

## ARTICLE V. - ENVIRONMENTAL REGULATIONS<sup>[8]</sup>

Footnotes:

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**State Law reference**— Natural resources and environmental protection act, MCL 324.101 et seq.; the Great Lakes, MCL 324.32101 et seq.

### DIVISION 1. - GENERALLY

Sec. 48-888. - Purpose and intent.

- (a) Because the city has many unique environmental characteristics such as lakes, shorelands, dunes, flood hazard areas, high-water areas and a growing airport in an expanding residential area, special provisions must regulate development in and around these fragile environmental zones to protect the natural resources of air, water and soil.
- (b) The intent of these provisions is to preserve these valuable resources. These regulations are tempered by the sometimes conflicting concept of maximizing the economic and social uses to be made of the land in and around these affected areas.
- (c) However, where it is at all possible, some development is allowed. Sometimes it is restricted, and where it is not possible to eliminate the conflicts, prohibited. At the same time, a particular parcel may be unique, and some flexibility has been provided to request specific review of a particular use on a specific parcel.
- (d) Therefore, these regulations are environmental and apply to all the land in the areas designated on the appendix maps on file in the office of the city clerk or public works director.

(Ord. No. 369, § 15.280(4.100), 6-26-1981; Ord. No. 728, § 1, 8-2-2010)

Sec. 48-889. - Airport approach zone.

The areas affected by the provisions of this section are designated on the map on file in the office of the city clerk, incorporated and made a part of this section called Appendix Two. The affected area is subject to the ordinance establishing county airport zoning regulations, adopted February 1, 1955, and amended October 8, 1975.

(Ord. No. 369, § 15.285(4.101), 6-26-1981)

**State Law reference**— Aeronautics code, MCL 259.1 et seq.; airport zoning act, MCL 259.431 et seq.

Sec. 48-890. - Drainage courses.

- (a) The provisions of this section apply to the drainage courses depicted on the map on file in the office of the city clerk, incorporated by reference, and made a part hereof, known as Appendix Two.
- (b) The following regulations are necessary due to foreseeable harm to the public health, safety and welfare without them, and past experience where injury to the community-at-large occurred during their absence.

- (c) Specifically, they are necessary to allow natural dispersion of snow-melting runoffs, rain runoffs and natural drainage of undergroundwaters. Without such provisions, the following damage can be anticipated:
- (1) New areas of surface water ponding;
  - (2) Erosion due to changed or limited watercourses;
  - (3) Flooding due to construction of natural drainage;
  - (4) Accumulations of undergroundwaters;
  - (5) Basement flooding;
  - (6) Damage to roads, culverts, abutments and bridges;
  - (7) Undue strain on road ditch capacity;
  - (8) Potential destruction to new construction in the path of a natural drain; and
  - (9) Loss of absorption capacities of low lands to inhibit flooding and cleanse effluent.
- (d) The following conditions shall apply:
- (1) No structures may be built in such drainage courses.
  - (2) Such courses may not be filled, and the landowner shall keep same free of any debris; nor shall he allow any organic or inorganic material to accumulate to obstruct the flow of water.
  - (3) Such courses shall not be altered or changed in any way unless the landowner first obtains a site plan approval by the planning commission. In addition to the requirements of this section, the planning commission may use the requirements of the special use permits found in article II, division 2, of this chapter as a guide in their determination, and the commission shall also find the following as a condition of granting such permit, that the alteration will not:
    - a. Impede the flow of water, or cause ponding;
    - b. Cause erosion;
    - c. Cause loss of flooding water backup space;
    - d. Cause diversion of the course of water from the applicant's property to another location;
    - e. Cause water backup to public road ditches, or other private property;
    - f. Cause loss of flood-impeding capacity; or
    - g. Cause loss of area for effluent cleansing.
  - (4) Such approval shall not be necessary for landscaping, stabilization, terracing of embankments, construction of foot bridge across such courses and the drawing of such drainage course to create artificial ponds if, in the opinion of the building administrator, such proposed activity will not reduce the capacity of the course to fulfill its natural functions or adversely affect property upstream or downstream.

(Ord. No. 369, § 15.300(4.104), 6-26-1981)

**State Law reference**— Soil erosion and sedimentation control, MCL 324.9101 et seq.

Secs. 48-891—48-913. - Reserved.

#### DIVISION 2. - SHORELANDS

Sec. 48-914. - Shorelands; building regulations.

