

**DEPARTMENTS OF TRANSPORTATION, CONSUMER AND INDUSTRY  
SERVICES, AND**

**ENVIRONMENTAL QUALITY**

**SUBDIVISIONS OF LAND**

**PART 3. DEPARTMENT OF ENVIRONMENTAL QUALITY**

**R 560.301 Definitions.**

Rule 301. As used in this part:

(a) "A 100-year flood" means a flood with a magnitude which has a 1% chance of occurring or being exceeded in any given year.

(b) "Datum" means the basis from which elevations are measured.

(c) "Flood" means a temporary increase in the stage of a watercourse or lake resulting in the inundation of lands not normally covered by water.

(d) "Floodplain" means that area of land adjoining a watercourse or lake which will be inundated by a 100-year flood.

(e) "Lake" means a natural or artificial body of water with a surface area of 5 acres or more measured at its normal stage, including the great lakes.

(f) "Watercourse" means an open conduit either naturally or artificially created which periodically or continuously contains moving water draining an area of not less than 2 square miles. The point of measurement of the drainage area shall be the downstream limit of the subdivision.

History: 1979 AC; 1988 AACCS.

**R 560.302 Field survey data.**

Rule 302. (1) The purpose of this rule is to prescribe field survey data required before submittal of a preliminary plat.

(2) A proprietor shall furnish, on request by the department of natural resources, plotted valley cross-sections from a control point downstream of the proposed plat to the upstream limits of the plat for any watercourse through or adjacent to the area to be subdivided. The spacing between the cross-sections shall be frequent enough to define the changes in the hydraulic properties of the watercourse. The location of each cross-section shall be shown on a topographic map and elevations shall be at either national geodetic vertical datum or international Great Lakes datum. The required field surveys shall be conducted under the supervision of an engineer or land surveyor licensed in this state.

(3) A proprietor shall furnish, on request by the department of natural resources, current water surface elevations and past high water elevations for any lake which is within or is adjacent to the area to be subdivided. A determination of the drainage area contributing runoff to the lake and an engineering sketch of any water level control structures may also be required. All elevations shall be at national geodetic vertical datum or international Great Lakes datum. The required field surveys shall be conducted under the supervision of an engineer or land surveyor licensed in this state.

(4) If the subdivision is affected by a 100-year floodplain, a permanent benchmark based on either of the datums listed in subrules (2) and (3) of this rule shall be established within the plat boundaries and described on the preliminary plat. This benchmark shall be established under the supervision of an engineer or land surveyor licensed in this state.

History: 1979 AC; 1988 AACCS.

**R 560.303 Floodplain limits; adoption of floodplain delineation reports by reference.**

Rule 303. (1) The purpose of this rule is to prescribe methods to be used to define floodplain limits on lakes and watercourses.

(2) The department of environmental quality has approved published floodplain delineation reports, then the 100-year flood identified in the reports shall be used to define the limits of the floodplain for the lakes and watercourses covered by the reports. The department of environmental quality shall maintain the reports and review them for accuracy. The department of environmental quality shall maintain list of amendments or revisions to the floodplain maps contained in the reports. Upon request, the department of environmental quality shall provide the reports at no cost. The following published federal flood insurance studies are approved floodplain delineation reports and are adopted by reference in this rule:

(a) Alcona county:

Greenbush, township of, February, 1993.

(b) Allegan county:

(i) Allegan, city of, May, 1989.

(ii) Casco, township of, December, 1979.

(iii) Douglas, village of, August, 1979.

(iv) Ganges, township of, June, 1979.

(v) Laketown, township of, December, 1979.

(vi) Saugatuck, township of, August, 1979.

(vii) Saugatuck, village of, August, 1979.

(c) Alpena county:

Alpena, township of, February, 1993.

(d) Antrim county:

Milton, township of, August, 1982.

(e) Arenac county:

(i) AuGres, city of, May, 1989.

(ii) AuGres, township of, May, 1989.

(iii) Sims, township of, February, 1993.

(iv) Standish, township of, April, 1993.

(v) Whitney, township of, December, 1977.

(f) Barry county:

(i) Castleton, township of, May, 1988.

(ii) Hastings, city of, August, 1980.

(iii) Hastings, township of, December, 1980.

