

**ORDINANCE NO. 27**

**MATERIAL REMOVAL AND LANDFILL ORDINANCE**

**No. 27, Adopted: Sept. 14, 1981**

**AN ORDINANCE TO REGULATE THE REMOVAL OF TOPSOIL, SUBSOIL, AND GRAVEL AND OTHER MATERIALS AND THE MOVING AND FILLING OF LAND.**

THE BOARD OF GRANT TOWNSHIP HEREBY ORDAINS:

**SECTION 1: PURPOSE:**

The removal of topsoil, subsoil, sand, gravel and other materials and the filling of land with refuse result in the emission of noise, dirt, dust and odors and said operations effect permanent changes in the topographical and geological characteristics of land; and further, because of said changes, said operations create dangers and hazards by virtue of shifting earth, standing water, filtration into the underground water systems and other like considerations. In recognition of the fact that the promotion of public health, safety and general welfare of the residents of GRANT TOWNSHIP and the prenuisances and hazards require reasonable control of these operations, it is deemed necessary that said operations be regulated and that standards be established wherein procedures permitting said operations are established, operating requirements are set forth, the administration of such standards are provided for, and penalties are provided.

**SECTION 2: DEFINITIONS:**

1. **Ashes:** The residue from burning of wood, coal, coke, refuse, waste water sludge, or other combustible materials.
2. **Bulky Wastes:** Large items of refuse, including but not limited to, appliances, vehicles, furniture, large auto parts, tires, trees and branches, stumps and flottage.
3. **Cell:** Compacted refuse completely enveloped by cover material.
4. **Disposal:** The incineration, long term storage, treatment, or the discharge, deposit, injection dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on land or water in a manner that such solid waste or hazardous waste or any constituent thereof may enter the environment or be admitted into the air, or discharged into any waters, including ground waters.
5. **Facility:** Any solid waste disposal site, system or process, the operation thereof including, but not limited to personnel, equipment and buildings.
6. **Garbage:** Any putrescible solid and semi-solid animal or vegetable wastes resulting from the production, handling, preparation, cooking, serving, storing or consumption of food or food materials.
7. **Ground Water:** Any water found under the surface of the earth.

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8. **Hazardous Waste:** Any material including, but not limited to explosives, pathological wastes, pesticides and chemicals (including "empty" containers previously used for such materials) which, because of its quality, concentration, or physical, chemical or infectious characteristics, may present an imminent and substantial danger to public health or welfare or to elements of the human environment, including, but not limited to, aquatic organisms, fish, shellfish, terrestrial life, birds and other wildlife.
9. **Impermeable:** A hydraulic conductivity of no greater than  $1 \times 10^{-7}$  centimeters (cm.) per-second as determined by field and/or laboratory tests made according to standard test methods. A medium has a hydraulic conductivity of unit length per unit time if it will transmit in unit time a unit volume of groundwater at the prevailing viscosity through a cross section of unit area, measured at right angles to the direction of flow, under a hydraulic gradient of unit change in head through unit length of flow.
10. **Industrial Solid Waste:** Any waste substance or combination thereof resulting from the operation of or from any process of industry, manufacturing, trade or business, or from the development of any agricultural or natural resources.
11. **Inert Solid Wastes:** Wastes including, but not limited to, glass, crockery, brick, plastics, rubber or other materials which are shown through analytical testing to have minimum potential for environmental degradation and leachate production.
12. **Landfill:** Any disposal area or tract of land, building, unit of appurtenance or combination thereof that is used to collect, store, handle, dispose of, bury, cover over, or otherwise accept or retain refuse as herein defined.
13. **Leachate:** Fluid that has percolated through solid waste and which contains contaminants consisting of dissolved or suspended materials, chemicals and microbial waste products from the solid waste.
14. **Lift:** A layer of refuse cells which raise the ground elevation to an approximately common level.
15. **Other Wastes:** Garbage, refuse, decayed wood, sawdust, shavings, bark, lime cinders, offal, oil, tar dye-stuffs, acids, chemicals, and all discarded materials other than sewage or industrial wastes.
16. **Person:** Any individual, partnership, corporation, association, institution, cooperative enterprise, municipality, commission, political subdivision or other duly established legal entity.
17. **Refuse:** Any putrescible or non-putrescible solid waste, except human excreta, but including garbage, rubbish, ashes, street cleanings, dead animals, offal and solid agricultural, commercial, industrial, hazardous and institutional wastes and construction wastes resulting from the operation of a contractor.
18. **Roads on Site:** Roads designated on approved plans, and such other area used by vehicles and/or equipment for travel on a regular basis other than for travel on an infrequent basis

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necessitated by the operation of the landfill such as trucks and/or equipment going to and from on a regular course of travel to the area which is currently being filled.

19. **Rubbish:** Any non-putrescible solid waste, excluding ashes, consisting of both combustible and noncombustible waste such as cardboard, paper, plastic, metal or glass food containers, rags, waste metal, yard clippings, small pieces of wood, excelsior, rubber, leather, crockery, and other similar materials.
20. **Sewage:** Water-carried human or animal wastes from septic tanks, water closets, residences, building, industrial and municipal establishments, or other places, together with such ground water infiltration, subsurface water, mixtures of industrial wastes or other wastes as may be present.
21. **Site:** A parcel or unit of land.
22. **Sludge:** Any solid, liquid, or similiquid sediment resulting from industrial, municipal establishments, or other places, together with such ground water infiltration, subsurface water, mixtures of industrial waste or other wastes as may be present.
23. **Soil Excavation:** The excavation or removal of any kind or nature from a site of gravel, clay, sand, soil or other similar material.
24. **Solid Waste:** Any garbage, refuse, rubbish, special solid waste or other waste, or any combination thereof with insufficient liquid content to be free flowing.
25. **Surface Waters:** Water occurring generally on the surface of the earth.
26. **Special Solid Waste:** Hazardous wastes, radioactive wastes, agricultural wastes, industrial wastes or sludge and sewage residues.