- (a) The areas affected by the provisions of this division are designated on the map on file in the office of the city clerk, incorporated and made a part thereof, called Appendix Two.
- (b) No structure may be built closer to a lake or stream than an adjacent principal structure, and where each adjoining parcel has a principal structure, then no closer than a straight line drawn from the front of each principal building, but in no case less than 50 feet from the high-water mark of the shore. An accessory structure shall be controlled by provisions of section 48-915, relating to shorelands management.

(Ord. No. 369, § 15.290(4.102), 6-26-1981; Ord. No. 653, 5-17-2002)

**State Law reference**— Shorelands protection and management, MCL 324.32301 et seq.

Sec. 48-915. - Shorelands development and management.

Any activity on the shorelands described in section 48-914 is subject to the following restrictions:

- (1) The water side of the yard shall be considered the front yard.
- (2) All accessory buildings shall be set back a minimum of 50 feet from the high-water mark, except piers, marinas, seawalls and similar water-related structures.
- (3) All structures shall be a minimum of one foot above the ordinary high-water mark.

(Ord. No. 369, § 15.295(4.103), 6-26-1981)

Sec. 48-916. - Natural shore cover.

- (a) Preservation of natural shrubs and trees is necessary to prevent erosion and to prevent surface effluent and nutrient flow from reaching the surface body of waters, its tributaries or drainage courses.
- (b) Natural shrubbery shall be preserved along the shoreline and in a strip no less than 20 feet in width, and where removed it shall be replaced with other vegetation that is equally effective in retarding runoff, preventing erosions and preserving natural beauty.

(Ord. No. 369, § 15.296(4), 6-26-1981)

Sec. 48-917. - Filling, grading and dredging.

The zoning administrator may prohibit filling, grading or dredging which would result in substantial detriment to navigable waters by reason of erosion, sedimentation or impairment of fish or aquatic life within 300 feet of the shoreline.

(Ord. No. 369, § 15.297(5), 6-26-1981)

Sec. 48-918. - Special uses permitted.

- (a) Certain special uses may be permitted subject to compliance with article II, division 2 of this chapter, which relates to special use permits, and with the additional conditions set forth in this section. These special uses are lagooning, or dredging, or commencing any work on any waterway, canal, ditch, lagoon, pond, lake or similar waterway within 300 feet of the normal high-water mark of the lake or stream covered by this section. This section shall not apply to terraces, runoff diversions and grassed waterways used for runoff retardation.
- (b) In addition to the special use permit section requirements, the following standards shall also apply:

- (1) The smallest amount of bare ground shall be exposed for as short a time as feasible.
- (2) Temporary ground cover such as mulch shall be used, and permanent cover such as sod shall be planted.
- (3) Diversions, silting basins, terraces and other methods to trap sediment shall be used.
- (4) Lagooning shall be conducted in such a manner as to avoid creation of fish trap conditions.
- (5) Fill shall be stabilized according to accepted engineering standards.
- (6) Fill will not restrict a floodway or destroy the storage capacity of a floodplain.
- (7) Sides of a channel or artificial watercourse shall be stabilized to prevent slumping.
- (8) Sides of channels or artificial watercourses shall be constructed with side slopes of two units horizontal distance to one unit vertical or flatter, unless bulkheads or riprapping are provided.

(Ord. No. 369, § 15.298(6), 6-26-1981)

Sec. 48-919. - Overlapping jurisdiction.

In addition to the approvals and permits required and specified in this chapter, the building and zoning administrator shall, prior to the issuance of any city permit, be satisfied that permits for the particular development and/or construction have been approved from such state and/or federal agencies having jurisdiction in such matters pursuant to state or federal law.

(Ord. No. 369, § 15.299(7), 6-26-1981)

Secs. 48-920—48-941. - Reserved.

DIVISION 3. - FLOOD HAZARD ZONE<sup>[9]</sup>

Footnotes:

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**State Law reference—** Building and construction in floodplain, MCL 324.3108; subdivision within or abutting floodplain, plat requirements, MCL 560.138; subdivision within floodplain, conditions for approval, MCL 560.194.

Sec. 48-942. - Purpose.

The flood hazard overlay zone is intended to promote public health, safety and general welfare and minimize public and private losses due to flood conditions. It shall:

- (1) Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion in flood heights or velocities;
- (2) Require that uses vulnerable to floods, including facilities which serve such uses, shall be protected against flood damage at the time of initial construction;
- (3) Control the alteration of natural floodplains, stream channels and natural protective barriers which are involved in the accommodation of floodwaters;
- (4) Control filling, grading, dredging and other development which may increase erosion or flood damage; and

- (5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

(Ord. No. 369, § 15.306(4.105(1)), 6-26-1981)

Sec. 48-943. - Area affected.

