

Chapter 30

THE TOWN OF TILDEN BLASTING ORDINANCE

Section 1: Title. This ordinance shall be cited as the “Town of Tilden Blasting Ordinance” and hereinafter referred to as “this ordinance”.

Section 2: Authority. This ordinance is adopted to protect the public health, safety and welfare of residents of the Town of Tilden. This ordinance is authorized by the powers granted to the Town of Tilden by the Town’s adoption of Village powers under sec. 60.10, Wis. Stats., and is in accord with sec. 61.34, Wis. Stats., and Wis. Admin. Code Comm. 7.

Section 3: Purpose and Intent. The purpose of this ordinance is to regulate the use of explosives in non-metallic mining operations, in the erection or placement of structures greater than 15 feet high above the ground surface and in demolition of structures that require a level 3 license or higher. This ordinance is intended to limit the adverse effects of blasting on persons or property outside any controlled blasting site area.

Section 4: Definitions. When used in this ordinance, the terms below shall be defined and limited as follows:

A. Affected building or structure. A building or structure within a distance extending 1320 feet from the outer perimeter of a controlled blasting site area.

B. Airblast. An airborne shockwave resulting from the detonation of explosives.

C. Blast area. The area of the blast as determined by the blaster in charge within The influence of flying rock missiles, the emission of gases, and concussion as determined by the blaster in charge.

D. Blast site. The area where explosive materials are handled during the loading of blast holes, including 50 feet in all directions from the perimeter formed by the loaded blast holes. A minimum of 30 feet may replace the 50 foot requirement, if the perimeter of loaded blast holes is marked and separated from the non-blast area outside of the site by a protective barrier. The 50 feet or 30 foot distance requirements apply in all directions along the full depth of the blast hole.

E. Blaster. Any individual holding a valid blaster’s license issued by the Wis. Dept. of Commerce.

F. Blaster in charge. The qualified person in charge of and responsible for loading and firing the blast.

G. Blasting. The use of explosives to loosen, penetrate, move or shatter masses of solid materials.

H. Blasting resultants. Effects caused by blasting including, but not limited to, projectile matter, vibrations and concussion that cause injury, damage or unreasonable annoyance to persons or property located outside the controlled blasting site area.

I. Controlled blasting site area. An area that surrounds a blast site from which the operator has a legal right and duty to take all reasonable means to assure the safety of persons and property, either because the operator owns the area, or because the operator has leased or has some special agreement with the owner of that area.

J. Flyrock. Rock or karst that is propelled through the air from a blast.

K. Ground vibration. A shaking of the ground caused by the elastic wave emanating from a blast.

L. Karst. An area or surficial geological features subject to bedrock dissolution so that it is likely to provide a conduit to groundwater, and may include areas with soils less than 60 inches thick over bedrock, caves, enlarged fractures, mine features, exposed bedrock surfaces, sinkholes, springs, seeps, swallets, and depressions with no surface drainage.

M. Particle velocity. A measure of ground vibration describing the velocity that a particle of ground vibrates when excited by a seismic wave.

Section 5: Applicability

A. This ordinance shall apply:

1. To any person who blasts in the Town of Tilden in order to establish a footing, foundation, or other method of support for the construction, placement or erection of structures greater than 15 feet high above the ground surface.
2. To any person who conducts blasting in the Town of Tilden as part of a nonmetallic mining operation.
3. To any person who blasts in the Town of Tilden in order to demolish buildings or other structures when these require a level 3 license or higher.

B. Applications for a permit to blast shall only be submitted by and issued to an individual who holds a valid blaster's license issued by the Wisconsin Department of Commerce with the proper classification or who is supervised by a licensed blaster.

C. Applications for a permit to blast may be submitted by and issued to a blasting business, provided that the individual operating under the permit holds a valid blaster's license issued by the Wisconsin Department of Commerce with the proper classification or is supervised by a licensed blaster.

D. No blasting permit shall be issued to any person, unless the operation which blasting supports has all necessary state, county and town permits and is in compliance with all Town, County and State regulations, including but not limited to, the requirements of this chapter.

Section 6: The Application.

A. An applicant shall obtain an application form for a blasting permit from the Town Clerk. The applicant shall submit the completed application form together with all additional documentation to the Town Clerk.