### SECTION 3: ADMINISTRATION:

The Township Board is hereby granted authority under this Chapter to entertain applications, hold public hearing, grant permits and do all other acts authorized herein and in the Township Zoning Ordinance.

### SECTION 4: ENFORCEMENT:

1. **Agency:** This Chapter shall be enforced by the Ordinance Enforcement Officer appointed by the Township Board.
2. **Inspections:** By accepting a permit issued under this Chapter, and/or the Township Zoning Ordinance, the owner and/or operator of any operation shall be presumed to have consented to regular and routine inspections of the property. Said consent shall be authority to go on to any property under permit for purposes of any inspection.
3. **Authority to Issue Appearance Tickets:** The Township Enforcement Officer shall have the authority to issue Appearance Tickets for a violation hereof pursuant to Act 175, of Public Acts of 1927, as amended, of the State of Michigan.

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### SECTION 5: PERMIT:

1. **Requirement Established:** From and after the effective date of this Chapter, no person shall operate a soil excavation site or a landfill in the Township except in accordance with a permit issued by the Township Board pursuant to the authority of this Chapter and the Township Zoning Ordinance.

2. **Issuance Procedure:**

A. **APPLICATION:** An applicant shall submit to the Township Board an application containing the following information:

- (a) Full names and addresses of all parties of interest in said premises setting forth their legal interest. Proof of said legal interest shall be provided;
- (b) A detailed and full legal description of the premises wherein the operations are proposed shall be provided;
- (c) Topographical survey map at a scale of one (1) inch equals one hundred (100) feet, showing existing and proposed grades on a two-foot contour interval. Said grades shall be prepared and sealed by a civil engineer or land surveyor, registered as such by the State of Michigan;
- (d) A detailed statement as to the cubic yards of the materials to be removed and/or the fill, and a detailed statement as to how the filling and/or materials removed are to be accomplished;
- (e) Detailed statement as to all types of materials to be removed and/or filled, an indication of specific places on the property where each of the materials or fill are to be removed or placed, a detailed statement as to the methods of operation, the type of machinery or equipment to be used, and the estimated period of time that such operations shall cover;
- (f) Details of similar operations carried on by the applicant.
- (g) The type and daily number of vehicles to be used in the proposed operations;
- (h) Identification of access road, on-site roads, grades for proper drainage and any special draining devices, if necessary, fencing, any structures on site existing or proposed, existing and proposed utilities and any explanation of any on-site testing or other reliable survey data, including soil surveys, water tables and subsurface characteristics;
- (i) An environmental impact statement detailing the effect of the proposed operation on the air, soil, minerals, water, vegetation and aesthetics of the proposed operation site and of the surrounding area.

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- (j) A statement which specifies in detail the proposed use of the land after excavation or filling. The final grades presented shall be consistent with the purposes for the property after completion or operation.

**B. APPLICATION ATTACHMENTS:** Applications for a permit to operate a solid waste processing or disposal facility or areas shall contain or be accompanied by the following information:

- (a) **Design Plan,** Design plans prepared by and bearing the signature and seal of a professional engineer registered in the State of Michigan.
- (b) **Background Data:** Background data, including the following:
  - (i) Present and estimated future contributory populations of the life of the system
  - (ii) Estimated per capita daily domestic waste quantities in weight and volume;
  - (iii) Anticipated weight and volume of other wastes including but not limited to, industrial, agricultural and demolition wastes and street cleaning;
  - (iv) Ratio of maximum daily volume anticipated to the average daily volume anticipated.
- (c) **Maps:** Maps, in the number prescribed by the Township, drawn to the scale of one hundred (100) feet equals one inch or larger and with two (2) foot contour intervals. Maps shall include as minimum the following information:
  - (i) Property boundaries and boundaries of areas to be filled;
  - (ii) Access road location;
  - (iii) Proposed traffic patterns;
  - (iv) Location of fencing;
  - (v) Location of weighing facilities, if applicable;
  - (vi) Location of existing and proposed utilities;
  - (vii) Indication of use of adjoining land;
  - (viii) Borrow and soil storage areas;
  - (ix) Location of public or private water supplied, wells, springs, swamps or other bodies of water within one-fourth (1/4) of a mile of the proposed landfill site property lines.
  - (x) Location of gas and oil wells:

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- (xi) Location of high-tension power line rights-of-way;
- (xii) Location of fuel transmission pipeline rights-of-way;
- (xiii) Location of mining operating within one-fourth (1/4) of one (1) mile of property lines of the proposed landfill.

### **(d) Plan of Operation**

- (i) A plan of operations shall be written and submitted which is specific as to areas to be filled, schedule of filling, site preparations, source and types of materials to be used as cover.
- (ii) The plan should include details relative to:
  - (aa) Compaction of solid wastes;
  - (bb) Application of daily cover material;
  - (cc) Elevation and grade of final cover;
  - (dd) Linear construction;
  - (ee) Leachate collection treatment and recirculation or disposal;
  - (ff) Management of ground water;
  - (gg) Management of surface water;
  - (hh) Erosion control; and
  - (ii) Revegetation procedure to be used;
  - (jj) Typical cross-section of lifts, dimensions and elevations of the base lifts;
  - (kk) Grades required for proper drainage of lifts;
  - (ll) Decomposition gas control measures.
- (e) **Hydrogeologic Investigation and Report:** A soils, geological and ground water report of the characteristics of the proposed site, prepared by a competent hydrogeologist, shall be based on a geological investigation showing a sufficient number of borings and wells drilled to a depth necessary to determine the soil, geology, and seasonal ground water flow conditions. These may be supplemented by excavations where appropriate.