- (a) The area affected by this overlay zone includes all areas in the city designated by the Federal Emergency Management Agency as areas of special flood hazard in a scientific engineering report entitled "The Flood Insurance Study for the City of Norton Shores" dated September 1977, with accompanying flood insurance rate maps and any revisions thereto and hereby adopted by reference and declared to be part of this chapter.
- (b) The special flood hazard boundary is shown on Appendix Map Two, which is made part of this chapter and is on file in the office of the city clerk.

(Ord. No. 369, § 15.307(4.105(2)), 6-26-1981)

Sec. 48-944. - General zone requirements.

All new construction and substantial improvement to structures shall be constructed so that the lowest floor, including basement, shall be at or above base flood elevation, as an alternate nonresidential structure, together with attendant utilities, and sanitary facilities may be designed so that below the base flood elevation the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyance, and shall:

- (1) Be designed (or modified) to resist flotation, collapse or lateral movement of the structure;
- (2) Be constructed with materials and utility equipment resistant to flood damage; and
- (3) Be constructed by methods and practices that minimize flood damage.

(Ord. No. 369, § 15.308(4.105(3)), 6-26-1981)

Sec. 48-945. - Warning and disclaimer of liability.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This chapter does not imply that areas outside the flood hazard zone boundaries or land uses permitted within such districts will be free from flooding or flood damages. This chapter shall not create liability on the part of the city or by any officer or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made thereunder.

(Ord. No. 369, § 15.309(4.105(4)), 6-26-1981)

Sec. 48-946. - Statements required.

Prior to the issuance of a building permit for structures to be located within a flood hazard zone, an applicant shall first be required to sign a statement he has been informed of the hazard and his construction will not give rise to a claim against the city for having authorized issuance of a building permit.

(Ord. No. 369, § 15.310(4.105(5)), 6-26-1981)

Sec. 48-947. - Utilities protection.

The planning commission shall require new or replacement water supply systems and/or sanitary sewage systems to be designed to minimize or eliminate infiltration of floodwaters into the system and discharges from the systems into floodwaters, and require on-site waste disposal systems to be located so as to avoid impairment of them or contamination from them during flooding.

(Ord. No. 369, § 15.311(4.105(6)), 6-26-1981)

Sec. 48-948. - Interpretation.

Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the building and zoning administrator shall make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation, as provided in this chapter.

(Ord. No. 369, § 15.312(4.105(7)), 6-26-1981)

Sec. 48-949. - Nonresidential structures.

- (a) A building permit may not be issued for construction or extension of a nonresidential structure in a flood hazard zone unless a site plan has been approved by the planning commission. In addition to the applicable requirements of article II, division 3, of this chapter, the commission shall also require the following information and conditions be met before approval is granted:
  - (1) *Application for site plan approval.* The application for site plan approval shall contain the following information and any other information requested by the commission:
    - a. A map in duplicate, drawn to scale showing the curvilinear line representing the regulatory flood elevation; dimensions of the lot; existing structures and uses on the lot and adjacent lots; soil type; dunes and natural protective barriers, if applicable; existing flood control and erosion control works; existing drainage elevations and ground contours; location and elevation of existing street, water supply and sanitary facilities; and other pertinent information.
    - b. A preliminary plan showing the approximate dimension, elevation and nature of the proposed use, amount, area and type of proposed fill; area and nature of proposed grading or dredging; proposed alteration of dunes, beaches or other natural protective barriers, if applicable; proposed flood protection or erosion control works; proposed drainage facilities; proposed roads, sewers, water and other utilities; and specifications for building construction and materials included in the floodproofing.
  - (2) *Technical assistance in evaluating project.* The commission shall obtain assistance of the city engineer for technical assistance in evaluating the proposed project in relation to flood heights and velocities, threatened erosion or wave action, the adequacy of the plans for flood erosion protection, the adequacy of drainage facilities and other technical matters.
  - (3) *Determining flood hazard.* The commission shall determine the specific flood or erosion hazard at the site and shall evaluate the suitability of the proposed use in relation to the flood hazard; if a permit is to be issued, the commission may attach appropriate conditions.
- (b) In passing upon such application, the commission shall consider the technical evaluation of the engineer, all relevant factors and standards specified in other sections of this chapter.