B. The application shall include the following information on the form itself or on documents attached to the form:

1. Name, license number, address, land and cell phone numbers, and email address of the applicant.
2. Name address, license number, land and cell phone numbers, and email address of the blaster in charge of the blast, if other than the applicant.
3. Name address, land and cell phone numbers, and email address of the person in charge of the operation that blasting will be used to support.
4. A map showing the location of the blasting site and a brief description of the operation at the site. Include on this map the location of all buildings located within 500 feet of the controlled blasting site, attaching the names, addresses and land phone numbers of owners of those buildings.
5. Copies of all County and State permits that have been granted to the operator for whose operation blasting is giving support.
6. Proof of Financial insurance
7. A Pre-blasting site inspection report.
8. Copies of preblast report

C. An application shall be regarded as "complete" only when the information requested in section 15.06(2)a-h of this ordinance has been provided to the Town Clerk on the form or on attachments to the form.

Section 7: Pre-blasting Surveys

A. Pre-blasting surveys shall be conducted to determine the condition of all

buildings or structures within 1320 feet of the blast site(s) and the quality of water in all wells in that area shall be tested prior to the onset of blasting. The pre-blasting surveys shall be completed at the applicant's expense. Each survey shall

provide the name and address and telephone number (if known) of the resident or owner of said buildings, structures and/or wells, and shall document any pre-blasting presence or absence of damage or other physical factors that could reasonably be expected to be affected by the use of explosives. The testing of wells shall determine whether the water is safe for human consumption according to established drinking water quality standards, including standards applicable to children of all ages and pregnant women. If the blasting for which a permit application is being made is part of an operation that has been already permitted and that tested the wells within a time frame acceptable to the Town of Tilden, information regarding those tests can be submitted instead of testing the wells again.

B. If any new building or structure is added or a new well drilled subsequent to the effective date of the permit, the owner may request a survey to be done of that building or well and the permittee shall conduct that survey, at the permittee's expense. In addition, if a building or structure is improved and the cost of the improvement exceeds 50% of its fair market value prior to the improvement, the owner of that building or structure may request that a pre-blasting survey be completed, at the permittee's expense.

C. Prior to obtaining a blasting permit, the applicant shall notify, in writing, all residents or owners of buildings or other structures (including, but not limited to, wells) located within 1320 feet from the blasting site that the applicant intends to apply for a blasting permit from the Town of Tilden and will be completing a pre-blasting survey as part of the application and review process. The written notification shall include a statement indicating that the survey provides a baseline record of the pre-existing condition of building or a structure against which the effects of blasting can be assessed and it should include both the interior and exterior of the buildings. It shall also indicate that no survey will be done unless the resident or owner makes a written request for a pre-blast survey and a water quality test for existing wells. The resident or owner shall make this request in writing to the applicant. The applicant shall conduct a pre-blast survey only of requested dwellings or structures and conduct water quality testing for existing wells.

D. If the resident or owner requests a copy of the survey, then, within 48 hours of the request, the blaster shall provide the copy.

E. In cases where a blasting permit is renewed because it is part of a permitted continuing operation that lasts over a number of years, the applicant shall not be required to conduct a pre-blast survey of any dwelling or structure, or conduct a well water quality test more than once every five (5) years.

F. The pre-blast survey and water quality testing shall be conducted by an independent survey company and a laboratory approved by the State of Wisconsin or an organization selected by the applicant and acceptable to the

owner or resident and the Town. Reasonable and reasonably related costs of such independent survey shall be the sole responsibility of the applicant/permittee.

Section 8: Procedures

A. Upon receipt of complete application form and the permit fee(s), the Town Clerk shall place the application on the agenda for the next meeting of the Plan Commission. The Plan Commission shall review the application. If it determines that the permit application is complete and the proposed blasting activity will comply with all the applicable provisions of this ordinance and of Wis. Administrative Code Comm. 7, the Plan Commission will recommend that the Town Board grant a blasting permit. The Plan Commission may also recommend conditions related to the permit, as appropriate. If Plan Commission determines that the application is incomplete or that the proposed blasting activity will not be conducted in conformity with the provisions of this ordinance or Wis. Administrative Code Comm. 7, the Plan Commission shall recommend the Town Board deny the permit.

B. The Town Clerk will place the Plan Commission's recommendation on the agenda of the next regularly scheduled Town Board meeting for review and action by the Town Board. The Town Board may approve, approve with conditions, deny or request additional information, as appropriate.

Section 9: Pre-Blasting Site Inspection

A. The blaster shall visually inspect the controlled blasting site area to determine if there is any evidence of a sinkhole, a cave or a subsurface void in the karst that could be part of a sinkhole or cave. If visual inspection reveals such, no blasting shall occur, nor shall any structure support be placed therein.