(g) Bay county:

- (i) Bangor, township of, January, 1979.
- (ii) Bay City, city of, March, 1978.
- (iii) Essexville, city of, March, 1978.
- (iv) Frankenlust, township of, May, 1979.
- (v) Fraser, township of, June, 1993.
- (vi) Hampton, township of, February, 1978.
- (vii) Kawkawlin, township of, April, 1993.
- (viii) Merritt, township of, February 1978.
- (ix) Pinconning, city of, February, 1981.
- (x) Pinconning, township of, February, 1993.
- (xi) Portsmouth, township of, November, 1979
- (h) Benzie county:
  - Frankfort, city of, March, 1991.
- (i) Berrien county:
  - (i) Benton, township of, June, 1977.
  - (ii) Benton Harbor, city of, November, 1977.
  - (iii) Bridgman, city of, May, 1979.
  - (iv) Buchanan, city of, April, 1993.
  - (v) Chikaming, township of, December, 1977.
  - (vi) Coloma, township of, August, 1983.
  - (vii) Grand Beach, village of, February, 1978.
  - (viii) Hagar, township of, February, 1977.
  - (ix) Lake, township of, May, 1979.
  - (x) Lincoln, township of, May, 1977.
  - (xi) Michiana, village of, November, 1977.
  - (xii) New Buffalo, city of, June, 1979.
  - (xiii) New Buffalo, township of, June, 1979.
  - (xiv) Niles, city of, July, 1987.
  - (xv) Royalton, township of, February, 1977.
  - (xvi) St. Joseph, city of, December, 1976.
  - (xvii) St. Joseph, township of, December, 1979.
  - (xviii) Sodus, township of, June, 1977.
  - (xix) Watervliet, city of, May, 1983.
  - (xx) Watervliet, township of, May, 1983.
- (j) Branch county:
  - (i) Coldwater, city of, June, 1994.
  - (ii) Coldwater, township of, June, 1994.
- (k) Calhoun county:
  - (i) Albion, city of, December, 1981.
  - (ii) Albion, township of, April, 1982.
  - (iii) Battle Creek, city of, October, 1982.
  - (iv) Bedford, township of, August, 1982.
  - (v) Emmett, township of, December, 1982.
  - (vi) Homer, village of, November, 1981.
  - (vii) Marengo, township of, November, 1981.
  - (viii) Marshall, city of, October, 1981.

- (ix) Pennfield, township of, April, 1982.
- (l) Charlevoix county:
  - (i) Boyne City, city of, January, 1982.
  - (ii) East Jordan, city of, January, 1982.
- (m) Cheboygan county:
  - (i) Cheboygan, city of, March, 1988.
  - (ii) Grant, township of, January, 1989.
- (n) Chippewa county:
  - Sault Ste. Marie, city of, May, 1988.
- (o) Clare county:
  - Clare, city of, February, 1992.
- (p) Clinton county:
  - (i) DeWitt, city of, June, 1979.
  - (ii) DeWitt, township of, December, 1980.
  - (iii) Ovid, village of, March, 1993.
  - (iv) Victor, township of, February, 1989.
  - (v) Watertown, charter township of, November, 1981.
- (q) Delta county:
  - (i) Brampton, township of, October, 1977.
  - (ii) Escanaba, city of, September, 1977.
  - (iii) Ford River, township of, June, 1977.
  - (iv) Gladstone, city of, September, 1977.
  - (v) Masonville, township of, September, 1978.
- (r) Eaton county:
  - (i) Charlotte, city of, January, 1981.
  - (ii) Delta, charter township of, September, 1980.
  - (iii) Dimondale, village of, March, 1980.
  - (iv) Eaton Rapids, city of, April, 1982.
  - (v) Eaton Rapids, township of, June, 1983.
  - (vi) Grand Ledge, city of, July, 1980.
  - (vii) Oneida, township of, January, 1981.
  - (viii) Windsor, charter township of, July, 1980.
- (s) Emmet county:
  - Harbor Springs, city of, November, 1976.
- (t) Genesee county:
  - (i) Argentine, township of, July, 1980.
  - (ii) Atlas, township of, December, 1978.
  - (iii) Burton, city of, February, 1980.
  - (iv) Clayton, township of, February, 1980.
  - (v) Clio, city of, March, 1980.
  - (vi) Davison, city of, March, 1978.
  - (vii) Davison, township of, December, 1978.
  - (viii) Fenton, city of, July, 1980.
  - (ix) Fenton, township of, July, 1980.
  - (x) Flint, city of, July, 1980.
  - (xi) Flint, township of, May, 1979.