(Ord. No. 369, § 15.313(4.105(8)), 6-26-1981)

Secs. 48-950—48-971. - Reserved.

#### DIVISION 4. - GROUNDWATER HAZARD OVERLAY AREA<sup>[10]</sup>

Footnotes:

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**State Law reference—** Water resources protection, MCL 324.3101 et seq.

Sec. 48-972. - Findings of fact.

The groundwater hazard areas depicted on the map on file in the office of the city clerk, adopted by reference and made a part hereof, known as Appendix Two, are subject to periodic inundation which can result in loss of property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for relief and impairment of tax base, all of which adversely affect the public health, safety and general welfare.

(Ord. No. 369, § 15.316(4.106(1)), 6-26-1981)

Sec. 48-973. - Statement of intent.

It is the intent of these regulations to promote the public health, safety and general welfare and to minimize any losses or damage to property described in section 48-972 by requiring certain provisions designed to:

- (1) Restrict or prohibit uses which are dangerous to health, safety or property;
- (2) Require that uses vulnerable to high water fluctuating water tables, including public facilities which serve such uses, shall be protected against damage at the time of initial construction;
- (3) Minimize expenditures in drainage control projects and emergency relief; and
- (4) Protect individuals from buying lands which are unsuited for intended purposes because of high-water hazards.

(Ord. No. 369, § 15.317(4.106(2)), 6-26-1981)

Sec. 48-974. - Compliance.

No structure of land shall hereafter be used and no structure shall be located, extended, converted or structurally altered without full compliance with the terms of this chapter and other applicable regulations which apply to uses within the jurisdiction of this chapter.

(Ord. No. 369, § 15.318(4.106(3)), 6-26-1981)

Sec. 48-975. - Warning and disclaimer of liability.

The degree of protection required by this chapter is considered reasonable for regulatory purposes and is based on engineering and scientific methods of study. High-water conditions may be increased by

manmade or natural causes. This chapter does not imply that land uses permitted within this high-water hazard area will be free from remedial expenses or damages. This chapter shall not create liability on the part of the city or any officer or employee thereof for any damages that result from reliance on this chapter or any administrative decision lawfully made thereunder.

(Ord. No. 369, § 15.319(4.106(4)), 6-26-1981)

Sec. 48-976. - Statements required.

Prior to the issuance of building permits for structures to be located within a groundwater hazard zone, an applicant shall first be required to sign a statement he has been informed of the hazard and his construction will not give rise to a claim against the city for having authorized issuance of a building permit.

(Ord. No. 369, § 15.320(4.106(5)), 6-26-1981)

Sec. 48-977. - Utilities protection.

The planning commission shall require new or replacement water supply systems and/or sanitary sewage systems to be designed to minimize or eliminate infiltration of waters into the system and discharges from the systems into waters, and require on-site waste disposal systems to be located so as to avoid impairment of them or contamination from them in high-water condition.

(Ord. No. 369, § 15.321(4.106(6)), 6-26-1981)

Sec. 48-978. - Interpretation.

Where interpretation is needed as to the exact location of the boundaries of the areas of special high-water hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the building and zoning administrator shall make the necessary interpretation.

(Ord. No. 369, § 15.322(4.106(7)), 6-26-1981)

Secs. 48-979—48-999. - Reserved.

DIVISION 5. - SOIL REMOVAL, SAND AND GRAVEL MINING AND RELATED LAND USE ACTIVITIES AND STRUCTURES<sup>[11]</sup>

Footnotes:

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**State Law reference—** Soil erosion and sedimentation control, MCL 324.9101 et seq.; soil conservation districts law, MCL 324.9301 et seq.; sand dunes protection and management, MCL 324.35301 et seq.

Sec. 48-1000. - Scope, purpose and intent.

It is the purpose of this section to regulate all those areas and activities of the city not covered by part 353 of Public Act No. 451 of 1994 (MCL 324.35301 et seq.), sand dunes protection and management, which relates to the initial barrier dunes of Lake Michigan. When that Act does not apply,

the following provisions shall control. The purpose is to preserve the natural resources and landscape, to prevent erosion and reduction of stabilizing ground cover, to protect residents from dangerous conduct and to provide means to rehabilitate the land.

(Ord. No. 369, § 15.326(4.107(1)), 6-26-1981)

Sec. 48-1001. - Application requirements.