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- (i) Borings and wells shall be drilled five (5) feet into the ground water or twenty (20) feet below the base of the proposed landfill, whichever is deeper.
- (ii) One (1) well shall be drilled near the point of highest ground surface elevation, ten (10) feet into the ground water.
- (iii) Minimum of one (1) ground water elevation and quality monitoring well shall be drilled in each dominant direction of ground water movement, down-gradient of refuse placement. One (1) monitoring well shall be installed up-gradient of refuse placement. Ground water monitoring well screens shall be set so that the top of the screen is five (5) feet below the yearly low ground water table elevation in unconfined aquifers.
- (iv) All useable aquifers underlying the proposed landfill site and within one-quarter (1/4) mile of the site shall be delineated.

(f) **Other Information:** Such other information and material as the Board shall require.

**C. FEES AND/OR COSTS:** An applicant for a permit shall deposit such fees and/or costs which are required by Resolution of the Township Board.

**D. PUBLIC HEARING AND REFERRAL TO PLANNING COMMISSION:** Before granting a permit for any property, or additional area of property, not previously under a permit, the Township Board shall hold a public hearing, and shall, either before or after the Public Hearing, refer the application to the Township Planning Commission for findings and recommendations as to whether the granting of the permit, as proposed, would:

- (a) Permanently impair the intended land use potential of the property in question.
- (b) Detrimentially affect the adjoining properties, and
- (c) Be consistent with the planning and zoning of the area where the proposed operation is to be located.

**E. BASIS FOR ISSUANCE:** The Township Board shall authorize the issuance of a permit only if it finds that:

- (a) There has been compliance with all the requirements and standards of this Chapter, and the other applicable Code of Ordinances, Chapters, standards and regulations;
- (b) The proposed operation will not create an unreasonable hazard, annoyance or inconvenience to the owners or occupants of nearby property;
- (c) The granting of said permit will not significantly change the character of the neighborhood or unreasonably reduce the value of nearby property;
- (d) The granting of said permit will not do damage to the ground water or surface drainage and would be environmentally safe pursuant to the EPA ACT.

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F. **DURATION, EXPIRATION AND RENEWAL:** After referral to the Planning Commission, either before or after the Public Hearing, and after considering all the available facts and details, the Township Board may issue a permit for a period of up to one (1) year, expiring on May 15 of each year, and renewable annually for a year or less by the Township Board without further public hearing.

### G. CONDITIONS:

(a) **Violation:** Any violation of a condition(s) included in the permit shall be construed as a violation of this Chapter and shall give rise to the penalties provided in this Chapter and shall be grounds for revoking the permit.

3. **Exclusions:** No permit shall be required for;

A. **Building Construction Excavations:** Excavations for the construction of buildings and structures for which a building permit has been issued:

B. **Landscaping:** The moving, grading or leveling of earth or rock materials by a property owner solely upon his property and not removed to other non-contiguous property;

C. **Low Land Fill:** The filling of land for purposes of construction where the land is low and in need of fill so long as the fill does not contain any refuse, it is not a commercial operation, and not more than five (5) acres are involved on any given site;

D. **Minimal Soil Removal:** The removal of soil, etc., when no more than twenty (20) cubic yards are removed in any calendar year.

4. **Revocation:**

A. **Notice of Violation:** The Township Board may, in its discretion, notify the owner and/or operator of any violation of the permit and/or this Chapter.

B. **Failure to Abate Violation:** Upon failure of the owner and/or operator to abate said violation within five (5) days after mailing or delivery of said notice, said operation site may be summarily closed, and the permit therefore suspended or revoked, and the resort had to the bond for restoration.

C. **Hear Request:** Any owner and/or operator aggrieved of any notice sent pursuant to this sub-section, may request a hearing before the Township Board, if the request is in writing and delivered to the Township. The request should set forth why the operation site should not be summarily closed, the permit suspended or revoked, and resort be to the bond.

D. **Action Pending Hearing:** In any case, if the Township Board determines the operation of the landfill would be detrimental to the health and/or safety of persons and/or property, the Board may summarily, and without five (5) days notice, suspend or revoke the permit, but shall grant a hearing upon request as provided herein.

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- E. **Hearing:** If a request for a hearing is received, the Township Board shall hold a hearing within seven (7) days and may after the hearing continue the suspension or revocation of the permit, or take such other action as appears appropriate under the circumstances.
5. **Landfill Changes:** The permittee shall submit a written request to the Township Board for approval of changes to the original plans, specifications, reports and methods of operation submitted with a permit application. No such change shall be initiated until the written approval of the Township Board has been obtained.