- (xii) Flushing, city of, December, 1978.
- (xiii) Flushing, township of, August, 1980.
- (xiv) Gaines, township of, June, 1979.
- (xv) Genesee, township of, June, 1980.
- (xvi) Goodrich, village of, March, 1978.
- (xvii) Grand Blanc, city of, January, 1980.
- (xviii) Grand Blanc, township of, February, 1980.
- (xix) Linden, village of, May, 1980.
- (xx) Montrose, township of, April, 1993.
- (xxi) Mundy, township of, May, 1979.
- (xxii) Mt. Morris, township of, August, 1980.
- (xxiii) Swartz Creek, city of, May, 1979.
- (xxiv) Vienna, township of, July, 1980.
- (u) Gogebic county:
  - Ironwood, city of, January, 1978.
- (v) Grand Traverse county:
  - Traverse City, city of, June, 1982.
- (w) Gratiot county:
  - (i) Alma, city of, September, 1981.
  - (ii) St. Louis, city of, January, 1989.
- (x) Hillsdale county:
  - (i) Hillsdale, city of, January, 1988.
  - (ii) Litchfield, city of, February, 1987.
- (y) Houghton county:
  - Chassell, township of, December, 1990.
- (z) Huron county:
  - (i) Caseville, township of, February, 1977.
  - (ii) Lake, township of, June, 1977.
  - (iii) Sebawaing, village of, December, 1987.
- (aa) Ingham county:
  - (i) Delhi, township of, November, 1990.
  - (ii) East Lansing, city of, February, 1980.
  - (iii) Lansing, city of, November, 1990.
  - (iv) Lansing, township of, August, 1980.
  - (v) Locke, township of, September, 1981.
  - (vi) Mason, city of, April, 1982.
  - (vii) Meridian, charter township of, August, 1976.
  - (viii) Williamston, city of, October, 1981.
  - (ix) Williamstown, township of, October, 1981.
- (bb) Ionia county:
  - (i) Ionia, city of, May, 1983.
  - (ii) Portland, city of, November, 1983.
- (cc) Iosco county:
  - (i) Alabaster, township of, February, 1987.
  - (ii) AuSable, township of, January, 1988.
  - (iii) Baldwin, township of, June, 1994.

- (iv) East Tawas, city of, June, 1994.
- (v) Oscoda, township of, March, 1978.
- (vi) Tawas, city of, June, 1994.
- (dd) Iron county:
  - Iron River, city of, March, 1991.
- (ee) Isabella county:
  - Mt. Pleasant, city of, February, 1982.
- (ff) Jackson county:
  - (i) Blackman, township of, June, 1984.
  - (ii) Brooklyn, village of, December, 1981.
  - (iii) Concord, village of, September, 1981.
  - (iv) Jackson, city of, February, 1980.
  - (v) Summit, township of, April, 1982.
- (gg) Kalamazoo county:
  - (i) Augusta, village of, September, 1981.
  - (ii) Charleston, township of, October, 1981.
  - (iii) Comstock, township of, May, 1982.
  - (iv) Galesburg, city of, October, 1981.
  - (v) Kalamazoo, city of, September, 1992.
  - (vi) Kalamazoo, township of, June, 1994.
  - (vii) Portage, city of, November, 1982.
  - (viii) Ross, township of, September, 1981.
- (hh) Kent county:
  - (i) Ada, township of, April, 1980.
  - (ii) Algoma, township of, July, 1984.
  - (iii) Caledonia, township of, January, 1981.
  - (iv) East Grand Rapids, city of, March, 1980.
  - (v) Grand Rapids, city of, November, 1982.
  - (vi) Grandville, city of, March, 1982.
  - (vii) Kentwood, city of, May, 1981.
  - (viii) Lowell, city of, November, 1982.
  - (ix) Plainfield, township of, July, 1980.
  - (x) Sparta, township of, July, 1984.
  - (xi) Sparta, village of, August, 1982.
  - (xii) Walker, city of, December, 1981.
  - (xiii) Wyoming, city of, February, 1992.
- (ii) Lapeer county:
  - (i) Almont, village of, February, 1981.
  - (ii) Imlay City, city of, January, 1981.
  - (iii) Lapeer, city of, January, 1992.
  - (iv) Lapeer, township of, February, 1990.
  - (v) Mayfield, township of, February, 1990.
- (jj) Leelanau county:
  - (i) Elmwood, township of, August, 1982.
  - (ii) Northport, village of, March, 1989.
  - (iii) Suttons Bay, village of, December, 1976.