(a) No sand, soil or gravel mining or excavation shall be permitted except by special permit issued by the building and zoning administrator, after application has been made and approved by the city planning commission. The application shall include a development plan, operational statement and rehabilitation plan. The following information shall be submitted:

(1) *Site plan.* A site plan shall be prepared by a registered civil engineer, registered surveyor or landscape architect. The site plan shall be an 18-inch by 26-inch or larger sepia or other reproducible, along with ten copies of the plan, which shall include the following:

- a. North point, scale and date;
- b. Extent of the area to be excavated;
- c. Location, width and grade of all easements or rights-of-way on or abutting the property;
- d. Location of all structures on the property;
- e. Location of all areas on the property subject to inundation or flood hazard, and the location, width and directions of flow of all watercourses and flood control channels that may be affected by the excavation;
- f. Benchmarks;
- g. Existing elevations of the total property at intervals of not more than 100 feet in both north-south and east-west directions and existing elevations of abutting properties at intervals of not more than 100 feet around the perimeter of the property and 100 feet from property lines. This requirement can be modified by the planning commission on applications for mining, if the size of the site and uniformity of the grade is such that this information is not necessary in the review process of the application;
- h. Typical cross-sections, showing the extent of over-burden, extent of sand and gravel deposits and the water table;
- i. Processing and storage areas;
- j. Proposed fencing, gates, parking and signs;
- k. Ingress-egress roads, plus on-site roads and proposed surface treatment and means to limit dust;
- l. A map showing access routes between the property and the nearest arterial road; and
- m. Areas to be used for ponding.

(2) *Operational statement.* An operational statement shall include:

- a. The approximate date of commencement of the excavation and the duration of the operation;
- b. Proposed hours and days of operation;
- c. Estimated type and volume of the excavation;
- d. Method of extracting and processing, including the disposition of over-burden or top soils;
- e. Equipment proposed to be used in the operation of the excavation;

- f. Operating practices proposed to be used to minimize noise, dust, air contaminants and vibration; and
- g. Methods to prevent pollution of surface or groundwater.

(3) *Rehabilitation plan.* A rehabilitation plan shall include:

- a. A statement of planned rehabilitation, including methods of accomplishment, phasing and timing;
- b. A plan indicating the final grade of the excavation; any water features included in the rehabilitation and methods planned to prevent stagnation and pollution; landscaping or vegetative planting; and areas of cut or fill. This plan, if clearly delineated, may be included with the site plan. For quarry applications, the final grade shall mean the approximate planned final grade;
- c. A phasing plan, if the excavation of the site is to be accomplished in phases. This plan shall indicate the area and extent of each phase and the approximate timing of each phase; and
- d. The method of disposing of any equipment or structures used in the operation of the excavation upon completion of the excavation.

(b) The application also shall include the following:

- (1) The name, address and signature of the property owners and applicant;
- (2) A written legal description or record of survey of the property;
- (3) A bond, cash deposit or deposit of negotiable securities and public liability insurance shall be provided to ensure conformance to city operational and reclamation standards; and
- (4) In agricultural areas, a soils report, prepared by a person qualified to analyze agricultural soils, shall be required for all proposals where the top soil is not to be replaced upon completion of the excavation.

(Ord. No. 369, § 15.327(4.107(2)), 6-26-1981)

Sec. 48-1002. - Review standards for approval.

The planning commission may consider the following factors in their review of the permit application:

- (1) The need for the removal, and alternate solutions not requiring removal;
- (2) The impact of the removal process and methods of removal on adjoining areas;
- (3) The extent and amount of removal of valuable surface topsoil, and destruction of land uses by the removal;
- (4) The increased hazards to neighbors, water, land or air; and
- (5) Whether the spirit and intent of the objectives of the city master plan and this chapter are being preserved or promoted.

(Ord. No. 369, § 15.328(4.107(3)), 6-26-1981)

Secs. 48-1003—48-1032. - Reserved.

DIVISION 6. - FILLING OF LAND

Sec. 48-1033. - Filling of land.

No use of land for filling with borrow fill sand, gravel, cinders, industrial waste or any material of any form or nature shall be allowed without a fill permit issued by the building and zoning administrator.

(Ord. No. 369, § 15.330(4.108), 6-26-1981)

Sec. 48-1034. - Application.

Every application for a permit to fill land shall be accompanied by a specification sheet showing the grade level proposed for the fill, a statement as to the materials to be used, the period of time over which the fill will be brought in and the contour of the lot after the proposed fill is completed. The application will be made in writing to the building and zoning administrator.

