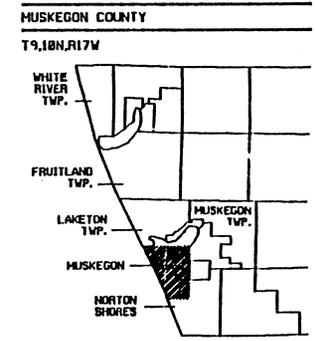
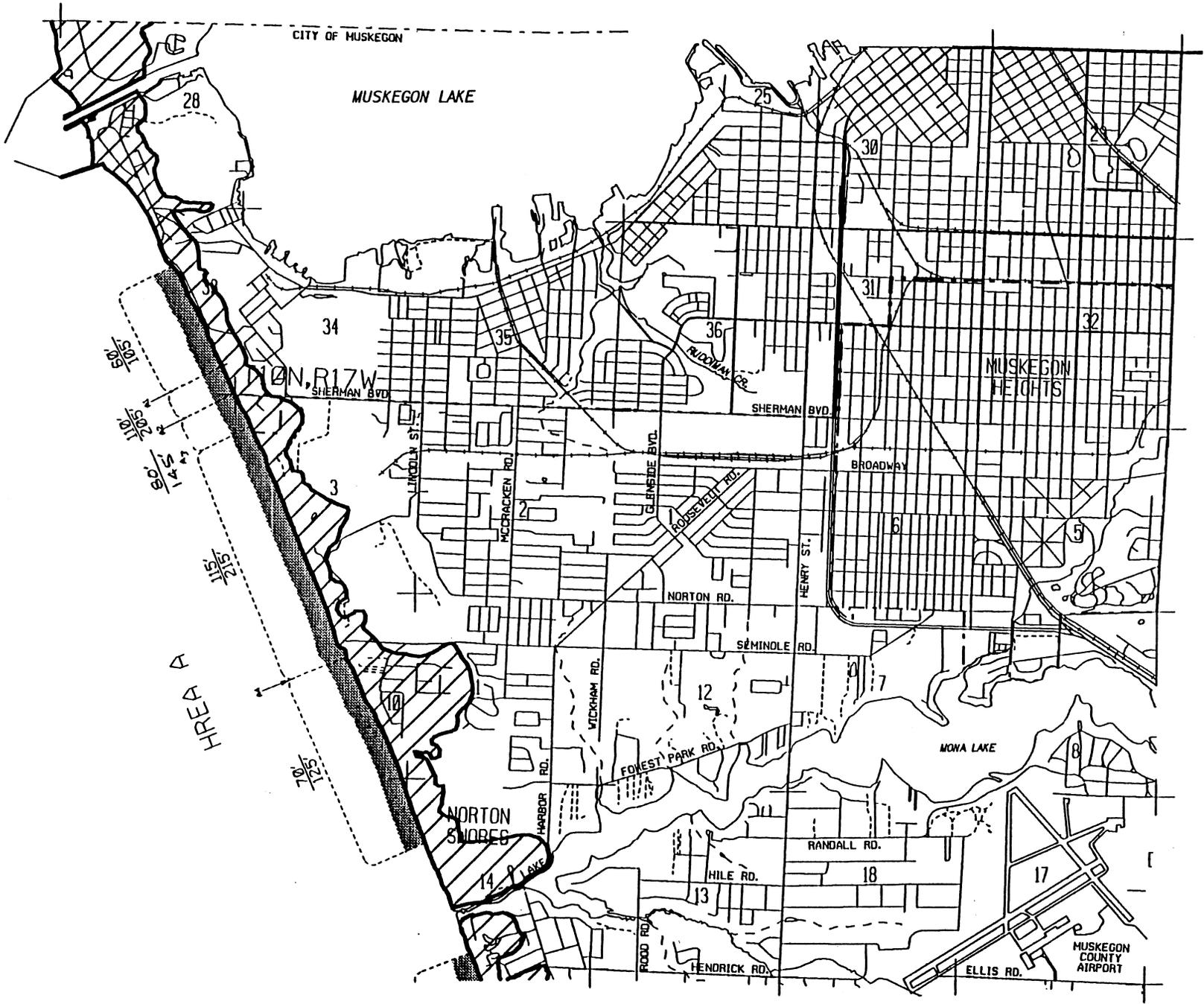


CITIES OF MUSKEGON AND NORTON SHORES

HIGH RISK EROSION AREAS & CRITICAL DUNE AREAS



HIGH RISK EROSION AREAS

THE NUMBER REPRESENTS, IN FEET, THE 30 YEAR PROJECTED RECESSION DISTANCE.