- (kk) Lenawee county:
  - (i) Adrian, city of, January, 1982.
  - (ii) Adrian, township of, November, 1990.
  - (iii) Blissfield, village of, February, 1988.
  - (iv) Clinton, village of, January, 1982.
  - (v) Deerfield, village of, October, 1980.
  - (vi) Hudson, city of, May, 1981.
  - (vii) Tecumseh, city of, December, 1981.
- (ll) Livingston county:
  - (i) Fowlerville, village of, February, 1987.
  - (ii) Green Oak, township of, April, 1984.
  - (iii) Hamburg, township of, February, 1986.
  - (iv) Putnam, township of, December, 1988.
- (mm) Macomb county:
  - (i) Armada, village of, May, 1990.
  - (ii) Chesterfield, township of, January, 1978.
  - (iii) Clinton, township of, January, 1992.
  - (iv) Fraser, city of, October, 1978.
  - (v) Grosse Pointe Shores, village of, July, 1978.
  - (vi) Harrison, township of, November, 1980.
  - (vii) Macomb, township of, August, 1980.
  - (viii) Memphis, city of, May, 1988.
  - (ix) Mt. Clemens, city of, January, 1980.
  - (x) New Baltimore, city of, March, 1978.
  - (xi) New Haven, village of, March, 1980.
  - (xii) St. Clair Shores, city of, February, 1979.
  - (xiii) Shelby, township of, January, 1980.
  - (xiv) Sterling Heights, city of, May, 1986.
  - (xv) Utica, city of, August, 1980.
  - (xvi) Washington, township of, December, 1981.
  - (xvii) Warren, city of, May, 1986.
- (nn) Manistee county:
  - (i) Manistee, city of, March, 1987.
  - (ii) Manistee, township of, November, 1989.
  - (iii) Onekama, township of, November, 1977.
- (oo) Marquette county:
  - Chocolay, township of, May, 1987.
- (pp) Mason county:
  - (i) Hamlin, township of, December, 1987.
  - (ii) Summit, township of, December, 1987.
- (qq) Menominee county:
  - (i) Cedarville, township of, March, 1979.
  - (ii) Ingallston, township of, March, 1979.
  - (iii) Menominee, city of, February, 1978.
  - (iv) Menominee, township of, September, 1979.
  - (v) Stephenson, city of, November, 1976.

- (rr) Midland county:  
Midland, city of, January, 1989.
- (ss) Monroe county:
  - (i) Ash, township of, May, 1982.
  - (ii) Bedford, township of, May, 1981.
  - (iii) Berlin, township of, May, 1982.
  - (iv) Dundee, village of, January, 1982.
  - (v) Erie, township of, March, 1978.
  - (vi) Estral Beach, village of, May, 1983.
  - (vii) Frenchtown, township of, March, 1977.
  - (viii) LaSalle, township of, August, 1977.
  - (ix) Luna Pier, city of, December, 1981.
  - (x) Milan, city of, February, 1982.
  - (xi) Milan, township of, June, 1982.
  - (xii) Monroe, city of, December, 1976.
  - (xiii) Monroe, township of, June, 1977.
  - (xiv) Raisinville, township of, February, 1982.
  - (xv) South Rockwood, village of, November, 1982.
  - (xvi) Whiteford, township of, October, 1980.
- (tt) Montcalm county:
  - (i) Eureka, township of, May, 1984.
  - (ii) Greenville, city of, May, 1983.
- (uu) Muskegon county:
  - (i) Laketon, township of, June, 1977.
  - (ii) Montague, city of, November, 1977.
  - (iii) Muskegon, city of, December, 1976.
  - (iv) Muskegon, township of, August, 1977.
  - (v) Muskegon Heights, city of, August, 1980.
  - (vi) North Muskegon, city of, January, 1976.
  - (vii) Norton Shores, city of, September, 1977.
  - (viii) Ravenna, village of, December, 1981.
  - (ix) Whitehall, city of, April, 1980.
  - (x) White River, township of, July, 1980.
- (vv) Newaygo county:
  - (i) Ashland, township of, May, 1989.
  - (ii) Bridgeton, township of, March, 1990.
  - (iii) Brooks, township of, November, 1989.
  - (iv) Garfield, township of, May, 1989.
  - (v) Lincoln, township of, September, 1991.
- (ww) Oakland county:
  - (i) Auburn Hills, city of, January, 1979.
  - (ii) Beverly Hills, village of, December, 1978.
  - (iii) Bingham Farms, village of, July, 1984.
  - (iv) Birmingham, city of, November, 1979.
  - (v) Bloomfield, township of, November, 1987.
  - (vi) Bloomfield Hills, city of, January, 1984.