(Ord. No. 369, § 15.331(4.108(1)), 6-26-1981)

Sec. 48-1035. - Permit to fill.

The building and zoning administrator will issue the permit to fill land after he has determined:

- (1) That such filling will not cause surface water to collect or to run off onto adjoining lands contrary to normal and natural drainage;
- (2) That such fill material will not unreasonably cause blowing dust, grime, fumes or odors;
- (3) That such fill will not decay or rot in such a manner as to cause holes or soft areas to develop in the lands so filled;
- (4) That upon completion of such fill the property will be left in such a condition that it may be properly used for the use designated for the area in this chapter and maps;
- (5) That such fill shall not operate to prohibit light and air to the adjoining properties;
- (6) That such filling operations will not be conducted before sunrise or after 8:00 p.m.;
- (7) That the transportation of such fill material will be made in trucks or vehicles properly suited to such transport so that it will not be spread upon the highways and roads to the city;
- (8) That such fill will not cause any hazard of fire and that combustible materials shall not become any part of the fill material; and
- (9) That the filling will be carried out under the terms and conditions above set forth and that the building and zoning administrator may, if he is concerned about the applicants fulfilling the above conditions, require a performance bond in favor of the city and conditioned upon the applicant faithfully carrying out all of the terms and conditions of the permit.

(Ord. No. 369, § 15.332(4.108(2)), 6-26-1981)

Secs. 48-1036—48-1053. - Reserved.

DIVISION 7. - LAKE MICHIGAN DUNES ZONE

Sec. 48-1054. - Seawalls, revetments and groins.

- (a) Building permits for seawalls, revetments and groins may be authorized by the planning commission provided they are constructed of such materials and are of a height and color so as not to detract from the natural beauty of the shoreline.
- (b) In regard to groins, an engineering determination shall be included in the building permit application establishing the effects of the proposed groins on adjacent beaches.

(Ord. No. 369, § 15.340(4.109(5)), 6-26-1981)

Sec. 48-1055. - Preservation of natural shore cover.

Preservation of the natural shore cover is necessary to protect scenic beauty, control erosion and reduce effluent and nutrient flow from the shoreland; hence, its removal is prohibited. This provision shall not apply to the removal of dead, diseased or dying trees at the discretion of the landowner, or to silvicultural thinning upon recommendation of a forester.

(Ord. No. 369, § 15.341(4.109(6)), 6-26-1981)

Sec. 48-1056. - Sand mining.

No removal and mining of sand is permitted in the dunes overlay district unless authorized under the provisions of part 353 of Public Act No. 451 of 1994 (MCL 324.35301 et seq.), sand dune protection and management, or the provisions of article V, division 5, of this chapter.

(Ord. No. 369, § 15.342(4.109(7)), 6-26-1981)

#### DIVISION 8. - MODEL LOW IMPACT DEVELOPMENT (LID) STORMWATER MANAGEMENT STANDARDS

Sec. 48-1057. - Scope and applicability.

- (a) This division shall apply to all development within the City of Norton Shores requiring site plan approval.
- (b) Exemptions:
  - (1) Any activity that will disturb an area less than one acre, or
  - (2) Any activity that will increase an impervious area or contiguous impervious area less than 10,000 square feet, or
  - (3) The construction of any fence that will not alter existing terrain or drainage patterns.
  - (4) Development in environmentally unfeasible locations, e.g., Brownfields.

(Ord. No. 733, § 3, 5-2-2011)

Sec. 48-1058. - LID/stormwater management application materials.

For all development requiring a site plan approval which requires excavation, the following information shall be presented on a plan or plans drawn to scale with supporting documents and technical details as necessary:

- (1) An existing condition site assessment providing baseline information on features which may include slope profiles showing existing gradients, soil types, trees and other vegetation, natural water bodies, historic water tables, wetlands and sensitive natural communities, and site features that aid in stormwater management, including natural drainageways and forested and vegetated lands located on stream, lake and wetland buffers;
- (2) A soil erosion and sediment control plan that incorporates accepted best management practices as recommended by the State of Michigan. Permits for erosion and sedimentation control are administered by the Muskegon County Public Works Department.

- (3) A stormwater management plan identifying the construction disturbance area and demonstrating that stormwater runoff is minimized through the use of natural drainage systems and on-site infiltration and treatment techniques. The plan shall demonstrate that soils best suited for infiltration are retained and that natural areas consisting of tree canopy and other vegetation are preserved, preferably in contiguous blocks or linear corridors where feasible, for protection of the best stormwater management features identified in the site assessment. The city may consider and impose appropriate safeguards, modifications and conditions relative to the general standards and guidelines listed in section 48-1061 of this division.