B. In addition to a visual inspection, especially if visual inspection is inconclusive and the general area is known to have sinkholes and caves, it is recommended that the blaster use probes (such as borings) or geophysical methods such as resistivity tomography, seismic refraction, microgravity or ground penetrating radar, to ascertain the presence of sinkholes or caves.

C. The blaster shall submit a pre-blasting site inspection report regarding his finding and methods used to the Plan Commission at the time an application for a permit to mine is made.

Section 10: Notification of Blasting. Notification must be given to the following persons and by the following means at least 72 hours prior to the initial blasting at a blast site as well as prior to all subsequent blasting events at the blast site:

A. At least 72 hours prior to initial blasting at a blast site, the blaster in charge shall make a reasonable effort to notify all residents or owners of affected buildings, as defined in section 5.09 (2) of this ordinance. The blaster shall make

all reasonable efforts to ensure timely and effective notice that a blasting operation is to begin, using such means as a written notice, a phone call, email or verbally in person.

B. A resident call list shall be established for the purpose of notifying persons living in the vicinity of the blast site at least 72 hours prior to a blasting event. A resident shall be placed on this call list only upon request to be so listed and called. The call list must be maintained and used prior to any blast.

C. Before any blasting operation or blasting event, the blaster in charge shall give notice thereof by the conspicuous display of a fluorescent flag and legible sign displayed within 100 feet of all public roads bordering the blasting site or at least the nearest public road bordering the blasting site. Said sign should also warn against the use of all mobile wireless communication equipment on all roads within 1000 feet of the blasting operations. The flag and sign shall be displayed prior to and during all blasting operations and events.

D. A distinctive warning signal shall be sounded prior to commencing blasting. Automotive or truck horns shall not be used as a warning signal.

E. Whenever blasting is being conducted in the vicinity of gas, electric, water, fire alarm, telephone, telegraph or steam utilities, these utilities shall be notified no less than 72 hours prior to commencing blasting.

F. Verbal (in person or by phone) or written (on hard copy or email) notice shall be given to the Town Clerk, the Town Chairperson, and the Plan Commission Chair at least one full working day prior to the onset of any blasting event. If a schedule including dates and times of blasting events is known at the time of application, making that schedule part of the application can serve as written notice. If part of the application, further notice shall be required only if there is deviation from the schedule.

Section 11: Blasting Schedule. All surface blasting shall be conducted between sunrise and sunset, unless one of the following conditions applies:

A. A more restrictive time period is specified by the Town as a condition of use.

B. The operator has shown that the public will not be adversely affected by noise and other impacts, and the Town Board has approved the deviation from normal blasting hours.

Section 12: Blasting Log. An accurate blasting log shall be prepared and maintained for

each blast fired, and a true and complete copy of this log shall be kept by the

permittee for a period of not less than 5 years and furnished to the Town of Tilden within 3 working days of a request for a copy of said log by the Town Clerk, Plan Commission or Town Board. The Town of Tilden may require that the permittee furnish an analysis of any particular blasting log to be prepared by the permittee. Each blasting log shall include, but not be limited to, the following information:

- A. Name and License number of the blaster in charge of the blast.
- B. Blast location references on an aerial photograph
- C. Date and Time of blast.
- D. Weather conditions at the time of blast.
- E. Diagram and cross section of blast hole layout
- F. Number of blast holes
- G. Blast hole depth and diameter
- H. Spacing and burden of blast holes
- I. Maximum holes per delay
- J. Maximum pounds of explosives per delay
- K. Depth and type of stemming used.
- L. Total pounds and type of explosives used
- M. Distance to nearest inhabited building not owned by the operator/blaster in charge
- N. Distance of blast hole to groundwater.
- O. Type of initiation used.

- 1. Seismographic and air blast records which shall include all of the following:
- 2. Type of instrument and last laboratory calibration date.
- 3. Exact location of instrument and the date, time, and distance from the blast.
- 4. Name of person and firm taking the reading
- 5. Trigger levels from ground and air vibrations
- 6. The vibration and air blast levels recorded.

Section 13: Monitoring.

- A. The permittee shall monitor all blasts at the closest location to the controlled blast area of any affected building or structure beyond the controlled blast area, provided, however, that the permittee may monitor at another location approximately the same distance from the perimeter of the controlled blast area, if the permittee is unable to obtain permission to conduct the monitoring from the owner of the preferred location.
- B. The Town of Tilden, by its Town Clerk, Plan Commission or Town Board, may, at its discretion, require the relocation of the monitoring equipment to a more suitable site.