### SECTION 6: SURETY BOND:

1. **Requirement Established:** The applicant shall post a surety bond or some other equitable security satisfactory to the Township Board naming the Township of Grant as the Beneficiary thereof in an amount determined by the Township Board to be reasonably necessary to insure compliance hereunder.
2. **Conditions of Bond:**
  - A. **Guarantee Compliance:** Bond shall guarantee compliance with this Chapter, the permit requirements and conditions, and that the operation will be carried out according to the approved plans and specifications.
  - B. **Guarantee Landfill Work Performance:** In the case of a landfill, it shall further guarantee the performance of whatever work or rework which needs to be done to avoid harmful movement of gases or contamination to the ground or surface water and/or environment during operations and five (5) years after completion of the landfill.
  - C. **Forfeiture of Bond:** Upon the lack of timely compliance with the requirements for which the bond guarantees, the Township may use the bond proceeds to the extent necessary.
3. **Non-Compliance Enforcement:** By filing an application every applicant shall be deemed to have granted a license to the Township and its agents and contractors to go onto a property under permit to use the bond proceeds for purposes allowed by the bond, for which there has been non-compliance.
4. **Establishing Amount:**
  - A. **Considerations:** In fixing the amount of such bond, the Township Board shall take into account.
    - (a) The size and scope of the proposed operation.
    - (b) Current prevailing costs of rehabilitating the premises upon default of the operator.
    - (c) Other such conditions and factors as might be relevant in determining the sum reasonable in light of all facts and circumstances surrounding each application.
  - B. **Minimum Amount:** In no case will the sum of the surety bond be less than Five Hundred (\$500.00) Dollars for each acre or fraction thereof of land to be covered by the permit.

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5. **Notice of Lapse:** The applicant shall notify the bonding company and provide proof thereof that the Township be notified in the event of any lapse in the effectiveness of the bond.
6. **Reduction of Bond:** For each acre restored and reclaimed in accordance herewith, or otherwise, said bond may be reduced pro-rata as determined by the Township Board.

### SECTION 7: GENERAL COMPREHENSIVE LIABILITY INSURANCE:

1. **Requirement Established:** The applicant shall secure and file with the Township Clerk certifications of proof of insurance, insuring the Applicant, his employees and/or agents or representatives, and the Township for general comprehensive liability in an amount of at least one hundred thousand (\$100,000.00) dollars per person and three hundred thousand (\$300,000.00) dollars per occurrence.
2. **Notice of Discontinuance:** The certifications or renewals thereof shall provide that the Township shall be notified upon discontinuance or alteration of any such insurance coverage for any reason.

### SECTION 8: PERFORMANCE STANDARDS:

With a permit, or without a permit, if one is not required, the carrying on of any alterations, modifications or changes in geographical or geological structures, which shall include all soil excavation and for removal and filing of land, or the creation or alteration of waterways, canals, etc. for either immediate use or for filling or removal to other places, the performance standards for sound, vibration, etc. shall be complied with as follows:

1. **Atmospheric Discharge:** It shall be unlawful to discharge into the atmosphere from any single source of emission whatsoever any air contaminator for a period or periods aggregating more than four (4) minutes in any one-half hour which is:
  - A. **Smoke:** As dark or darker in shade as that designated as No. 2 on the Ringelmann Chart as published by the United States Bureau of Mines, which is hereby made a part of this Chapter. However, the Umbrascopes readings of smoke densities may be used when correlated with the Ringelmann Chart. A Ringelmann Chart shall be on file in the office of the Building Department.
  - B. **Other Air-Borne Solids:** Of such opacity as to obscure an observer's view to a degree equal to or greater than the smoke described in paragraph A above, except when the emission consists only of water vapor. The quantity of gas-borne or air-borne solids shall not exceed 0.20 grains per cubic foot of the carrying medium at a temperature of 500 degrees Fahrenheit.
2. **Debris on Public Roads:** The owner and/or permit holder of any site where there is soil removal and/or any filling, shall take whatever steps are necessary to avoid any motor vehicle carrying or tracking onto any public right-of-way from the site, any mud, dirt, clay, refuse, etc.

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- A. **Obligation to Clean:** If mud, dirt, clay, refuse, etc., is carried or tracked onto a public right-of-way, and it does, or might constitute a nuisance or hazard to public safety, the owner and/or permit holder shall not leave any such debris on a public right-of-way after the end of any working day.
  - B. **Notice from Township:** If notified during a working day by the Township of a condition which requires cleaning, the matter shall be taken care of within one (1) hour, weather permitting.
  - C. **Violations:** If a nuisance or hazardous condition is left after a working day, or not cleaned up within one (1) hour after receiving a request from the Township, and weather does not prevent the clean-up the Township may issue a Citation for a violation of this sub-section due to the allowance of said condition to remain on the highway, and/or clean the right-of-way and charge the owner and/or permit holder with the cost thereof, which may be collected in any court having general jurisdiction.
3. **Drainage:** Natural drainage shall not be blocked, or diverted, or altered, or altered in such a manner as to cause the natural water flow to back up onto adjacent property, or to flow in a different course or rate of flow upon leaving the property upon which the blocking diversion, or alteration occurs, unless an application is made and a permit is issued by the Building Department pursuant to plans which provide for a drainage flow which will not be determined to surrounding properties.
- A. **Retention Areas:** No area designated for, and/or used as a drainage retention area shall be altered, filled in, abandoned or used for other purposes, unless it is done pursuant to a permit issued under this subsection.
  - B. **Permit:** A permit shall be required under this subsection notwithstanding a permit is not otherwise required by this Chapter. Permit requirements and procedures shall be as adopted by the Township Board, from time to time, by resolution.
4. **Drifting and Blown Material:** The drifting or air-borne transmission beyond the property line of dust, particles or debris from any open stockpile, working areas or unplanted areas, shall be unlawful and may be summarily caused to be abated.
5. **Electromagnetic Radiation:** Applicable rules and regulations of the Federal Communication Commission in regard to propagation of electromagnetic radiation are hereby made a part of this Code and shall be on file in the office of the Building Department.
6. **Gases:** The escape of or emission of any gas in concentrations so as to be injurious, destructive or explosive shall be unlawful and may be summarily caused to be abated.
7. **Glare and Heat:** Any operation producing intense glare or heat shall be performed within an enclosure so as to completely obscure and shield such operation from direct view from any point along the lot line, except during the period of construction of the facilities to be used and occupied.