- (vii) Clarkston, village of, September, 1982.
- (viii) Commerce, township of, September, 1980.
- (ix) Farmington, city of, January, 1980.
- (x) Farmington Hills, city of, August, 1979.
- (xi) Franklin, village of, June, 1981.
- (xii) Highland, township of, July, 1983.
- (xiii) Holly, village of, June, 1984.
- (xiv) Independence, township of, November, 1982.
- (xv) Keego Harbor, city of, June, 1982.
- (xvi) Lake Angelus, city of, April, 1986.
- (xvii) Lake Orion, village of, March, 1981.
- (xviii) Northville, city of, March, 1981.
- (xix) Novi, city of, May, 1993.
- (xx) Oakland, township of, June, 1982.
- (xxi) Pontiac, city of, February, 1979.
- (xxii) Rochester, city of, March, 1982.
- (xxiii) Rochester Hills, city of, March, 1981.
- (xxiv) Southfield, city of, March, 1979.
- (xxv) Sylvan, city of, May, 1983.
- (xxvi) Troy, city of, September, 1988.
- (xxvii) Waterford, township of, August, 1982.
- (xxviii) West Bloomfield, township of, September, 1982.
- (xxix) White Lake, township of, August, 1984.
- (xx) Oceana county:
  - (i) Pentwater, township of, May, 1977.
  - (ii) Pentwater, village of, November, 1977.
- (yy) Ontonagon county:
  - Ontonagon, village of, May, 1983.
- (zz) Osceola county:
  - (i) Ewart, city of, May, 1993.
  - (ii) Hersey, village of, September, 1991.
- (aaa) Ottawa county:
  - (i) Allendale, township of, July, 1982.
  - (ii) Coopersville, city of, September, 1982.
  - (iii) Ferrysburg, city of, August, 1977.
  - (iv) Georgetown, township of, February, 1992.
  - (v) Grand Haven, city of, May, 1977.
  - (vi) Grand Haven, township of, July, 1980.
  - (vii) Holland, city of, September, 1990.
  - (viii) Holland, township of, September, 1990.
  - (ix) Hudsonville, city of, June, 1984.
  - (x) Park, township of, November, 1977.
  - (xi) Port Sheldon, township of, November, 1977.
  - (xii) Spring Lake, township of, May, 1977.
  - (xiii) Spring Lake, village of, December, 1977.
  - (xiv) Tallmadge, township of, September, 1982.

- (bbb) Saginaw county:
  - (i) Bridgeport, township of, September, 1983.
  - (ii) Buena Vista, township of, July, 1984.
  - (iii) Carrollton, township of, December, 1982.
  - (iv) Chesaning, village of, March, 1982.
  - (v) Frankenmuth, city of, March, 1982.
  - (vi) James, township of, September, 1991.
  - (vii) Kochville, township of, July, 1982.
  - (viii) Saginaw, city of, May, 1983.
  - (ix) Saginaw, township of, January, 1979.
  - (x) St. Charles, village of, April, 1983.
  - (xi) Spaulding, township of, December, 1978.
  - (xii) Taymouth, township of, December, 1988.
  - (xiii) Thomas, township of, July, 1982.
  - (xiv) Zilwaukee, city of, January, 1979.
  - (xv) Zilwaukee, township of, July, 1978.
- (ccc) St. Clair county:
  - (i) Algonac, city of, April, 1977.
  - (ii) China, township of, February, 1978.
  - (iii) Clay, township of, December, 1977.
  - (iv) Cottrellville, township of, March, 1980.
  - (v) East China, township of, January, 1978.
  - (vi) Fort Gratiot, township of, June, 1978.
  - (vii) Ira, township of, September, 1979.
  - (viii) Marine city, city of, February, 1979.
  - (ix) Memphis, city of, May, 1988.
  - (x) Port Huron, city of, June, 1978.
  - (xi) Port Huron, township of, September, 1991.
  - (xii) St. Clair, city of, December, 1977.
  - (xiii) St. Clair, township of, February, 1978.
- (ddd) St. Joseph county:
  - (i) Colon, township of, September, 1988.
  - (ii) Colon, village of, September, 1988.
  - (iii) Lockport, township of, February, 1989.
  - (iv) Nottawa, township of, March, 1989.
  - (v) Three Rivers, city of, December, 1990.
- (eee) Schoolcraft county:
  - Manistique, city of, December, 1990.
- (fff) Shiawassee county:
  - (i) Caledonia, township of, November, 1981.
  - (ii) Corunna, city of, January, 1986.
  - (iii) Owosso, city of, September, 1981.
  - (iv) Vernon, village of, May, 1988.
- (ggg) Tuscola county:
  - (i) Vassar, city of, June, 1989.
  - (ii) Wisner, township of, November, 1977.