(Ord. No. 733, § 3, 5-2-2011)

Sec. 48-1059. - General pre-development and construction site standards.

All development in the City of Norton Shores is subject to the following pre-development and construction site standards to ensure that all sources of soil erosion and sediment on the construction site are adequately controlled, and that existing site features that naturally aid in stormwater management are protected to the maximum extent practical.

- (1) *Minimize land disturbance.* Development of a lot or site shall require the least amount of vegetation clearing, soil disturbance, duration of exposure, soil compaction and topography changes as possible.
  - a. To the extent feasible, soils best suited for infiltration shall be retained and natural areas consisting of tree canopy and other vegetation shall be preserved, preferably in contiguous blocks or linear corridors.
  - b. The time the soil is left disturbed shall be minimized. The city may require project phasing to minimize the extent of soil disturbance and erosion during each phase of site development.
  - c. There shall be no soil compaction except in the construction disturbance area, which shall be identified and delineated in the field with appropriate safety or landscape fencing. In areas outside the disturbance area there shall also be no storage of construction vehicles, construction materials, or fill, nor shall these areas be used for circulation.
- (2) *Preserve natural areas.* Development shall not result in an undue adverse impact on fragile environments, including wetlands, wildlife habitats, streams, lakes, steep slopes, floodplains, aquifers, water tables and vegetated riparian buffers.
  - a. Open space or natural resource protection areas shall be retained preferably in contiguous blocks or linear corridors where feasible, for the protection of the best stormwater management features identified in the site assessment as required in subsection 48-1058(1) of this division.
  - b. Forested lands located on stream, lake and wetland buffers and steep slopes are priority areas and clearing them shall be avoided in order to protect wildlife habitats and prevent erosion and sedimentation resulting from stormwater runoff.
  - c. A minimum 50-foot vegetated buffer shall be established along any lakes, streams and/or any other water bodies located within the property lines.
  - d. Lot coverage and building footprints shall be minimized and where feasible, development clustered, to minimize site disturbance and preserve large areas of undisturbed space. Environmentally sensitive areas, such as areas along streams, wetlands, and steep slopes shall be a priority for preservation and open space.
- (3) *Manage water, prevent erosion and control sediment during construction.* Applicants shall maintain compliance with the accepted erosion prevention and sediment control plan as required by subsection 48-1058(2) of this division and as permitted by the Muskegon County Public Works Department.

- a. Runoff from above the construction site must be intercepted and directed around the disturbed area in a manner that would create the least amount of erosion or conveyance of sediment.
  - b. On the site itself, water must be controlled, and kept at low velocities, to reduce erosion in drainage channels.
  - c. The amount of sediment produced from areas of disturbed soils shall be minimized by utilizing best management practices control measures such as vegetated strips, diversion dikes and swales, sediment traps and basins, check dams, stabilized construction entrances, dust control, and silt fences.
- (4) Immediate seeding and mulching or the application of sod shall be completed at the conclusion of each phase of construction, or at the conclusion of construction if not phased.

(Ord. No. 733, § 3, 5-2-2011)

Sec. 48-1060. - Low impact development design.

The use of LID design approaches is preferred and shall be implemented to the maximum extent practical given the site's soil characteristics, slope, and other relevant factors. To the extent that LID design approaches are not proposed in the stormwater management plan, as required in subsection 48.1058(3) of this division, the applicant shall provide a full justification and demonstrate why the use of LID approaches is not possible before proposing to use conventional structural stormwater management measures which channel stormwater away from the development site.

(Ord. No. 733, § 3, 5-2-2011)

Sec. 48-1061. - LID/stormwater general post-construction review standards and guidelines.