THE NUMBER REPRESENTS, IN FEET, THE 60 YEAR PROJECTED RECESSION DISTANCE.

HIGH RISK EROSION AREA (shading alongshore)

THESE AREAS ARE LEGALLY DEFINED BY THE SHORELANDS PROTECTION AND MANAGEMENT ACT, 1976 P.A. 245, AS AMENDED, AS BEING GREAT LAKES SHORELAND AREAS DOCUMENTED TO REcede AN AVERAGE OF ONE FOOT OR MORE PER YEAR.

CRITICAL DUNE AREAS

BARRIER DUNES
BARRIER DUNE FORMATIONS DESIGNATED PURSUANT TO 1976 P.A. 222

AREAS NOT INCLUDED IN DESIGNATED BARRIER DUNE FORMATIONS THAT ARE COMPOSED PRIMARILY OF DUNE SAND AND EXHIBIT SEVERAL DUNE-LIKE CHARACTERISTICS.

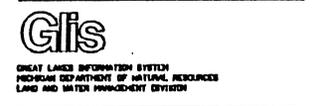
EXEMPLARY DUNE ASSOCIATED PLANT COMMUNITIES OUTSIDE DESIGNATED DUNE FORMATIONS, MICHIGAN NATURAL FEATURES INVENTORY REFERENCE CODE INDICATED.

SOURCE

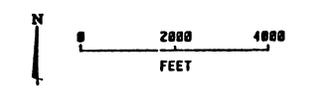
STATE OF MICHIGAN ACT 245 RECESSION RATE MAPS & ATLAS OF CRITICAL DUNE AREAS

INFORMATION

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
LAND AND WATER MANAGEMENT DIVISION
P.O. BOX 36828
LANSING, MI 48919
(517) 373-1958



08-08-93
amended 08-28-93



May 3, 2017

Parcels in High Risk Erosion Areas of City of Muskegon, Muskegon County

HREAs identified North to South Date of Designation: December 20, 1993

HREA*	Sequence No.	Parcel Identification Number	Rate (feet/year)	30 yr PRD*	60 yr PRD*
A1	1	61-24-205-716-0001-00 Pumping station	1.5	60	105
A1	2	61-24-205-714-0001-00 Lake Michigan Park	1.5	60	105
A1	3	61-24-205-713-0001-00 Lake Michigan Park	1.5	60	105
A1	4.1	61-24-205-712-0001-00 northern 450 ft	1.5	60	105
A2	4.11	61-24-205-712-0001-00 central 900 ft	3.2	110	205
A3	4.12	61-24-205-712-0001-00 southern 100 ft	2.2	80	145
A3	5	61-24-003-100-0001-00 northern 980 ft, Norman F. Kruse Park	2.2	80	145
A4	5.1	61-24-003-100-0001-00 southern 420 ft, Norman F. Kruse Park	3.3	115	215

HREA* - Some parcels may be in multiple HREAs due to their large size.

30 yr PRD* is the Projected Recession Distance (feet) landward from the Erosion Hazard Line for readily moveable structures including those structures 3,500 square feet or less and built on a basement, crawlspace or pilings. Additional restrictions may apply per Administrative Rules 281.21-22.

60 yr PRD* is the Projected Recession Distance (feet) landward from the Erosion Hazard Line for non-readily moveable structures such as large structures and septic systems.

Designation runs with the land including subsequent splits. Absence of a property number does not guarantee the property is located outside of an HREA. Contact the Great Lakes Shorelands Unit, Water Resources Division, DEQ in Lansing or the local DEQ field office for assistance.