- (hhh) Van Buren county:
  - (i) Bangor, city of, May, 1989.
  - (ii) Covert, township of, June, 1977.
  - (iii) South Haven, city of, September, 1979.
  - (iv) South Haven, township of, November, 1979.
- (iii) Washtenaw county:
  - (i) Ann Arbor, city of, January, 1992.
  - (ii) Ann Arbor, township of, September, 1979.
  - (iii) Dexter, township of, February, 1987.
  - (iv) Manchester, village of, December, 1981.
  - (v) Milan, city of, February, 1982.
  - (vi) Northfield, township of, November, 1990.
  - (vii) Pittsfield, township of, May, 1991.
  - (viii) Saline, city of, July, 1983.
  - (ix) Scio, township of, August, 1989.
  - (x) Ypsilanti, city of, September, 1982.
  - (xi) Ypsilanti, township of, December, 1980.
- (jjj) Wayne county:
  - (i) Allen Park, city of, August, 1981.
  - (ii) Brownstown, township of, February, 1982.
  - (iii) Canton, township of, March, 1981.
  - (iv) Dearborn Heights, city of, November, 1982.
  - (v) Detroit, city of, April, 1984.
  - (vi) Ecorse, city of, November, 1977.
  - (vii) Flat Rock, city of, June, 1981.
  - (viii) Gibraltar, city of, December, 1978.
  - (ix) Grosse Ile, township of, February, 1980.
  - (x) Grosse Pointe Park, city of, July, 1978.
  - (xi) Grosse Pointe Shores, village of, July, 1978.
  - (xii) Huron, township of, October, 1986.
  - (xiii) Lincoln Park, city of, May, 1982.
  - (xiv) Livonia, city of, May, 1981.
  - (xv) Northville, city of, March, 1981.
  - (xvi) Northville, township of, March, 1981.
  - (xvii) Plymouth, city of, August, 1980.
  - (xviii) Plymouth, township of, September, 1980.
  - (xix) Redford, township of, September, 1980.
  - (xx) River Rouge, city of, March, 1977.
  - (xxi) Riverview, city of, March, 1981.
  - (xxii) Rockwood, city of, December, 1978.
  - (xxiii) Southgate, city of, March, 1978.
  - (xxiv) Sumpter, township of, November, 1980.
  - (xxv) Taylor, city of, October, 1986.
  - (xxvi) Trenton, city of, June, 1985.
  - (xxvii) Wayne, city of, February, 1980.
  - (xxviii) Westland, city of, July, 1984.

(xxix) Woodhaven, city of, February, 1986.

(xxx) Wyandotte, city of, November, 1977.

The documents listed in this subrule are available in limited quantity at no cost from the local unit of government involved; from the Michigan Department of Environmental Quality, Land and Water Management Division, P.O. Box 30458, Lansing, Michigan 48909-7958; or from the Federal Emergency Management Agency, Flood Map Distribution Center, 6930 (A-F) San Tomas Road, Baltimore, Maryland 21227-6227.

(3) If approved floodplain delineation reports are not available, or if a lake or watercourse is not covered by the reports, then a qualified professional who is licensed in this state and who is practicing in the area of his or her expertise shall determine the 100-year floodplain limits using acceptable engineering practice. The determination is subject to review and approval by the department of environmental quality.