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- 8. **Light:** Exterior lighting shall be so installed that the surface of the source of light shall not be visible from any bedroom window, and shall be so arranged as far as practical to reflect light away from any residential use, and in no case shall more than one foot candle power of light cross a lot line five feet above the ground in a residential district.
- 9. **Odors:** The emission of noxious, odorous matter in such quantities as to be readily detectable at any point along lot lines, when diluted in the ratio of one volume of odorous air to four or more volumes of clean air, or as to produce a public nuisance or hazard beyond lot lines, is prohibited.
- 10. **Radioactive Materials:** Radioactive materials shall not be emitted to exceed quantities established as safe by the U.S. Bureau of Standards, as amended from time to time.
- 11. **Sound:** The pressure level of sounds shall not exceed the following decibel levels when adjacent to the following types of uses:

<u>Sound Level</u>	<u>Adjacent Use</u>	<u>Where Measured</u>
75 dBA	Residential	Common Property Line
85 dBA	Commercial	Common Property Line
90 dBA	Industrial and other	Common Property Line

The sound levels shall be measured using a weighted decibel measurement (referenced to 20 micropascals) and with a type of audio output meter approved by the U.S. Bureau of Standards. Objectionable noises due to intermittence, beat, frequency, or shrillness, shall be muffled so as not to become a nuisance to adjacent uses.

- 12. **Vibration:** All machinery shall be so mounted and operated as to prevent transmission of ground vibration exceeding a displacement of .003 of one inch measured at any property line of its source.
- 13. **Roads;** Roads on landfill and soil excavation sites shall be designed and constructed so that traffic will flow smoothly and will not be interrupted by inclement weather. Non-paved roads between the site and the nearest paved roads, paved roads off of site within 1/4 mile of the site entrance which are used by vehicles and/or equipment traveling to or from the site, and all roads on site shall not be used unless they are treated by sufficient oil, water and/or chemical substance, whichever would be appropriate for the surface, and frequent enough so that they are dust free whenever used by vehicles and/or equipment.
- 14. **Soil Erosion:** If a soil erosion permit is required by Act 347, of the Public Act of 1974 of the State of Michigan, as amended, no operation shall take place until a permit has been obtained. There shall be compliance at all times with the requirement of the soil erosion permit.

**SECTION 9: HOURS OF OPERATION:**

- 1. Hours of operation shall be 8:00 a.m. to 5:00 p.m. unless otherwise specified by the Township Board. No operation shall be permitted on Sundays and Legal Holidays. In emergency situations this time period may be modified by the Township Building Department provided such emergency order shall not be effective for more than 72 hours.

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2. At all vehicular entrances and exits there shall be installed a gate(s) with latching or closing devices for keeping said gate(s) securely closed at all times except during operational hours herein above authorized. The gate(s) required by this Section shall be of a design and structure approved by the Zoning Administrator.
3. At all vehicular entrances and exits and pedestrian passageways there shall be conspicuously posted the days and hours of operation of the quarry and/or landfill, said days and hours of operation shall not be inconsistent with any limitations thereon imposed under this Section.

### SECTION 10: LANDFILL OPERATIONAL REGULATIONS:

1. **Landfills Permitted.** Landfills consistent with the provisions of this Chapter shall be permitted in Grant Township so as to provide an engineered method of disposing of solid wastes on land, without creating unreasonable environmental hazards. Methods used to dispose of solid wastes shall include spreading in thin layers, confining to the small practical area, compacting to the smallest practical volume, and covering with suitable material at least once a day before the end of each operating day.
2. **Facilities Design and Operation Planning:** Planning design and operation of landfill facilities shall be based on empirically derived data and state of technology.
  - A. **Liners, Collection, and Treatment Systems:** Landfill liners and leachate collection and treatment systems shall be incorporated in the design and operation of landfill facilities unless it can be demonstrated to the satisfaction of the Township Board the natural hydrogeologic environment at the site is protective of the surface and ground water resource.
  - B. **Hydrogeologic Environments:** Demonstration of naturally protective hydrogeologic environments shall be based on:
    - (a) The hydrogeologic investigation requirements as specified herein.
    - (b) Testing of the hydraulic conductivities of the natural soils below and contiguous to refuse placement.
    - (c) Testing of cation exchange capacities and overall attenuation capabilities of the natural solids below and contiguous to refuse place. Chemical and physical soil testing shall be undertaken on undisturbed natural soils or on disturbed natural soils which are restored to field bulk density and moisture content levels. Contaminant attenuation capacity testing shall be performed with representative municipal refuse leachate or with solutions specifically approved by the Township.
    - (d) Mineralogical evaluations.
    - (e) Soils testing by competent soils scientists and/or hydrogeologists.

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- C. **Decomposition Gas Control and Monitoring:** Design plans shall include provisions for control of decomposition gases. Monitoring of decomposition gases may be required.
- D. **Environment and Pollution:** Sanitary landfills shall be operated so as to create an environment as aesthetically desirable as reasonably possible and to preclude pollution of land, air, surface and subsurface water.
- E. **Land Use Specified:** A land use for the completed disposal site shall be specified, and design and operations shall be adjusted accordingly.

### **3. General Prohibitions:**

- A. **Operation:** The operation of a sanitary landfill shall be conducted in a manner which prohibits insect and rodent breeding, odor problems, dust problems and fires.
- B. **Hazardous Wastes:** Hazardous wastes shall be disposed of separately and immediately in accordance with the provisions of this Chapter.
- C. **Concealment:** The site shall be maintained in such conditions as to reasonably conceal all evidence of solid wastes disposal.
- D. **Accidents and Diseases:** Employees at the site shall have knowledge of the types of accident and diseases which are prevalent among sanitation workers. An emergency plan for handling accident victims shall be established.