- (a) All applications for development are subject to the following post construction stormwater management standards and guidelines to ensure that stormwater management approaches that maintain natural drainage patterns and infiltrate precipitation are utilized to the maximum extent practical.
- (b) Standards are statements that express the development and design intentions of this division. The guidelines suggest a variety of means by which the applicant might comply with the standards. The guidelines are intended to aid the applicant in the design process and the city when reviewing applications. Options for compliance with the standards are not limited to the guidelines listed.
- (1) *Standard 1: Vegetation and landscaping.* Vegetative and landscaping controls that intercept the path of surface runoff shall be considered as a component of the comprehensive stormwater management plan. Suggested vegetative and landscaping controls include:
  - a. Direct runoff from roads, driveways, parking lots and other types of drivable or walkable surfaces to vegetated areas to allow for water infiltration.
  - b. Design parking lot landscaping to function as part of the development's stormwater management system utilizing vegetated islands with bio-retention functions.
  - c. Incorporate existing natural drainage ways and vegetated channels, rather than the standard concrete curb and gutter configuration to decrease flow velocity and allow for stormwater infiltration.
  - d. Divert water from downspouts away from driveway surfaces and into bio-retention areas or rain gardens to capture, store, and infiltrate stormwater on site.
  - e. Encourage construction of vegetative LID stormwater controls (bio-retention, swales, filter strips, buffers) on lands held in common.

- (2) *Standard 2: Development on steep slopes.* Development on steep slopes equal to or in excess of 15 percent shall be sited and constructed, and slopes stabilized to minimize risks to surface and groundwaters and to protect neighboring properties from damage. Steep slope development shall include the following practices:
- a. Prohibit development, regrading and clearing of vegetation on land where the slope is greater than 25 percent.
  - b. Locate house sites, subsurface sewage systems and parking areas on the flattest portion of the site.
  - c. Minimize crossing steep slopes with roads and driveways and lay them out to follow topographic contours in order to minimize soil and vegetation disturbance. Avoid long driveways.
- (3) *Standard 3: Reduce impervious surfaces.* Stormwater shall be managed through land development strategies that emphasize the reduction of impervious surface areas such as streets, sidewalks, driveway and parking areas and roofs. Reduce impervious surfaces utilizing the following criteria:
- a. Evaluate the minimum widths of all streets and driveways to demonstrate that the proposed width is the narrowest possible necessary to conform with safety and traffic concerns and requirements.
  - b. Reduce the total length of residential streets by examining alternative street layouts to determine the best option for increasing the number of homes per unit length.
  - c. Minimize the number of residential street culs-de-sac and incorporate vegetated islands to reduce their impervious cover. The radius of culs-de-sac should be the minimum required to accommodate emergency and maintenance vehicles. Consider alternative turnaround areas.
  - d. Reduce driveway lengths by minimizing setback distances. Encourage common driveways.
  - e. Use permeable pavement for parking stalls and spillover parking, sidewalks, driveways and bike trails.
  - f. Establish parking maximums and utilize shared parking for uses with different peak demand periods.
  - g. Reduce building footprints by using more than one floor level.
- (4) *Standard 4: Low impact integrated management practices (IMPs).* Stormwater shall be managed through the use of small-scale controls to capture, store and infiltrate stormwater close to its source. This can be accomplished by:
- a. Create vegetated depressions, commonly known as bio-retention areas or rain gardens, that collect runoff and allow for short-term ponding and slow infiltration. Rain gardens consist of a relatively small depressed or bowl shaped planning bed that treats runoff from storms of one inch or less.
  - b. Use filter strips or bands of dense vegetation planted immediately downstream of a runoff source to filter runoff before it enters a receiving structure or water body. Natural or manmade vegetated riparian buffers adjacent to water bodies provide erosion control, sediment filtering and habitat.
  - c. Utilize shallow grass-lined channels to convey and store runoff.
  - d. Incorporate rooftop gardens which partially or completely cover a roof with vegetation and soil or a growing medium, planted over a waterproofing membrane.
  - e. Use permeable paving and sidewalk construction materials that allow stormwater to seep through into the ground.

- f. Use rain barrels and cisterns of various sizes that store runoff conveyed through building downspouts.
- g. Utilize tree box filters placed below grade, covered with a grate, filled with filter media and planted with a tree, to act both as a water retention tank and a natural filter.

(Ord. No. 733, § 3, 5-2-2011)

Sec. 48-1062. - Independent consultants.

The city may retain independent consultants to facilitate the review of applications for development subject this bylaw and whose services shall be paid for by the applicant. The consultant(s) shall work at the city's direction and shall provide the city such reports and assistance, as the city deems necessary to determine compliance with this bylaw.

(Ord. No. 733, § 3, 5-2-2011)

Sec. 48-1063. - Other ordinances.

This division is in addition to all other ordinances of the City of Norton Shores and all applicable federal laws and enforcement and penalties, and laws of the State of Michigan.

(Ord. No. 733, § 3, 5-2-2011)

Secs. 48-1064—48-1080. - Reserved.