(4) A person shall make an appeal from a determination made by the department of environmental quality with respect to subrule (3) of this rule in accordance with chapter 6 of Act No. 306 of the Public Acts of 1969, as amended, being §§24.301 to 24.306 of the Michigan Compiled Laws.

History: 1979 AC; 1988 AAC; 1998-2000 AAC.

#### **R 560.304 Building in areas affected by floodplains.**

Rule 304. (1) The purpose of this rule is to prescribe minimum standards for a new development for residential purposes and occupancy within or affected by a floodplain.

(2) A proprietor shall file and record with the final plat restrictive deed covenants that state, in perpetuity, that no filling or occupation of the floodplain area will be allowed without approval of the department of environmental quality and that any building used or capable of being used for residential purposes and occupancy within or affected by the floodplain shall comply with all of the following requirements:

(a) Be located on a lot having a minimum buildable site of 3,000 square feet of its area at its natural grade above the elevation of the line defining the floodplain limits. The buildable site shall exclude all setbacks and easements.

(b) Be served by streets within the proposed subdivision having surfaces not lower than 1 foot below the elevation defining the floodplain limits.

(c) Have lower floors, excluding basements, not lower than the elevation defining the floodplain limits.

(d) Have openings into the basement not lower than the elevation defining the floodplain limits.

(e) Have basement walls and floors, if below the elevation defining the floodplain limits, that are watertight and designed to withstand hydrostatic pressures from a water level equal to the elevation of the contour defining the floodplain limits following methods and procedures outlined in chapter 5 for type A construction and chapter 6 for class 1 loads found in the publication entitled "Flood Proofing Regulations," EP 1165 2 314, prepared by the office of the chief of engineers, United States Army, Washington, DC, March 1992. Figure 6 on page 14-5 of the regulations shows

typical foundation drainage and waterproofing details. This document is adopted by reference in these rules and is available, at no cost, from the Department of Environmental Quality, Land and Water Management Division, P.O. Box 30458, Lansing, Michigan 48909-7958, or the Department of the Army, Corps of Engineers, Publications Depot, 890 S. Pickett, Alexandria, Virginia 22304.

(f) Be equipped with a positive means of preventing sewer backup from sewer lines and drains that serve the building.

(g) Be properly anchored or weighted to prevent flotation.

(3) The requirement that the building site have its natural grade above the floodplain limit in subrule (2) (a) of this rule may be waived if the building site is to be filled, the requirements of section 194(c) of the act and sections 3104, 3105, 3106, 3107, and 3108 of part 31 of Act No. 451 of 1994, being §§324.3104, 324.3105, 324.3106, 324.3107, and 324.3108 of the Michigan Compiled Laws, sections 30102 and 30106 of part 301 of Act No. 451 of the Public Acts of 1994, being §§324.30102 and 324.30106 of the Michigan Compiled Laws, and sections 30304 and 30311 of part 303 of Act No. 451 of the Public Acts of 1994, being §§324.30304 and 324.30311 of the Michigan Compiled Laws, where applicable, are met, and any 1 of the following occurs:

(a) The lowest floor, including the basement, will be constructed above the 100-year floodplain elevation.

(b) A licensed professional engineer schooled in the science of soil mechanics states all of the following:

(i) That the building site has been filled with soil of a type and in a manner that hydrostatic pressures are not exerted upon the basement walls or floor while the watercourse is at or below the 100-year flood elevation.

(ii) That the placement of the fill will prevent settling of the building or buckling of floors or walls.

(iii) That the building is equipped with a positive means of preventing sewer backup from sewer lines and drains that serve the building.

(c) A licensed professional engineer or architect certifies all of the following:

(i) That the basement walls and floors are designed to be watertight and to withstand hydrostatic pressure from a water level equal to the 100-year flood elevation.

(ii) That the building is properly anchored or weighted to prevent flotation.

(iii) That the building is equipped with a positive means of preventing sewer backup from sewer lines and drains that serve the building.

(4) If the natural floodplain area is altered through the placement of fill or the watercourse is relocated or enclosed and the community within which the subdivision is located is a participant in the national flood insurance program, then the developer shall apply for and receive a letter of map revision based on fill from the federal emergency management agency before recording the final plat.

History: 1979 AC; 1988 AACS; 1998-2000 AACS.