### **4. Zoning:**

- A. **Refuse:** The filling of land with refuse, except inert solid wastes and noncombustible rubbish, shall be prohibited in any zoned district other than "I" Industrial Zone District, unless waived by the Township Board after receipt of findings and a granting of a variance by the Township Board of a similar provision in the Township Zoning Ordinance, and it appears the waiver would not detrimentally affect surrounding properties.
- B. **Noncombustible Rubbish and Quarry Materials:** The filling of land with inert solid wastes and noncombustible rubbish, sand, gravel, earth, rock, concrete, or other similar materials, excluding combustible rubbish, garbage, ashes, and other similar waste materials, may be permitted in any district by the Township Board.

### **5. Limits on Perimeter:**

- A. **Refuse:** There shall be no filling or depositing of refuse, except inert solid wastes and noncombustible rubbish, within five hundred feet of any adjacent residentially zoned district unless written consent is secured from all landowners of property within five hundred feet of where such filling is to take place. Once consent is given and filed with the Township, it may not be revoked so long as filling activities continue without unreasonable delays, or an abandonment of the project.
- B. **Any Material:** There shall be no filling or depositing of any material within one hundred feet of any existing dwelling or residentially zoned district.

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- C. **Waiver:** The provisions of this sub-section may be waived by the Township Board after receipt of findings and a granting of a variance by the Township Board of a similar provision in the Township Zoning Ordinance and it appears the waiver would not detrimentally affect surrounding properties.
6. **Ground and Surface Water Protection:** Unless it is demonstrated there is compliance with the standard and the rules and regulations for the protection of surface and ground waster adopted by the Township Board, for leachate shall be collected and treated so as to provide for the removal of pollutants reflecting the application of a practicable level of technology.
- A. **Impermeable Liner:** In such cases all refuse disposal areas and leachate collection ditches and ponds shall be lined with an impermeable liner. An artificial impermeable liner shall be installed unless the applicant can prove to the satisfaction of the Township that a natural soil liner is impermeable.
- B. **Disposal of Treated Leachate:** All treated leachate shall be recirculated into the fill area or disposed of in a manner which will adequately protect the public health and safety as determined by the Township Board. It shall be demonstrated by the applicant that ground and surface waters resulting from refuse disposal and/or disposal of treated leachate will be compatible with existing or potential uses of the waters, and meet the requirements of the standards adopted by the Township Board.
- C. **Monitoring Devices:** Well or other monitoring devices shall be installed and maintained to determine the initial characterization of the ground waster quality, gradient and direction(s) of flow, and to monitor changes in these parameters during the operation of the landfill and subsequent to complete filling.
- D. **Ground Water Table:**
- (a) **Separation:** At least five feet of separation between refuse and deposits (or the bottom of the liner when liners are required) and the estimated yearly high ground water table shall be maintained.
- (b) **Filling Below Level:** When the refuse or liner is to be placed below the maximum existing ground water level, permanent, gravity ground water interception measures will be required to maintain the five feet of separation.
- E. **Control and/or Protection Measures:** In critical ground water protection circumstances, the Township Board may require ground and surface water control and/or other contingency protection measures.
- F. **Proximity to Surface Waters:** The refuse filling shall be kept a minimum of three hundred feet from all regular flowing or standing surface water.
- G. **Rain Water Runoff:** Operations shall be planned so that rain water is drained off the fill or disposal area at all times, and to prevent runoff form adjacent area from flowing onto fill areas.

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- H. **Standing Water:** Standing water shall not be allowed on the fill at any time.
- I. **Completed Fill Slope:** The completed fill shall have a minimum slope of two percent to facilitate surface drainage and a maximum slope not to exceed fifteen percent, that precludes erosion, considering revegetation and restoration.
- J. **Authority to Review Standards:** The Township Board shall have the authority to adopt and revise standards and rules and regulations for the protection of any quality of ground and surface water. The technology is ever changing and the Board may consider various systems for collecting, treating and recycling leachate as technology develops.
7. **Fences:** A fence, or some other suitable substitute as shall be approved by the Township Board shall enclose the filling operation to prevent the scattering of rubbish, garbage or other fill materials, to obscure the landfill from public sight, and to prevent access by unauthorized persons.
8. **Unloading Supervision:** Unloading the refuse shall be continuously supervised in accordance with the landfill design and planned progress of the site. Unloading of refuse and access to the site shall be limited to those times when responsible supervisor with authority is on duty.
9. **Spreading and Compacting of Waste:** Solid waste shall be spread and compacted in shallow layers not exceeding depth of two feet of compacted material. Compaction of solid waste shall be made to the maximum width and depth commensurate with good design practice considering the type of equipment to be utilized.
10. **Special Solid and Hazardous Waste:** Special solid wastes shall not be deposited at any landfill or disposed of without first submitting a plan and obtaining the Township's approval for such disposal. Whenever hazardous waste, including but not limited to radioactive wastes and those materials listed on the Michigan Water Resources Commission list of critical materials is proposed for disposal, a separate environmental impact assessment may be required by the Township. The assessment shall consider past operation of the existing landfill and shall be of a scope consistent with the degree of hazard associated with the waste.
11. **Bulky Waste:** Adequate provision shall be made for the handling and compaction of bulky solid wastes when such wastes are not excluded from the site. When tires are accepted they shall be spread evenly over the bottom of the refuse cell or shredded prior to disposal.
12. **Malodorous Solid Waste:** Unusually malodorous solid wastes shall be covered immediately after disposal.
13. **Gases:** Decomposition gases generated within the sanitary landfill shall be controlled on site. Decomposition gases shall not be allowed to migrate laterally from the sanitary landfill. Gases shall be vented into the atmosphere through cut-off trenches, forced ventilation systems, or other suitable methods, in such a way that they do not become concentrated in explosive or hazardous quantities. The ventilation system shall be maintained during operation and for a period of five years after completion or longer if

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deemed necessary by the Township Board. For landfills existing on the effective date of this Ordinance Code provision, there shall be a plan presented and adopted within six months after the effective date of this amendment for the installation of gas decomposition control measures meeting the requirements of this subsection.