Section 14: Storage of Explosives

No storage of explosive material on site is allowed.

Section 15: Control of Adverse Effects

The permittee and the operation requiring blasting shall be responsible for taking all reasonable actions necessary to control the adverse effects described herein.

A. General requirements. Blasting shall be conducted by the permittee and the operation requiring such blasting so as to prevent injury and unreasonable annoyance to persons and damage to public or private property outside the controlled blasting site area.

B. Flyrock. The permittee and the operation requiring blasting shall take all reasonable actions to assure that flyrock traveling in the air or along the ground meets all of the following conditions:

1. Remain within the controlled blasting site area.
2. Not be cast more than one-half the distance to the nearest inhabited building within or outside of the controlled blasting site area.

C. Airblast.

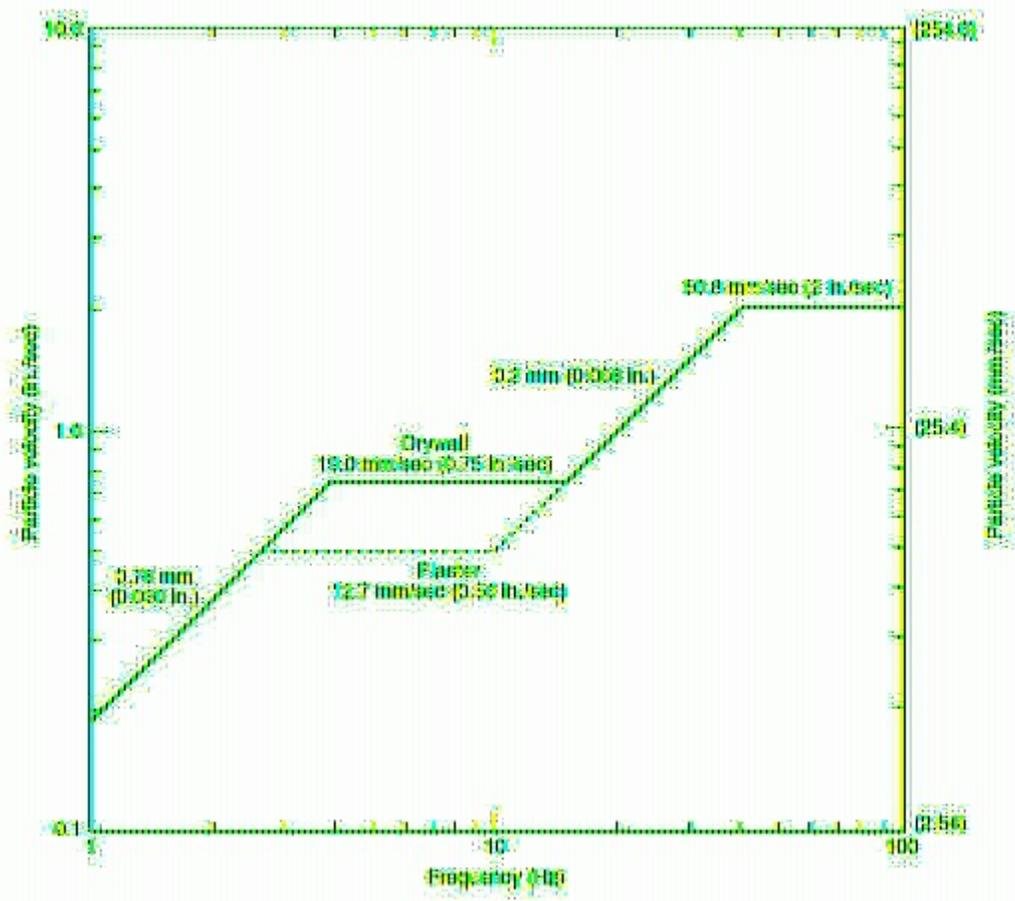
1. An air blast may not exceed 133 peak dB at the location of any dwelling, public building or place of employment outside the controlled blasting site area.
2. The blaster shall conduct monitoring of every blast to determine compliance with the air blast limit. The measuring system used shall have a lower-end flat frequency response of not more than 2 Hz and an upper-end flat frequency response of at least 200 Hz

D. Ground vibration.

1. The maximum ground vibration at the location of any dwelling, public building or place of employment outside the controlled blasting site area shall be established in accordance with the blasting-level chart of par. (b).
2. All structures in the vicinity of the controlled blasting site area, not listed in subd.1., such as water towers, pipelines and other utilities, tunnels, dams, impoundments and underground mines, shall be protected from damage by establishment by the blaster of a maximum allowable limit on the ground vibration. The blaster shall establish the limit after consulting with the owner of the structure.
3. The blaster shall use the ground vibration limits specified in Figure 7.44 WI Admin. Code Comm. 7(below) to determine the maximum allowable ground vibration. Ground vibration shall be measured as the

particle velocity. Particle velocity shall be recorded in 3 mutually perpendicular directions. (See page 9.)

