the edge of all blasting areas along access and haul roads within the permit area.

For each blast, the qualified blaster conducting the blast shall define the limits of the blasting area where danger of flyrock exists. Blasting mats or other preventative measures may be required by the Township to contain flyrock.

The permit holder shall be responsible for controlling access to the blasting area to prevent the presence of unauthorized persons at least ten (10) minutes before each blast and until, the qualified blaster has determined that no unusual post-blast hazards exist and access to and travel within the blasting area can safely resume.

E. Ground Vibration Specifications.

Blasting operations shall be so conducted that ground vibrations measured at the nearest structure or building, supporting towers and appurtenances, not located on the blasting site, do not exceed the frequency dependent peak particle velocity limit in any of the three mutually perpendicular planes of motion, i.e., vertical, longitudinal, or transverse. This limit is delineated in Modified Figure B-1, United States Bureau of Mines RI 8507.

For vibrations of semi-continuous nature produced by but not limited to such activities as pile driving, pavement breaking, and soil compaction; the modified B-1 graph shall be truncated at 0.5 inches per second. Vibration is thus limited to 0.5 inches per second at frequencies above 2.65 Hertz.

Measurements for both types of vibration shall be made on the ground next to the foundations or on the basement floor of any dwelling, church, school, or any other residential, commercial or institutional structure. When access to the receiver structure is not possible, measurements made on the ground and not on a direct line between the structure and the vibration source shall be made at the same or shorter distance that the structure is from the vibration source and shall not exceed the applicable limit.

If, in the combined opinion of the Seismologist and the Township Building Official, extraordinary circumstances exist, either vibration limit may be further

restricted. Such restrictions shall be communicated in writing to the blaster, contractor, or operator.

F. Air Blast Effects.

No air blast shall exceed the maximum limit of 133 decibels at any residential dwelling, public or commercial building, school, church, or community or institutional building. All air blast measuring systems shall have at least a flat frequency response range from two (2) Hertz to two hundred fifty (250) Hertz.

G. Fly Rock shall be controlled by the permit holder in such a manner so as to prevent "flyrock" from occurring as a result of any blast. Fly rock shall be considered as any rock, mud and/or debris which may travel the air or along the ground as a result of blasting.

H. All blasting operations shall be conducted in accordance with the Occupational Safety and Health Administration (OSHA) standards for blasting and the use of explosives in effect at that time.

**Section 7. Surveillance of Blasting.**

A. The Township shall employ a qualified seismologist, to conduct seismological surveillance of all blasting operations. The Seismologist shall keep daily records of all seismic and acoustic monitoring of blasting activities for a minimum of three (3) years. The Seismologist, shall be compensated by the permit holder through an escrow account established through the Township. The Seismologist shall be deemed a representative of the Township and shall serve subject to the review and recommendation of the Township.

B. The Seismologist will report any violation of this Ordinance immediately to the Township Building Official or his designee. Upon the violation of any provision of this Ordinance, the Township Building Official or his designee may cause the immediate revocation of the blasting permit.

C. The Seismologist shall issue written reports on each and every blasting event to the Township Building Official or his designee and the permit holder, licensee and/or Contractor, which reports shall include comments upon compliance with regulations and standards herein established. These reports shall be filed with the Township Building Official or his designee within one week after each blasting event, or prior to the next blasting event if a violation has occurred or the vibration level from the previous event exceeds 75% of the vibration specification limitation.

These written reports shall contain the following information:

Seismographic and air blast records, including the following:

1. The type of instrument, sensitivity, and calibration signal of the device, also, a certification that the equipment has been calibrated within the past year, along with a written indication showing any and all calibrations done within the past year, and the results of those calibrations;
2. The exact location of the seismograph, along with an indication of the date, time and distance from the blast;
3. A report describing the electronic analysis of frequency vs. particle velocity. This is to be in a format similar to the graph  
  
which is part of Modified Figure B-1, Bureau of Mines, RI 8507 which is attached hereto.
4. An air blast level(s) report; and
5. The name of the person and/or firm analyzing the seismographic record.
6. The written report provided by the blaster or permit holder.

D. The blaster or permit holder shall provide to the Seismologist a written report immediately following each explosive event containing the following information.

1. The name of the firm and/or individual conducting the blast;
2. The location, date and time of the blast;
3. The name and signature of the qualified blaster conducting the blast;
4. A report of weather conditions, including temperature, wind direction and velocity, etc.;
5. A description of the type of material blasted;
6. The number, diameter and depth of blast holes;
7. The type of, identity of manufacturer of, and amount of, explosives used;
8. The total weight of explosives used;



9. The weight of the explosives per hole;
10. The maximum weight of explosives detonated within any eight (8) millisecond period;
11. The type of initiation or detonation system used;
12. The delay pattern, including the actual firing time of each hole;
13. A sketch, in reasonable detail, of the blast pattern showing all holes, delay patterns, previously blasted material and an indication of North;
14. At the completion of the blasting operation, a final map, in reasonable detail, of the permit area, showing the location of each blast, and identifying each location with date, time and other pertinent information concerning each blast.

**Section 8. Penalty.**

Whoever violates the provisions of this Ordinance, upon conviction thereof, shall be deemed guilty of a misdemeanor and fined in an amount not exceeding Five Hundred Dollars (\$500.00) for each offense plus costs and restitution to the Township for costs incurred thereby as permitted by MCL 769.1a and other state law. Every day a violation exists shall be deemed a separate violation. The imposition of sentence shall not exempt offender from compliance with this Ordinance. Further, the Township may take necessary action to abate or enjoin the violation of this Ordinance in a court of competent jurisdiction.

**Section 9. Permit Revocation.**

In addition to the criminal penalties set forth herein, in the event any permittee or licensee violates the standards as herein established on two or more separate occasions, as reported by the Seismologist, the Township Building Official or his designee, shall have authority to take appropriate action, including, but not limited to the following: revocation of any and all outstanding blasting permits granted to the benefit of the permittee, licensee, or any other individual and/or entity acting through and/or on behalf of the permittee and/or licensee; refusal to issue any further permits to such permittee or licensee at any subsequent time and to pursue any civil remedy, be it injunctive relief, damages or otherwise, which the Township Building Official deems appropriate.

**Section 10. Repeal.**

All Ordinances in conflict with this Ordinance are to the extent of such conflict hereby repealed

**Section 11. Severability.**

This Ordinance and the various parts, sentences, paragraphs, sections, subsections, phrases and clauses thereof are declared to be severable and if any of them are adjudged unconstitutional or invalid, it is hereby provided that the remainder of the Ordinance shall not be affected.

**Section 12. Effective Date.**

This Ordinance shall become effective thirty (30) days after adoption and publication in a newspaper having general circulation in the Charter Township of Frenchtown, Monroe County, Michigan.