14. **Salvage:** Salvage operations shall not be permitted unless special provisions are approved by the Township Board to insure that separation of material and disposition are undertaken in a suitable manner. No salvage operation shall create unsightliness, nuisances, health hazards, or potential health or safety hazards.
15. **Burning:** Burning rubbish and/or garbage at the site of any landfill is hereby prohibited. All precautions shall be taken to avert spontaneous combustion.
16. **Blowing Paper:** Measures shall be provided to control blowing paper. Fences and the entire site shall be policed regularly, on a continuing basis.
17. **Cover:** Daily and final depth of cover requirements may be increased when suitable cover material is not being utilized. Three feet of clearance shall be maintained between trenches when the trench method is used. Operations shall be planned and conducted so that the minimum possible amount of solid waste is exposed at any one time.
  - A. **Material:** The soil used as the daily and final cover material shall be of such character that it can be compacted to minimize percolation of water through the cover (unless suitable leachate containment, collection, treatment, and disposal and/or recirculation procedures are utilized), does not crack excessively when dry, is free of putrescible materials and large objects, and is capable of growing and supporting vegetation.
  - B. **Daily:** A layer of suitable cover material shall be placed over all solid waste as soon as possible after deposit and at least, by the end of each working day. This layer shall be of such depths that when compacted it produces a cover layer of at least six inches of depth. The required minimum of six inches of cover shall be maintained at all times. Any disposal area receiving daily cover, which will not be filled with additional solid waste for a period greater than one year, shall be covered with a total of two feet of suitable cover material.
  - C. **Final:** Final cover of suitable material, compacted to a minimum thickness of two feet, shall be placed over all completed areas or cells by the end of the working day on which the area or cell was completed. Areas receiving final cover shall be seeded to provide vegetation to stabilize the cover and prevent soil erosion and dust.
  - D. **Completed Sections:** The permittee shall inspect the entire surface or completed sections of the landfill at least quarterly following placement of the final two feet of cover material. All cracked, eroded, and uneven areas shall be promptly repaired.
18. **Insect and Rodent Control:** Spraying exposed solid waste with insecticides and deodorizers and supplemental rodent control measures may be required when cover cannot be accomplished immediately or whenever such measures are necessary.
19. **Equipment:** Adequate numbers and type of equipment commensurate with the size of the operation shall be available at the site to insure operation of the landfill in accordance with

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the provisions of this regulation. Provisions shall be made for the routine operational maintenance of equipment shall be obtained when maintenance or breakdown renders normal operating equipment inoperative for a period in excess of 24 hours. Provided the temperature is above freezing, refuse moving equipment shall be washed down each day such equipment is utilized.

20. **Personnel:** Sufficient numbers and types of personnel shall be available at the site to insure capability for operation in accordance with these regulations. Competent supervision of these personnel shall be provided.
21. **Personnel Facilities:** Telephone or radio communication equipment, suitable shelter, and sanitary services shall be provided for personnel at the site.
22. **Completion of Landfill:**
  - A. **Suspension of Disposal Operations:** When the permittee decides to temporarily or permanently suspend disposal operations at a particular site, the permittee shall within twenty days so notify the Township. The permittee shall not remove equipment from the site prior to approval of the Township.
  - B. **Corrective Work:** The Township shall direct the permittee to perform corrective work at the site when such work is required in order to fulfill the requirements of this Chapter. The corrective work, if required, shall be completed before the landfill operation is suspended or accepted as completed.
  - C. **Cover Maintenance:** The permittee shall repair all cracked, eroded, and uneven areas in the final cover, which occur during a two year period following completion of the landfill. During this period, the cover surface shall be reseeded if insufficient vegetation exists to stabilize the surface.
  - D. **Performance Bond:** A suitable bond may be required by the Township to guarantee such completion and maintenance.
  - E. **Control Program:** An insect and rodent control program may be required as part of the completion work.
  - F. **Monitoring and Analysis Program:**
    - (a) **Ground and Surface Waters:**
      - (i) **Initial Sampling:** A sample of ground water shall be collected from each and every monitor well, points of discharge of intercepted ground water (spring) and surface water bodies prior to the beginning of any landfill operations. These samples shall be analyzed for iron, chemical oxygen demand(COD), chloride hardness as CaCo<sub>3</sub>, sulfate, nitrates, total dissolved solids (TDS) and pH. These initial samples will serve as background data against which future samples can be compared.