4. The blaster shall make and keep a seismograph record including both particle velocity and vibration frequency levels for each blast. The method of analysis shall be subject to discretionary review by the Plan Commission.



5. For quarry operations, the blaster shall report any ground vibration levels to the Town Board that are above 0.75 inch per second with frequencies less than 40 Hz.

Section 16: Proof of Insurance. Each application for an explosives use permit as herein

stated, or a renewal thereof, shall be accompanied by a certificate of Insurance for a Commercial General Liability Policy and said Policy of Insurance shall have limits of coverage of not less than two million (\$2,000,000.00) dollars in the aggregate and one million (\$1,000,000.00) dollars per occurrence and the Town shall be named as an additional insured on said Policy of Liability Insurance.

Section 17: Permit Durations, Renewals and Fees.

A. A short-term permit may be issued for a single blasting event and shall be valid for 14 days from the effective date of the permit. The fee for a temporary permit shall be \$100. Only one subsequent short term permit may be granted and the fee for a subsequent short term permit shall be \$100.

B. A long term permit shall be granted for period of no more than 180 days. The fee for a 180 day permit, and for a renewal thereof, shall be \$300.

C. An application for a renewal of an existing permit shall be made 60 days prior to the expiration date of the existing permit.

Section 18: Revocation and Suspension.

A. The Town Board, on its own motion or following due review and investigation of a written complaint, may suspend or revoke the blasting permit for any violation of provisions or requirements of this ordinance or of other applicable State and Federal law. The following persons may file a written complaint and request suspension or revocation:

1. A resident, lessee or owner of an affected building, structure or well
2. A building inspector.
3. The Town Chairperson
4. A Town Supervisor
5. The Plan Commission Chairperson
6. The Town Clerk

B. Where warranted, as determined in the reasonable discretion of the Town Board, a blasting permit may be temporarily suspended without notice or hearing to the permittee. Written or verbal notice of a temporary suspension, and of conditions that must be met to reinstate the permit, shall be promptly given to the permittee at the address contained in the application.

C. In general, the Town Clerk shall provide the permittee with no less than 24 hours notice of a meeting where action to suspend the blasting permit is on the agenda. Permittee's failure to appear at such meeting shall be deemed a waiver of the opportunity to be heard prior to final action of the Town Board. Written or verbal notice of the suspension, and of conditions that must be met to reinstate the permit, shall be promptly given to the permittee at the address contained in the application.

C. Prior to revocation of a blasting permit, the Town Board shall give the permittee no less than 72 hours notice of a meeting where action to revoke is on the agenda. The permittee shall be given a reasonable opportunity to be heard prior to final action by the Town Board. Permittee's failure to appear at such meeting shall be deemed a waiver of the opportunity to be heard prior to final action of the Town Board. Written or verbal notice of the revocation shall be promptly given to the permittee at the address contained in the application.

Section 19: Penalties. In addition to the denial, suspension or revocation of a permit issued under this ordinance, any person who violates any provision of this ordinance shall be subject to forfeiture in an amount not less than \$100 nor more than \$1000 for each day of continued violation, plus costs of prosecution.

Section 20: Severability and Interpretation.

A. Should any section, clause, provision or portion of this ordinance be adjudged unconstitutional or invalid, unlawful or unenforceable by a final order of a court of competent jurisdiction, including all applicable appeals, the remainder of this ordinance shall remain in full force and effect.

B. The provisions of this ordinance shall be liberally construed in favor of the Town of Tilden and shall not be construed to be a limitation or repeal of any other power now possessed or granted to the Town of Tilden.

Section 21: No Liability for Damages. This ordinance shall not be construed as an assumption of liability by the Town of Tilden for damages because of injuries sustained or property destroyed by any person's failure to comply with the requirements set forth herein.

Section 22: Effective Date

Following passage by the Town Board, this ordinance shall take effect the day after the date of publication or posting as provided by law.