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- (ii) **Monitoring Samples:** All monitoring points shall be sampled and tested for the required parameters every three (3) month and/or more or less frequently should the need be demonstrated. The depth to the water table from a point of known elevation shall be measured and recorded in all monitor wells prior to the collection of each water quality sample. Wells shall be pumped for five (5) minutes prior to sampling. The permittee shall submit the results of all analyses to the Township not later than thirty (30) days after sample collection. Additional guidelines for monitoring well installation and sampling may be promulgated by the Township.
  - (iii) **Additional Sampling, Wells and Analyses:** Should any sample(s) appear to have been influenced by the landfill operation, additional sampling, monitoring points and wells, and analyses may be required.
  - (iv) **Duration:** The monitoring and analyses program shall be continued for at least five (5) years following completion of the landfill or longer period if required by the Township. Additional monitoring wells may be required when the initial monitoring wells indicate a change in the ground water flow system and/or the quality of water.
- (b) **Decomposition Gases:** When monitoring points for decomposition gases are required in the landfill, the permittee shall maintain them for at least five (5) years or a longer period if required by the Township. The permittee shall submit quarterly gas composition data to the Township. The Township may require quarterly gas generation rate data.
- (c) **Leachate:** The permittee shall maintain and operate the leachate collection and treatment system at the completed landfill for at least five (5) years or a longer period if required by the Township. The permittee shall submit leachate quantity and quality data to the Township for those parameters and at such frequencies as specified by the Township.

23. **Animals:** Scavenging and animal feeding on the site shall not be permitted.

### **24. Operational Reports and Records:**

A. **Estimates of Waste Processed:** Provisions shall be made for estimating the weight and daily volume and type of solid waste being processed. The weight and volume figures obtained shall be related to the various types of solid waste.

#### **B. Records:**

(a) **Solid Waste;** The permittee shall maintain written records of the estimated volume and weight of solid wastes accepted at the landfill.

(b) **Refuse Lift or Trench:** In addition, the permittee shall maintain records of the location and completion date of each refuse lift or trench.

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- (c) **Hazardous Wastes:** Separate records of the same type shall be compiled for hazardous wastes.
  - (d) **Leachate Discharge:** Separate records of the quantity and discharge quality of all leachate shall also be maintained for these parameters and at such frequencies as specified by the Township. All submitted records shall be signed by the landfill supervisor.
- C. **Quarterly Reports:** The permittee shall submit quarterly reports to the Township. These reports shall include the following information:
- (a) Monthly data on quantities of waste (weight and volumes for each distinguishable type of waste), including those that require separate disposal. Mixed municipal refuse may be considered as a single type of waste.
  - (b) A schedule of charges for use of the sanitary landfill;
  - (c) Estimated volume of landfill used during the quarter and the landfill's projected life;
  - (d) Identification and number of lifts or trenches completed and dates completed;
  - (e) During the year following final cover (completion) of areas of the landfill, the quarterly report shall include a description of the repairs effected which includes location and extent;
  - (f) The accuracy of the reports shall be verified by signature of the permit holder of the landfill or his authorized representative.
- D. **Construction Certification:**
- (a) **As-built Drawings:** As-built drawings detailing the location, material and method of construction of landfill liners; leachate, treatment and disposal systems; ground and surface water control measures; monitoring points; and other construction of landfill facilities conforms to submitted plans and specifications and the specific conditions attached to the landfill permit by the Township Board.
  - (b) **Hydraulic Conductivity Tests:** In addition, testing, according to standard methods, shall be made to determine the hydraulic conductivity of installed liners. Such testing shall be performed and certified by a qualified testing laboratory or a registered professional engineer at frequency to be specified by the Township, depending on the nature of the liner materials.
25. **Reuse of Partial or Fully Completed Landfills:** Any person owning or controlling the reuse of any partially completed or fully completed landfill shall obtain the approval of the Township prior to such reuse.

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### SECTION 11: Restoration

1. **Requirement Established:** All areas within any landfill or excavation site operating under a single permit shall be restored progressively. Restoration shall be in accordance with the plan approved by the Township Board. Restoration shall be to a condition which blends with the general surrounding terrain so as to appear reasonably natural.
2. **Inspections:** The Building Department shall conduct inspections hereunder, and shall notify the owner and/or operator by regular mail of any portions of the site that it deem abandoned and/or ready for restoration.
3. **Completion Dates:** Upon receipt of such notification, the owner and/or operator shall have said area restored within thirty (30) days, or within said thirty (30) days supply the Township Board with a written reply indicating the dates of anticipated restoration. The Township Board may accept or reject said dates. If said dates are accepted, they shall be binding on both parties. If rejected, the Township Board shall set new dates which shall be final.
4. **Release of Surety Bond:**

**Completion:** Upon completion of the restoration, or upon completion of a part thereof, the person posting the security may make application to the Township Board for refund or reduction of the security or its pro-rata share. Upon examination by the Township Building Department and upon its notice in writing to the Township Board that said restoration is in keeping with the plan, requirement, or agreement as set forth by the Township Board that said restoration is in keeping with the general surrounding terrain so as to appear reasonably natural, subject to Section 6 of this Ordinance, the Township Board shall refund or reduce the security pro-rata.

### SECTION 12: Effective Date for Existing Removal and Filling Operations:

All of the provisions of this Chapter shall not apply to existing removal and filling operations for a period of six (6) months after the effective date of said Ordinance. After said six (6) months, all requirements and/or standards shall be effective as to existing removal and filling operations within the Township.

### SECTION 13: Penalty:

Any person or persons, firm or corporation violating or failing to comply with the provisions of this Ordinance shall be guilty of a misdemeanor and upon conviction shall be punishable by a fine not exceeding \$500.00 nor more than ninety (90) days imprisonment in the county jail or both fine and imprisonment in the discretion of the Court.

### SECTION 14: Severability

The provisions of this Ordinance are hereby declared to be severable. If any clause, sentence, paragraph, rule, regulation, section or subsection is declared void or inoperable or any reason by any Court, it shall not effect any other part or portion thereof other than the part declared void or inoperable.

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**SECTION 15: Repeal**

All Ordinances in conflict herewith are hereby repealed.

**SECTION 16: Effective Date:** This Ordinance shall become effective 30 days following publication hereof as provided by law.

Published: Sept. 24, 1981

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